Citizen Empowerment through eGovernance

Select Initiatives 2018



Ayaluri Sridevi
C V Ramamohan

Agriculture, Animal Husbandry, Forests and Environment
Energy, Water, Food , Civil Suplies, Digital Payment Systems
Citizens Services Portals, Revenue, Finance Systems, Excise & Taxes
Education, Training, Skill Development, Employment and Labour
General Administration, HRMS, Grievances Management
Works Mangement, Schemes Monitoring, Panchayatraj Informatics
Health, Women and Child Welfare, Social and Citizen Welfare/Services
Supply Chain Management, Mid day Meal Management, Police, Home, Security & Justice

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About Computer Society of India (CSI)

Formed in 1965, the Computer Society of India (CSI) has been instrumental in guiding the Indian IT industry down the right path since its formative years. Today, the CSI has 70 chapters all over India, 418 student branches, and more than 90000 members including India's most famous IT industry leaders, brilliant scientists and dedicated academicians.

The mission of the CSI is to facilitate research, knowledge sharing, learning and career enhancement for all categories of IT professionals, while simultaneously inspiring and nurturing new entrants into the industry and helping them to integrate into the IT community. The CSI is also working closely with other industry associations, government bodies and academia to ensure that the benefits of IT advancement ultimately percolate down to every single citizen of India.

CSI regularly organizes Regional and National level Seminars, Conferences, Competitions, Workshops and Annual Conventions on topics related to current and futuristic ICT for its members and general public. Through its permanent membership of international forums such as IFIP, CSI successfully collaborates with other ICT institutions across the world to formulate international trends and standards.

CSI has a number of Special Interest groups and CSI SIG eGov is one such group with focus on sharing eGovernance best practices & knowledge. CSI Nihilent eGovernance Awards activity is one of such efforts in that direction, recognizing some of the best eGovernance initiatives in the country.

About Nihilent Limited

Nihilent is a global consulting and services company using design thinking approach to problem-solving and integrated change management. Nihilent’s comprehensive range of expertise in process and technology enables customers to achieve new heights of business performance. The company has a significant presence in India, USA, UK, Australia, and South Africa. Nihilent is a CMMI® Level 5 appraised and ISO 9001: 2015 certified company. Nihilent has been the sponsor of CSI Nihilent eGovernance Awards sponsor right from inception sixteen years ago till date.

About Editors

Sridevi Ayaluri has more than 22 years of experience in the areas of eGovernance, and ICT. She has worked in both the Government and the Private sector. Her focus in the last 15 years has been on developing appropriate strategies of high-value, high-impact, end-to-end Capacity Building programs and ICT solutions. She has done "Executive programme in Business Management (EPBM)" from IIM Calcutta, M Sc –Computer Science from Kurukeshra University and M. A in Sociology from Osmania University.

She has worked with GoAP and developed strategy papers on "Capacity Building road map for the state" and setting up "ePragati Academy".

She worked at National Institute for Smart Government (NISG) for 12 years and was involved in CB and CM plan for National level Projects like UIDAI, and Transportal of MoUD. She worked closely with NeGD on strategy to roll out CB across India under NeGP CB Scheme.

She was instrumental in initiating, designing and implementing one year diploma programme on eGovernance along with private partner institutions like TAPMI & IIM Indore

Presently she is working in the capacity of Director (IT & eLearning) and Head-Center for IT (CIT) at Dr. MCRHRD Institute, Hyderabad.

She has been associated with CSI's Special Interest group on eGovernance and the CSI Nihilent eGovernance Awards for over a decade as s senior member.

Dr C V Ramamohan has extensive experience in the IT, Education and Banking industries for over forty years with a major portion of the time devoted to the conceptualisation and implementation of projects in the banking and finance sectors. He worked on large projects both in India and abroad that included considerable interactions with government institutions, gaining extensive experience in project formulation and implementation. He worked as Head, Consultancy Services, State Bank of India; Head, BFS, CMC Ltd.; Head, IT Strategy Implementation Project, Central Bank of Oman, Muscat.

Post superannuation, he continued to be professionally active and undertook assignments such as Consultant, Central Bank of Oman, Muscat; Director and Dean of AMS School of Informatics, Hyderabad. He is now an Adjunct Professor at the ICFAI University, Hyderabad. He is also associated with an NGO that runs an Eye Hospital and a School.

For over five years, he has been associated with the CSI's SIG in eGovernance and actively participated in the evaluation process of the projects. Dr C V Ramamohan holds M Sc and Ph D degrees from IIT Madras, an MBA from Osmania University, and is a Certified Associate of the Indian Institute of Bankers. He co-edited a book on "Empowerment of Women through Leadership and Entrepreneurship" which was a collection of papers published at a national conference. He has many other publications to his credit. Currently Dr Ramamohan is the Awards Convener, CSI Nihilente Governance Awards 2018.

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This compendium, "Citizen Empowerment through eGovernance – Select Initiatives 2018", has become possible through the contributions made by a wide cross section of people across the country. Year on year the footprint of CSI Nihilent eGovernance Awards (CNeGA) is significantly growing as reflected in the increase in the receipt of the number of nominations under various categories. It is overwhelming to see how the project champions aspire to share their experiences with their counter parts. This knowledge sharing helps in cross learning and hopefully prevents re-inventing with sharing and adapting innovative best practices from across sectors within the country.

On behalf of CSI Nihilent eGovernance Awards (CNeGA) team, the editors acknowledge the efforts of individuals who continue to make contributions towards nation's eGovernance adoption. As a practice, for a better outreach, CNeGA team brings out a Compendium every year, comprising of select eGovernance initiatives presented as Project/State Category nominations. In addition, a few invited articles on topics of relevance also get included. CNeGA team thanks the authors of all the nominations and the invited articles for their contribution and support. The articles presented in the compendium showcase nuances, benefits, challenges and innovative approaches adopted to make them into successful initiatives. It is worthwhile to understand how newer technologies are being adopted, be it mobile applications or the emerging technologies like Block Chain, Internet of Things or Artificial Intelligence, Machine learning or Data Analytics. We appreciate and acknowledge the contribution of bureaucrats, policy makers, officials and staff for leveraging Information and Communication Technology (ICT) as a means to achieve citizen empowerment and ease of governance.

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At CSI SIG eGov, we continue to be inspired by the vision of (Late) Maj. Gen. Dr. R. K. Bagga.

It was a special privilege to have the support of the executive Committee and the HQ team of Computer Society of India. The CSI SIG eGov conveys its sincere thanks to them.

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We would like to thank Shri L. C. Singh, Director and Executive Vice Chairman, Nihilent Ltd. for his selfless service to the cause of eGovernance in the Country. Shri Anoop Bharadwaj and his team from Nihilent Pune brought out their exemplary skills to the awards exercise. CNeGA team is indebted to them.

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Sridevi Ayaluri & C V Ramamohan
Editors

Message

It is indeed heartening that the CSI Nihilent eGovernance Awards Journey is soon completing its' sixteen-year journey very successfully

Having been associated with these awards from its inception, it gives me great pleasure to know the extent of sectorial spread and participation by officials of diverse departments from across the country both of Central Government and State Governments year on year. Association of Nihilent Ltd with these awards, since the year 2002 is a pride of joy and reflects on the commitment the organization and their Management attaches to spread of knowledge related to eGovernance thru the Awards platform. CSI SIG eGov continues to be indebted to M/s Nihilent Ltd and specially Shri L C Singh, Executive Vice Chairman for the confidence and trust reposed in the shortlisting and evaluation framework developed by the core group and continuous improvement of the same over years

To continue the activities under CSI SIG eGov for so many years requires dedication and innovation driven by passion and commitment of individual volunteers responsible for driving the activities. I congratulate the team for their unending support year after year. It is a matter of pride to us that the awards have earned a very good brand value within the Government circles and a sought-after recognition.

I am delighted that CSI SIG eGov is bringing out another edition in the series of eGovernance success stories as compendium with the title "Citizen Empowerment through eGovernance". Containing presentation of the learnings and best practices in deploying eGovernance solutions addressing Governance issues affecting all stake holders cutting across all sectors/domains. Such compendiums have become a reference source of knowledge for practioners and researchers in the eGovernance domain over the years.

Over these many years we have seen major improvements in implementation of eGovernance solutions across the country impacting the life of a common citizens, the issue of replication of best of the breed solutions in the eGovernance space between States across the country, continues to pose organization challenges. Hope the efforts of CSI SIG eGov team by way of knowledge sharing thru compendiums and Knowledge sharing workshops will help in awareness creation and in making the eGovernance journey cost effective and more productive.

I congratulate the editorial team and all the Award winners for an excellent work done and convey my personal best wishes.

Ashok K Agarwal
Founder CSI SIG eGov and CSI Fellow

Message

Having been associated with the Allahabad High Court, providing Information Technology leadership and support, the activities of SIG eGovernance are of interest to me personally and professionally. During my association with the SIG eGov, over the last two years, I had the opportunity of participating in the assessment of nominations for CSI Nihilent eGovernance Awards at different stages. Based on my experience, I believe the process and standards set by the SIG eGov group are indeed well designed and are giving best results. The depth and spread of nominations from across several States and the Central Government units, year on year is a reflection on the brand these CSI awards have attained over the years. Such level of participation helps in immense cross learning and encourages CSI to continue promotion of knowledge sharing activities, in the eGovernance space.

Indirect association of CSI with Government entities and eGovernance practioners thru this platform of CSI Nihilent eGov awards provides a significant opportunity to enhance foot print of CSI in spread of eGovernance best practices.

Glad CSI SIG eGov team is coming out with another compendium containing select eGovernance initiatives, show casing Citizen empowerment journey. On behalf of CSI and the Division I, I warmly extend my best wishes and congratulate all the nominees for their participation. The Compendium, will surely help enrich the activities of Division I, in the coming years and all efforts will be made to share the lessons learned in the process for the betterment of eGovernance community from across the country.

With Best Wishes
Apoorva Agha
Chairman, Division I, Computer Society of India

Message

Citizen empowerment is no longer a matter of wishful thinking today. It is the need of the hour, especially in the massive digital landscape we are all a part of. It is thus hardly surprising that policy makers, bureaucrats, technology service providers alike are going out of their way to enable citizens to harness the power of digital like never before.

India, with over 500 million internet users, along with China, recently surpassed the number of internet users across 37 OECD countries combined. It is not hard to imagine the potential to empower our citizens this kind of reach creates. We are on track to becoming the youngest country in the world by 2020 and our digital economy is expected to touch $1 trillion dollars by 2025. One can safely say that to leverage this boom in digital adoption the time has never been better. The good news is that eGovernance, an imperative for building an effective, efficient, equitable and inclusive society, is being championed across our country today, starting right from the Central Government. Digital India, one of the Government's most celebrated initiatives, has taken several steps in this regard.

At the same time, there are people who have been dedicated to the cause of eGovernance for decades now. My friends at the Computer Society of India's Special Interest Group on eGovernance (CSI SIG eGov) are easily one of the best examples of this. Through the CSI-Nihilent Governance Awards, now in its 16th year, which we at Nihilent are proud to be associated with right from inception, the team has been working tirelessly to interact with, evaluate and recognize stellar eGovernance projects from across the country. The fact that the Awards are regarded as an extremely prestigious recognition by Government departments and implementation partners stands testimony to the exceptional work done by SIG eGov. I would like to extend my hearty congratulations to the winners of this year's awards.

In the light of all this, the question that remains to be asked is, are our citizens empowered? While we might not be able to answer this straight away yet, a more apposite question would be if the citizens are getting the best user experience? Because, delivering good user experience is increasingly becoming the most appropriate indicator of empowerment. Be it in the design of a website, or providing easy and intuitive access to information, a focus on good user experience will certainly provide real meaning to the concept of eGovernance. As the technology giant IBM rightly said, "Ease of use may be invisible, but its absence sure isn't".

LC Singh
Director and Executive Vice Chairman, Nihilent Ltd.

Preface

Citizen Empowerment through eGovernance – Select Initiatives 2018

The word eGovernance typically engages the use of information technologies to improve the relationships between the public and the government agencies in terms of citizens' participation and public service delivery. It could be argued that the Internet and eGovernance are being used to improve both the engagement of citizens in public affairs and the quality of public services being delivered across the country.

Under the present circumstances wherein a number of eGovernment projects got implemented pan India, we are yet to arrive at the convergence of all the networks and common or near common processes to take a forward leap towards transformations. Perhaps, we are still to come out of old traditional thinking of operating in silos.

Engaging citizens and empowering them is the key to success for any nation. In fact, the increasing importance of carrying out the Digital India programme is to see India connected at all levels. Though good efforts are happening from across the country, we are quite slow in making things happen. A country like ours has many hurdles from many corners but that's not an excuse for the country to innovate and take bigger and bolder steps. A look at the volumes and the reach of all the projects across the country would suggest ways and means to think and act. If we look up at eTaal portal, the volumes can be seen and these figures are growing day by day but if we have to check the reach of Individual departments, it becomes difficult.

India has been making efforts in empowering citizens in every which way that is possible by coming out with various projects like Bhumi, Meeseva, e-Mitra, etc., helping the citizens get their due at an affordable cost and in time. The requirements of citizens are varied depending on the stage at which they are on G2C life cycle, whereas the departments are not completely geared up to provide all the citizen centric requirements through ICT.

We at SIG eGov make it a point, to bring into focus the need for looking at projects from a holistic perspective. Our untiring efforts in this direction, for the last 15 years are yielding results, albeit, slowly. Year on Year the nominations have increased but we still find some departments trying to accept the ICT at a very low level, mostly creation of web portals and very little interactions through the portals. The quality of projects should improve and the major component of business continuity is critical to success of growth of IT in the country.

Time has come for seamless integration of all the departments through use of ICT in each State and make handshake of all the data bases for providing the best citizen experience.

This book comprises many successful and interesting projects that were reviewed at various stages of award and are published for the benefit of all. The methodology adopted by CSI-SIG eGov is a three stage vetting process, with peer review by at

least 2 professionals, to ensure the best get the award, is quite a benchmarked process. The entries received tell their story briefly and it is learning for those concerned with eGovernance and adds immense value. These case studies reflect the Indian landscape of digital technology interventions in the Government.

The Compendium this year has 64 stories which show their will to accept technology as an enabler in governance and how they would like to provide a delight factor to all the stakeholders. We acknowledge all the efforts put in by the departments in sending their nominations and making their success stories spread among researchers, Practitioners and policy makers. We at CSI SIG made an effort to validate the submissions made by respective nominations and assess them. It is advised that prospective readers make their own assessment while deriving any inferences.

Sridevi Ayaluri & C V Ramamohan

Section - I
Invited Articles

Aspirational Districts Programme –A Transformative Approach

Ravi Siriki, and Sridevi Ayaluri

ABSTRACT

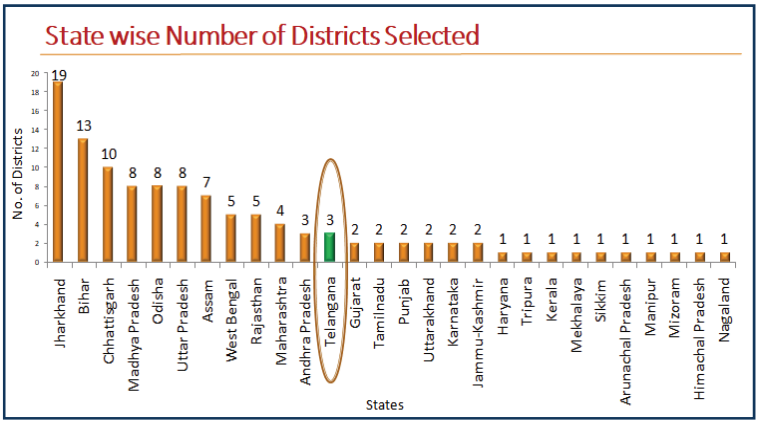
NITI Aayog, Govt of India with the objective of transforming backward pockets of the country into progressive ones has launched "Aspirational Districts Programme" in the month of January, 2018. Planning to achieve desired performance indexes and preparing teams including putting in place Governance structures with the help of ICT tools is critical to the success of any such program including by participating State like young Telangana, with three identified districts.

This article provides the background of the programme which explains how important the rural development and bottom up approach, the background also emphasis on the role of district administration for local development, customized approach and its priorities. Further the article discusses about how such districts got identified and the methodology used in development of composite index based on eleven indicators from four key sectors. An attempt has also been made to present the strategy and approach of the programme and importance of preparation of district action plans for all the districts and the role of ICT, MCRHRD Institute in providing capacity building of district and mandal level officials in preparing District Action Plans. Lastly, the article also provides how the programme is monitored based on six thematic areas based on which index is being prepared for 115 districts, with a special focus on Telangana State.

BACKGROUND

After independence, the government gave much importance to the rural development. The socio economic study of a village has been undertaken with the objective of understanding the various complexity and dynamics of a village. The living condition of a village comprises of factors like social, economic, cultural and environmental aspects together influence the lives of the people. As the Father of the Nation, Mahatma Gandhi said, "You should be the change you want to see", any change can be sustained only if it begins at the grass roots. District as an administrative unit, the scope of quick development by motivating the District administration is very high, and various developmental programmes can be initiated at the grass root level through the district administration. Based on this belief, the Government of India motivated the District Collectors of the 115 Aspirational Districts to innovate around ideas, strategies, practices and methods to bring about

transformation in their respective districts. State wise number of districts selected as Aspirational Districts is provided in the graph.



Despite its fast economic growth trajectory, India was ranked 131 out of 188 countries with respect to UNDP Human Development Index in 2016. This indicates that economic growth alone does not necessarily ensure overall human development of a country.

A closer look at the data reveals high degree of variation in the living standards as indicated by significant inter-state and intra-state variations. By uplifting the districts which have shown relatively lower levels of key social outcome, India can move ahead in the overall human development index. The 'Transformation of Aspirational Districts' initiative aims to reduce and eliminate this variation in social outcomes by quickly and effectively transforming these districts. Government of India has launched the Aspirational District Programme to improve conditions of about 115 most backward districts with concentrated efforts to transform them into developed districts.

In order to transform a district into a developed district, a focused and sustainable approach is essential. The approach needs to be customized for each village based on their levels/requirements/priorities. Community participation is the key and the operational plan has to be designed with their ideas and suggestions in their own village/habitation.

SELECTION OF DISTRICTS – THE CRITERION

The 115 districts were identified from 28 States, at least one from each state, in a highly transparent manner by a Committee of Senior Officers to the Government of India, in consultation with State Officials using a Composite Index. Of these 115 districts, 35 districts have been identified by the Ministry of Home Affairs, on the basis of the density of violence. Central Ministries of Government of India have

selected 55 districts on the basis of severe deficiency or sensitivity in the district. The remaining 25 districts, spreading across 10 States, have been picked by NITI Aayog.

Development of a Composite Index

The Composite Index has been developed by examining the published sources of district-wise data available in the core sectors of poverty, health & nutrition, education and basic infrastructure. Given that poverty has a multi-dimensional impact on the overall well-being of the society as a whole; it has been given the maximum weight (25%) in the Composite Index. This followed by the indicator 4 ANC Visits, Institutional Delivery, Stunting of Children below 5 years, Wasting of Children below 5 years, Elementary Dropout Rate, Poor Student-Teacher Ratio, Un-electrified Households, Rural Households without Individual Toilets, Un-connected Habitations under PMGSY, Rural Habitation without Minimum Prescribed Quantity of Water. All these indicators other than 'Poverty' have been given the weight of 7.5% each. The details are given in the below table.

Serial No.	Database	Source	Sector	Weight in the Composite Index
1.	Landless households dependent on manual labour	Socio Economic and Caste Census (SECC) 2011 – Depreciation (D7), Ministry of Rural Development	Poverty	25.00%
2.	Medical care during pregnancy - 4 visits for Antenatal Care (ANCs)	National Family Health Survey (NFHS - 4), 2015-16	Health & Nutrition	7.50%
3.	Institutional delivery			7.50%
4.	Stunting of children below 5 years			7.50%
5.	Wasting in children below 5 years			7.50%
6.	Elementary Dropout Rate	Unified District Information System for Education (U-DISE 2015-16)	Education	7.50%
7.	Poor Student Teacher Ratio			7.50%
8.	Un-electrified households	Rural Electrification Corporation, Ministry of Power	Basic Infrastructure	7.50%
9.	Rural households without individual toilets	Swachh Bharat Mission Ministry of Drinking Water & Sanitation		7.50%
10.	Un-connected habitations under Pradhan Mantri Gramin Sadak Yojana	Pradhan Mantri Gramin Sadak Yojana, Ministry of Rural Development		7.50%
11.	Rural habitations without access to the minimum prescribed quantity of water	Ministry of Drinking Water & Sanitation		7.50%
		Total		100.00%

The Approach and Strategy

The nomenclature of the 'backward districts' has been termed as 'Aspirational Districts'. This perhaps summarizes the broad approach implied in this programme. There is an explicit recognition that people are the most valuable resource to turn a district around. Years of under-development tend to give rise to a sense of defeatism that change is impossible. It is the mindset that needs to change. The

nomenclature of aspirational district is not a symbolic gesture and it is much more than that.

At the same time, the task of transforming these 'Aspirational Districts' is clearly not easy or else these districts would not be lagging behind in many development parameters. Since development is multidimensional and needs to be holistic as well as inclusive to be truly meaningful, the strategy has to be multi-pronged. The familiar approach of identification of a problem in a sector and announcing a scheme with earmarked funds would have only a limited impact. Hence, for these districts, the strategy has to encompass all the sectors under focus and involve every stakeholder, the most important of whom are the people of the identified districts.

The broad approach and strategy envisaged under this programme is three fold as explained hereunder:

(i) The districts are to be called 'Aspirational Districts.'
(ii) District officials should draw up a Vision and Action Plan for 2018-22, through public participation, to ensure that their district is a full-fledged partner in creating a New India by 2022.
(iii) Development should become a mass movement in the districts.
(iv) People should fully recognize their current status, their strengths and weaknesses. They should aspire to become the best district in the State and thereafter, to grow to feature among the better-performing districts in key performance indicators across the country.
(v) Identify and involve Champions of Change at District and Regional levels to make development a mass movement.
(vi) A major approach under this programme, is to ensure convergence between different government schemes on the one hand, and on the other hand, to seek complementarity between public initiatives and the private efforts of a household.
(vii) States are the main drivers, hence appropriate institutional mechanisms to ensure teamwork between Central, State and District Administration is the key for success of the programme.
(viii) A major lacuna in the implementation of programmes has been the lack of good quality data on a timely basis which prevents any objective assessment of the impact of a programme, forcing the Government to confine itself to expenditure-tracking.
(ix) Partnering with expert organizations with demonstrated competence and building on the strength of each other will be the key for the success of the programme.
(x) The programme, relies on convergence of existing schemes for its funding. In addition, funds and other resources made available by the private sector under Corporate Social Responsibility, and some local funds like the District Mineral Funds are to be utilized for critical gap funding. Key Central Ministries have also prioritized these districts in their respective programmes.

District Action Plans

To address regional disparities, it is essential to understand the current status and the priorities of each district and accordingly by filling critical gaps, develop the villages, mandals and in turn the entire district. This is called bottom-up approach.

One of the important roles of district planning is to win the support and confidence of the local population by bringing transparency in all of development planning and execution. This ensures that the information regarding flow of funds at each level, the choice of schemes and their locations, tendering process, stage of implementation, etc. is available to everybody.

Fiscal transparency in allocation of budgets to each planning unit is the starting point for decentralized planning. This involves: a. Reforming the governance system related to administrative and financial clearances; b. Mapping of resources flowing from various sources; and c. Convergence of schemes with overlapping developmental goals. Convergence of schemes enables efficiency and effectiveness in the utilization of funds available.

Finally, monitoring and auditing is the key to the success of any plan in a decentralized set-up. A devolution-friendly monitoring system that involves participative planning, faces two major challenges – one, to regularly update data regarding implementation, and two, to design and provide a simplified visual interface for data interpretation.

The only way to effectively capture the nuances of planning and implementation in a monitoring system, while simultaneously meeting the challenge of regular updating and presentation of data, is to automate it to the fullest extent possible. To address this, NITI Aayog developed a dashboard for monitoring the real-time progress of districts. This will enable public access to a real-time view of progress at the district level, and will serve, both, to reward the performers and inspire those lagging behind.

Real-time Monitoring to Transform the Districts

The government has collected baseline statistics on 49 indicators (or 81 data points) for each district as the programme is kick started in the districts. These data provide an initial benchmark for the districts. Over the comings months and years, they will help assess outcomes and monitor progress. The data have been used to construct rankings between districts, boosting competition, and promoting knowledge sharing between districts. Further, each district's performance and incremental progress will be compared to the best in that state as well as in the nation. As district collectors and state and central government officials drive the process of improving

development outcomes, their progress will be monitored continuously through real-time data collection.

NITI Aayog has held consultations with stakeholders and finalized 49 Key Performance Indicators (KPIs) across six themes: Health and Nutrition; Education; Agriculture and Water Resources; Financial Inclusion and Skill Development; and Basic Infrastructure. Each of these themes is weighted according to the government's commitment to inclusive growth and its aim of improving the living standards of its citizens.

The below table provides the break-up of weightage and the number of KPIs against each theme and related data points.

Thematic Area	*Weightage*	*Number of Key Performance Indicators*	*Number of Data Points*
Health & Nutrition	30%	13	31
Education	30%	8	14
Agriculture & Water Resources	20%	10	12
Financial Inclusion	10%	6	6
Skill Development	5%	5	10
Basic Infrastructure	5%	7	8
Total	**100%**	**49**	**81**

Status in Telangana

Three districts out of total 115 districts, viz., Asifabad-Kumarambheem, Bhadradri-Kothagudem (Khammam) and Jayashankar-Bhupalpally are selected as Aspirational Districts in the State of Telangana.

The current status of aspirational districts in the state of Telangana is as under:

- A State level core group has been constituted with existing consultants who are working on SDGs in Planning Department. The team has visited all three districts and provided orientation to all the district officials.
- MCRHRD is providing logistic support to capacitate the district level officials on the concept of Aspirational Districts.

- District Knowledge and Innovation Centres (DKICs) of respective districts are looking after the programme and regularly entering the data for the real-time monitoring.
    - A 3-day workshop on '**Capacity Building for Field Staff on Preparation of District Action Plans'** conducted for district and mandal officers at MCRHRD IT with the objectives of (i) To generate awareness among district and sub-district level officers about the indicators, data-points, current status; (ii) To build capacities of district level officers of Aspirational districts to prepare respective District Action Plans; (iii) To equip the district officers to further train their field staff within their departments, in accordance with the 6 thematic areas; (iv) To identify and share best practices/success stories and to customize/replicate the models to suit their local needs; and (v) To take stock of process, deliberations of the workshop that will be captured in the form of a package of e-Learning Module. This will help generate awareness to cutting-edge functionaries about the programme.
    - The major outcomes of the workshop are, (i) all the district and mandal level officials are oriented on the concept of Aspirational District Programme; (ii) draft District Action Plans for all the three districts are prepared and submitted to respective district collectors and Project Officers, ITDAs for finalization; (iii) brainstorming on content development for e-learning modules on the concepts of Aspirational Districts.

MCRHRD IT

The Centre for Sustainable goals (CSDG) and Centre for IT (CIT) at MCRHRD IT will be playing major role in achieving the main objective of the Aspirational Districts Project in providing awareness and also guide the districts in preparing the respective district action Plans. The CIT also envisages developing various tools for monitoring of the program on thematic areas of the programme. It is also proposed to develop e-learning modules on each thematic area. The Institute will facilitate Capacity Building across the country and coordinate with all the line departments for smooth implementation of set goals.

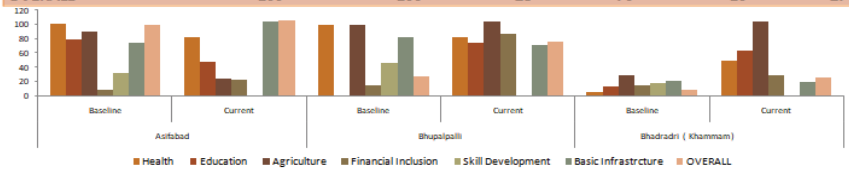
Ranking of Telangana Districts

The following table and graphs shows the comparison of baseline ranking with current ranking of three districts of Telangana State with respect to 6 thematic areas specified in the programme. This dynamic ranking will be changing as and when a

new set of data is entered in the dashboard which is being monitored by NITI Aayog on a real-time basis. Due to lack of data for certain parameters, the initial ranking was not representative and the latest ranks showing much realist picture.

Comparison of Ranking (Baseline Vs Current)

Sector	Asifabad		Bhupalpalli		Bhadrachalam (Khammam)	
	March, 2018	Aug, 2018	March, 2018	Aug, 2018	March, 2018	Aug, 2018
Health	101	83	100	82	6	50
Education	80	48	1	74	13	64
Agriculture	90	25	100	104	30	104
Financial Inclusion	10	24	16	87	15	29
Skill Development	32	1	46	1	18	1
Basic Infrastrcture	75	105	82	71	22	21
OVERALL	100	106	28	76	10	27



CONCLUSION

As the programme is initiated in recent past, there are certain challenges in implementation of the programme, such as convergence between line departments, finances for implementation, and data gaps in assessing the performance of the district. Despite the various challenges, this ambitious programme will be achieved with concentrated efforts by district administration and State Governments and also other stakeholders such as NGOs, CBOs, Corporates etc. In order to generate awareness and provide capacities, MCRHRD Institute of Telangana shall play a major role not only in monitoring of the programme but also to provide capacity building in preparation of District Action Plan. The Institute also envisages to prepare thematic wise e-learning modules which will generate awareness among cutting-edge officials in the country.

Way forward

Being Districts as Drivers for the Aspirational District Programme, district administration is likely to take a proactive move towards achieving the ambitious project by identifying sector wise areas to be improved on the basis on the baseline scores for each indicator. It is also recommended to carry-out the sector wise SWOT analysis by the district officials to map strengths and weakness of the district which will help to prepare Action Plans. In addition, it is also important to map resources, both financial and human resources available and plan for rationalizing and strengthening of the same. Dovetailing the financial resources available and involving CSR and NGOs for additional resource mobilization is a key to achieve the

set goals. Finally, regular review and monitoring of the programme and revising strategies whenever require will certainly pave a path for the programme in right direction.

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Mrs. Sridevi Ayaluri, *Director (IT & e-Learning) & Head (CIT), Dr. MCR HRD Institute of Telangana, srideviayaluri@mcrhrfi.gov.in*

Section – II
State Initiatives

Andhra Pradesh State

K. Vijayanand

STATE SUMMARY

The new State of AP has to be practically re-imagined and reconstructed in a planned manner, establish the new state of Andhra Pradesh as one among the top 3 States in India by 2022, the best state in the country by 2029 and best investment destination by 2050.

As part of the Hon'ble Chief Minister's vision for the bifurcated State of Andhra Pradesh, the information technology and electronics sector have been identified as focus sectors. Hence, soon after assuming office, on 17th June, 2014, our Hon'ble Chief Minister approved a comprehensive blueprint – "Reimagining AP: Role of eGovernance, Electronics and IT" for development of Electronics and ICT industry in the State. The blueprint envisages developing Andhra Pradesh into an innovation society of global repute with a focus on enhancing the quality of life of its citizens through high quality education and health care, increased productivity in agriculture and allied activities, creation of requisite employment by promoting electronics and IT, and above all providing good governance.

Few important glimpses

- **Aadhaar enabled Public Distribution System: Civil Supplies** - Capturing of information on district-wise number of shops, transactions, ration cards, commodities, etc. on a daily basis including information on number of commodity purchases per Ration Card per month.
  Key Numbers - **27,693** PDS shops, **1.23 crores** ration cards availed
- **NTR Bharosa** - Pension Public Distribution System (PDS) through Aadhaar based Biometric authentication - Collection of pension anywhere in the state through Biometric (finger or iris) authentication for all pensioners with real time reporting.
  Key Numbers **–50.34 lacs** pensioners, Total disbursement of **Rs. 55,591.65 lacs**.
- **District wise Rainfall status** - Capturing information on rainfall using Automatics Weather Station on District wise rainfall status.
  Key Numbers: More than **1,876** Automatics Weather Stations
- **Groundwater Levels** - Measuring water availability on real time basis through Piezometers covering all groundwater basins.
  Key Numbers: **1,258** Piezometers and **736** ground water basins
- **Street Light CCMS** - Centralized Control Monitoring System (CCMS) of street lights across the state providing real time information with location on map on working condition of lights.
  Key Numbers: **6,18,076** street lights

- **e-Aushadhi** – Real Time Medical Drugs Tracking - Tracking of drugs bought through state run health institutes on daily basis and maintaining inventory for each drug sold.
  Key Numbers – More than **1.30 crores** people were serviced from 1st April 2018 onwards
- **AP Fibernet** - Creating state wide optical fiber network infrastructure leveraging the existing assets to provide last mile connectivity.
  Key Numbers: 23,800 Km of Optical Fiber cable. **250Tv** Channels, Internet connection with **15 Mbps** speed, Free Telephone connection to households at **Rs. 149/**month.
- **NTR Vaidya Pariksha** – Real Time Diagnostic Test Information - Capturing real time data of diagnostic tests conducted across all districts on a daily basis.
  Key Numbers: **1.44 Crores** Diagnostic Tests
- **Agriculture Department-** Capturing Real-time Sowing Patterns of Kharif & Rabi crop across the State, District, Mandal and Village wise data on type of crop, total extent, area sown along with photo. Real-time progress monitoring of AP Micro Irrigation Project
  Key Numbers: **36.01 Lakh Ha** Area Sown under Kharif 2017-2018
- **Industries Department- Ease of doing business-** Applications received from investors, NOC clearances across 16 departments.
  Key Numbers: **4,968** applications approved, **99.80%** within SLA

IT Investments

Andhra Pradesh has developed a strong vision for the IT sector in the state to enable the creation of 1,00,000 IT jobs and bring in investments worth USD 2 billion. It also envisions to create 2,00,000 jobs in the electronics sector and bring investments worth USD 5 billion in the electronics sector.

In order to assist the industry, the state government has formulated a range of enabling polices to provide a conducive business environment and the best in class value proposition. These policies include:

(a) AP IT Policy 2014-2020
(b) AP Electronics Policy 2014-2020
(c) Startup and Innovation Policy 2016-2020
(d) Cyber Security Policy 2017-2020
(e) Global Inhouse Centre Policy 2017-2020
(f) Designated Technology Parks Policy 2017-2020
(g) Integrated Innovation and Technology Policy 2017-2020
(h) Artificial Intelligence Cloud Hub Policy 2018-2020

The State focusing actively on new and emerging technologies in the field of Cyber security, Fintech, Robotics, Analytics etc. which gives a chance for all the startups along with established industry leaders to explore and innovate in the state.

The State has set up Fintech Valley in Visakhapatnam to attract leading fintech companies to the state.

Andhra Pradesh Innovation Society (APIS): In order to create a world-class technology start-up ecosystem, the State has setup AP Innovation Society (APIS), with a mandate to create policies to promote innovation agenda in the state and design an innovation and transformation academy.

In this regard, APIS has started faculty mentoring modules to develop a support system for students, innovators and incubators at various educational institutions. It is also leveraging the central government schemes namely, Atal Tinkering Labs and Atal Incubation Centers.

APIS in association with NASSCOM has setup '10,000 Startup Warehouse' in Sunrise Towers, Vizag to create a world-class technology startup ecosystem in the state. Similarly, Govin Capital of Singapore in collaboration with APIS has started a pilot incubator facility in Sunrise Towers, Vizag to incubate 100 startups and nurture 1,000 students as first generation technocrat entrepreneurs over the next 5 years.
A total of 159 startups from various sectors like IoT, Healthcare, agriculture, Data science, FinTech, etc, have been incubated till date creating 246 full-time jobs and 467 part-time jobs.

In December 2017, APIS forged a partnership with The Indus Entrepreneurs (TiE), one of world's largest angel investor networks to start TiE Amaravati Chapter, which assists in creating access to a pool of venture capitalists for raising funds to invest in Startups nurtured in the State of Andhra Pradesh.

To support the IT & Electronics ecosystem, the State government is imparting skill development training to 15,000 ITIs/Polytechnic students of IT/Electronics through NIELIT, GoI, which is being implemented by AP State Skill Development Corporation (APSSDC).

AP Information Technology Academy (APITA): AP Information Technology Academy (APITA) has made collaborations with prominent technology players from the IT industry including IBM, Oracle, SAP, Infosys, ISB, Autodesk, Microsoft, National Instruments, and DQ. Collaboration with Microsoft, National Instruments and DQ have been established in 2015-16 to impart relevant technology skills to the youth of the state.

The Government of Andhra Pradesh has proactively supported initiatives to boost employment in areas related to IT by conducting regular job fairs across the state.

e-Pragati: One of the world's largest and most complex government digital transformation projects to realize the vision of Hon'ble Chief Minister – 'visible

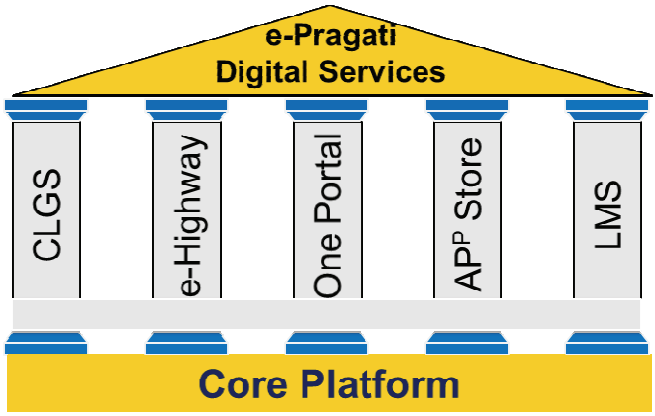
governance, invisible government', e-Pragati aims to help connect the citizen to 34 departments, 336 autonomous organizations and 745+ services.

As part of the Andhra Pradesh states "Sunrise AP 2022" mission to enhance the quality of life for its citizens, e-Pragati will bring integrated government services directly to citizens online. This saves time and costs by reducing the need to visit government offices and multiple departments while also eliminating paper-based inefficiencies and manual processes.

e-Pragati which envisages a framework to provide integrated services to citizens through a free flow of information, and to usher in an era of good governance, characterized by efficiency, effectiveness, transparency, and foresight, a single portal for service delivery is the need of the hour. The concept of "Government as a Service" tagged along with open data and digital civic services which manages the challenges of ongoing privacy concerns, and managing distributed IT from a centralized office is the underlying strategy e-Pragati. To realize this vision of GoAP, it is imperative to provide integrated services to citizens through free flow of information, integrated services through common state ePragati portal. Further, GoAP envisions having ePragati Core Platform to enable GoAP to develop flexible business application with fewer resources and as faster pace along with analytical capabilities while protecting the existing assets of GoAP.

e-Pragati is based on a loosely-coupled application architecture with the following salient features:

- Principle of 'Build Once, Use Many Times', leading to Enterprise Applications, Group Applications, Modular Development, Reusable Components & Services
- Packaging all the applications in a Mission/Sector for ensuring uniform, non-duplicate functionalities



The e-Pragati has 5 major tracks which are as follows:

1. **One Portal** – A single portal to incorporate the Directory of Departments and Services, including Service Dashboard, Citizen Lifecycle with Single Sign on/ Notifications/MIS and G2G Integrations
2. **Appstore** - GoAP App Store for deploying apps and Web Portal with Portal Publishing, App Store Gateway and App Store Security/Logging/Auditing
3. **Certificate Less Governance system (CLGS)** – Single system in which department can store or consume certificates which can be accessed by the citizen on request
4. **Licence Management System** – A single system which allows department to consume and store licences which can be accessed by citizen on request. The system includes licence management/inspection.
5. **e-Highway** – A repository for API Cataloguing, API Integration and Publishing, Access Monitoring with API Governance Framework and Security Management. It provides integrated services in conjunction with multiple departments and Seamless exchange of data with other departments. This Minimizes cost of integration infrastructure through shared middleware.

The other stand-out features are:
e-Pragati Cloud - Delivering next level state-of-art data center experience, the Cloud Data Center is a seamless, secure and scalable solution for departments that uses cloud computing to reduce IT infrastructure investment and cut costs by lowering the total cost of ownership (TCO).

DataLytics Platform - Providing an Analytic Platform with data science services and advanced analytics that transform how Government make decisions. The platform and applications use big data and predictive analytics to understand citizen issues and drive better service and citizen satisfaction for Government.

The overall coverage is as follows:



IT Enablers

Being a tech-savvy government, GoAP has implemented several innovative and citizen centric eGovernance projects.

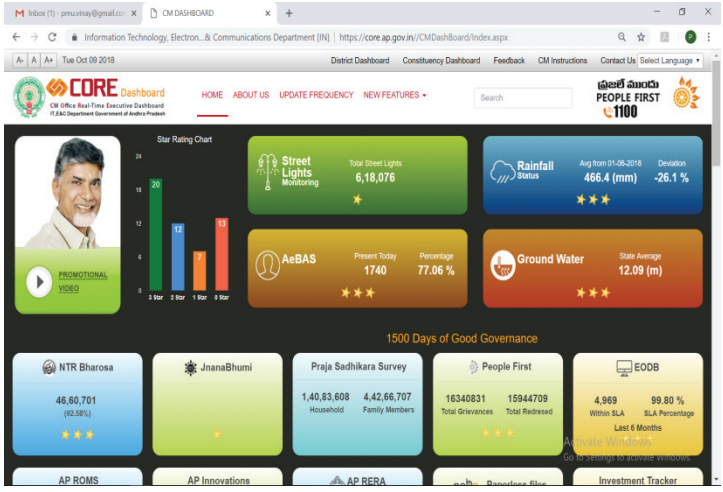
MeeSeva – Integrated Service Delivery Gateway - "Public Closer to Home" to facilitate single entry portal for G2C and G2B services like utility bills, broadband, ration cards, transfer certificates, birth and death certificates etc.

Key Numbers – **347** services, **9,475** MeeSeva Kiosks

MeeKosam - Is an initiative wherein all grievance petitions received at the CMO/Secretary/HoDs/District Collectorates/District and Mandal level Offices, are registered and tracked. Up until, a total of **1,63,40,831** grievances were received through MeeKosam Portal, of which **1,59,44,709** have been resolved.

e-Cabinet – An initiative was launched on 15th Sep'14 for approval of Draft Cabinet Note & uploading, approval of Cabinet Resolutions, and Monitoring implementation of Cabinet Resolutions electronically. **90** e-cabinets have been conducted so far.

CORE Dashboard - Chief Minister's Office Real-time Executive (CORE) Dashboard is a visual display of all **34** departments, **64** HODs key performance indicators in near real-time for Hon'ble CM, Ministers and concerned HOD to monitor effectively.



CORE dashboard being cited by Niti Aayog as replicable best practices for other governments in India to emulate. The Niti Aayog has a special mention of these technology initiatives of GoAP in their report titled "State Forward" published last year.

e-Office – An initiative was launched by the Hon'ble CM to restrict the physical movement in the Government. Till date, e-Office has been implemented in 13

districts covering **1,404** departments up to Gram Panchayats level and has created a total of **39.71 lakh** efiles.

Real-time Outcome Monitoring System (ROMS)

In a first of its kind approach, the state of Andhra Pradesh has provided to its people **10 assurances** at the village level via **Samaj Vikasam** and **15 securities** at the family level via **Kutumba Vikasam** that are aimed at improving the quality of life, satisfaction and happiness of its people. In order to deliver on its promise, the state government has also established structures to overcome implementation and institutional challenges with an intensive and focused approach such as the **5 Grids, 5 Campaigns and 7 Missions.** The 5 grids include Water, Power, Gas, Roads and Fibernet. The 5 campaigns include Swach Andhra, Polum Pilustondi (Farm is calling), Neeru Chettu (Water and Flora Conservation), Pedarikam Pai Gelupu (Winning over Poverty) and Badi Pilustondi (School is Calling). The 7 Missions include the Primary Sector Mission, Social Empowerment Mission, Infrastructure Mission, Service Sector Mission, Knowledge and Skill Development Mission, Urban Development Mission and Industry Sector Mission. The grids, campaigns and mission complement each other to ensure that the vision of the government and its pledge to its people is successfully realized.

Having realized that a results-focused approach along with consistent performance review, monitoring and management has become essential in order to learn from past experiences, bring in accountability, improve service delivery and achieve the set targets on time, Andhra Pradesh State Development Planning Society (APSDPS), GoAP developed a **Real Time Outcome Monitoring System (ROMS)** to monitor progress and performance of the key indicators from its Outcome Budget, Vision 2029 and SDG 2020 targets. Keeping in mind, the Hon'ble Prime Minister's vision to transform the country as whole forms a basis for NITI Aayog collaborating with Vision Management Unit, APSDPS for developing a similar digital structure for monitoring its programs and schemes in the areas of poverty, health, nutrition, education, agriculture, income opportunities, basic infrastructure, etc.

Real-time Governance Society (RTGS)

The Real Time Governance (RTG) has been incorporated by Govt. of Andhra Pradesh to ensure agile and responsive means of governance and public service delivery to citizens.

Real Time Governance is the first of its kind initiative by Government to enable positive 'disruptive' changes in Governance, Public Administration & Management by leveraging the tools of eGovernance, technology and electronic communication.

Real Time Governance has established a State Centre in Andhra Pradesh Secretariat and started functioning from 26th Nov 2017 with an objective to measure Performance of various departments and Citizen Satisfaction levels on overall governance and the Service delivery of the schemes.

Parishkara Vedika – 1100: It is an integrated Call centre platform with a capacity of 15 lakh calls/day manned by 2000+ operators working round the clock. Citizens can call toll free number 1100 and register their grievances and these grievances get automatically routed till the last mile govt. functionary for necessary action.

Grievances: 1,63,53,529 number of grievances have been received as on 7th September 2018, of which 40.4% have been resolved, 46.7% have been verified, 10.9% have been rejected and 2.5% of them are yet to be acted upon.

People Hub: Golden data in the form of People Hub of GoAP is being maintained. Data of 4.36 Crore individuals of 1.38 Crore Households through Praja Saadhikara Survey (Smart Pulse Survey) has been collected and securely maintained in the People Hub.

Satisfaction surveys: RTG has integrated 32 departments and has organized satisfaction surveys of 105 schemes/programs of the government.

Satisfaction rate: The exercise of satisfaction survey has been started in August 2017 with an average overall satisfaction rate of 57%. As on end of August 2018, the Average general satisfaction is observed at 68% and the Average satisfaction on schemes is observed at 74%.

Analytics and Machine learning tools: Analytics and Machine learning tools are being applied in a big way to improve the quality, efficiency and be able to predict for preparing the responsive strategies.

Incidents Monitoring: A dedicated team keeps a watch on incidents – manmade, natural calamities and accidents – round the clock using the network of Surveillance Cameras, Media and Citizen feedback. Any information related to the occurrence, or possibility of occurrence is taken to the concerned officials to ensure necessary preparatory action is taken.

Weather forecasting: RTG provides weather forecasting, forecasting extreme weather events like thunderbolts & lightning, tracking cyclones, provides agro-advisory till field level, etc. The information is communicated to the citizens, govt. functionaries of the village, locality or region in real time through SMS and IVRS calls. RTG utilizes the application of drones and cameras in project monitoring of high-end infrastructure like Polavaram dam, green cover mapping, land administration, etc.

Corruption free society: RTG has received 3297 complaints so far and are resolved for necessary action.

Streamlining of Service Delivery: Using the Citizen Feedback and effective analysis, RTG gives necessary inputs to the line department to enhance the service delivery

by involving field level coordination. A good example is that of Civil Supplies, where, with the help of real time monitoring of transaction data and its analysis, implementation of technology at the FPS outlets, the rejects due to biometric failure has been reduced from around 50,000 every month to 9,000 a month.

Social Media: RTG has a dedicated Social Media team that works with the objective of taking the development done by the State Government into the Public in the most cost efficient manner and at the same time, to engage the citizens in the overall governance. We have presence over all major Social Media Platforms including Twitter, Facebook, Youtube, Linkedin, Instagram, besides an interactive App called 'NCBN App'.

New Applications & Initiatives: RTG is also in the forefront when it comes to launching new programs aimed at bringing transparency and accountability while enhancing the ease of living for the citizens. The newly launched 'Yuva Nestham' is one such example, which is built on the RTG ecosystem platform, that enables jobless and qualified youth to seek monthly allowance in a hassle-free manner without the need of contacting any middlemen.

Status of APSWAN

APSWAN is the backbone network/platform for all eGovernance applications of Government of Andhra Pradesh. It facilitates the transfer of information (Data, Voice & Video) between employees in various Government offices across AP and allows them to share common files through the secured network. APSWAN is integrated with NKN, SDC and APSCAN. The project connecting State headquarters with 13 existing DHQs and the district headquarters are in turn connected with 654 MHQs. 2500+ Officers (Horizontal connectivity) are connected to APSWAN across the State with respective SWAN PoPs.

Existing links with Bandwidth Capacity

- Existing 13 DHQ to SHQ is 34 Mbps (NIC) as primary connectivity
- Existing 13 DHQ to SHQ is 34 Mbps (BSNL) as secondary connectivity
- DHQ to 654 MHQs has 8 Mbps (BSNL) connectivity
- Horizontal user in turn connected to the SHQ, DHQs and MHQs using leased lines with 2/4/8/10 Mbps.
- 1 Gig internet connectivity (NKN) for internet browsing
- SHQ to SDC primary link is 310 Mbps (TATA) and secondary link is 155 Mbps (BSNL).
- SHQ is connected to SCAN using LAN
- APSWAN core devices are integrated with AP Cyber Security Operations Centre (APCSOC)

Status of CSC 2.0

CSC 2.0 scheme is a Government of India, Department of Electronics and Information Technology initiative which envisages to set up one Common Service Centre at each of the 2.5 lakh Gram Panchayats to provide public services to citizens living in the rural areas. The new scheme would also include strengthening and integrating one lakh CSCs already set up and operational under the existing CSC 1.0.

Accordingly, it is decided to extend to all the 12,920 Gram Panchayats so as to reach MeeSeva G2C services. In the first instance under CSC 1.0 scheme i.e from 2011 to till date, 3151 GPs were covered and in the second instance under CSC 2.0, all the remaining Gram Panchayats i.e 9,767 GPs without MeeSeva Centers are to be covered.

In this regard, a total of 7126 Gram Panchayats are covered with 8254 MeeSeva Centres in the State of Andhra Pradesh and under CSC 2.0, 3975 GPs are covered and still approximately 1490 GPs are under the process of establishing MeeSeva centres.

Smart Pulse Survey

Andhra Pradesh Smart Pulse Survey is a massive survey of all households, aimed to capture the required socio-economic data directly in digital form, with online validations. The field surveyors can enter the data by accessing the relevant portal through a connected tablet so that the data validations happen online and the scope for mistakes is minimized and the consolidation and analysis of data can be completed within 2 weeks of the completion of field survey.

The objectives of the proposed Smart Pulse Survey are summarized below:

- Completing the seeding of Aadhaar in the databases of identified developmental activities
- Ensuring the correctness of the data already seeded with Aadhaar
- Ensuring that the demographic data of any person is identical in the SRDH
- Eliminating duplicate records
- Deleting the records of persons who have expired
- Creating a self-consistent set of records in the form of AP State Socio-Economic and Welfare departments, database and the departmental database; Database (AP SEDB)

The basic purpose of the Policy is to create the People Hub as a Single Source of Truth. This can't be achieved unless all the relevant databases mentioned earlier are made to converge and interoperate seamlessly, within a short period of time to ensure synchronization of the various datasets. The Smart Pulse Survey precisely attempts to do this.

Against the above background, the Smart Pulse Survey can be defined as a coordinated and synchronized effort at creation, integration and convergence of the

multiple databases relating to socio-economic data of the people with the State Resident Data Hub (SRDH) database. Government of Andhra Pradesh has adopted Aadhaar as one of the most important datasets to be used in the implementation of the development and welfare programs. The following facts bear this out:

- Aadhaar enrolment by UIDAI has crossed 98% of the residents of the State.
- A Policy titled "Policy on Unique Identification of Residents of AP" (hereinafter called the Policy) has been approved by the Cabinet and notified in G O Ms 16 ITE&C Department dated 29/07/2015. While the policy gives pivotal importance to Aadhaar, it specifies that no person shall be deprived of any service for want of Aadhaar number in case he/she is otherwise eligible or entitled, as per the prescribed criteria.
- Due to the drive taken up during the last one year, the seeding of Aadhaar in the databases of various departments has increased to 80-95%.
- Aadhaar has been successfully used in various programs like the Social Welfare Pensions, Scholarships, Rural Employment Guarantee Scheme and Debt Relief to farmers.
- ITE&C Department is in the process of implementing a comprehensive application, conforming to global standards, to create the People Hub, so as to ensure the purity, integrity, reliability, security, privacy and availability of the people database.
- The AP State Enterprise Architecture, named "e-Pragati", designed by the ITE&C Department, gives a pivotal place to Aadhaar-based identification of persons.

People Hub

The People Hub provides for the system of identification of residents using Aadhaar, the manner of creation, maintenance and usage of Aadhaar for the notified purposes and the establishment of an Aadhaar- Enabled Ecosystem to provide data and application services.

The vision of People Hub is to establish a secure, reliable and scalable IT infrastructure, processes and platforms to provide a wide range of identity-related data and application services, and to enable the departments and agencies of the Government to leverage Aadhaar to serve the residents efficiently, effectively and equitably. However, no person shall be deprived of any service for want of Aadhaar number in case he/she is otherwise eligible or entitled, as per the prescribed criteria.

Benefits to the Residents of the State:

- All the schemes and benefits of the Government for which a resident is eligible can be accessed directly through an Aadhaar based single-sign-on facility to be offered by the AEE

- Identification of the residents required at all touch points with the Government, can be made hassle-free by the use of Aadhaar card or through other modes of verification of Identity of the residents
- All the changes in the Government records necessitated due relocation of the residents within the State, temporarily or permanently, can be handled in one stroke, through creation of appropriate application under the aegis of the AP State Enterprise Architecture, obviating the need to approach multiple government agencies at the place of relocation.
- Aadhaar-enabled applications will reduce the data/document burden on the citizens by storing and reusing the historical, event-related data of the resident, in sectors like education and healthcare and using it when required.
- Aadhaar-enabled Repository of certificates will obviate the need for the residents to produce proof of various socio-economic attributes, repeatedly at different touch points with Government, leading to a 'Certificate-less Governance'.

Benefits to Government Departments & Agencies:

- Departments and agencies of the Government can achieve better, quicker and more transparent process of targeting of their benefit schemes, leading to more effective implementation.
- The scope of duplicate or non-existent beneficiaries gets eliminated, thus enabling the Government to save precious resources, which can be used for helping more number of eligible beneficiaries
- The process of beneficiary verification and selection gets expedited
- Departments can make use of Data Analytics services offered by AEE to achieve better planning and decision making
- Government can design integrated and joined-up services to the residents using Aadhaar as the integrating elements.

Andhra Pradesh State Fibernet Limited (APSFL)

State-Wide High-Speed, optical fiber infrastructure leveraging the existing assets of the electricity transmission/distribution companies such as electric poles and substations.

- Optical fiber cable has been laid across the 13 districts of the state leveraging electrical network. The Fiber runs through 3,70,000 electricity poles with 1188, 33KV feeders.
- 24 core ADSS optical fiber cable has been laid aerially over the electrical poles upto substation level for a length of around 23,000 KM
- Back end electronics has been set up at Points of Presence (PoP's) at 2445 identified locations, mainly electrical sub-stations.
- A state wide Control and Command centre for this entire network has been established at Visakhapatnam as a Network Operations Centre (NOC)
- 85% of population is covered through this network within AP.

The network is built using ArcGIS based survey and the existing network can support reaching each GP within the vicinity of the established PoPs across the State.

Sh K Vijayanad, *IAS, Principal Secretary, Information Technology, Electronics and Communications Department, Government of Andhra Pradesh, prlscy_itc@ap.gov.in*

Gujarat State

Dhananjay Dwivedi, and Sandhya Bhullar

STATE SUMMARY

ICT interventions by State Governments, Central Government by way of eGovernance initiatives, 'Digital India' programs etc. are considered as key drivers that contribute to the success of the efforts towards overall economic growth and well-being of citizens.

"eGovernance States", usually present (a) a long term digital strategy that is articulated by national and local considerations, (b) a governance framework that can sustain transformation and (c) measurable impact i.e., data-driven and evidence based, outcomes that reflect on excellence in the initiatives – policy, strategy and rollout.

Key aspects of the State's eGovernance Road Map for next five years

Gujarat has always been a firm believer in eGovernance and in line with 'Digital India', state has strengthened its commitment towards eGovernance with 'Digital Gujarat' initiative. Gujarat has been awarded Best eGovernance state in the past and is a frontline State in the implementation of eGovernance policies & projects and setting up of key infrastructure for eGovernance.

State Government has adopted Innovative, constructive and result oriented progressive policies for the promotion of eGovernance in the State. The Science and Technology Department, positions Gujarat as a Key State in the Knowledge Economy sector and acts as a medium to make Government-Citizen Interface more effective, transparent and efficient.

Gujarat has come a long way in its eGovernance journey and after taking stock of the work that has already been done and assessing and benchmarking e-Government development and public service delivery efficiency in the State, we have charted out the next steps in our journey. Gujarat has the vision to become the leader in adopting Digital and Transforming Governance and our broad level goals envisaged to be fulfilled through eGovernance initiatives are summed up below:

- CERT-G - Strengthening the **Cyber security framework** in the state for the protection of State's Critical Information Infrastructure and countering Cyber Attacks. Enablers for successful protection and prevention include:
    - Cyber Security Cell GR
    - Cyber Security Policy
    - Cyber Security Action Plan/Crisis Management Plan

- SIEM tool for real time monitoring of Cyber Security threats/incidents

- **DMS and Storage Solution**
  - Documents Management Solution and Network Attached Storage as a Services to State Government Departments.

- **Upgradation/Enhancement of State Wide Application**
  - IWDMS 2.0
  - IFMS 2.0
  - New Data Centre
  - eCabinet & eCOS

- **New State-wide Applications shared across all Health Centres and all Institutions**
  - Health Services related to Data warehouse and Analytics.
  - Universities & school Management ERP (A uniform platform to manage all universities of the state).

- **Proactive Governance**

  To bring citizen centric services on Digital Gujarat Platform
  - Increase Citizen Engagement with the Government through **Social Media** platforms and feedback mechanisms such as Rapid Assessment System (RAS).
  - Creating shared IT Infrastructure, Platforms and Common Applications available on-demand **through Cloud based State Data Centre** and promoting cloud computing for all departmental IAAS, PAAS & SAAS requirements for analysis, decision making and forecasting.

- **M-Governance**
  - Implement "Mobile First" strategy in the State through enhanced focus on Mobile Governance in service delivery.

- **Urban Wi-Fi**

  Our urban Wi-Fi project covers following and we have plans to extend to Class C & D Municipalities this Year
  - Free Wi Fi Project for Class A and B 47 Municipalities
  - 1100 Access Points at Bus Stations, Hospitals, Library, Municipality Office
  - 85000 Users Daily Connect
  - 1.5TB Data Consumed Daily, Peak Daily Bandwidth 28.41GB

- **Impact Assessment of eGOV applications**
  For this purpose the **National eGovernance Service Delivery Assessment (NeSDA)** framework will be used as a benchmarking tool to evaluate **common services provided to citizens (G2C), business users (G2B) and government (G2G) departments** under focus sectors of **Finance, Health, Social Welfare, Education, Labour & Employment, and Environment.**

- **Launch Data Analytics as a platform -**
  - Analytics as a platform on cloud helps states departments to turn their data, currently stored in various databases, into valuable insights that can be used to drive citizen satisfaction and increase interaction between Government and Citizen.

- **Promoting Research and Development (R&D) and Innovation**
  - Setting up State R&D Center in Gujarat to help in eGovernance, Policy Incubation, Impact Analysis and Policy Planning

- **Digital Literacy**
  - To initiate/promote activities in ICT for inclusive growth of IT sector and spread Digital Literacy to the focus groups like farmers, women, youths, social workers etc. to empower them for enhancing their livelihood
- Assisting and promoting **emerging technologies** such as **IoT, AI, Blockchain, Augmented and Virtual Reality**, for the Department/Sector specific use cases and possible implementation strategies.
- Promoting **GIS** and analytics for creation of a holistic Decision Support System.

State level policy Integration including State level Institutional partnership plans

(a) CM Dashboard: A key initiative of Government of Gujarat, which shall work as a single platform for entire government administration for better monitoring and control, necessary policy framework and daily work, keeping Citizen at the center.

Keeping fellow citizens at the heart of entire administration, to strengthen Good Governance day by day, H'ble CM, Gujarat State, has given 'Mantra' of 4 pillars for strengthening Good Governance:

(i) Sensitive Government
(ii) Decisive Government
(iii) Transparent Government
(iv) Progressive Government.

Keeping this vision, the CM Dashboard has been a radical ICT initiative for Government Administration in online monitoring of Government schemes and performance on real time basis, bringing all stakeholders on a single platform – from District Administration – Collectorates & DDOs & SPs to the

Secretariat – Various office Heads, Departmental Heads, respective Ministers up to CM Office, having access to data on real time basis through CM Dashboard. Some of the challenges in this journey include:

- Changing Officials' and employees' mindset was a major hurdle. Clear & continuous communication was very helpful. Involving people from different level during the journey further strengthen the team building.
- Ensuring Data Quality- Since the functions of real-time reporting is to allow decisions to be made quickly based on current data, it is essential to have correct data. Wrong/incorrect information can have serious and consequential impact.
- Availability of Real-time Data- If you have a dashboard that is not capable of refreshing to real-time then you must take the actions to fix that. How can you really measure the performance, if your dashboard is displaying outdated information? Also, everyone needs to be able to access the dashboard.

(b) Institutionalized partnerships with National/International agencies.

- **Partnership with Google**

  The Government of Gujarat and Google have entered into discussions concerning Google's provision of technology assistance to Government of Gujarat. This partnership will increase the mutual cooperation between the two Parties for further development of various initiatives of the Government of Gujarat and Google.

  In the spirit of mutual cooperation, the partnership will work towards achieving the following Initiatives:

  - Assisting the State Government make all government sites mobile friendly
  - Putting the rich cultural heritage of the State on the global map
  - Promote Android Developer education
  - Support the Start-up Ecosystem in the state
  - Introduce programs to help local small and medium businesses
  - Grow digitally- already in progress
  - Promote digital literacy among women- already in progress

  Under the agenda to support Start-ups in the State, the State is now planning to conduct an event in collaboration with Google. The details of start-ups have been already shared with Google. Government of Gujrat has appointed nodal agency to facilitate connect between Google Cloud Platform and start-ups in Gujarat. Google will provide free Cloud credits, Google Apps for Work for 1 year (to new customers), access to architecture reviews and technical mentors, and support to shortlisted start-ups and offer GCP credits to government identified incubators. Google will conduct meetups, Office Hours,

Code Labs and Design Sprints for cohorts at incubators through a pre-determined calendar.

- **Association with NASSCOM for setting up Centre of Excellence (CoE) for Internet of Things (IoT) and 10K Warehouse**

  CoE IoT India, a deep tech IoT startup accelerator at its core, is an initiative to build an IoT ecosystem in India that connects various entities such as startups, enterprises, venture capitalists, government, and academia. This enables startups in areas of IoT, Big Data, AR/VR, AI, and Robotics to reach their maximum potential.

  Besides creating CoEs for IoTs, NASSCOM is also undertaking a very large scale initiative to support technology entrepreneurship in India. The initiative named as "10K Warehouse" is a multi-year program with the objective to support/and incubate 10,000 great quality technology start-ups in India over the next 10 years.

- **Conduct of various events in Gujarat in association with GESIA towards supporting and promoting startups**

Events/Exhibition during Sep. 2017 to 31st March 2018			
Sr. No	***Events /Exhibitions /Sponsorships***	***Date & Venue***	***Outcome/Result***
1	India Mobile Congress (Exhibition)	27th to 29th Sep. 2017, at Pragati Maidan, New Delhi	An International exhibition, got quite good response for GoG policies (Start Up, IT/ITeS and Electronics), handled many queries and explained about destination Gujarat.
2	Advertisement of Policies in Divyabhaskar "UTSAV" Magazine	Oct. 2017	through advertisements, we promoted our three policies (Start Up, IT/ITES and Electronics) and received good response from applicants and recieved many queries/applications
3	25th NCSC by GUJCOST (Exhibition)	27th to 31st Dec. 2017 at Science City, Ahmedabad	Science students from all over India have visited the 25th NCSC along with international students and got knowledge about the Start up eco system in the State, as well as the policy of the state Govt.
4	SVUM 2018, International Trade Show	5th to 9th Jan. 2018 at AES Ground, Ahmedabad	GoG policies (Start Up, IT/ITeS and Electronics policy) was promoted before African Nations
5	21st NCEG by DARPG (Exhibition)	26th to 27th Feb. 2018 at HICC, Hyderabad	The 21st National Conference on eGovernance was organized by DARPG with conference theme "Technology for Accelerating Development" and all the states and UT

Contd…

			participated and showcased the best eGovernance practices. Also during the exhibition, handled many queries and distributed the policies and exchanged information.
6	TiECON 2018	9th March 2018 at Hyatt Regency, Ahmedabad	During one day event, handled queries and distributed the policies amongst the startups and investors
7	Annual IT Day/Hackathon and Start-Up Activities by Govt. Of Rajasthan	20th & 21st Mar.2018 at Commerce College Campus, JLN Marg, Jaipur	Annual IT day - Hackathon 4.0 organized by Government of Rajasthan for the innovative minds and thinkers across the nation and hackathon 4.0, 36 hours non-stop coding marathon was an effective tool used by the state to promote IT & e-Gov. initiatives, also Start Up exhibition was arranged
8	DST/GIL and Google CXO event for Google Cloud Start Up	11am of 12th April 2018 at iCreate Ahmedabad, Gujarat	More than 125+ participants (startups, students) participated and enrolled for Google cloud platform that Google is offering for Startups. Various Start Ups and students got the opportunity to understand google cloud service and products, like Machine learnings for the first time

State specific challenges faced during your eGovernance journey

eGovernance is incomplete unless government services are made available to the citizens in a hassle free and 24x7 manner.

- **Lack of Connectivity -** There were major connectivity issues in the State, particularly in rural areas, which made it difficult to extend the benefits of eGovernance across the state. For this purpose government of Gujarat has undertaken two major initiatives. Firstly, government has provided VSAT based "Broadband" connectivity to all the 13716 Village Panchayats. Secondly, all Village Panchayats have been provided with computers, printers and other necessary hardware so as to enable the village level computer operators to deliver government services to the people. In addition, State government has also decided to set up Common Service Centres (CSCs) in 6000 villages. Government conceived Gujarat State Village Area Network (GSVAN) project provide Internet connectivity to 6000 villages by Dec 2016 and further coverage expansion for all the 18000 villages by 2018. This network will be the backbone for the service delivery for the rural population.
- **Vendor Management**
    - Multiple Vendors involved
    - Different SLAs for each vendor
    - Interdependency between two or more vendors

- Root Cause Identification & Fixing Responsibility for Issues
- Constant Follow-up to be done with each vendor for issue resolution
- Non-Performance of one vendor may inadvertently affect other vendor

To overcome above issues vendor management systems are developed and implemented.

- **Lack of proper Planning**
  - Procurement planned and indented at Dept. level without proper need assessment
  - Scarcely utilized massive hardware silos sometimes pile.
  - Increased power consumption due to unnecessary hardware utilization
  - Need for Timely IT Related audit regarding usage, security, process, SLA
  - Need for development of standard protocol for IT Administration and usage

  To overcome this issue, IT Cadre is formed to conceptualize, design, monitor and manage the IT initiatives across the State.

- **Lack of Online Services**

  Even with connectivity available at district/taluka level, the citizen had to travel and go through the hassle of paperwork, affidavits and payments. Government has stated to use State Portal to accept citizen's request for various services such as copies of land records, applications for ration card, varieties of certificates and for implementation of beneficiaries oriented schemes such housing schemes for poor, old age pension, widow pension scheme etc. and deliver these services through front ends such as broadband connected village panchayats/CSCs/cyber cafes in the state. To overcome this Digital Gujarat portal is developed as one window services to citizens.

  To supplement and provide ease of access, M-Governance services are being provided. Currently, there are 40 services running on mobile platforms and our goal is to have more than 250+ services running on mobile platform which will be integrated to digital Gujarat portal as well.

- Lack of IT literacy – Citizens were unaware of the benefits of Information and Communication Technology and were hesitant to use online processes. The State Government has initiated massive awareness campaigns in the state to increase knowledge about IT initiatives and to increase IT literacy in the State. To overcome this issues village level trainings are provided in MASS Literacy programme

Result Indicators

1. **CM Dashboard**

Name or Title of ICT Intervention: CM Dashboard

Prime Objective: A single platform for entire government administration.

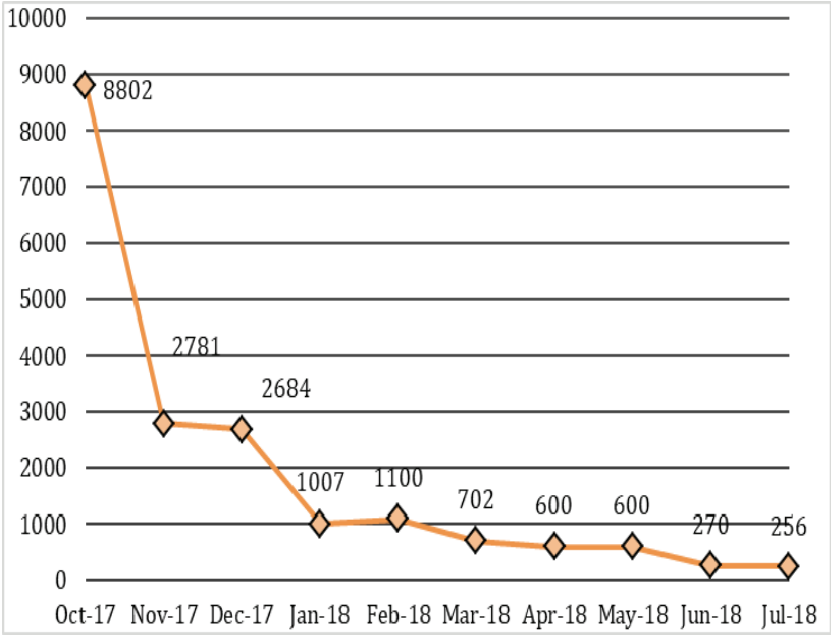
Target Coverage : Across State (G2G)

Operational Since: 11th May 2017

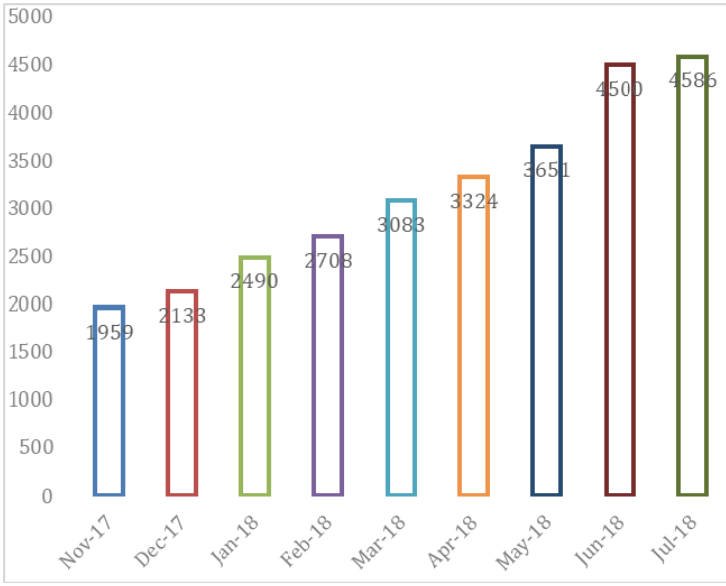
CM dashboard incorporates Key performance indicators (KPIs) from Panchayat & Village level to all collectorates, under its umbrella of continuous monitoring and analysis. Data can be analysed geographically, like district-wise, as well as periodically, like, Daily, Weekly, Monthly, Yearly, for various KPIs. Further, based on data analysis, necessary input has been forwarded through ICT tool to concerned departmental as well as district authority for necessary timely action.

Important projects of the state are monitored through Pragati – Gujarat (Pro-Active Governance and Timely Implementation in Gujarat), which enables top officials to monitor closely.

Since roll out of CM dashboard, there has been significant improvement in various sectors. Sample Dash board views are presented below, for representative purpose:



No. of Mutation Application Pending More Than 90 Days under City Survey



No. of Completed Roads under Mukhya Mantri Gram Sadak Yojna

2. **Department/Board/Corporation/Sector: Food, Civil Supplies & Consumer Affairs**

Prime Objective: Food security to the poor and vulnerable section of society through beneficiary identification and transaction capturing at the Fair Price Shop (FPS) level.

Target Coverage : Across State (G2C)

Operational Since: 23rd April 2010

Summary

Identity of the beneficiaries is established by seeding Aadhaar number in Ration Card database. All Ration Card related applications are accepted at ATVT Centres or on Digital Gujarat portal and processed by RCMS. To achieve accountability, fingerprint authentication has been made mandatory at various key decision stages from top to bottom level.

(a) FPS Automation (e-FPS) and Aadhaar Enabled Public Distribution System

- Gujarat State has implemented biometric based distribution system since 2010 (eFPS). For eFPS model FPS was encouraged to setup IT infrastructure, laptop, printer, barcode reader since 2011. STQC biometric finger print device given by department.
- In Gujarat state, 17,048 (99.34%) Fair Price shops are functioning as eFPS (FPS automation completed) out of total of 17,161 Fair Price shops. The remaining 113 Fair Price shops are left out because of No/Low network connectivity. However, these 113 Fair Price shops are connected with eGram and they all are on Aadhaar enabled public distribution system.

- Government of India ordered to implement Aadhaar based Food distribution system under the National Food Security Act through the notification of 08/02/2017 and Dt.10/01/2018. In accordance to notification State Government has issued circulars and reviewed time to time for Aadhaar seeding and verification get completed.
- The process of roll out on Aadhaar based public distribution system was successfully implemented during February – March'2018. Now all the 17,161 fair price shops in the state are operational on Aadhaar based distribution of PDS.
- eFPS is a Web based billing application in which beneficiaries goes to Fair Price Shop to avail the PDS commodity. As per entitlement the Fair Price Shop generates the on-line Bill through e-FPS Web application.

(b) Aadhaar Seeding in Ration Card

- NFSA Ration cards Aadhaar Seeding in Gujarat is 68.05 lakhs (98%) out of 69.14 Lakh cards.
- NFSA Population Aadhaar Seeding is 275 Lakh (75%) out of 365 Lakh population.
- The remaining area is under priority of the Food and Civil Supplies department (Govt. of Gujarat).
- All Collectors and District Supply Officers have been instructed for completion of 100% Aadhaar Seeding by June 2018.
- The pendency is reviewed by regular video conference and monthly review.

(c) Provision of various services through Fair Price Shops in Cashless manner using AEPS (Aadhaar Enabled Payment System)

After demonetization, the Government has taken immediate steps to ensure e-payment facility at every shop. The State Government has gone for AEPS (Aadhaar Enabled Payment System) as it is easy and does not require any commission or rental to be borne by customers or shop keepers.

For this system, Food and Civil Supplies Department has partnered with CSC – a Special Purpose Vehicle - of Ministry of Information and Technology, Government of India. For Aadhaar Enabled Payment System, MOU was signed between CSC and Fair price shop holders. In this system, the customer is supposed to give his Aadhaar number, select his bank name and give his thumb impression. Based on this information, the customer is authenticated and desired amount is transferred from his account. The authentication process takes 250 micro seconds. For transferring the amount CSC's software DIGIPAY is being used. There is no need to have any card or pin number. Initially, we had tried POS devices and electronic wallets but AEPS is the most convenient, easy to use and effective payment option.

All the PDS shops in Gujarat have been covered by AEPS and it has facilitated cashless transaction. Almost 80 lakh families out of 127 lakh family in Gujarat will be getting benefit of AEPS every month.

The department is also making PDS shops more viable while promoting digital transactions by allowing shops to perform more than 45 various e-services like mobile recharging and bill payment, e-stamping, railway e-tickets, air tickets, bus e-tickets (GSRTC) etc.

Outcomes achieved:

- Reduction of cardholders from 12.5 million to 10.9 million by discarding 1.6 million bogus ration cards
- Beneficiaries can get actual benefits - All beneficiaries having valid barcoded ration card get the Right Quantity of food grains at the Right Time.
- Freedom of choice – citizens can choose between-Food coupon and cash coupon, Choice of FPS

Shared Applications for Delivery of services:

- **Digital Gujarat Portal (Common Services Portal)** (for Food, Civil Supplies & Consumer Affairs Department, Social justice and empower Department, Revenue Department, Education Department and many more):

  The Government of Gujarat aims to provide transparent, affordable and efficient public service delivery closer to the door-step of citizens through eGovernance. To fulfil this vision, the Common Services Portal (CSP) has been developed as a one-stop destination for all citizen to obtain information as well as avail Government Services. Common Services Portal (CSP) with **100+ online services through web and 40+ services through mobile app** facilitate the urban and the rural masses with maximum possible services related to different state government departments through multiple channels like ATVT/JSKs/e-Gram centers as well as through Web & Mobile interface.
- **Apno Taluko, Vibrant Taluko (ATVT)** (for Revenue Department, Education Department Health & Family Welfare and many more)

  Apno Taluko, Vibrant Taluko, which in local language means 'Our Block Vibrant Block' empowered the people at the taluka (sub district) level and changed their course of lives and business with minimum interference of bureaucracy and its procedures. ATVT aims to make all the talukas of the state self-governing and self-dependent to allow for indigenous progress at the grassroots. The dynamism, thus generated, will not only make the talukas prosper, but will bring in more people participation in the state's progress. This has strengthened states administration to function on 248 pillars of talukas instead of 33 pillars of districts. ATVT is an online system to strengthen the administration at the taluka level for better implementation

of Government schemes and addressing the applications/grievances of the people.

- **eGram Vishwagram Centres** (for Agriculture Department, SJED, Revenue Department and many more)

  Before implementing the e-Gram project many villages were facing the situations like number of visits to avail any kind of G2C (Government to Citizens) and B2C (Business to Customer) services provided by Government at its offices, lack of understanding among them about mechanism for each services, no single point of service delivery and ineffective implementation of each action causing more problem for any service. Facilitation of services for beneficiaries was a must hence the Panchayat Department established this ITC based system.

  e-Gram bridges the digital divide between urban and rural Gujarat through Very Small Aperture Terminal (VSAT) Network an infrastructure at all village panchayats. e-Gram VSAT Network which is also known as PAWAN Network is Asia's Largest Public Domain Network
- GSDC (Gujarat State Data Centre) is a central repository for storing & hosting all digital data, applications, services of Govt. of Gujarat. GSDC provides a shared platform of Compute, Storage, network, security & Infrastructure components, which can be used by all Govt. of Gujarat Departments, for hosting their electronic data/services.

Significant eGovernance best practices unique to the state

- With key infrastructure and policies in place, GoG has aggressively promoted information sharing with the citizen by way of display and disclosure of information. There are more than 250 websites which provide information on various aspects of governance in the State.
- GSWAN (Gujarat State Wide Area Network) is the core backbone IT infrastructure of the state. It currently serves the state departments with connectivity (Both Internet and Intranet) to more than 7000 offices across the state.
- Cloud Enablement: Infrastructure as a Service, state government have taken the pioneer decision to move on could Infrastructure and finalized the agency for implementation of Cloud Infrastructure having capacity of 25TB RAM and 4000 Core Compute Power. State data centre has recently completed the Pilots for few departments for running services on cloud and will allocate all other departmental servers and computational needs on cloud enabled infrastructure.
- Digital Gujarat Portal is single window access point to avail all e-Services of the Government of Gujarat. Through Digital Gujarat Portal, government services have been made available to citizens in a convenient, efficient and transparent manner. Till now 52 service are made available online and their mobile app is under development.

ENABLER INDICATORS

Policy level initiatives

(a) **3% budget for IT** - It has already been decided to earmark up to 3% budgetary allocation of the Departments towards IT. Departments are encouraged to utilize at least 50% of their IT budget towards eGovernance initiatives i.e. Application Software, Mobile Application Development, Training, Capacity Building, Data Digitization, etc.

(b) **Department wise IT Committee:** Collaboration and strengthening of decision making is very important as most governments often find different departments pulling in different directions. A consolidated unique platform on which all policy actions emerge is therefore essential. Towards this, state created **IT Committees in each department** for single window techno-commercial approvals of ICT-led initiatives in governance.

(c) **IT Cadre** - With the increased focus on eGovernance activities, availability of skilled IT manpower has become a must to sustain various eGovernance initiatives. And hence, an IT Cadre is set up in the state which would assist the Departments in conceptualizing, designing, monitoring and managing the IT initiatives across the State.

Capacity Building initiatives

(a) **Chief Information Officer (CIO) at each department -** All departments have prepared their IT Action Plan, which has a one-year focus and a five-year perspective. A fixed part of the budget is committed to IT related activities. Each department has Chief Information Officer (CIO) who reports directly to Secretary of the department.

(b) **GIL employee in each department** - GIL acts as the nodal agency for facilitating ICT deployment in State Departments as well as for promoting Gujarat as an IT investment destination. GIL prepares its Business Development Plan and proposes separate verticals (Infrastructure, Applications and Capacity Building) in order to meet with the new requirements towards monitoring/implementation of new eGovernance, IT and Electronics Policies of Government of Gujarat.

(c) **IT Cadre** - With the increased focus on eGovernance activities, availability of skilled IT manpower has become a must to sustain various eGovernance initiatives. And hence, an IT Cadre is set up in the state which would assist the Departments in conceptualizing, designing, monitoring and managing the IT initiatives across the State.

(d) **HRMS** - General Administration Department is one of the key departments of State Government and drives the overall administration process from recruitment to retirement. The department has launched **SATHI** which stands for System of Application of Technology for Human-resource Improvement. The system provides facility to create an integrated state-wide employee HR database with modules for Employee

Administration, Leave Management, Payroll Processing, Transfers and Posting, Recruitment and Training, Retirement processing, etc.

Technology and technology Promotion as Enablers

(a) Cloud Enablement: As discussed elsewhere.

(b) Cyber Security Cell: Government of Gujarat has constituted a Cyber Security Cell for the protection of State's Critical Information Infrastructure for countering Cyber Attacks with below strategic interventions:

- Assist all relevant State Entities for countering Cyber Attacks by providing Cyber Security implementation guidelines online with guidelines issued by Indian Computer Emergency Response Team (CERT-In, Govt. of India), National Critical Information Infrastructure Protection Centre (NCIIPC) under National Technical Research Organization (NTRO, Govt. of India) and Implementation of ISO 27001 (Information Security Management Systems) standards and controls from time to time.
- All Government applications (including hosting of websites) would be deployed in public domain only after security certification is obtained.
- **Smart Gujarat for new India Hackathon-** Education Department of the Gujarat has taken series of initiatives to design and develop innovation processes and ecosystem across its affiliated colleges and universities. To structure and institutionalise various initiatives and support systems towards it, student start up and innovation policy (SSIP) is designed and is being implemented.
- To create and promote the Innovation culture and develop the Innovation ecosystem, state Education Department has taken various initiatives **"Smart Gujarat for New India Hackathon**" is one of many such initiatives.
- **Centre of Excellence (CoE) for Internet of Things (IoT) at Ahmedabad**

  Memorandum of Association has been signed between GIL/DST, Government of Gujarat and NASSCOM to build a Centre of Excellence (CoE) for Internet of Things (IoT) at Ahmedabad. The purpose of Centre of Excellence (CoE) is to create the physical infrastructure labs for IoT domain for development and validation of solution from design to prototyping to democratise innovation in collaboration with Government, Industry and academia.

(c) Adoption of Emerging Technologies: Increased adoption of emerging technologies and ICT innovations is be promoted at industry and also at academia level by the State Government. DST will constantly review emerging technologies, conduct Proof of Concepts (POCs) and pilot implementations, support usage by the Departments to promote increased and appropriate use. The State Government would encourage

implementation of emerging trends like Artificial Intelligence, Blockchain, Smart City, etc.

(d) **eWaste Management guidelines:** The state's IT and eGovernance policy stresses on the need for Green Computing and inculcating green ideas into daily work. A comprehensive eWaste Policy is already in use by the State Government and we are in the process of renewing it.

(e) **Data Analytics- Gujarat Integrated Statistical System (GISS**) – The core activities of Directorate of Economics and Statistics i.e. data collection and processes etc. were being carried out manually since its inception on paper and now the web based portal is used with statistical analytical tools integrated and required result in form of Analytical Reports can be generated and can be delivered to the various stakeholders in given time. GISS web portal uses high-end analytical software **SAS** with its **SAS Visual analytics** for analysing the different sectors and departments trends. The portal can be access by all Govt. department/offices at the state, district and sub district level. SAS Visual Analytics empowers departments to explore huge volumes of data very quickly to identify patterns and trends and to identify opportunities for further analysis.

Awards, Recognitions and Others

The spirit of Gujarat has ensured that every day, new projects are commissioned and existing boundaries are pushed further in our quest to achieve good governance with minimal government. Gujarat is committed to eGovernance with enhanced 'Digital Footprint', in almost all the Government Departments, providing integrated eServices to the citizens. Our performance in this sector of administration can also be summed up by the many awards that we have won.

Highlights

1. Gujarat won large number of **National eGovernance Awards**, the highest number of National eGovernance Awards for the year 2013 and 2014.
2. In the **United Nations Public Service Awards** held for 2013, out of 16 projects showcased, 9 of them qualified for the second round and two projects qualified for the final round.
3. **CSI-Nihilent eGovernance Award 2017 Ceremony** - Award of Best eGovernance State - State Category for Gujarat State
4. **CSI-Nihilent eGovernance Award 2017 Ceremony** - Award Sustenance Category for m-Governance - a way to meet the citizen expectation - Rajkot Municipal Corporation

5. **CSI-Nihilent eGovernance Award 2017 Ceremony** - Award of Best eGovernance Project of EGovernance: An Ushering into digital era for e-enablement of Citizens : Jamnagar Municipal Corporation
6. **CSI-Nihilent eGovernance Award 2017 Ceremony-** Award of Best eGovernance Project of Swasthya Sakhi (ICT enabled IEC tools for Health workers) – Rural Department
7. **20th National Conference on eGovernance-Category VI – Innovative use of GIS Technology in eGovernance (2017) -** Silver Award given to "Design, development & Implementation of web based GIS application along with GIS database at Surat Municipal Corporation (SMC), Government of Gujarat , Gujarat.

In addition the Department of Science & Technology, have published the **compendium Magazine comprising several eGovernance initiatives** that Gujarat has implemented successfully.

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Sikkim State

Ram Mohan Mishra, and Jayakumar Karuppusamy

STATE SUMMARY

Key aspects of eGovernance Road Map for the State

Some of the aspects considered while articulating the road map of the state included:

- Ease of Business process automation for registration of firms, startups, MSME units
- EGov Applications for Labour Registration and workforce development, Skilling and Entrepreneurship promotion, Technology adoption, Science applications, SCIPEDIA, IndiaTechPedia.com Portal
- Agro and Organic Farming promotion with info dissemination and facilitation support for eMarketing.
- Use of GIS for route planning for picking up farmers produce www.sikkimsprings.org Online database of 704 springs in Sikkim with details of Geocoordinates, seasonal discharge data, village resource planning, population dependent on springs etc. Wetland mapping of Sikkim completed with data being uploaded.
- Dissemination of technologies related to green building, composting, mini hydel plants with vortex turbine, solar cardamom drying unit fabrication.

To enable realization some of the Portals deployed include:

- http://www.enterpriseindia.co.in
- http://www.indiatechpedia.com
- http://www.skillyoungindia.com
- http://www.sikkimshramsuvidha.com

State level policy integration and State level Institutional partnerships

The *India Enterprise Portal* has been architected for the Ministry of Micro, Small and Medium Enterprises under the Scheme for Promotion of MSME in the North East Region and Sikkim, on the basis of validated approaches in the earlier deployments of the skillyoungindia.com and indiaskillpedia/techpedia portals.

The Strategic approach which guided the development and deployment of the Portal relies on presenting a unified blackboard architecture and collaboration platform, serving as a cyber eco-system, cutting across the boundaries of several Ministries, State Agencies, Industries and Institutions serving the cause of promotion and growth of entrepreneurship, startUps and MSME's in our nation.

The portal relies on distributed, decentralized content updation of operations, sharing of information/resources by the network of partners, state agencies as also

the Enterprise Development Centres, which are proposed facilitation centres being set up across the nation on the lines of PHC/ICDS centres and such other field Offices of the governments.

The NEP Portal encompasses functionality and features for online delivery of services to entrepreneurs/startUps – aligned with (a) their profile and requirements as discerned from their inputs, interactions during the use of the portal, as also from (b) the posting of their needs by facilitators, on the basis of counselling and facilitation services offered by various field operatives and centres. The Portal has a knowledge repository with authoring systems, eMarket Place, unified view of information related to programmes and schemes for entrepreneurs notified and implemented by the Ministries of Govt. of India, R & D Solutions and Technologies developed by various Institutions, Profile pages for each of the Registered Users, Industries, State Agencies and Institutions, as also notification on events, blog/youtube anchors for relevant resources which can interest and evoke enthusiasm in entrepreneurs in focus sectors.

The portal applies cognitive methods to enhance comprehension and ease of understanding with visual cues, tool tips, enriched GUI and interactive features and system intelligence for notifications, messages and onscreen alerts to users to draw their attention and engage them in the process of on-boarding them and promoting patronage in the use of the facilities offered on the portal.

The solution architecture for the portal subscribes to the paradigm of Open innovation, which is becoming increasingly relevant in the current scenario where collaboration, networking and partnerships play significant roles to determine success and outcomes.

Key challenges faced during your eGovernance journey unique to the State

The challenges faced primarily relates to the onboarding and engagement of users and encouraging the partners who serve the community of entrepreneurs/startUps to use the portal and embracing the habit of using the NEP, as a cyber ecosystem for

(a) Updating information, inputs and knowledge resources required by the entrepreneurial community relating to online services that are offered in the portal, by using the crowd sourcing/authoring systems embedded in the portal, and

(b) Providing information, inputs relating to various operations/activities performed by them to enable the other partnering agencies to understand such operations and build on such effort to facilitate augmented quality of outcomes and impact.

The Ministry of MSME already has a network of MSME Development Institutes. The Ministry proposes to set up numerous Entrepreneurship Development Centres at District and Sub-District levels in the country. The assistance and support of this network along with the cooperation of State agencies and institutions like the Indian

Institute of Entrepreneurship, Universities, Industries and S&T Councils of the NER and Sikkim would be made use of in performing the required content management, transaction administration functions. The Core Team and PMU managing the operations of the Portal would hold workshops, communicate and liaison with the partnering agencies to enlist their cooperation as also address required advocacy and capacity building as concerns familiarisation with the features and functioning of the portal.

Assistance has been sought and is being provided by the Ministry of MSME and Dept of Science and Technology Govt. of India for;

(a) strengthening the Indiaskillpedia Foundation operating in Guwahati/Gangtok, and the Research Team at State S&T Councils as institutional common facilities for rigorous, intensive, updated & customized content and operations management
(b) undertaking research to compile and develop knowledge resources (for both online updation/delivery through the national enterprise portal and through print/publication/electronic version downloads) and
(c) providing regular training, capacity building and consultancy services including familiarization with backend operations and management of the NEP
(d) augmenting institutional facilities for digital media content production to develop advocacy and promotional materials/media

Funding/support for these projects has been approved/sanctioned by the Ministry of MSME under the Scheme for Promotion of MSMEs in NER and Sikkim and similarly by the DST Govt of India.

Institutionalized processes, procedures, practices and SOP for various activities have now been developed and adopted for operations and management of the NEP.

RESULT INDICATORS

Key Sectors which delivered significant benefits

The India Enterprise Portal and the services offered on the cyber platform are "enablers" and facilitate custom online service delivery aligned with the requirements/profile and need of the entrepreneur/startup commensurate with his stages of lifecycle in his entrepreneurial growth, in an effective and efficient manner.

Information relating to the profile of the entrepreneurs/startups are maintained and such archived information sets, are leveraged by the system in customizing service delivery while serving as a reference in future engagements/counselling and handholding efforts. The portal also removes the restriction of access from only one location and makes it available to the stakeholders/beneficiaries from any location and at any time.

Project based training will be offered to students who graduate in Mass Communication from Sikkim University, and other higher education institutions in the NE Region for Digital Media Production. In keeping with the long standing need for such services to enterpreneurs, startups and MSME units, the common service facility for digital media production and resource development at Shristi Nagar Guwahati, will be made available with the operations as envisaged and detailed herein.

Revenues generated by modest user registration/renewal fee collected for services rendered by the foundation, operation and management services for supporting the India Enterprise Portal and training fees will ensure the sustainability of the Project Management Unit and associated operations of the Resource Development Centre. Time to time States may also want to use the common facilities and may provide fund support for operations.

Distinct examples of integrated common service delivery thru resource sharing

A database of in excess of ~7500 registered skill aspirants, 41 training providers, 62 training courses, 1176 placements and 796 persons undergoing counselling are available. About 24 start-ups have commenced operations in NER and Sikkim over the last two years in different sectors like Agro-based, Tourism, Travel and Trade and Hospitality Sectors.

Funding from Welfare Board, Department of Labour, Govt. of Sikkim, Skill Department, Govt. of Sikkim and Science and Technology Department, Govt. of Sikkim has been instrumental in undertaking various initiatives for entrepreneur/startUp promotion and skilling.

eGovernance best practices unique to the state

Three categories of communities that would derive utility and experience the benefits of the deployed cyber eco-system, automated processes for collaboration, decision support, service delivery and access to information and knowledge are;-

(i) The community of entrepreneurs, startups, skill aspirants who require information on schemes/programmes, inspirational ideas, designs, technologies, information and support for making proposals, mobilizing funding, developing products, setting up enterprises, infrastructure, production facilities and consultancy services for various operations and activities commensurate with their needs and requirements at various stages.

They can view information, services offered, build their capacity referring to knowledge resources, acquire technical know-how, be inspired by ideas/ designs shared on the portal, connect with service providers, partners and state agencies as also ascertain status of their requests. They also get notified by email/SMS and their profile pages are populated with links

which recommend options and useful information/status updates as may be appropriate to their needs.

The products or services of the entrepreneurs/startups can be offered on the eMarket place facility made available in the National Enterprise Portal.

(ii) The state agencies, MSME development institutes, industries, training institutions, mentors, facilitators, experts, and consultants would have the portal platform to ascertain needs of entrepreneur community, provide inputs responding to their requests for services, validate or evaluate the extent to which the information or services provided by them are useful.

They would be able to upload and share information or decision taken by them, notify workshops, training sessions, focus group or awareness meetings, or promote programmes and schemes designed to promote entrepreneurship and startups.

(iii) The consultants, service providers, buyers or sellers would be able to provide information and details of their products or services that would benefit the entrepreneur community. While providing several free of cost services, they may also choose to notify costs associated with value added services that would require efforts to customize and deliver in keeping with any specific needs of the entrepreneurs.

The India Enterprise Portal [IEP] operations would usher in transformational systems through automated processes to connect, engage and involve target group of entrepreneurs/startups and stakeholders. It would leverage technology to provide realtime, online information, services, consultancy advice, handholding, as also evidence based reporting/records, status updates, decision support, analytics, notification through email/SMS, and recommendations on profile pages.

The Resource Development Centre at Gangtok and Guwahati that are being set up, would serve as institutional facilities undertaking the efforts to source, compile and develop contents to be placed in the knowledge repository of the National Enterprise Portal in a manner customized to the needs of entrepreneurs, startups, industries and skill aspirants/community of practitioners in various domain areas. The services shall be offered through two channels –

(a) The partnering institutions, industries, state agencies and field outlets with the required facilitation and counselling and

(b) Through the online portal in a self help mode with online automated transactions in which service agencies, consultants and partners respond to the inputs and requests of the entrepreneurial community

The Resources would include – technical know hows, success stories, compendium of best practices, resource references on specific operations with efforts being made to align the needs of the entrepreneur community commensurate with their profile, lifecycle of development, requests and system predictions leveraging AI techniques.

ENABLERS

Key Enabling Processes

The India Enterprise Portal is a cyber eco-system hosted in the cloud and is hence accessible across the nation by any of the state agencies, partnering service providers, industry, institution or facilitating resource persons.

Earlier, the entrepreneurs/startUps had to visit the Offices and interact with officials/staff to obtain information or services or visit the website which provide mostly static information without much online mediated assistance or support. Mostly they would need to make extra efforts at each stage in order to get the assistance they require from the state agency, institution or consultants.

The network of Enterprise Development Centres, state agencies field offices can now post information, respond to requirements of the entrepreneurs, update status with respect to actions in pursuance to requests received and also understand the roles/operations and assistance offered by other partnering agencies and institutions.

The agencies and partners can also build on each other's contributions, optimize the deployment of resources for better results and reinforce each other's work to bring about enhanced impact and improved orchestrated quality of services to the entrepreneur/startup community.

Capacity Building Initiatives

The services delivered on the portal being technology driven, cloud based and linked with communication modules sending SMS/email notifications as also onscreen updation in the portal, are hence accessible from all locations.

Efforts are being made to use location aware modules that capture information on locations to enable provide information and services adapted to geo-location coordinates.

Services delivered are being customized to the needs, requirement and profile of the users based on their interactions, inputs, as also discerned in accordance with embedded rules and system intelligence to ensure customized delivery.

Replicability in the context of the system architected is in terms of more partner agencies, state agencies, institutions, industries, consultants and experts/resource persons using the portal and involving themselves to provide information and services on the portal. In order to address this aspect, the Ministry of MSME are themselves facilitating by encouraging the network of MSME development institutes, Tool Rooms, Facilitation Centre, field offices to use and provide information and services on the portal.

Advocacy, promotion and workshops to familiarize the functions, features and usefulness of the portal and to make partners understand the manner in which they could use the portal are also being undertaken. These efforts are being intensified to ensure further outreach and impact.

Technology

Mobile applications for Labour Registration, ease of business initiative, cloud based collaboration platforms for service delivery to entrepreneurs, MSME units and start-ups.

Deployment of portals – skillyoungIndia, IndiaTechPedia and IndiaEnterprise Portal online in Amazon Cloud.

OTHER INFORMATION

Learnings

(a) Policies to make governance more effective and enable relevant interventions with citizens, state establishments, partner agencies, communities would require efforts to be made to re-architect appropriate systems. Such endeavour would be a key strategy - that requires to be adopted in every plan and programme implementation of the government. Efforts to identify and delineate tasks to be taken care of by machines with relevant automation and system intelligence, with the supervision of human regulator/decision maker or an oversight community would be required.

Such policies and interventions can be structured to address competency gaps, nurture talent, build capacity, enable collaboration, adopt an enterprise approach, leverage evidence based decision support, regulatory command control and relevant compliance mechanisms - while enabling discernment of directions for governance reforms and restructuring of appropriate components of the system to (a) mitigate concerns and resolve challenges, (b) build on the essence of lessons learned from the past, (c) incorporate new perspectives, progressive approaches and strategies adapted to emerging situations/challenges (d) suitably informing the participants through appropriate cognitive interfaces, and (e) enforcing, maintaining integrity checks and ensuring compliances.

(b) The nuances of observance of rules, as compared to the need for accomplishing results can, at times, be hard choices for civil servants and under such circumstances, the conviction of the civil servant and his value systems determine his actions. While a consultative process is adopted to evolve decisions, the responsibility for decision making by and large vests with the civil servant orchestrating and executing decisions. Occasions when his actions are called to question is not uncommon and under such circumstances, the systems of governance which currently exists to inquire of his actions and ascertain the legality or prudence of his decisions and actions or such other dimensions such as the integrity of the civil servant,

are often imperfect and adverse to the civil servant. The core aspect of relevance that requires to be understood is that systems of governance would need to facilitate innovation, motivate a civil servant driven to accomplish results and be designed to appraise and endorse his actions, to enable the system deliver exemplary quality of governance aligned with larger public interest.

Awards and recognitions

- Skoch Order of Merit in 2018 for India Enterprises Protal
- Skoch Platinum Award for Smart Governance 2017 for India SkillPedia/TechPedia Project.
- Skoch Order of Merit in 2016 for Skill Young India portal - Transformational Systems, Partnerships and Interventions for Skilling NER & Sikkim.
- Skoch Award 2013 for CSIR Transformation Initiatives and Enterpris Application for Automation of Operations Department of Scientific & Industrial Research.
- CSI Nihilent Awards in 2010, 2013 and 2016.
- Eworld Jury Choice Award 2013.
- Award from Network of Asia Pacific Schools and Institutes of Public Administration and Governance 2013.
- Sikkim State Meritorious Award 2007.

Publications

Governance 4.0 - System Engagement leveraging transactional intelligence, collaboration platforms and automated customized service delivery authored by Dr. Jayakumar Karuppusamy Principal Secretary Department of Science and Technology, Government of Sikkim. This has been presented at 2018 Congress of International Institute of Administrative Sciences at Tunisia 25-29 June 2018

Synopsis

The need for enhanced levels of collaboration across individuals/establishments facilitating engagement and outcome focussed participatory, transparent, transformative governance with improved eco-systems and progressive institutional mechanisms is well recognized. The quality of governance and the resulting impact can be improved by,

(a) architecting systems for transactional mode governance process,

(b) monitoring and directing collaboration along pathways that are conceived to include and involve target group of persons and facilitating stakeholders, with automated processes for information, decision support and service delivery

(c) leveraging enhanced cognitive appeal and enriched learning inputs to instil and augment capacity in the workforce administering programmes

(d) restructure and align management of operations with cloud based cyber applications, decentralized, orchestrated process automation and articulate

roles of partners providing inputs and participating in collaborative decision making

(e) predicting requirements/needs of target groups, discerning issues from inputs solicited at various stages and addressing concerns of participating individuals and agencies with the use of artificial intelligence with system assisted logs of interactions, discerning activity patterns and maintaining profiles of users, (e) soliciting inputs using onscreen/realtime or through offline email/sms that can be used to refine the processes for decision making and resolution on issues

(f) activate relevant system assisted responses and embedding triggers to facilitate the generation of context dependent, structured adaptive messages/communication and interventions adapted to individual or agency requirements, situations with a view to empower and enable them to participate more meaningfully in delivering services.

While current policies, programmes and institutional mechanisms for developing strategies, policy frameworks for result focussed inclusive governance for sustainable development is in the right direction, what needs to be addressed, are the policies for effective execution and management of the programmes and initiatives, with systems that leverage emerging frontiers of system intelligence, user profiling, information and service delivery, adapted and customized to such profiles. The modalities of engagement, collaboration and programme implementation requires a paradigm shift, leveraging technology and societal engagement, transformative governance and associated practices making use of ICT, social media, analytics, crowd sourcing, partnerships, communication and enhanced levels of participation of stakeholders.

The case in point and illustration taken up to explain the concepts and propositions addressed in the paper, involves the nurturing and building up of capacity in entrepreneurs and startups in the design and development of the National Enterprise Portal of the Ministry of Micro, Small and Medium Enterprises, Government of India. The system that has been developed leverages design thinking, instituting command control systems with supervisory control and data acquisition techniques [SCADA], adaptive machine intelligence and cognitive models. The system developed, implements process automation and mapping of roles with embedded cognitive models - which relies on the data relating to inputs and interaction of users, behavioural prototyping, use of classifiers and embedded rules for system operative modes.

The augmented Cyber Eco-system as described above is complemented with rigorously orchestrated human activities of government and partner institutions. The activities that are pursued comprising advocacy, promotions, field operations, workshops and counselling are logged on the system, for dissemination and information sharing to enable build on each other's efforts, leverage collaboration and co-operate to reinforce and add value to assistance available from other partners and agencies.

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Telangana State

Jayesh Ranjan and Aditya Bharadwaj

STATE SUMMARY

Overview

Since its formation in 2014, Telangana has been quick to jump onto the bandwagon of eGovernance through its various initiatives. It has been one of the frontrunners in adopting various Central Government Initiatives such as Swacch Bharat Abhiyan, Digital India etc. Moreover, Telangana has itself launched parallel programs more ambitious than the central programs. Primary among them is the Digital Telangana Initiative. Digital Telangana stands on two pivots and each of them representing the supply and the demand side. On the supply side, the main aim is to ensure that digital facilities become available to each and every person in the state. This is being made possible through:

1. Laying OFC to each household using the water grid trenches
2. Providing 4G services in the entire state
3. Wi-Fi in major cities and towns
4. e-Panchayat scheme under which a One Stop Shop kiosk will be available in each Panchayat

The broad road-map for the next 5 years is to achieve the following-

- Document less governance – Minimizing the use of paper in all aspects of governance
  - Re-use of citizens' documents available with Government when the same citizen approaches any government department for a service
  - Implementation of E-Office in Government offices
- M-Governance
  - Provision of all government services over mobile apps
  - Expanding the scope of T App Folio with all government services and mobile apps being seamlessly integrated
- Use of big data in all government departments with the objectives of
  - Revenue augmentation
  - Cost rationalization
  - Smart Governance
- Data Driven Governance
  - Dashboards for every government department to enable decision makers to make informed decisions
  - Intensive use of data analytics in improving the service delivery

Distinct examples of state level policy Integration including Institutional partnerships

Government of Telangana has entered into National and International partnerships with various academic and corporate institutions to further enhance Electronic Service Delivery in the state of Telangana. Over the last one year, the Government of Telangana has partnered with Microsoft, Google, Cisco, ICRISAT, UNDP, etc to

implement unique eGovernance initiatives in the state. Various critical areas such as agriculture, health, education, etc. have been addressed through these solutions.

- 100K Digithon: Government of Telangana has conducted 100K Digithon, a biggest Digital mass literacy awareness program from 5th to 16th September 2017 with the Slogan of "NAA WALLET – T-WALLET" in all 31 districts of Telangana in association with TITA (Telangana information Technology Association). The main aim of 100K Digithon is to teach as many citizens as possible about T-Wallet and Digital payments process in 10 days. The action plan of the Program:
    - Identified 31 Digital captains and 31 vice captains to lead the district level teams
    - These Digital captains have created 400 digital volunteers in every district to promote T-Wallet in the villages, shops, colleges and other places
    - The main target of the event is Each One –Teach Ten
    - As against the target of 100K T Wallet registrations the achievement was 183K in 11 days

Key challenges faced during eGovernance Journey

One of the major challenges that the state of Telangana has faced was with internet connectivity. Most of the states in Telangana traditionally fall in the backward category and have witnessed little development in the last couple of decades before the formation of the state. With the number of eGovernance services increasing, it is highly critical that minimum internet connectivity be present so that the citizens can avail the benefits of these services.

Over the last couple of years several measures/steps have been taken to address the problem of connectivity. By bringing out a separate facilitating Government Order to incentivise service providers to enable 4G connectivity across the state, Telangana has become the state with maximum 4G density. Additionally, through the ambitious projects of T-Fiber, the Government of Telangana shall be providing internet access to not only every city, but every household across the state in the next one year.

Results

Sectors/departments which delivered significant beneficial outcomes

Following are the top three sectors/departments which have delivered significant beneficial outcome to their targeted stakeholders-

(a) ESD – Electronic Service Delivery as elaborated in the later paragraphs

(b) Telangana State Police

(i) CCTNS - The Crime and Criminal Tracking Network Systems (CCTNS) was conceptualized by the Ministry of Home Affairs and implemented as a Mission Mode Project (MMP) under National eGovernance Plan (NeGP). CCTNS aims at creating a comprehensive and integrated system for enhancing the efficiency and effectiveness of policing. 841

Police Stations, 403 Higher Offices including Commissionerate and Sub divisional offices those are in 29 districts of Telangana State.

(ii) HYDCOP - HYDCOP (Empowering front-line Police Officers) launched on 18th April-2016. Towards achieving Global Policing Standards, Hyderabad City Police launches a unique Mobile Technology Application "HYDCOP". Hyderabad COP is a mobile based application for the internal use of Hyderabad City Police. Making required information accessible instantaneously to the frontline Police Officers can help in addressing individual needs of the Police Officers that can improve their morale & satisfaction and eventually lead to higher standards in their functioning.

(iii) **Hawk-Eye Mobile Application:** With the advent of mobile technology and its reach to the general public, it is imperative to innovate Citizen Services delivery through Mobile App. Hyderabad City Police Department has envisioned Citizen Services Delivery through Mobile Technology which in turn resulted into an end product called “Hawk Eye”. The unique feature of Hawk Eye is integrating the Police communication network system for prompt response to citizens. It also serves as a tool in improving the operational efficiency of the Police and in enhancing collaboration between Public and Police, specially for establishing a Safe and Smart Hyderabad City.

The key objectives of the Hawk Eye Mobile App is multi-fold to:

- Enhance the access to Citizen services delivery for core services
- Access to Police by the Citizens for quick and effective response, improved visibility and transparency
- Instant responsiveness to Citizens at any point of time
- Improvement of Citizen services and throughput time on services delivery Disseminate information regarding citizen services; and
- Adoption and effective use of technology that helps directly to the Citizens.
- Interactive App to log, track and monitor various services and information by the Citizen.

Launched by Hyderabad city Police as a Pilot Project on 31-12-2017, and now its been under execution at 7 other commissionerates of the Telangana State.

The broad features of the Hawk Eye Mobile App are:

- It is a GPS based mobile App made simple for the citizens particularly women that enables the services while in distress situation or on-move to seek the timely police intervention.
- Women Safety – It facilitates the public particularly women to disseminate the information about their movements while on travel to Police to act when needed.
- SOS – It is a GPS based safety alarm that sends SOS messages during emergency or distress situations for help.

- Report a violation – It empowers the citizen to record any violation observed.
- Register details of Service/Utility providers – It provides a citizen to register details of service providers such as Maid, Security, Tenant etc.,
- Enrollment for Community Policing – It encourages the citizens to opt for serving the community.
- Know your status – It is a mechanism to track the status of complaints and elicit feedback.
- Phone Directory – It provides the contact details of Hyderabad Police to reach out
- Vehicle And Mobile Search: This facilitates a user to verify the ownership details of a Pre-Owned Vehicle or Mobile and a Share option to alarm the Police, if the search results seems to be suspicious.
- Job Connect: Is a feature which enables the unemployed skills local Youth to register themselves, their Curriculum Vitae with the Employers who are tied up with the Hyderabad City Police - Connecting Skills With Opportunities

(c) Road Transport Authority, Telangana State – RTA mWallet

- A Digital wallet for all Transport related documents
- Available on Android and IOS platforms
- Auto-fetch the Transport documents with just a single click, if associated with your mobile number
- Login from any mobile to access your transport documents
- A simple and efficient single-screen display for all your vehicle related documents
- Citizen-friendly options to add multiple vehicles owned by same person and fetch transport related documents in the app
- The documents once downloaded on the application will be saved permanently and are handy for further use.

Integrated Common Service Delivery through resource sharing

- **MeeSeva:** Government of Telangana has launched the initiative known as MeeSeva which currently has more than 4500+ unified service delivery centres where citizens can avail services of all the Govt. departments. This prevents in each department spending resources in terms of manpower and capital to establish respective service delivery platforms.

  The objective of MeeSeva is to provide smart, citizen centric, ethical, efficient and effective governance facilitated by technology. MeeSeva acts as an interface between government departments and citizens that serves as a nodal agency and platform for delivery of all G2C services. As part of MeeSeva initiative, Citizen services of government departments are brought to a single platform, which are subsequently delivered to citizens through multiple MeeSeva touch points. In comparison to pre-MeeSeva

era, MeeSeva separates the point of service delivery and point of decision making on citizens' application for government services.
MeeSeva adopts an approach of assisted service delivery keeping the socio-economic conditions of the citizens in mind. Around 550+ services of 40+ departments are provided through a network of 4500+ MeeSeva centres located across 31 districts of Telangana.

- **Mobile Service Delivery Gateway:** While MeeSeva unifies service delivery of all government departments through MeeSeva centres, the IT department of Government of Telangana has launched a comprehensive Mobile Service Delivery Gateway (MSDG) portal as part of its mGovernance vision. This MSDG portal is used my multiple departments to offer citizen facing services over multiple channels – USSD, IVRS, SMS, Mobile apps. This ensures consistent, quick, quality service delivery anytime, anywhere to the citizens. This also does not require individual departments to invest in service delivery infrastructure. This project is called T App Folio and was launched with about 150+ top used services across different departments. Within 3 months of launch, more than 4 lakh downloads were achieved.

eGovernance Best Practices

Listed below are a few key eGovernance initiatives of the Government of Telangana:

- **ITE&C Department**
  - **(a) MeeSeva:** Since its inception in year 2011, MeeSeva has brought in significant changes in the way government services are delivered by government departments. MeeSeva has had a transformational impact on Telangana in multiple areas:
    - Increased Transparency in Governance: MeeSeva brings in high transparency in service delivery by government department in terms of timelines mandated by government, prescribed cost of the services, prerequisites of the service, etc. Citizens are provided with milestone linked updates through SMS to citizens. Clear communication to citizens about the status of their application brings in information symmetry and equips citizens with necessary information. The involvement of agents & middlemen has been minimized to a large extent by use of technology and separating point of service delivery from point of decision making.
    - Citizen Convenience: Citizen convenience has improved with respect to time and location. (4500+ centers open from 8 am to 8 pm). Multiple payment modes have been integrated with MeeSeva providing multiple options to citizens for making payments. Citizens are not required to visit government offices. (saves time and cost for citizens) as services are provided in a jurisdiction less mode as service delivery is not linked to the requirement of having a common physical presence of the citizen and the government officer.

- Grievance Redressal: A well-defined 24x7 grievance redressal call center, called Parishkaram Call Centre, has been put in place to ensure citizens grievances are appropriately addressed.

As the revenue of MeeSeva franchisees is directly related to the number of transactions carriedout, MeeSeva centres have an incentive in properly maintaining cleanliness in their premises.

(b) T-Wallet: T Wallet is the official digital wallet of Telangana State, launched on 1st June 2017. It is the first digital wallet that has been announced by any state government in India. T Wallet supports Aadhaar based authentication and is first of its kind. While T Wallet caters to users with smartphone and personal computers, the core design of T Wallet aims to provide digital payment services to users with feature phone and no phone through innovative methods.

As financial inclusion of rural population was the primary focus of T Wallet, T Wallet has been made available in three languages i.e. English, Telugu and Urdu.

(c) T App Folio: Aligned with objectives set out in ICT Policy of Telangana state, Government of Telangana has launched "T App Folio" which is a comprehensive m-Governance solution to enable any mode, anytime, anywhere delivery of citizen services. "T App Folio" provides access to 150+ G2C, B2C & Value Added Services (VAS) services (in first phase) through one access point: One URL, One App and One Short Code through Web, App, SMS, IVR, and USSD channels.

(d) Samagra Telangana Smart Governance Platform: ITE&C Dept, Govt of Telangana has envisioned and executed a smart eGovernance solution called as Samagra Telangana Smart Governance Platform (STSGP) leveraging emerging technologies such as Big Data, Artificial Intelligence, Machine Learning etc. STSGP leverages the data obtained from collecting and collating the otherwise segmented citizen information from various government departments to achieve a 360^{o} view of every citizen and thus take targeted and efficient governance decisions. As part of STSGP, more than 30 databases of Govt. Departments having more than 32 Crore data points have been linked without the use of any single unique identifiers. This has been made possible by deploying advanced technologies on only demographic data of citizens.

This project's vision requires its planning, architecture, and execution to deal with a voluminous amount of data with inherent imperfections and variations, maintain an extremely high degree of precision and accuracy, ensure the utmost security to the data handled and have exceptional levels of interdepartmental cooperation. To carry out such an arduous and one-of-a-kind attempt to achieve this plan, state-of-the-art emerging

technologies had to be incorporated into the very core of STSGP. Some of them are listed below:

- Big Data Analysis Techniques:
  - Entity Resolution and Master Data Management: Entity Resolution is the task of disambiguating manifestations of real-world entities in various records or mentions by linking and grouping. Metadata being used (Name, Address etc.) has a multitude of variations in entity parameters such as – spelling mistakes, abbreviations, sequences, extra/missing parts, variations in city/locality/sub-locality etc. This ensures that only correct versions of the entities are consolidated together.
  - Graph DB, Relationship Discovery and Network Analysis: The task of mining for relations between entities through the link and nodal analysis to cluster and consolidate related entities and also represent it as a network graph. The consolidated view of the socio-economic-criminal status of the entity and his/her family important to accomplish the goals of STSGP.
- Deep-Learning Powered Image Recognition and Comparison:
  Artificial Intelligence Technology layered over common image capturing cameras has the capability to compare and recognize an image with the one existing in any of the affiliated databases with an exceptional degree of accuracy. This feature provides a second factor of process excellence that ensures correct entity consolidation.

  STSGP is among the first examples in India where a State entity is deploying emerging technologies such as Big Data, AI, etc. for effective governance at a large scale. STSGP has already proven its utility through multiple successful use cases in Civil Supplies Department, Hyderabad Metropolitan Water Supply and Sewerage, Greater Hyderabad Municipal Corporation, Road Transport Department, 2 BHK Scheme, etc generating/saving huge resources for Government of Telangana.

(e) Dashboard: Electronic Service Delivery (ESD), Dept. of ITE&C, Govt of Telangana (GoT) is the designated nodal agency for universal and non-discriminatory delivery of all government services to citizens & Businessmen of all strata and improved efficiency, transparency and accountability for the government. The objective of ESD is to provide smart, citizen centric, ethical, efficient and effective governance facilitated by technology. ESD acts as the facilitator for delivery of 550+ services of 40+ departments to 35+ million population through multiple channels. These channels include:

MeeSeva centres: 4500+ Kiosks spread across Telangana State
MeeSeva portal: A web portal for availing citizen services
Mobile App: Launched on February 28, 2018

As part of service delivery, ESD captures multiple aspects of citizens' transaction such as transaction amounts, location/channel of transaction initiation, time-stamps pertaining to multiple stages of application processing, etc.

ESD has developed an interactive dashboard called, "Interactive MeeSeva Dashboard" which is a powerful tool to drive actions towards achieving several aspects of improved service delivery. These include:

- Strict adherence to the SLAs for efficient delivery of services to citizens
- Better management of MeeSeva Centres
- Performance monitoring of departments and officials responsible for service delivery

(f) Security Operations Centre (SOC): T-SOC (Telangana Security Operations centre) is the comprehensive unit driven by People, Process and Technology which aids in providing real-time monitoring of security incidents for the IT infrastructure of the Government departments in the State.

The T-SOC sits at the heart of the State Government's cyber threat detection capability is an excellent starting point, providing a centralized, structured and coordinating hub for detection of security incidents through a latest Security Information & Event Management (SIEM) solution.

- **Transport Department**

(g) Business Process Reengineering (BPR) of 2nd Vehicle Registration: The objective of this initiative was to increase revenue collection by re-engineering the system used by Transport department to detect vehicle registration details of a citizen. This system significantly relied only on the demographic details as many of the past vehicle registrations did not have any unique identifier like PAN, Aadhaar Card etc.

The core benefits expected were improvement in detection of 2nd vehicle owners and subsequent increase in tax amount. The quantitative targets of benefits set for the initiatives were:

- 30 % increase in detection of 2nd vehicle owners
- INR 10 Cr additional revenue collection from tax on vehicles

- **Civil Supplies Departmen**t

(h) Targeted identification of beneficiaries for issuance of ration cards: Prior to the deployment of this project, Civil Supplies department relied on Income Certificate and field verification report for issuance of subsidized ration. Both of them are not completely accurate. Verification of economic condition of the FSC card application was challenging, as citizen may claim BPL status. Field verification requires lot of physical efforts and doesn't provide accurate reports few times. With the new implementation, Inspecting officer who has authority to issue new FSC Cards can get the FSC Card applicants' information in the digital format in the inspector login screen.

Post implementation of this project, field visit officers carry the digital copy or physical copy of the Big data analytics report which provide economic indicator of the applicant for assessing his eligibility to subsidized ration.

This report contains Applicants' Four Wheeler details, Holding Properties, Land Holdings, Business holdings, Usage of Electricity consumption etc., if any. This showcases economic status of the citizen and if they showcase they are above BPL, inspector may reject the application. This will ease the effort of Inspector officer and increase the efficiency in the card approvals by targeting to the right beneficiaries.

The solution implemented curtails the expenditure by the government of Telangana by targeting the right beneficiaries. The solution eliminates the possibility of ineligible applicants to get the FSC Cards, as the approving officers (inspectors) can now avail the applicants consolidated economic information from various departments.

(i) ePDS: The ePDS project aims to deliver rations to public in BPL status by erasing any instance of misuse. Food security cards have been issued to everyone below the poverty line to help them avail ration. Under this initiative all 31 reorganised districts of Telangana have been covered.

- **Telangana State Police Department**

(j) Verifast: The primary objective of this project is to ensure that the citizens of the state receive their passports in the shortest possible time by reducing the time taken for police verification of passport applicants. A database of all passport applicants along with the GPS coordinates of the address has also been developed. In addition to this, a green solution has been adopted by eliminating hard copies to the maximum possible extent. Moreover, field verification has been integrated with other criminal/suspect information databases to ensure a 360 degree verification process. All of these have been developed on an open source platform and can be accessed on any hardware.

(k) Revenue Department

Ma Bhoomi: The crucial aspect of Land administration is maintenance of land records up to date and reflection to the ground position. Ma Bhoomi portal has been developed to provide free access to the public to view their land records information online and to obtain and redress grievances from public if there is any error or mistake in their land records through the portal itself. This website provides a platform for the citizens across the globe to view the land related information.

(l) Health Department

e-Health Centres: The ITE&C and Health Departments, Government of Telangana, in collaboration with HP have identified a disruptive innovation that combines the best of health and IT domains. The project, eHealth Centre (eHC), plays a critical role in contributing to healthy, vibrant communities and spurring economic growth. Further, the solution assists in maintain and expanding local and national healthcare initiatives. The cloud enabled primary healthcare solution consists of a shipping container with

the requisite medical equipment, teleconsulting channel, health record storage over cloud and a complete dashboard deployed at a geographical location at an optimal physical distance from underserved communities. The eHC is equipped with fundamental, yet critical, equipment such as ECG, spirometer, glucometer, stethoscope, digital thermometer and a mini laboratory. Trained technicians at the eHC collect the vitals and relevant data from patients, which is shared with the doctors at the nodal healthcare centre. Post data analysis, the doctor at the nodal centre prescribes necessarymeasures/treatment/consultation to the patient

(m) KCR Kit: To better administer child care and immunization of infants born in Telangana, the Health Department has introduced KCR Kit project. KCR Kit is a comprehensive, one stop kit that provides a mother with all the essentials for an infant's healthy growth during the initial months. Some statistics pertaining to the project are given below-

- ANC Checkup – 142067
- High risk cases identified – 2727
- Deliveries – 42910
- No. of children registered – 81956
- Immunizations at 3 months given – 5062
- Immunizations at 9 months given – 3704
- Total kits delivered – 46792

(n) Energy Department

TSSPDCL Mobile Application: The Energy Department, Government of Telangana has introduced a single stop mobile application for payment of electricity bills, tracking bill history, electricity department information, complaint registration, etc. The application has recorded more than 1 lakh downloads since its launch. With the application being available in both iOS and Android versions, the usage has been increasing consistently across the state.

ENABLER INDICATORS

Progress in the above results areas is a cumulative effect of many enablers. From ICT perspective enablers at a State level could include - Policy support, standards and institutionalization of processes and adaptation for Business Process Reengineering, Change Management, Project Management, Capacity Building, Leadership, Cyber Security etc.

Enabling Processes

The Government has always laid special focus on enabling various departments to take up innovative eGov projects. Special emphasis was laid to remove administrative hurdles to make it easier for departments to initiate eGov projects. Listed below are a few such initiatives:

- **Partnership with private stakeholders:** The govt. encourages and facilitates partnerships with private players to conduct in-depth technical workshops, implementation of innovative technology to help eGov projects.

- **Ease of procurement:** The govt. has established a nodal procurement agency – Telangana State Technology Services to help departments with all requests for procuring hardware and services for all eGov projects. This reduces duplication of work among departments for recurring and time taking administrative processes that are involved with tender floating.
- **Dedicated project management teams:** To help propel eGov projects, departments are encouraged to deploy dedicated project monitoring teams with specialized skills in the relevant projects.

Capacity Building Initiatives

State Level initiatives towards Capacity Building for eGovernance:

- **Inter-Departmental Workshop on Cloud:** The ITE&C Department, Government of Telangana recognizes the need to opt for cloud as companies are shifting away from in-house facilities for their server and data storage requirements to cloud computing.

  Given the need to create awareness on the cloud capabilities and appreciation of the procurement considerations of cloud services that can enable various departments to effectively manage the transformation and adoption of Cloud, the ITE&C Department has conducted an awareness workshop so that the departments will adopt cloud services (on-demand and pay-per use) that enable the government to optimize the investments into the Information Technology.

  A half-a-day Awareness Workshop on Cloud has been conducted for the Secretaries, HoDs and other officials of the various departments on December 04, 2017.
- **Inter-Departmental Workshop on Emerging Technologies:** Under this initiative eight technologies have been identified such as Blockchain, Artificial Intelligence, Cloud, Internet of Things (IoT), Virtual Reality & Augmented Reality, Robotics, 3D Printing and Big Data along with several use cases where technology can be adopted.

  To sensitize departments across the government on the importance of adopting emerging technology based solutions, the ITE&C Department has conducted a one day workshop on emerging technologies in general and on Artificial Intelligence (AI) and Blockchain in particular.
- **Training pertaining to KCR KIT initiative:** Capacity building initiative (trainings) given to the concern State Level officers, District Level Officers and Field level officers on KCR KIT.
- **Capacity building initiative trainings on RBSK:** Training given to Mobile Health Team on RBSK application in Mahboobnagar (12) Teams in 4 sessions on children screening and data entry into the RBSK portal, viewing and planning the schedule.
- **Capacity Building trainings on Kanti Velugu:** Training given to District Level Officers on Kanti Velugu application for citizen registration (enrolment), planning and editing the schedule and viewing & forwarding the reports.

- **Capacity Building initiative on PMGDISHA:** Training and awareness program to all the District Level Technical and implementing officers, Department officers, State Level Committee, District Level Committee and Kiosk Operators nearly 350 participants in two sessions.

Technology as Enabler

The Telangana Government has launched the ICT policy and the vision statement states that Telangana should be recognized as leader in key Emerging Technologies. Eight technologies have been identified as mentioned under 3.2 above. Some of the pilots that have been initiated in various departments include:

1. T-CHITS
   (a) *Blockchain and Chit Funds:* Chit fund as a financial instrument has many strengths and weaknesses (in operations and administration). Government believes that they can leverage foundational technologies like Blockchain to address many of the challenges, which would reduce the Information, Interaction and Innovation frictions (fees, cash movements, reporting, auditing and potential fraud from the parties including foreman and subscribers). Our mission for the product is to make Savings and Borrowings more accessible, credible and rewarding for all subscribers with Chit Fund as basis.
   (b) *For Regulators:* Following are few benefits the government registrar/regulator can derive by administering Chit Funds on our Blockchain driven platform-
      (a) Protect the interest of Millions of Subscribers in the state
      (b) Seamless reporting and auditing
      (c) Reduce information friction by using secure, permissioned access systems
      (d) Easy to use interface both for regulator and foreman
      (e) Grievance redressing will be easier
      (f) Get more insights on the per capita debt on the system in near real time
      (g) Payment gateway integrations for the necessary chalan payments
      (h) Collective knowledge about administering and monitoring

   A blockchain driven chit fund administration will protect the interest of both Subscribers and Government.
2. Telangana RTA Chat Bot
   (a) Bot Objectives: The basic objective of the chat bot is to assist the user in availing various user related services like License, Registration, Grievances. The Bot helps the RTA with-
      (i) Offering better & fast services to the users
      (ii) Enhance social presence and wide reach to the customers
      (iii) Scaling up the operation
      (iv) Bot will act as the first point of contact for various user queries
      (v) Better user experience

(b) Bot Features:

(i) Showcase all the services of License, Registrations, Jurisdiction, Grievances

(ii) User will be able to book driving slots for learners/permanent license

(iii) User will can book vehicle registration slots

(iv) Users will be able to get the status for the registrations/license

(v) User can find his RTA jurisdiction based on the pin location provided

(vi) User can raise his Grievances with the Bot and any unhandled grievances will be directed to the corresponding RTA official

3. **T-Aadab (www.tourism.telangana.gov.in):** In an attempt to help tourists plan their travel and sightseeing activities better, Telangana State Tourism Development Corporation has launched AI powered chatbots. The bot provides on-demand data and information on the Telangana Tourism website and promises unparalleled service to the enthusiastic travelers. Designed to facilitate real-time information related to Telangana tourism, T-Aadab is powering user interactions with smart responses in all major global and Indic languages.

   Users may enquire about Telangana tourism, landmarks, tour packages, avail the help of a virtual guide and do lot more with the bot. The launch of T-Aadab comes at a time when the modern day, multilingual travelers increasingly demand to have more freedom to manage their travel/trips on their own. This is also the first time in India that any state tourism platform has integrated a chatbot to engage travelers in a more productive way, thus setting a new trend.

4. **Drones:** Mining is a key business sector in Telangana adding a significant value to Telangana's state GDP. Mines & Geology Department, Government of Telangana is responsible for conducting mining activities in Telangana. As part of defined processes, private contractors engaged in the mining activities pay a fee/royalty to the State Government which is linked to the quantity of minerals mined.

   Government of Telangana has conceptualized and is in the process of implementing an initiative to accurately estimate the quantity of minerals mined to plug any leakages in the system typically arising from probable under-reporting by some of private contractors. Under this initiative, Government of Telangana would be using drones and image processing technologies to undertake volumetric analysis of mines in Telangana state on periodic basis. The findings of these surveys by drones will be used by Mines & Geology Department to cross-verify the quantity of extracted minerals excavated by private contractors.

5. AI

(a) Building Indic language NLP developer tool-kit

(b) Building a 'biobank' of annotated cancer images to assist with early detection, treatment, and research of cancer

(c) Applying AI to issues across agriculture value chain to assist with real time soil health monitoring and restoration, crop health monitoring, issuing customized advisories to farmers, increasing efficiency of farm mechanization, and increasing price realisation of farmer

(d) National data annotation platform for aggregation of data statistics from all platform and self-service analytics functionality.

Other information relevant for the nomination

Gaps and Learnings

(a) Digital Infrastructure Availability - Availability of digital infrastructure, primarily in respect of broadband, is a critical requirement for realization of full benefits of EGovernance. It is to be noted that availability and reliability of the digital infrastructure across the state has not been uniform. There exists a significant gap in urban and rural areas as far as digital infrastructure is concerned. This can potential turn out to be an impediment in the way of penetration of upcoming EGovernance initiatives success of which can not rely on the network of MeeSeva centres.

(b) Coordination and shared objectives across departments - While ESD as an entity under the Department of IT acts as the nodal point for the electronic delivery of citizen services, the ability of ESD to perform its duties rely on the cooperation and support of other government departments. A potential divergence in the objectives and priorities across departments can potentially impact the success of initiatives of ESD.

(c) Stability and Reliability of ESD Applications - It is worth recognizing that many of ESD applications, including aspects of MeeSeva have been developed over many years and may not have been updated necessarily. This has been manifested in the occasional outages in the availability of many applications. A complete overhaul of MeeSeva has been due for a long time to keep all aspects of applications updated with the new technologies.

(d) Cyber Security framework - The emergence of increasing threats to data and network from internet has been an area of concern for all governments. In context of MeeSeva, with more than 5,000+ touchpoints, the number and extent of vulnerabilities to the system requires dedicated attention. With threats becoming sophisticated every day, it is required to put in place a comprehensive and responsive system to counter the potential breaches in the security of data, network and applications.

(e) Institutions and capabilities to support the technical requirements - ESD currently lacks sound technical capabilities required to frame, assess, implement and monitor the initiatives. So far, ESD has relied on external agencies to fill this gap.

(f) Availability of online processes in local language - Currently, ESD applications are available primarily in English language. A greater penetration of EGovernance can be achieved with making online applications available in the Telugu language. This would further help in facilitating the use of technology to its full potential.

(g) Seamless integration of all government departments - While the prevailing of level of integration of ESD and other departments in past has been sufficient for selected applications and initiatives, the future initiatives of ESD will require much greater levels of integration of departments in terms of data sharing, application consumption, shared objectives, etc.

Awards and Recognitions

Apart from State level recognitions and awards specific awards for departmental initiatives as mentioned below bear testimony to the successful eGovernance journey over the year.

MeeSeva

- Year 2018: WITSA Chairman's Award conferred by WITSA World Congress on Information Technology (WCIT)
- Year 2018: National EGovernance Award by Government of India under the category of "Innovations in existing projects of Government Departments other than PSUs".
- Year 2014: National EGovernance Award by Government of India under the category "Outstanding performance in Citizen Centric Service Delivery"
- Year 2018: Technology Sabha Award
- Year 2017: SKOCH Digital Inclusion Award
- Year 2017: Gems of Digital India Award

T Wallet

- Year 2018: Business World Award for best initiative in Implementation in Digital Payments
- Year 2017: SKOCH Award in e-Payments category

T App Folio

- Year 2018: Business World Award for best Mobile App in Citizen Services
- Year 2018: SKOCH Award for Best Initiative in Mobility sub-category under eGovernance category

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Section – III
eGovernance Projects

eLaabh – Benefit Management System

Veterinary & Animal Husbandry Department, Government of Telangana

D. Venkateswarlu, N. Suresh Kumar, and T. Sudhakar

PROJECT OVERVIEW

eLaabh is a web-based Benefit Management System designed for the welfare of Dairy Farmers and Fishermen for sanction and release of subsidy under various schemes offered by Government of Telangana, in a highly objective and transparent manner. Under this system, the dairy farmers and fishermen need to register their details as a one-time measure and then apply for various schemes as per their eligibility through this online system.

The System generates Farmer Registration Number and Acknowledgement and the same is sent through SMS to the citizen. The applications received under various schemes through this system will be verified by the field level officers for their eligibility. Receipt of application will also be acknowledged through SMS to the citizen. All the eligible applications will be considered in a phased manner for sanction, as per budget availability, and subsidy will be released into his/her bank account directly. As soon as subsidy is sanctioned, the beneficiary will be intimated through an SMS.

The beneficiary will utilize subsidy component and his own contribution to procure the goods and services as per norms of the scheme and upload the bills online in token of having utilized the subsidy for the purpose it was meant. However, failure to upload the bills will make beneficiary ineligible for any scheme in future till he/she uploads the proper bill.

The new system will avoid need for multiple visits to Government office and eliminate avoidable physical interface with Government machinery. It thus drastically reduces the ills associated with excessive physical interface with the Government machinery. It will also accrue savings for a citizen in terms of time and travel cost.

System is designed on First-In-First-Out (FIFO) principle to ensure high level of objectivity and transparency in decision making. It will pave the way for *More Governance* through *Least Government*.

Key reasons for nomination

Capturing of farmers data to benefit the farmers of the state under various schemes implemented by the Government of India and Government of Telangana

- Government of Telangana is utilizing the eLaabh for providing incentive of Rs.4/- per liter of milk produced and poured to state cooperative dairies. The incentive amount is directly credited into the beneficiary's account using

eLaabh by capturing the milk poured data of 5081 societies functioning across the state. One of the initiatives of GOI is DBT (Direct Benefit Transfer) which is being implemented under eLaabh.

- Government of Telangana is utilizing eLaabh for providing one milch animal to 2.13 lakh members of Cooperative dairies under National Cooperative Development Corporation (NCDC) of GOI and state programme.
- Government of Telangana is utilizing eLaabh for providing sheep units to about 7.0 lakh beneficiaries under NCDC of GOI and state programme.

RESULTS INDICATORS

Services

Name of eService	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
Sheep Rearing Develop-ment Programme	Distribution of 20 female and 1 male sheep to the members of sheep cooperatives on subsidy	-	-	No.of Beneficiaries 309918. No.of sheep 65,08,278 (21 per beneficiary)
Milk Incentive Programme	Incentive of Rs.4/- per litre of milk to the dairy farmers	-	-	About 1.5 to 2 lakh beneficiaries are pouring 3 to 5 lakh litres per day and getting Rs. 7.00 to Rs. 10.00 crores of incentive amount per month (Rs.4/- per litre of milk) getting amount directly in to their account.
Milch animals distribution Programme	Distribution of 20 female and 1 male sheep to the members of sheep cooperatives on subsidy	-	-	No. of beneficiaries are 2,13,917 amounting to 1617.11 crores (One animal unit cost ranges from Rs.80,000 to Rs.85,000 and Subsidy for SC/ST is 75% on Unit Cost and for Others 50%)
Sunandini Programme	Support for providing feed to the female elite calves by transferring amount directly to the beneficiaries	-	Beneficiaries are 348 amounting to Rs 15,55,510	-

Implementation Coverage

The Geographical area is the entire state of Telangana. Livestock farmers and shepherds are the primary stakeholders of the project.

New Services/Enhancements

- Including various other schemes related to live stock offered by Government of Telangana and Government of India.
- Extending this application for the various schemes offered by Fisheries Department, Telangana State.

ENABLER INDICATORS

Government Process Reengineering

In the existing system, applications are received physically, scrutiny of application is done manually, non-subsidy portion is collected in cash, tenders are called for rate contract, the supplier is issued an indent, stocking are kept at the Animal Husbandry (AH) office, goods are supplied to beneficiaries, and payment of bills to dealers is effected thru treasury.

The existing system has been reengineered and the entire process is now online ie., submission of the scheme application, verification of documents, determination of eligibility or otherwise of the application, sanction of scheme and release of subsidy are all done online. There are SMS alerts at every point of transactions.

Under milk incentive and milch animals distribution and Sheep units distribution, the incentive / subsidy amount is being released after sanction and the beneficiary will purchase the goods / milch animal / sheep units from open market and upload the bill.

Technologies

Social Media has been used to publicize the application to educate the officials and farmers in the state in the utilization of the software, Video Clips have been designed and posted in social media and also circulated through emails. URL of Video Clip is **https://www.youtube.com/watch?v=vZrq8nWfZJI**

People

Several workshops, training programmes at state level and district level have been conducted for using this application for Department officials. Training programmes have also been conducted for the farmer societies in the state.

VALUE INDICATORS

Learnings for sharing

1. **One-time registration of Farmers and apply for multiple schemes.**
   The farmer needs to register his/her details as one time measure. He / She need not give the details every time while applying for various schemes. Using Farmer Registration Number or Aadhar ID, the farmer details are fetched from the system which allows the applicant to submit the scheme application.

2. **SMS Alerts**
   The system alerts the farmer at every point of the process chain i.e. at the time of registration, validation check of the applicant, submission of scheme application, marking eligibility, sanction, release of funds etc.
3. **Direct Beneficiary Transfer (DBT)**
   The sanctioned amount will be credited to the beneficiary's bank account directly through Directorate of Treasuries developed eKuber application.

Digital Empowerment

Access has been provided to the CSCs for online registration of farmers and submission of scheme application on behalf of beneficiaries. Departmental counters are also opened for receipt of applications in rural areas. Several awareness programmes have been conducted for the farmers in availing the services online.

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Fisheries Benefit Monitoring System

Fisheries Department, Government of Telangana

C. Suvarna, N. Suresh Kumar, and L. Premkumar

PROJECT OVERVIEW

- Fisheries department, Government of Telangana works towards improving the production and productivity of fishing activities and providing support for marketing and improving the livelihoods of the fishermen communities through various schemes.
- IT systems are used to develop a credible database of resources and beneficiaries and monitor the implementation of various flagship programs in the department.

Objectives

- Support year-round fishing activity and increase production and productivity by providing backward and forward linkages.
- Improve the livelihoods of fishermen and fisherwomen and enhance their incomes.

Functional Scope

- Developing database of water body resources, fisheries cooperative societies, beneficiary's demographic details, infrastructure assets and linking the same for data analysis and policy making decisions.
- Record the Progress of implementation of schemes like Fish Seed stocking, Blue Revolution, Normal State Plan and Integrated Fisheries Development Scheme in all 31 districts.
- Provide information to the general public on the progress of implementation of the schemes.

Geographical Scope

- The software is utilized by district staff in all 31 districts in Telangana. Two levels of authorization are provided for District Fisheries Officer and Fisheries Development Officer for uploading and approving the district level data.
- All the section heads, i.e. Deputy Directors of Planning, Inland, Welfare, and Cooperative sections in the Fisheries department utilize the software for maintaining a robust database and check the progress of scheme implementation.
- Approximately 3.2 lakh households of fishermen and fisherwomen from all 31 districts have access to apply for schemes in the department through online mode or Mee Seva centers and check the progress of seed stocking, Integrated Fisheries Development Scheme (IFDS) implementation etc, through reports available in the public domain.
- The MIS reports in public domain are available for public representatives and general public for checking the progress of scheme implementation.

Key reasons for nomination

- Fisheries Benefit Monitoring System (FBMS) acts as a single point of beneficiary interface and program monitoring system. The FBMS has supported in project monitoring of Fish Seed stocking program targeted in 25,769 water bodies spread across 31 districts, linked to more than 3500 fisheries societies and 3.2 lakh beneficiaries with an outlay of Rs.42.24 crores.
- FBMS is used for implementation of Integrated Fisheries Development Scheme (IFDS) which is one of the Telangana government's flagship programs being implemented with a total outlay of Rs 1000 crore, benefitting directly as well as indirectly 3.2 lakh families of fishermen/fisherwomen across Telangana through 38 different schemes.
- Online as well as offline applications and progress monitoring have helped the beneficiaries to apply for subsidy as per convenience and check the status of their applications.
- **An important point to be mentioned here is that** the Fisheries department has transitioned by leaps and bounds from a routine department maintaining records in files and monitoring through consolidated excel sheet reports to a department with real time reporting and monitoring of scheme implementation. In the last one year, all districts have been equipped with 2 computers each with printer-cum-scanners, internet connection, UPS and enhanced capacity of human resource at multiple levels.
- Inconsistencies in records maintained in various sections and hierarchy levels were effectively addressed by establishing standard database which is being maintained online.

Process Flow

- **Integrated resources and beneficiary database:**
  - Water body and society details are entered and linked to their respective mandals and villages.
  - The water bodies under the area of control of each society were linked.
  - The beneficiaries who apply for schemes are linked to each society and in-turn the waterbodies.
- **Fish Seed Stocking:**
  - Based on the seasonality of the water body, size and the fishing rights, the seed requirement and effective water spread area is calculated online by taking into consideration the guidelines for fish seed stocking.
  - Supplier details of those who are selected through tender process for each district is entered from head office.
  - The fish seed stocked each time in a water body is recorded.

- **Integrated Fisheries Development Scheme**
  - Beneficiaries (as individuals, groups, societies or district federations) can apply online or offline for subsidy under 31 different schemes. The offline applications are again entered into the system by data entry operators. Acknowledgements are generated and SMS is sent to beneficiary in each stage.
  - Verification checklist for each scheme and beneficiary is generated online and eligibility status is updated.
  - Sanction orders are generated for beneficiaries selected through lottery process and selection criteria.
  - Beneficiary contribution calculator is available for each scheme as per the selection of preferred item by the beneficiary.
- **Infrastructure construction progress module**
  - The assets (like retail fish markets, community halls, fish ponds, etc) sanctioned under various schemes and progress of construction is recorded.
- **Intended benefits**
  - Effective implementation and monitoring of fish seed stocking program and monitoring in 25,769 water bodies spread across all 31 districts of Telangana
  - Effective implementation and monitoring of Integrated Fisheries Development Scheme which comprises of 38 schemes.
  - To build a database of all water resources (like reservoirs, departmental tanks, gram panchayat tanks), infrastructure assets (like Retail markets, community halls, Ice plants, etc).
  - To provide instant reports to decision makers, public representatives and general public on the progress of schemes being implemented in Fisheries department.
- **Current Status**
  - Fish seed stocking for 2017-18 was completed and the progress was recorded and monitored using the software. Fish seed was stocked in 11,088 water bodies spread over 31 districts. Fish seed stocking for 2018-19 is launched and it is targeted to cover all 25,769 water bodies spread across 31 districts.
  - A robust database comprising of 25,769 water bodies, fish seed stocking data for 2017-18 (water body and species wise), 4249 societies, 448 infrastructure assets, 1,97,869 scheme applications and the respective beneficiaries' demographic details have been developed.
  - MIS reports for fish seed stocking, Integrated Fisheries Development Scheme, Infrastructure assets construction monitoring, etc for district office, state office, public representatives and general public is available.

RESULT INDICATORS

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
Society and Water body masters	Modules to add water body and society details and linking the water bodies to the societies	NA	NA	25,769 water bodies, 4249 societies
Fish Seed Stocking	The seed requirement is calculated for each water body as per guidelines and suppliers are mapped to each district. The water availability is recorded for each water body and seed is indented. The actual seed stocking data is captured for indented water bodies	NA	NA	Seed requirement calculated for 25,769 water bodies, Seed indented in 11,161 water bodies and Seed stocked in 11,088 water bodies where sufficient water was available
Integrated Fisheries Development Scheme – Online applications and monitoring	Online applications forms were made available for 4 categories of beneficiaries (individuals, groups, societies, district Federations). Aadhaar de-duplication was carried out to ensure genuineness of applications received. Customized acknowledgements, verification checklists, sanction orders for each scheme and category of users were created.	NA	NA	1,97,870 scheme applications were received. Online acknowledgement, Verification checklists, sanction orders were generated for all applicants
Infrastructure assets	Module to capture the progress of construction of infrastructure assets sanctioned under various schemes was developed.	NA	NA	Status of 448 infrastructure assets across Telangana are being monitored.
MIS Reports	Reports on seed stocking, IFDS scheme monitoring, infrastructure construction status, state level, district wise, mandal wise, constituency wise is developed			10 MIS reports for all user categories with filters for generating customized reports is available.

Implementation Coverage

Geographical area

- Plan: All 31 districts fisheries officers and beneficiaries.
- Achievement: All 31 districts fisheries officers and beneficiaries from all the districts are using the software.

Functionality

- Plan: i) Creation of database of waterbodies, societies, infrastructure and beneficiaries, ii) Fish Seed stocking in all water bodies, progress updation and monitoring, iii) Implementation and Monitoring of Integrated Fisheries Development Scheme
- Achievement: i) Database of water bodies, societies and government sanctioned infrastructure is created. Recording private infrastructure related to fisheries, all active fishermen data is in progress. ii) Fish seed stocked in all water bodies which received water and monitoring was carried out online, iii) Applications were entered online and all functionalities up to sanction order generation are completed. Beneficiary contribution collection and grounding activities are in progress.

New Services/Enhancements

- Constituency wise reports for public representatives to check the progress of Fish Seed stocking program and the status of grounding of various welfare and development schemes in their constituencies.
- Beneficiary contribution calculator for various schemes where beneficiary will select from the empaneled items for schemes like Vending unit with luggage auto, plastic fish crates, fishing nets etc.
- Dashboards for viewing the daily progress of fish seed stocking and registration of beneficiaries for various schemes for senior officials.
- Data analysis reports for enabling data driven decision making.

Enhancements planned during next one year

- Linking GIS to MIS by geotagging all fisheries resources and infrastructure assets in coordination with irrigation and Panchayat raj departments.
- Linking active fishermen database with nominee details to payment of insurance and ex-gratia.
- Implementing fund management system to record fund flow and expenditure details.

ENABLER INDICATORS

Automation

- Effective water spread is calculated manually for seasonal and perennial water bodies to arrive at Fish Seed requirement for all water bodies.
- Based on the unit cost for various sub-components for each of the scheme, the beneficiary contribution and subsidy changes.

- Scheme acknowledgement forms, eligibility-verification checklists, administrative sanction orders are generated for each districts and schemes. District officers can generate the acknowledgement forms, checklists, sanction orders society wise, mandal wise, scheme wise or for a group of beneficiaries, thereby reducing the manpower and time required to carry out clerical work.

Standardization

- Standard masters for villages, mandals matching with the Telangana State Government gazette have been used to ensure standardization of demographic details of the fishermen.
- The list of water bodies was digitized and through ground truthing exercise the Water Spread Area and other relevant details were verified and updated online. This way, the database of water bodies across the state was standardized.
- The Fisheries Cooperative Societies data was digitized and the beneficiaries who applied for schemes to avail subsidy were linked to the societies. This helped in identifying the requirement for various schemes from the societies in different districts in comparison with the resources available for the society.

Simplification:

- The processes to report presence of water in the water bodies in each district during the monsoon season were simplified by providing interface to the users to update the status of water availability.
- Masters for fish seed suppliers, vehicle suppliers, nets suppliers etc., are maintained at state level to ensure that the suppliers and price for each district is available in their respective logins and recording the progress of implementation becomes easier.

TECHNOLOGIES

Data analytics

- Data analysis is carried out for taking critical policy decisions. For example, the data of applications received from 1.9 lakh beneficiaries for availing subsidy was analyzed and the fund requirement was arrived at, which was 1.5 times more than the budget availability. This way, 1.6 lakh beneficiaries were covered to provide subsidy through IFDS scheme.
- Based on the seasonality of the water body and the size, the fish seed requirement for all 25,769 water bodies is automatically calculated. The fish seed stocked in each water body is then analyzed year wise by checking with the fish seed requirement as per water spread area.

PEOPLE

Capacity building

- Two Data Entry Operators were exclusively hired to facilitate using software for data recording in addition to the Junior and Senior Assistants in each district. Data Entry Operators in each 31 districts were given periodic trainings and the District Fisheries Officers who are in-charge in at the District level were also sensitized about using the software for program implementation and progress monitoring
- User manuals were created for Fish Seed Stocking program and Integrated Fisheries Development Scheme and the same was communicated to all the districts.

VALUE INDICATORS

Learnings for sharing

Key Learnings

- Continuous hand holding through training and Project Monitoring Unit (PMU)
- The implementation guidelines were incorporated into the software with validations to ensure that the guidelines are followed to the letter and spirit. Any exceptions were examined on case by case basis and necessary directions were provided.

Best Practices

- De-duplication using Aadhaar number was carried out to ensure that duplicate/ghost beneficiaries do not enter into the system. Leakage of benefits was prevented by ensuring one-person registers from one fishermen society and one district, which helped in avoiding duplication of benefits.
- Database of fish farmers was built up and linked to the beneficiaries in animal husbandry and dairy department. This way the benefits provided to each of the registered farmers/fishermen from various government departments is being monitored.
- Basic database of water body resources and societies were developed, which has given a base for targeting various development activities through targeted approach.
- Standard masters for villages, mandals matching with the Telangana State Government gazette have been used to ensure standardization of demographic details of the fishermen.

Process changes

During the year 2017-18, which was the first year of implementation, the District officers were given hand holding support to report the progress through software, along with the regular reporting channel. Once the beneficiaries are well-versed, in 2018-19 year, the complete project implementation is being monitored online.

Digital Empowerment

- The online beneficiary registration forms were made available for fishermen and general public to submit their demographic details and apply for schemes.
- Services were provided to eCitizen services center (Mee Seva) and the fishermen were relieved from visiting government offices for applying for benefits.
- On each stage of the application process, the beneficiaries were sent SMS and provisions were made available to the beneficiaries to check the status of the application on their own.

Green eGovernance

- High configuration computers and printer-cum-scanners were supplied to the districts where no previous IT infrastructure was available. Sending reports by papers were reduced and most of the updates were sent through e-mails and through the software.
- The provisions to check status of the applications online reduced the need for beneficiary to visit the district offices thereby reducing the carbon footprint.

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Direct Benefit Transfer (DBT), a Complete Solution for Farm Mechanization and Increasing Irrigation Potential of Odisha

Department of Agriculture and Farmers' Empowerment, Government of Odisha

Sourabh Garg, M. Muthu Kumar, and Sarita Sahoo

PROJECT OVERVIEW

The Farm Mechanization Project deals with improving farm labour productivity through the use of agricultural machinery, implements, tools and pump set.

Jalanidhi project for irrigation is of utmost importance for an agriculture-based state like Odisha which is heavily reliant on the uncertain monsoon. Therefore, agriculture activities in Odisha need artificial watering of the fields.

The artificial way of supplying water to the agricultural farm or field at the right moment in an appropriate volume for the proper growth of the plants in order to get the maximum yields of cultivation is technically called irrigation. Keeping in view the scarcity of rainwater, Govt of Odisha envisaged providing assistance under Rural Infrastructure Development Fund (RIDF) for establishment of Private Lift Irrigation Points (PLIP) for shallow tube wells and deep bore wells.

The Farm Mechanization Project deals with the purchase of agricultural machinery for a subsidized price from the Government. Odisha is an agricultural state with an unusually high potential for development. Currently, land already in use is not being utilized to its full potential. In order to promote agricultural development and production, the project will provide agricultural machinery to farmers in Odisha to mechanize the farming industry.

Objectives:

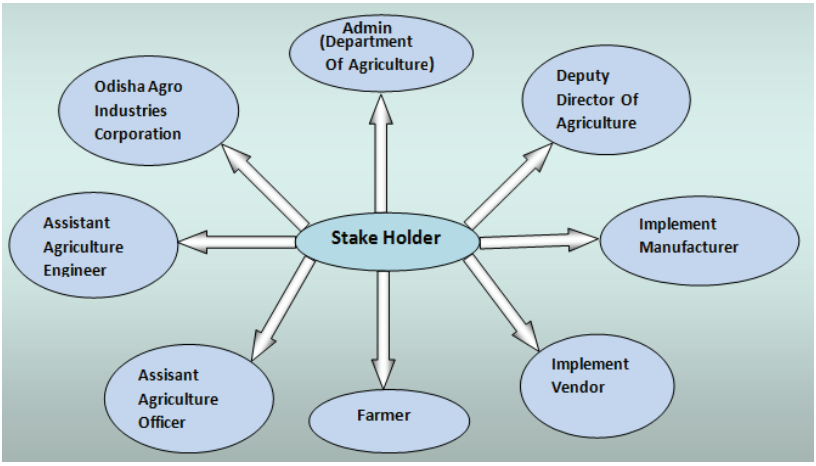
The major objectives associated with farm mechanization include the following:

- **Enhancement of timeliness and profitability in farm operations:** For the purpose of obtaining maximum returns or desirable results, farm operations need to be timely executed. Department should have the capability to monitor the availability of farm implement in right place just near to the Farmer door steps and target of the block may be transparent to all the farmer of that locality.
- **Provision of control of implement price and Reduction of drudgery in farm operations:** Some farm operations are difficult or impossible in nature to carry out manually in thickly forested areas. The sustainable development of mechanization depends on the existence of markets where prices guide the supply and demand of equipment.

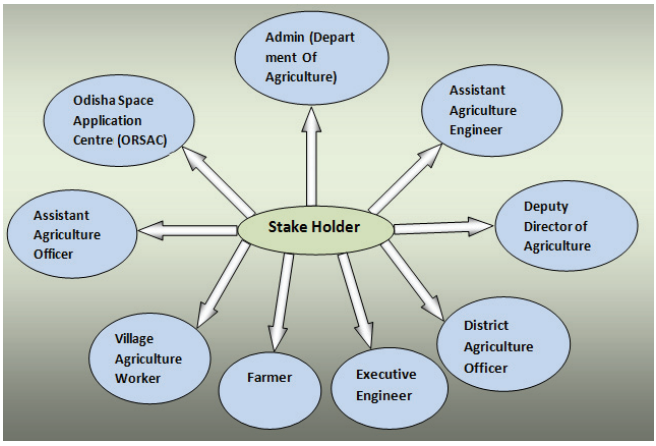
In recent days, the State has taken rapid strides in the farm mechanization sector. To keep up the rising trend and with the objective of increasing the farm power input and to bring at par with the national level, Odisha State Agriculture Policy -2013 has

provisions for substantial incentives in the form of increased pattern of assistance. The subsidy for farm mechanization is being met from different centrally sponsored schemes i.e. Sub-Mission on Agricultural Mechanization (SMAM), Rashtriya Krishi Vikas Yojana (RKVY), Bringing Green Revolution in Eastern India (BGREI), National Food Security Mission (NFSM) and the State Plan scheme namely, "Popularization of Agriculture Implements, equipment and diesel pump sets. To bring about greater transparency in the scheme implementation, the state Government has decided to implement the Direct Benefit Transfer (DBT) scheme of subsidy for farm machineries, implements and equipment and pump set during 2017-18. Agricultural mechanization is an input in agricultural production and rural development.

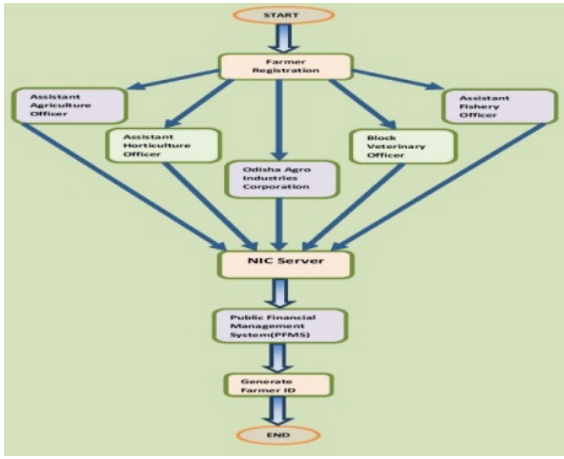
Stakeholder Participation: (DBT System for Farm Mechanization)



Stakeholder Participation: (DBT System for Jalanidhi)



Stakeholder Participation: Farmer Registration



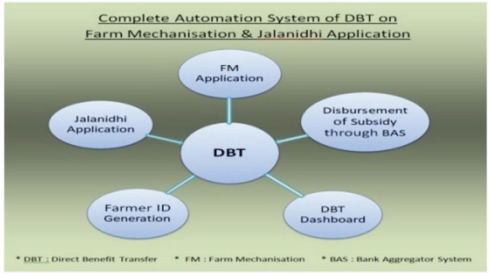
Key Reasons for nomination

The DBT program facilitates the transfer of entitlements and benefits directly to the beneficiary's bank account. The program cuts across all beneficiaries which include large farmers, small farmers, marginal farmers and share croppers. This streamlines the process and trims the number of intermediaries and delays in the system. All the central and state sponsored schemes can be monitored and implemented effectively by the department at a much higher level.

Advantages of DBT system

A virtual big data bank of farmers has been setup using the farmer registration module which is a unique combination of Voter ID and Aadhaar. This unique farmer ID is used for all DBT applications.

- The use of Aadhar restricts the system from creating duplicates(repeat IDs) and ghosts (non-existent farmers).
- It helps in the quick and direct cash transfer to the intended beneficiary.The subsidy amount transfer happens through Bank Aggregator system which is integrated with four Banks (HDFC, ICICI, BOI and AXIS Bank).
- This ensures that the poor get the same level of service that the rich and the middle classes in the society receive.
- The financial transaction process (BAS- Bank Aggregator System) is a complete automated system designed by National Informatics Centre, Odisha.



As the premier policy 'Think Tank' of the Government of Odisha, the Department of Agriculture and Farmers' Empowerment designs strategic and programme frameworks to take this DBT initiatives for the betterment of farmers and to restrict the unauthorised flow of Govt exchequer money to ghost beneficiaries it endeavours to be declared as the best practices state for distribution of farm implements and Irrigation to the intended farmers.

RESULTS INDICATORS

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
e-Farmer Registration (in Nos)	Farmer registers for getting Farmer Id that is mandatory for all DBT system (G2G, G2C)	0	**1801972**	**337075**
e-Permit **(in Nos)**	Permit issued to farmers for Farm Mechanization (G2C)	23882	30073	42532
e-Subsidy (FM) (in Rs.)	Subsidy released thru BAS (G2G, G2C)	1786963251	1766830640	3032357897
e-Subsidy (Pumpset) (in Rs.)	Subsidy released thru BAS for Pump set (G2G, G2C)	309098805	0	106465170
e-Subsidy (Jalanidhi) (in Rs.)	Subsidy released thru BAS for executing Shallow Tube well and Bore Well. (G2G, G2C)	861234225	542217412	17440407
CSS (in Rs.)	Released subsidy from Central Sponsored Scheme (G2G)			87733663
SSS (in Rs.)	Released subsidy from State Sponsored Scheme (G2G)	1786963251	1766830640	2245855835
e-pumpset-Permit (in Nos)	Permit generation of pump set for the farmers (G2C)	43830	0	10136
e-jalanidhi-Go-Ahead-Letter (in Nos)	Go-ahead-letter generation for execution of SHW and BW of PLIP for the farmers (G2C)	15979	10198	1446

Implementation Coverage

Executing this strategic plan was a great challenge for the department as most of the farmers of Odisha are not affluent and not acquainted in purchasing the implements. The sad reality is that the majority of organizations (70% according to Kaplan & Norton) who have strategic plans fail to implement them at the ground level. But, Department of Agriculture & FE, Govt. of Odisha took immense measures to stand out from the majority.

The program was rolled out across the state, as a part of **Big bang adoption,** the instant changeover, which moved to the fully functioning new system on March 2017. But officially it was inaugurated by Hon'ble CM of Odisha on Krushak day (Akshaya Tritia) April, 2017.

Stakeholder

Following stakeholders regularly interact with the system

- District Manager of OAIC (Odisha Agro Industries Corporation)
- Directorate of Agriculture and Food Production
- ORSAC (Odisha Remote Sensing Application Centre)
- Registered Implement Vendors and Implement Manufacturers
- Farmers of Odisha
- 4000 VAWs (Village Agriculture Worker)
- 97 District Agriculture Officer
- 314 Asst. Agriculture Officer
- 30 Deputy Director of Agriculture
- Executive Engineer of Agriculture

New Services/ Enhancements

Bank Aggregator System is roughly based on the ISO20022. This is proven to be an alternative back bone for DBT based payment from single or multi bank account to thousands of beneficiaries' accounts in a robust, secured and transparent way.

This system is highly configurable to match any type of the customer need. Multiple bank accounts from different banks can also be configured in a district wise manner for a single scheme through this system.

The disbursement of subsidy can be secured with configurable upper capping on both transaction as well as payment file level.

Multi-layer security with maker and checker facility is mandatory for each payment file in the system adhering to global financial security policy.

Complete MIS on payment request as well as response is provided to different level of the users including the scheme admin, project admin, concerned bank etc. through mobile app as well as web app.

Hybrid Mobile application has been developed for payment monitoring and approval process. Facility for the notification on all critical aspects of the process like low balance, over capping, duplicate payment and suspicious transactions is available to all the concerned project admin which leave no stone unturned to make sure that all transaction are error free.

The Bank Aggregator System (BAS) system will provide Secure File Transfer Protocol (SFTP) based folder to the source system ie., request and response. All the communication is based on SFTP. The inter servers communication are firewall protected and the IP: Port pair are predetermined and white listed in the firewall level.

Hybrid mobile app is the mixture of native and web app.

- Mobile UI framework for consistent user experience across multiple mobile platforms.
- Since a majority of users want to reduce their mobile data consumption and have an uninterrupted access to app's data, a hybrid app is capable of providing just that – offline app accessibility without performance glitches. SQLite is used locally for working in offline and synchronize with the server when there is availability of internet.

Used Webapi 2.0 and angular js for better security.

Enabler Indicators

DBT system plugs in the leakages as the Central / State government directly provides the fund to the beneficiary. Money is sent to the bank account of the beneficiary through Bank Aggregator System. The major steps taken by Department of Agriculture & FE for Re-engineered Processes are as follows:

1. Improved processes to better serve farmers. Farmer Registration to know the targeted beneficiaries. Manufacturer Registration to restrict duplicate Engine & Chassis No. In complete workflow system no intermediaries present for fraudulent transaction subsidy process system is fully automated.
2. Strong processes imposed to sustain the system. Farmer ID is mandatory. Aadhaar is a unique field for eradicating duplicate beneficiary. All-in-cost payment, to the implement dealer, must be in NEFT/ RTGS. Unique Transaction Reference (UTR)/Transaction ID is mandatory to proceed next.
3. Expanded processes to provide additional services to the department. A dashboard system has been planned to monitor CSS and SSS, supply of implement district wise and release of money scheme wise.

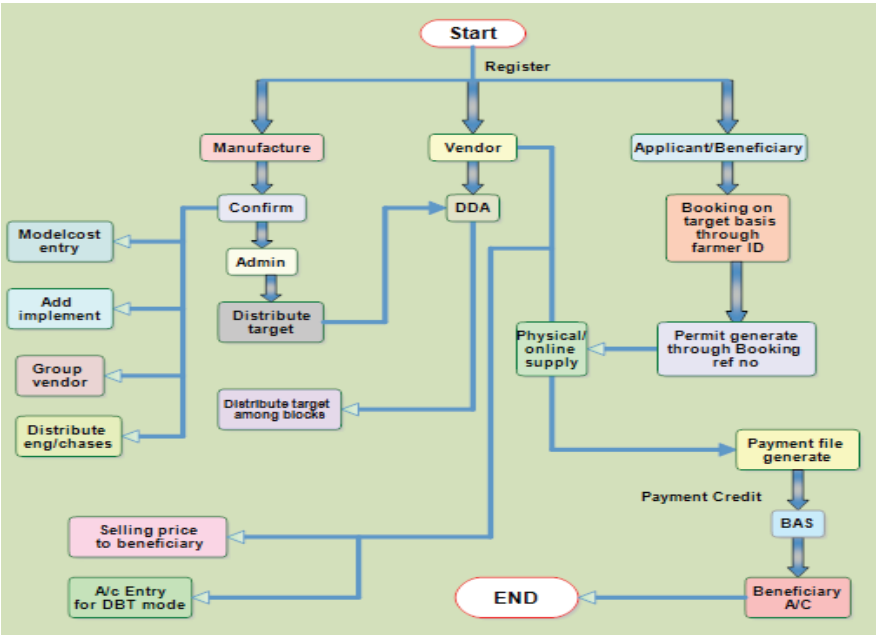
Hybrid Mobile Apps designed for Farm Mechanization at dealer point for capturing Engine no, Chasis No, GPS location of the shop and photograph of vendor and farmer. As a result GPS cannot be altered and engine number, chasis number cannot be tampered.

Hybrid Mobile app designed for Jalanidhi to capture GPS location and photo of the land before and after the execution of SHW and BW.

The beneficiary will have to take up the execution through executants empanelled with Directorate of Agriculture and Food Production, Odisha.

Initial and final GPS location of the execution point should not vary not less than 1 second (Approx. 100 ft or 32 meters) in term of longitude and latitude. This is completely taken care by the system.

DBT on Farm Mechanization Process flow



The Application of the farmers will be saved in the online system for a period not exceeding 15 days. Within this period he/she can edit his choice, if at all he so desires. If target is available, Permits will be generated online after necessary validation of the Aadhar number.

In the next step, the manufacturers will upload their price for the dealers as well as the ex-factory price in the on-line field. The Registered dealers will upload their sale price for the State Level Technical Committee (SLTC) approved machineries. The dealer billing price quoted by the manufacturer and sale price of different dealers for that particular machine will be visible to the farmers.

TECHNOLOGIES

Data analytics reflected in dashboard drills down up to 3 levels (block level). It shows financial year/district/scheme wise implements sale report for high level management for enabling Decision support system.

Data visualizations are one of the easiest ways to gain meaningful, valuable insight from our data. We used NodeJs in conjunction with Express and Ejs to open the Database connection and pass data from API into the browser There are several pieces that make up the visualization framework

- **Node.js**: Used as an API framework, web server.
- **D3.js**: A data binding and visualization framework.

PEOPLE

Capacity Building: Many 'capacity building' or 'capacity development' programs were conducted for different stakeholders to explain all activities of this initiative andto change direction. As a well-functioning department, we know capacity is the most challenging function of project. We meet manufacturers, dealers, executants, farmers and Government officials in different capacity building programs to set and achieve objectives in a sustainable manner.

Leadership Support: Department created master trainers/leaders for mobile operation and farmer registration awareness and other activities involved with this initiatives who have the ability to guide, inspire/motivate and take people to achieve the aims of our Department. Out of this, we got tremendous support from farmers and other stakeholders.

Management of change: Department could achieve success by imposing the very critical issue DBT to farmers' as we know any significant transformation creates "people issues". Dealing with these issues on a reactive, case-by-case basis puts speed, morale, and results at risk. A formal approach for managing change — we begin with the leadership/ IT team of Dept and NIC and then engaged all key stakeholders.

VALUE INDICATORS

Learnings for sharing

Planned for taking the Implement manufacturer, a strong stakeholder to the DBT process, where Engine Number and Chasis Number are to be input by manufacturer to restrict duplicate machine sale.

Even after meticulous planning, there were some unique challenges that the Department had to be ready to tackle. As farmer ID is mandatory for availing any subsidy scheme of Government, farmers could take strong steps to register themselves to get a farmer ID. Department did publicity in print media and press media for farmer registration to get the subsidy for purchasing of farm implement and executing PLIP. To overcome all of them Department opened farmer registration in different desks of Agriculture, Horticulture, Animal Husbandry, Fishery and District Manager of OAIC. Information technology operations have to consider all the moving parts while executing any large-scale project.

This initiative was commissioned with very little time to plan and implement. As Department and NIC, Odisha IT teams have embraced change and, so execution mode kicks in right away.

Aligned internal/ external stakeholders to our project strategy to provide them visibility as they engage across every aspect of project life cycle. Regular interactions with dealers/ manufacturer meet are being organized for smooth operation.

A proper monitoring and evaluation system was planned to flag the fictitious inputs before its notorious behaviour starts inside the system. Indicators were developed for the different levels of the results chain which ensured that anticipated changes due to intervention are easily tracked. Setting indicators prior to project implementation is a good practice for project success.

Digital Empowerment

Farmers of Odisha are now digitally empowered to get a permit from any place. This initiative has a unique feature that farmers can generate their own permit and go ahead as per the availability of target. Farmer can know the target of that locality for implements and PLIPs.

Irrespective of the class, section, age, gender disparity, religion and different social sectors, farmers even with the knowledge of regional languages are linked with system and derive all types of benefits offered by the Department of Agriculture and FE, Govt of Odisha.

Implementation dealers (rural and urban area) use mobile app at the time of supply of implements to the farmer. It is mandatory for taking GPS and photo of engine and chasis number, farmer and dealer. Now, remote area dealers and village level agricultural workers are much acquainted with the mobile operation.

Green eGovernance

The programme does not require any hard copy to be retained in the file. Department does not force to keep document proof for this initiative which is in accordance to the Green governance concept. Permit generation which is very

important, is an automated process and no signature is required as all transactions are being stored on the central server.

This initiative is responsive to any device - easily accessible to mobile and tab. Implement dealers /officials can do their work anywhere with any device.

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Online Consent Management & Monitoring System for State Pollution Control Board (OCMMS)

Tamil Nadu Pollution Control Board

D. Sekar, and A. Krishnamoorthy

PROJECT OVERVIEW

Objectives:

A comprehensive application/web based solution for Ministry/ Central Pollution Control Board (CPCB)/State Pollution Control Board (SPCB) to facilitate a comprehensive, unified system across states.

Scope:

Online Consent Management & Monitoring System for State Pollution Control Board (OCMMS) is a web based Generic Application Software for automating the workflow associated with Consent Management and Monitoring System, which exists in most SPCBs and PCCs (Pollution Control Committee). This system enables the industries to submit the application online for Consent to Establish (CTE)/Consent to Operate (CTO), authorization for various categories of Industries/Institutions. This system also assist concerned officials of SPCB for online processing, monitoring of various activities of SPCBs/PCCs. The system enhances transparency in the existing processing of application, reduce the processing time of application and related paper work. It can be implemented in all the SPCBs/PCCs with minimum customization efforts. It has been developed with support from the Ministry of Environment, Forest and Climate Change and Central Pollution Control Board, New Delhi.

Intended benefits:

- Easy and efficient environment clearance option for pollution department Officers
- Completely customizable as per state/ department requirements
- Central Monitoring of Policy implementation.
- State Head Quarters/ District Head Quarters monitoring officials' accountability on revenue transparency.
- Comprehensive monitoring, audit option for each individual or concerned official by department remotely
- Online payment for industry "anytime and anywhere"

Key reasons

- Efficient use of technology in providing an easy, efficient and comprehensive consent management system – which is ensuring nation-wide data sharing and lead to better industrial environment disciplines.
- The system aims to provide a perfect solution for the current challenges which the PCB departments is facing with respect to issuance of environment

clearances, managing records/ back-end operations, tracking history, payments, reports etc. by leveraging latest technologies which are easy to use, adapt and implement at the ground level.

- Connecting all the stakeholders through a common system which is ensuring data integrity, reliability and transparency. End to end automation of the process is minimizing the corruption and bad practices while ensuring efficiency at each level of users. 100% digitization and documentation of records is helping in improving the visibility on industry discipline towards environment.
- Minimizing time and efforts of industry in making payments or follow-up actions which they face after getting approvals.
- Minimizing Revenue loss and enhance transparency
- Providing real time reports to the Ministry/ CPCB/SPCB for data driven policy making.

RESULTS INDICATOR

Name of e Service	***Brief service description with benefits***	***Volume (Nos) of Services year wise***		
		2015-16	***2016-17***	***2017-18***
Online for Consent to Establish (CTE) / Consent to Operate (CTO)	Online submission of application, approval, clarification and other activities for CTE, CTO for all category of Industries /Institutions	Total No of received application - 31243 Total No of Granted application - 31084 Total No of Rejected application - 81 Total No of Pending application - 78	Total No of received application - 42558 Total No of Granted application - 42013 Total No of Rejected application - 387 Total No of Pending application - 158	Total No of received application - 34807 Total No of Granted application - 31133 Total No of Rejected application - 1872 Total No of Pending application - 1802
Online authorization (Biomedical waste management /Hazardous Waste management /municipal waste management etc.)	Online submission authorization of Industries /Institutions /Hospitals	Total No of applications received - 577 Total No of Granted application - 297 Total No of Rejected application - 216 Total No of Pending application - 64	Total No of applications received - 2943 Total No of Granted application - 2027 Total No of Rejected application - 705 Total No of Pending application - 211	Total No of applications received - 3984 Total No of Granted application - 2481 Total No of Rejected application - 1012 Total No of Pending application - 491

Implementation Coverage

Our Implementation target is to roll-out OCMMS in all State pollution departments.

New Services/Enhancements

- Mobile apps for inspection, reports with industries geo location on real time.
- Real time GIS based waste tracking system for HWM/BMW /MSW.
- Enhancement of OCMMS with web GIS technology.
- Process Reengineering for faster disposal.
- Integration of State Pollution Control Boards OCMMS with CPCB India-e Track
- System for the monitoring industries compliance and Non-Compliance Status (17 CPCB category, Red/Orange/Green, GPI)
- 24x7 OCMMS technical call centersupport.
- Single window for free text search engine of complete OCMMS environment.
- Country and industry wise pollution distribution through heat map density.
- Single window OCMMS related complaint management (auto bug tracker and monitoring of redressal).
- Statistical data representation of OCMMS data through latest visualization state of the art tools.
- Initiation or research on internet of things with existing OCMMS environment
- Integration of OCMMS with Academic and Research Educational Institute for
- collection, collation analysis and Research of Pollution related (air/Water/Noise) data
- Waste Exchange Bank (HW/BMW/MSW/e-waste/Plastic waste etc.) and Co-processing.
- e-job.
- Based on the existing pollution (Air/Water/Noise), Waste (HW/BMW/MSW/E-waste/Plastic waste) data in the OCMMS, a new policy and planning is to be developed to increase the quality of environment of the country.

ENABLER INDICATORS

OCMMS envisages a complete shift of Industrial pollution operations from a primarily manual process to a technology-intensive process – which is much more efficient, comprehensive, transparent and at the same time very user-friendly. The process of clearances, management and monitoring of concerned staff and their performance, payment collection system and so on – all are set to be provided on a technological platform. Monitoring, Reporting, Back-end processing and integration with concerned stakeholders are all going to be much more comprehensive and feature-rich.

Technologies

Enabled enterprise architecture to do more than their primary functions, by providing access to real-time, accurate, ambient data. Enabled GIS based analytics to identify real time implementation throughout the channel.

People

Comprehensive training and hand-holding to all operational staff of the concerned department provided before and after implementation. Starting with demonstration of app/application to top-level officials, to detailed training schedule to operational staff, field level run with actual device and then finally to real challaning operations – at all stages.

VALUE INDICATORS

Learnings for sharing

OCMMS has evolved through a process of learning, changes and enhancements. In the process of implementation in different states, various new requirements, situations, issues etc. have provided a rich learning experience and opportunities – which have made the product more robust and richer in terms of features, functionalities and security.

Digital Empowerment

Payment of OCMMS is facilitated through various options like online payment, Net banking, the BHIM Application.

Although this is primarily a departmental app/ application, however, concerned industry is also automatically made a stakeholder so that the unit concerned can make payments through digital mode or follow-up/ grievance options etc. by logging into the portal.

The system has provided bilingual support (Hindi and English) as of now. But shortly, state-specific language customization option is being provided as per the requirements received from users.

Green eGovernance

100% digitization, no paper based challan and documentation of records is helping to reduce carbon footprint and it involves adoption of environmentally friendly practices with respect to creation, use, and disposal of ICT gadgets / infrastructure also.

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Online Subsidy Seed Distribution System (OSSDS)

Department of Agriculture, Government of Telangana

M. Jaganmohan, N. Suresh Kumar, and K Siva Prasad

PROJECT OVERVIEW

Overview: Distribution of quality seed to the farmers by the department through identified sale counters at subsidized price well in advance of commencement of season by hassle free automated mechanism right from stock entry to sale of seed ultimately to the farmer.

Objective: Supply of seed on subsidy means the average farmers are able to purchase the most critical input in agriculture i.e. seed at affordable price which will help in achieving desirable increase in production and productivity. Hence, the main objective of the Telangana State Government to benefit the farming community, is very much achieved because of the transparency in the delivery system.

Scope (Functional): The apex Office is Commissioner, Agriculture Hyderabad and the District Agriculture Officials at district level, Divisional level officials i.e. Asst Directors of Agriculture, Mandal Agricultural Officials at Mandal level and Agricultural Extension Officers at Clusters/Villages. All the Officials have their own functional competency to attend the job duties in implementation of OSSDS.

Scope (Geographical): From State Head quarters (Hyderabad) / District Head quarters / Divisional Head quarters/ Mandal Head quarters to Cluster incharges (AEO) of all Sale points at village level. Covering from State level office to Cluster level sale point. That is the scope of the project is entire Telangana State. Covering all the districts and agriculture divisions and as respective level controlling officers. Remote areas and geographically challenged places are also covered for OSSDS.

Benefits: Overall benefits and intended are:-

- The actual farmer is benefitted avoiding the involvement of middle men and black marketing
- The very purpose of Government extending subsidy to suffice an average small and marginal farmer is served, due to the transparency and accuracy of the system.
- Save in time and efforts of the department officials in report generation and identification of sales at any point of time.
- Bringing overall monitoring mechanism and controlled the process by delegating authorities at appropriate level

Current Status: Since Aug 2017 system it is being in use.

Rabi 2017– During Rabi 2017-18, 1.71 lakhs qtls of various crop seed was distributed to 178748 farmers in Telangana State with a subsidy value of Rs. 30.79 Crores.

Kharif 2018 – The subsidy seed distribution is under progress. Till date, 3.73 lakhs qtls of seed has been distributed with a subsidy value of Rs. 92.82 Crores.

Key reasons

Seed is the most critical of all agricultural inputs and determines the performance and efficiency of other inputs for enhancing productivity and production and thereby income of the farmers. It is therefore, essential that quality seeds with good genetic potential appropriate to the agro-climatic conditions are produced in sufficient quantities at affordable price and made available to the farmers timely for achieving higher agricultural production.

The key reasons for nomination of this eGovernance project are:

- Highly transparent delivery mechanism.
- By implementation of OSSDS for seed distribution on subsidy, the actual farmer is benefitted by avoiding the involvement of middlemen and black marketing of quality seeds.
- The permit is generated only after authentication of Aadhar card and pattadar pass book of the farmer.
- The quantity of seed eligible to the farmer is automatically calculated by the system, thus avoiding the misuse of the quality seed by curbing the disbursement of over and above quantity of seed.

The reporting of daily sales, beneficiary list generation, and calculation of subsidy value crop-wise is made very easy by just click of a button and data generated is very accurate.

RESULTS INDICATORS

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
Seed Allotment	Accurate crop wise allotment throughout the State	-	-	12,44,895.10 Qtls
Seed Positioning	Stock positioning agency wise within the allotment	-	-	1,89,573.58 Qtls
Farmer Verification	Farmers are verified with their Aadhaar Number and eligibility is verified based on khata number, survey number	-	-	2,47,148 no. of farmers 2,47,442 Extents
Permit Generation	Permits generated by mandal level authorities and sms sent to farmers mobile	-	-	2,41,914

Contd...

Seed Distribution	Seed Distributed at system verified subsidy amount.	-	-	171828.40 Qtls of Seed 30,76,32,747.49 Rs of Subsidy
Report Generation	Daily Report, Agency Wise Utilization Certificate, Crop Wise and Beneficiary Abstract and different reports generated at different levels.			

Implementation Coverage

Implemented in the entire Telangana State to distribute seeds to farmers for Rabi/ Kharif season at the designated sale points (or Cluster points) and generated permits through OSSDS to the farmers by Agriculture officials such as MAOs/Agriculture Extension Officers and Sale point in-charges thus authorizing them to distribute seed.

New Services/Enhancements

Visualized and planned for the required quantity of various seed/variety required by farmers to distribute the same through OSSDS. Customized OSSDS and deployed OSSDS system for smooth allocation of seeds to various levels using workflow method and positioned stock at sale points in advance.

Delegated powers to field level functionaries on proper seed allotment. Inter stock transfer is enabled to cut short the delay in seed allotment between two salepoints thus minimize the time delay in positioning of seed stock. Steps are on the way to carryout same strategy in the coming times for an effective implementation of OSSDS. Same process and methodology can be adopted in coming crop seasons to seed allotment.

ENABLERS INDICATORS

- Identified gaps in the existing system and with the use of workflow of OSSDS the gaps and time delay are minimized.
- All the Officials up to field level sensitized and worked for early establishment of OSSDS. Made OSSDS completely reliable and thus any other modes of allotment is not allowed.Flexibility is given in seed allotment as per wish and convenience in repeated visits of farmers.
- With the Aadhaar number provision, OSSDS is able to identify farmer wise and sum of land extent which planned for agriculture crop.
- Stock position, requirement and position are simplified with the MIS Reports and dashboards.

Technologies

- Using dashboard, the overall seed stock position and allotment is monitored.
- OSSDS can be allowed to operate through mobile also. Communication channels has been widen through SMS alerts and mobiles/emails.
- User manual of Salepoint /MAO/DAO etc., workflow has been put on website.
- Operational problems, both domain and technical, have been given due importance and the same is placed in website for answering the concerned experts.

People

- Training and Demonstrations presented to fields level staff and officials through in-house trainings and Video Conferences/Tele-conferences.
- Overall process controlled by Technical and Administrative Officials at State and Districts. Interacted with all officials through regular meetings, workshops and Telephone/Video Conferences.

VALUE INDICATORS

Learnings for sharing

Key Learning-Monitored through trainings and video conferences. Set up a high level Unit for coordination and to increase the productivity of human resources. Guidelines were simplified and implemented in OSSDS with necessary validations. The Problems raised by stakeholders are studied thoroughly and rendered trainings.

Best Practices – Entry of Aadhaar number provision is given and ensured. The farmer is identified while allotting the seed during repeated visits and for his land extent. Subsidy amount is calculated and complete transparency is maintained in calculating the seed cost to be paid by farmer. Positioned the stock for various seeds/variety and monitored stock availability in the entire workflow during the crop season.

Process changes-Stock transfer between sale-points and permit generation is incorporated in OSSDS. Permit validity is maintained in order to avoid the blocking of seeds by unknown group of people. Continuous support to filed level staff over user manuals, email communication and social media. Implemented workflow mechanism and carried out by means of assigning necessary roles and privileges, i.e., from Commissioner to AEO (Sale point in-charges) in OSSDS. So that tracking of stock is monitored for effective utilization of seed.

Digital Empowerment

- OSSDS is implemented in the entire State including remote locations and tribal areas.
- Human resources identified and empowered them for their active participation in the entire process.
- Officials at mandal and village/cluster are trained and identified for OSSDS as and when the farmers approach Sale points for allotment.

- Accordingly put forth the request for meeting demand within a short span of time.
- The communication channels are opened to avoid the pending time of seed allotment and seed availability.

Green eGovernance

- Disposed old technical items and suggested to have ICT infrastructure as per latest configurations.
- Procured tablet devices and handed over for field level to operate various applications of department.
- Priority given to all eGovernance projects and steps taken to use ICT infrastructure and improved the paperless communications.

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Veterinary Hospital Management System

Veterinary & Animal Husbandry Department, Government of Telangana

D. Venkateswarlu, N. Suresh Kumar, and T. Sudhakar

PROJECT OVERVIEW

Veterinary Hospital Management System (VHMS) provides for computerization of main functions of veterinary hospitals like Registration, Drug inventory, Drugs issue to patients, Diagnostics, Billing and MIS reports to management for effective super vision over hospital services.

Modules covered in VHMS are:

Registration OP-Registration details like Animal type, Animal Breed, Age, Gender, Owner name, Address and Mobile number are captured and the system generates Case sheet. The Animal owner visits the Veterinary Doctor along with the animal and case sheet for treatment. The Doctor writes diagnosis and prescription on the case sheet for treatment.

Pharmacy-In this module, the pharmacist registers all the Medicies procured from agencies and issues to patients. Based on the stock availability, system issues medicines.

Diagnostics-In this module, the tests prescribed by the Veterinary Doctor are captured along with fee details where ever applicable. The services that are given free of cost by the Hospital are measured in terms of value in Rupees.

Doctors Module-The Doctor can view the patient History i.e. Doctors observation, Diagnostic Tests and drugs prescirbed. Availability of Drugs can be viewed by the Doctor.

Reports & Dash Board: 1. No. of patients visited/ Revisited day wise, 2. Fee Collected for registration and diagnositc tests, 3. Value of drugs issued, 4. Receipt of drugs, 5. Drugs stock availability, 6. Data analysis – hourly registration report to measure peak hours and non-peak hours.

Stakeholders: Citizen and Dairy Farmers and Officials/Doctors of Veterinary Institutions.

Intended Benefits/Current Status: Overall performance of Hospital towards treatment and drugs supplied is being monitored. Effective use of system is analysed and pharmacy drug position is monitored. Dairy farmers successfully utilized the system and built the confidence in the system towards treatment.

No. of institutions enrolled :	11	No.of new registrations 66604;
No. of revisits	: 71735	Value of Drugs : Rs. 432277.63.

Key reasons for nomination:

VHMS has been launched first time in the country by Telangana State Government for the welfare of around 30 lakh Dairy Farmers in the State. With this, one can know the services available at Veterinary Hospitals, number of animals treated, drugs availability etc. The system has been visualized for the treatment of animals by Veterinary Doctors and rolled out successfully. A few more of the reasons are:

- To bring the transparency in treatment of animals by veterinary hospitals/institutions.
- To know the patients visits/revisits and treatment details of Veterinary doctors.
- To know diagnosis and quantity of drugs prescribed for citizens and farmers
- To know overall the treatment and to analyse the services of diagnosis.
- To know the drugs availability, expiry details and requirement of drugs at pharmacy

RESULTS INDICATORS

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
Outpatient Registration (OP)	Registration in online for	-	10361	56242
Diagnosis and revisits	Disease identification and treatment details	-	662	7197
Quantity of Drugs	Drugs that are being delivered to patients in quantity	-	259581.98	597371.93
Drugs Issue (Valued)	Drugs that are being delivered to patients in amount Rs	-	155275.54	272002.09

Implementation Coverage

The Geographical area is the entire state of Telangana and with the designated hospitals; the project is being carried out. Farmers and citizens are the primary stakeholders of VHMS.

New Services/Enhancements

Rollout this application to other states as per their requirements through technical team. Performance of doctors can be arrived at and pharmacy module envisaged the status of drugs at supplied hospitals. Extending this application for the other hospitals as and when necessary by the Department. Better management of drugs and status is also planned.

ENABLERS INDICATORS

Concept of VHMS made simple and standardized the procedure for treatment is implemented and rollout in other hospitals. Revisit to hospital made easy by means of a query. Treatment is also automated for case study and case sheet. Inventory of drugs is planned and positioning of drugs at various hospitals is forecasted. Value of drugs disbursed at various hospitals listed and planning made for drugs position. Able to know the drugs expiry quantity, thus relocating plan made easy for hospital. Feedback analysis is also plays an important role.

Technologies

Social Media has been used to publicize the application to educate the officials and citizens mainly farmers in the state in utilization of the software. Video Clips have been designed and posted in social media and also circulated thru emails.
Video Clipping on the launch of VHMS in e-TV Jai Kisan Programme, Telangana
https://www.youtube.com/watch?v=sv7USQ4jY-8&feature=youtu.be

People

Training and demonstrations have been widely conducted and knowledge sharing is enabled through all possible ways of communication. Delegated powers to divisional and mandal officials to incorporate new ideas in to the system. Feedback option in VHMS website is enabled for analysis the quality of service delivered through the VHMS. Various reports enabled for public view for analyzing the performance of Hospitals.

VALUE INDICATORS

Learnings for sharing

One time Registration through department login and continue treatment

Hospital authorities will register the citizen with animal details as one time measure. He / She need not give the details every time while visiting for treatment of the animal. Using registration Number, details are fetched from the system and allow the citizen for further process of treatment/diagnosis. Doctor's module enables the overall treatment and pharmacy module enables the stock position of drugs and value of drugs.

Digital Empowerment

Access has been provided through the website for online Registration through department logins and for diagnosis/treatment. Several awareness programmes have been conducted to the farmers in availing the services at veterinary hospitals.

Various analysis reports also provided to public for knowing the overall hospital status for better planning and visiting hospitals for treatment.

Green eGovernance

Submission of Paperless applications for achieving environmentally friendly practices.

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Aadhar Enabled MDM (Mid-Day Meals)

Department of School Education, Government of Andhra Pradesh

K. Sandhya Rani, and C. Radha

PROJECT OVERVIEW

Objectives

To improve the nutritional value of school children and improve their enrollment is in true sense, reaching them. Complete transparency is maintained, where day wise school wise status MDM implementation can be monitored.

Scope

Geographical

Districts	:	13
Blocks	:	670
Schools	:	45344
Number of children	:	37 Lakhs.

Functional

- Track enrollment
- Calculate requirement
- Maintenance of stock in each school
- Daily attendance captured to measure performance
- Daily statistics of Mid-Day Meal (MDM) consumption captured
- Aadhaar authentication used to draw commodities leading to accountability of stock and responsibility
- Stock at school can be monitored online.
- Complete transparent online portal to check the status and performance.
- Services through mobile app for easy access to resources.

Stakeholders

- Commissioner of School Education, AP -- Head of the Department
- Department of Food and Civil Supplies – Supply of commodities
- Revenue Department – Revenue link between state and Government of India
- Government of India - Funding and ensuring implementation

District Educational Offices: -- MDM Monitoring

- Mandal Educational Offices -- MDM Monitoring
- School Officials -- Implementation of MDM Programme
- School children -- Eat and Learn

Intended benefits

- Schools and enrolment data is maintained with update facility.
- After placing the rice indents by the schools (12th to 16th of every month), ROs are generated and allotted quantity is dispatched to all Fair Price shops (FPS) by end of the month.
- In charge (HM/SHG) draws the ration through Aadhar biometric authentication between 1st to 15th of every month.
- Status of delivery of MDM commodity can be tracked through web portal & MDM mobile App.
- Attendance of the children is collected through MDM App daily.
- Consumption of MDM stock is maintained using MDM App.
- Dashboard at state and national level to monitor the implementation of the project.

Current status

- Schools and enrolment data is maintained in real time
- After placing the rice indents by the schools (12th to 16th of every month), School wise allotment is done through the software which was a time consuming and error prone activity previously.
- ROs are generated and allotted quantity is dispatched to all FP shops by end of the month and ready for distribution from 1st of a month.
- In-charge (HM/SHG) draws the ration through Aadhaar biometric authentication ensuring accountability
- Status of delivery of MDM commodity can be tracked through web portal and MDM mobile App.
- Attendance of the children is collected through MDM App daily
- Consumption of MDM stock is maintained using MDM App
- Closing Balances are maintained resulting in less allotment for subsequent month and hence savings
- Movement of stocks along with PDS stock from godowns to FP shops has reduced transport charges.
- Number of trips to FP shops by school in-charges reduced because of in time stock movement and also information of availability of stock. The dealer cannot deny availability of stock.
- Nutritional basket (meals chart) maintained in the app
- Statistics of allotment versus consumption is available in real time
- Statistics of attendance versus MDM is available in real time

RESULT INDICATORS

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
To get school enrollment	It has online integration with each school enrollment to get final statistics and requirement	-	45951	45344
Get requirement	To collect requirement of food grains from each school keeping in consideration the MDM consumed		45951	45344
Provide commodities to school incharges	Using Aadhaar authentication food grains are distributed to school incharges		45951	45344
Monitor attendance	Using mobile Application attendance is collected on daily basis		2213931	2773931
Monitor MDM			2001239	2482819
Budget Savings	Food grains, Transportation Cook cum Helper Honorarium Cooking cost Management Monitoring Evaluation (MME)	----	115.62cr	106.53 cr

Implementation Coverage

The project is being implemented in all districts of Andhra Pradesh in 45500 schools benefitting around 40 Lakhs school children by providing nutritious food in their growing years of 6-15 as per Government of India target. This results in a healthy and strong nation building.

New Services/Enhancements

1. E-weighment introduced
2. Closing balance of schools calculated automatically
3. Egg procurement monitored in mobile app
4. Inspection module implemented to verify project implementation at various level

ENABLERS INDICATORS

Process before the Initiative

- Data of schools and their enrollment not specified.
- Requirement of schools not consolidated in time to be given to civil supplies department.
- No accountability as to whether the schools have drawn ration (commodities) or not
- Not reaching to the delivery point in time - lack of tracking
- Underweight rice bags
- No accountability of attendance of kids.
- No statistics of MDM consumption in schools.

Reengineered Process

- Schools and enrolment data is maintained in real time
- After placing the rice indents by the schools (12^{th} to 16^{th} of every month), School wise allotment is done through the software which was a time consuming and error prone activity previously.
- ROs are generated and allotted quantity is dispatched to all FP shops by end of the month and ready for distribution from 1^{st} of a month.
- In-charge (HM/SHG) draws the ration through Aadhar biometric authentication ensuring accountability
- Status of delivery of MDM commodity can be tracked through web portal and MDM mobile App.
- Attendance of the children is collected through MDM App daily
- Consumption of MDM stock is maintained using MDM App
- Closing Balances are maintained resulting in less allotment for subsequent month and hence savings
- Movement of stocks along with PDS stock from godowns to FP shops has reduced transport charges.
- Number of trips to FP shops by school Incharges reduced because of in time stock movement and also information of availability of stock. The dealer cannot deny availability of stock.

Technologies

- Aadhar authentication for distribution of food grains
- Pentaho Business Intelligence Tools used for data analytics resulting in on the fly dash boards for decision support.

People

- Regular training programmes and review meetings at district and state levels. Video Conferencing enabled interactions and workshops at regular intervals.

VALUE INDICATORS

Learnings for sharing

Point of Sale (PoS) devices are used for commodities distribution. Mobile apps for attendance, requirement and MDM status, Inspection module in mobile app helps in verifying the status of the scheme implementation. Web service based online system to link to Central Government portal. All these initiatives lead to a real time online mode which can be monitored transparently from Government of India allotment to Mid-Day Meal consumption by school children.

Digital Empowerment

The Government of India Initiative could be successfully implemented with the help of latest technology using mobile apps and web portal. Interface in local language is provided. Web services are used to integrate various systems. SMS messages are provided in local language.

Green eGovernance

- Paperless work flow
- Timing of allotment, RO generation and dispatches optimizing the transport and logistics, which in turn reduces fuel consumption and reduction of Carbon foot print.
- Different systems are connected with one another through web services hence Paper print outs are not required to pass information.
- SMS at various level avoids paper communication
- Single trip to receive ration as Stock availability is known through Portal, SMS and Mobile Application.
- Obsolete e-Waste is disposed of properly through eWaste collectors.

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DOST-Degree Online Services Telangana

Commissionerate Collegiate Education, Government of Telangana

Navin Mittal, Rajendra Narendra Nimje, and
Hemanth Kumar Panidapu

PROJECT OVERVIEW

DOST-2018 is a single application system with Aadhaar authentication through linked mobile (One time password-OTP based) or biometric authentication. It enables students to apply for any course/medium, in any college/university at their convenience and as per their eligibility. This is a completely paperless, real time, eligibility criteria of the applicant's evaluation, ensuring the deserving applicants to get the seats without any manual interventions.

Scope:

- It is one platform with several advantages to the stakeholders, such as ease of operation, reduction in manual intervention, efficiency and transparency of operations, comprehensive information availability, positive impact on environment etc.
- The vast coverage of universities and colleges across the Telangana State
- Fast decision making due to availability of information.
- DOST is accessible over the internet and is compatible with all devices and browsers
- Applicants whose mobile numbers are seeded with Aadhaar can directly apply with Mobile OTP based authentication while others have to get their authentication done using biometrics from the Citizen service centers
- This application enables the applicants from any corner of the state to apply for the college and course-work of her/his.

Seat allotment is performed in a foolproof way by running an algorithm that addresses and evaluates following all reservations roaster and eligibility criteria.

RESULT INDICATORS

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
Registration (Mobile based OTP Aadhaar authentication)	Applicant identification is made easy at the convenience by • Single OTP received to mobile • Eliminated the physical visits to Citizens service centers. • Avoided the applicants to stand in Queues • Saved the service charges. • 100% secure	No	No	83,591

Contd...

	• No impersonation • Quick and easy			
Registration (Biometric Aadhaar authentication citizen service centers)	• Alternative registration options in-case of mobile number not linked with Aadhaar • Around 4,000 Citizen service centers	No	2,30,435	1,55,712
Applicant Validation by Technology-driven Categorization	Based on Qualifying examination and Identification details, Technology-driven decision process • 0% prone to error • No manual intervention required for the successful applicants • Quick and directly select course and colleges	No	No	More than 95% of total regis-trations
Applicant verification with DSS (Decision Support System)	Mismatch between Qualifying Exam and Identification are segregated based on the mismatch percentage.	No	No	Yes
Seat Allotment Process	• Allotment process is completely automated • Transparent, automated and standardized in allocation for better approach • Error-free and minimized human interference • No manual intervention • No manipulation of the allotment is possible • Complex logic to accommodate and validate 40 plus different allotment criteria • Merit and social entitlements (reservations) allotment as per Admissions Guidelines and GO	2,24,000	2,15,314	1,99,388 (till date)
Web Options	• Course selection based on the qualifying examination • Complete information related to Course fee and fee break up • Select any number of courses and colleges • Guidelines for selecting the college and course by showing the previous course and college history • Flags colleges and courses if less than 25% or 0% occupancy • Option to opt admission in preferred District and course	No	Approxima tely 10,00,000	Approxima tely 17,00,000

Contd...

Voice based PIN Messages (Password) delivery	• Multiple SMS gateways for delivery of PIN (login password), • Voice-based messages is planned which are much faster, as delivery of text-based MS are often delayed due to busy mobile network system • Retrieve of Password (forgot password) via Voice based Message. • Attains 100% successful in message delivery, as multiple times is attempted to deliver the PIN	No	No	Approximately 10,00,000
External System Integration	• For Caste Certificate and Income Certificate	No	1,69,631	1,57,456
BIE-TS & SBTET integration	Qualifying examinations details are extracted for • merit/rank calculation • Eligible course and colleges are listing for selection. • Eliminates the manual verification • 0% prone to error	No	Yes	2,23,639
Professional Course Admissions and Residential Degree Colleges Admissions (EAMCET and TSWRDC Integration)	• Only one seat reserved/confirmed per student (one of the core objectives of transparent and equal opportunity to applicants) • Increases the opportunity for the deserving applicants	No	No	Approximately 9,000
DATA Vault Integration	• High security-based data encryption in compliance with UIDAI for data security • Data is stored in encrypted format and 100% secure	No	No	2,47,344
Multiple Payment Gateway Integration	• More than single payment gateway, in-case of failure • No break in the service to applicants • To embrace last minute or peak transactions load.	No	No	Yes

Implementation coverage

- DOST has provided universal access to international applicants from Gulf countries, applicants from more than sixty boards such as CBSE, ICSE and TOSS (Telangana Open School System) and for students from States like Andhra Pradesh, Maharashtra, Karnataka and Tamil Nadu.
- DOST has embraced more than 95% of undergraduate admissions in the state of Telangana

- DOST admission includes special category colleges such as railway degree colleges, visually impaired and hearing-disability colleges

Technology adaptations/Innovative deployment

- Applicant authentication was through biometric verification at Citizen Service Centres in 2017 where all applicants had verified their identity
- DOST 2018 is designed to reduce applicants' trouble of physically going to Citizen Service Centres. Current system comprises mobile based authentication through One-time password (OTP) sent to mobile number seeded with Aadhaar authority.
- Seat confirmation is only through physical visit to the allocated college. In a few cases where student is not able to confirm the admission, he loses the opportunity. DOST-2019 is planned to confirm the seat through DOST system online by paying the fee and joining the college. Admission fee is remitted to college account directly.

ENABLER INDICATORS

- Real and practical digital transition has become possible with combined managerial practices of regular meetings by Governing bodies leadership and technological partner
- Decision making based on quantitative analysis and adapting continually with trend/changes in timely manner
- Supported by cross-functional collaboration from Governing bodies and technology partner.
- Government of Telangana has issued G. O. Ms No. 12 to automate the admissions process
- Government has constituted committee at Government level and at operational level
- Government has conducted sequence of meeting with college managements.

TECHNOLOGIES

- The Application is built on the framework comprising of technologies
- Base framework-spring boot with spring security, JPA repositories
- Java 8 features of collections, filters and Thymeleaf UI Processing Engine
- Well-formed three tier architecture is used.

Benefits

- Environment compatibility, No future breakdown of technology used
- Less maintenance, sustainable, reliable
- Operability-ease of use, interoperability, extensible
- There is no downfall in terms of technical advancements.
- Strong Infrastructure, smooth deliverable, ease of integration

- Flexible architecture to incorporate future changes-in terms of both logical and technical.
- No scope of resource depletion

VALUE INDICATORS

- Data driven decision making: DOST has introduced data driven demand analysis which helps to take the informed decision.
- To address the seat confirmation issues at institute level during at the time of reporting and fee payment, end-to-end allotment and online seat confirmation to be integrated. This would also eliminate any possibility of malpractice by certain private colleges
- Data driven Artificial Intelligence by system to select the course and colleges based on trends and preferences.
- Communication channels using WhatsApp group were set up for coordination and immediate resolutions between Helpline Centers and Coordination Committee team
- Customized SMS were sent to all the potential students and this resulted in 83,591 students registering using single OTP received to the linked mobile numbers.

Digital Empowerment

- Mobile based Aadhaar authentication
- Provision is available for bio-metric authentication at all Citizen Service Centers with minimum service charges and free of cost at the Helpline Centers spread across the Telangana State.
- Applicants who faced problems due to typo errors on various services at citizen service centers, such issues were handled using bio-metric authentication devices at helpline centers.

Green eGovernance

- DOST application is integrated with multiple systems resulting paperless admissions and thereby contributing to environment protection.
- Applicant verification is minimized to single mobile based OTP compared to hardware-based bio-metric device authentication
- Environmental conscience entwined in work environment and all projects development centers contribute to reduce emissions to net zero, by implementing use of smart lights and recyclable materials.

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eGovernance at
All India Council for Technical Education
Government of India

Anil D. Sahasrabudhe, and N. H. Siddalinga Swamy

PROJECT OVERVIEW

At AICTE, we thrive on the vision to emerge as a world-class organization for leading Technological and Socio-Economic developments of the country. In line with this vision, we focus our efforts on enhancing the technical competitiveness of the Indian youth and ensuring high-quality technical education for all. In this regard AICTE has three main objectives:

- Planning and coordinated development of Technical Education system
- Promotion of quality in Technical Education
- Regulation and maintenance of norms & standards

All India Council for Technical Education (AICTE) has, therefore, implemented eGovernance in the year 2010 with the objective of bringing:

Accountability; Integrity; Credibility; Transparency & Efficiency in day-to-day activities of the organization to provide effective services to all its stakeholders.

The AICTE eGovernance project has helped to streamline the various AICTE core functions like Institute Approval Process, Student Scholarships Approval and Disbursement, Disbursal of Grants under various schemes, Admissions & Scholarship disbursal to J&K Students and many such important AICTE functions.

The System has helped to reduce application processing timelines; Increased transparency in all approval processes and brought accountability as various departments use the applications; improved quality of education and higher compliance rate or brought in an almost complete paperless process.

Data is now readily available for analytics and decision making.

Key reasons

All India Council for Technical Education (AICTE) is a statutory level body under the Government of India which is responsible for proper planning and coordinated development of the Technical Education system in the country. The key reason for nomination is that AICTE has designed and developed a state-of-the-art eGovernance model which has digitized manual operations and brought transparency, accountability and efficiency in the complete system. The system has introduced the following advantages:

- Greater transparency in terms of random selection of experts, payments, approved institutes etc.
- Better accountability
- Improved quality of education and higher compliance rate
- Reduced help desk staff

- Green Initiative – saved approx. 500 sheets of paper/application per Institute every year (10,500 institutes)
- Enhanced management, student services with comprehensive reporting
- Reduced RTIs and queries as maximum required information is available on AICTE's website
- Dashboard facility has been introduced for immediate viewing of large variety of statistical information
- AICTE has also launched a Mobile App which enables its stakeholders to verify and fetch the required information on their mobile itself

AICTE has also launched "Know Your College (KYC)" website and Mobile Application which helps students and parents to obtain information about all the Higher Educational Institutions (Technical and Non-Technical) including infrastructure, hostel facilities, courses offered, affiliations with various affiliating bodies etc.

RESULTS INDICATORS

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
Approval Process	To Facilitate New/Existing institutions, Universities to apply for online approval of current academia	Total Institutes: 10329 New Institutes: 174 Total Enrollment: 3836163	Total Institutes: 10365 New Institutes: 293 Total Enrollment: 3702672	Total Institutes: 10400 New Institutes: 326 Total Enrollment: 3552483
Deficiency Calculation	Institutes have been given a facility using which they can verify if there are any deficiencies in the institute, related to infrastructure, faculty, library facilities, Computational facilities etc	Total Institutes: 10,329	Total Institutes: 10,365	Total Institutes: 10,400
Online Payment Module	The system provides Internet banking facility via payment gateways for payment of Processing fee and Security Deposits to be paid by New Institutes.	Total Institutes: 9,299	Total Institutes: 9,302	Total Institutes: 9,322

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Joint Fixed Deposit Refund (JFDR)	Online process is developed for Institutes to apply for refund of Matured FDs.This will reduce the physical visits of the Institutes to AICTE offices.	-	Total Institutes: 5,000	Total Institutes: 9,000
AICTE- CII Survey	Online assessment application for all technical institutes across India which evaluates Industrial linkage with Institutes, Faculties, and Students which helps industry to engage with institutes to shape manpower as per its requirements as well as institutes in improving the employability of their students.	Total Institutes participate at Institute Level: 10329 ii) Final Level: 2165	Total Institutes participate at Institute Level: 10365 ii) Final Level: 1831	Total Institutes participate at Institute Level: 10400 ii) Final Level: 1425
AICTE Quality Improvement Schemes (AQIS)	This application accepts on-line applications for various proposals under AQIS schemes. The applications are then processed by AICTE using standardized Online Evaluation & Approval process.	Total Application: 12,000 (approx.)	Total Applications: 14,000 (approx.)	Total Applications: 15,000 (approx.)
National Employability Enhancement Mission (NEEM)	NEEM application is to offer on the job practical training to enhance employability of graduates/diploma holders or students pursuing graduation/diploma to increase their employability. This Online Application has the following features: • NEEM Agent user registration form	-	Total Applications: 8,000 (approx.)	Total Applications: 10,000 (approx.)

Contd...

	• NEEM Agent Application form • NEEM processing fee payment • Student(Trainee) details			
National Skill Qualification Framework (NSQF)	Online registration of the students in the concerned Skill Knowledge Provider programme and provide hands on skill training in a specific sector.	Total Application: 2,000 (approx.)	Total Applications: 3,000 (approx.)	Total Applications: 4000 (approx.)
PG Scholarship (GATE/GPAT)	Application that captures the information about students and institutes. Based on the institutes inputs of Attendance records of student, scholarship will be disbursed in monthly basis into their account.	Total Students received Scholarship: 44659 Amount released: 419.79 Cr.	Total Students received Scholarship: 38807 Amount released: 354.41 Cr	Total Students received Scholarship: 33869 Amount released: 343.08 Cr
Pradhanmantri Kaushal Vikas Yojna (PMKVY)	Online registration of the students under Skill Development Scheme of Govt. of India	-	541 INSTITUTES 34757 students Amount: 33.35 Cr.	937 INSTITUTES 81229 Students 38.26 Cr
Prime Minister Special Schlolar Scheme (PMSSS) (only for J&K Students)	Online registration and allotment of seats/Course in AICTE approved institutions for eligible students and disbursal of scholarship for those students under this scheme (only for Jammu & Kashmir) through the Direct Benefit Transfer Scheme (DBT)	2898	3023	3099
Start up Application	Online Application for conducting a Startup competition/Summit where startups can participate.	-	-	2,000

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Clean Campus	Clean campus is an award competition conducted by AICTE for all the AICTE Institutes in order to understand the initiatives taken by these institutes for keeping the environment clean and green. Various videos and pictured of the initiatives taken by the institutes are captured and based on that institutes are shortlisted for clean and green campus award	-	-	10,000
Pragathi & Saksham Scholarships	Online register eligible candidates for Pragati Scholarship and disbursal of scholarship to candidates through Direct benefit Transfer	Beneficiaries - 4500 Amount Released: 18 Cr.	Beneficiaries - 5000 Amount Released: 20 Cr.	Beneficiaries- 5000 Amount Released: 20 Cr.
Know Your College (KYC) Public Domain Website	This website displays information of all institutes across the country. Institutes can be searched on the basis of different criteria	No. of hits: 3,70,000 (approx.)	No. of hits: 3,90,000 (approx.)	No. of hits: 4,50,000 (approx.)
Deemed to be University Application	Deemed University Application is for Students who took engineering degrees under 4 deemed universities. This online application receives student registration from all such students, for whom AICTE is conducting exams as per Supreme court order and based on that degree will be issued.	-	-	Applicants: 8,000

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AICTE Website Public Domain Website	This website provides information of all bureaus of AICTE, announcements , upcoming events etc.	No. of hits: 50,70,000 (approx.)	No. of hits: 63,70,000 (approx.)	No. of hits: 74,70,000 (approx.)
E-mail/SMS Communication	Emails are sent via Siebel application, to the Institute, Experts, Regional Officers at various stages in the Approval process via the SMTP server. SMS Gateway sends SMS to all Institutes.	3,00,000 (approx.)	4,00,000 (approx.)	4,50,000 (approx.)
OBIEE Portal (Reports Generated)	Reporting tool that is currently been used to extract MIS reports for various Siebel and PHP applications.	20,000 (approx.)	24,000 (approx.)	26,000 (approx.)

Implementation Coverage

Implementation has achieved 100% targeted goal. This robust implemented system has ushered in high degree of transparency, accountability and efficiency.

New Services/Enhancements

- Siebel Open UI Upgrade to give browser independency
- Accessibility on different devices like Mobiles, Tablets etc.
- Ability to modify UI to enhance User Experience
- SAGY (Sansad Adarsh Gram Yojna) Mobile App: To connect AICTE approved institutes with Villages and Hon'ble Members of Parliament.

Future Implementation plan

- Service Cloud Implementation to give a common platform for all the users to raise the grievance related to respective bureau.
- Smart India Hackathon Application roll out will give boost to the creativity of upcoming young talent
- Startup & Innovation Portals to facilitate Startup activities in AICTE approved Institutions
- AICTE Smart campus
- Geotagging of all AICTE approved Institutions as a collaborative project with ISRO.
- Online Grievance Portal with CHATBOT facility.

ENABLER INDICATORS

Re-engineered all manual process in phases since 2010 through automation.

Technologies

- Implementation of SRM (Oracle Social Cloud) has helped to interact with user on social networking sites to understand the issues & public sentiments and assist in taking appropriate actions to address & resolve them.
- Siebel CRM helps to bring transparency within the system.
- Using Social Media Apps like Facebook & Twitter to reach out to maximum stakeholders as an aide for further development & improvement of the existing systems including redressal of grievance in the shortest possible period.

People

The eGovernance project has enabled the higher management, to use MIS reports as efficient tools to plan and implement policies relating to Technical Education. All stakeholders are able to reap maximum benefits with minimum efforts for eGovernance at their end.

VALUE INDICATORS

Learnings for sharing

Over the years, the systems have been modified to incorporate innovative ideas and processes to make it more responsive, “user friendly” and “easy to use” etc. Extensive use of social media apps has made the system transparent and efficient.

Digital Empowerment

Offline editing mode of the applications enables remote stakeholders to complete their forms offline and upload on portal once they complete it.

Green eGovernance

There has been no requirement of disposal of e-Waste till now. Whenever required, Govt. policies in this regard will be strictly adhered to.

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The Gyan Sankalp Portal - Rajasthan

Rajasthan Council of School Education

Shivangi Swarnkar and Vinod Kumar Jain

PROJECT OVERVIEW

The Gyan Sankalp Portal consists of 5 functionalities built to link donors with high-priority school needs across the entire state of Rajasthan. The Portal covers all Government Elementary and Secondary schools across the entire state.

Adopt-a-School

The portal's first feature, Adopt-a-School, provides potential donors with a clear view of all of a school's infrastructure needs. In order to 'Adopt a School', donors must commit to filling all requisite infrastructure gaps (electricity, classrooms, boundary wall, playground, water, ICT lab, etc.) within one year and supporting annual expenditures (electricity, water, internet, maintenance) for a duration of three years. Donors are also given the option of constructing additional (but non-required) improvements to the school.

In return, donors officially re-name the school for the duration of the adoption. The functionality's USP is that school's data is linked with the Department's MIS systems: Shala Darpan and Shala Darshan, and costing is done automatically on the basis of standard cost of civil works done by the department. As many major individual donors are interested in supporting and adopting individual schools, this allows the Department to ensure that all crucial infrastructure gaps are filled and allow donors an easy way to see school needs in their area without needing to spend hours of time with District Education Officials (saving their time as well).

Create Your Own Project

The Portal's second feature, Create Your Own Project, allows major CSRs to directly submit their proposals to the Department in Jaipur online through a simple online form + PDF upload, rather than collecting clearances at the school, district, and then later at the state level. All project submissions are responded to within a 2-week clearance period by the State's CSR Screening Committee. This functionality allows CSRs and major donors to easily liaise directly with the state to ensure that CSR projects are value-adding without coming to Jaipur to submit documentation or hold meetings. Once projects are approved, companies' contributions are added to the Portal's Hall of Fame, felicitating and incentivizing donors.

Support a Project

The Portal's third feature, Support a Project, allows individual donors to support key government priorities at a state-wide level. Projects currently on the Portal include: *EdTech*: Digital Classrooms in Rajasthan, *Sanrachna*: Infrastructure for Girls' Hostels, *Constructing Futures*: Building Schools for Children in Rajasthan, *Aadya*: Sports for Girls, *Rajasthan Padho, Rajasthan Badho*: Classroom Libraries, *Expanding Schools*: A Classroom for Every Class, and *Solar Schools*: Electrifying Rural Primary Schools.

These enable donors to support a thematic cause. The department then spends funds as soon as it has the funds required for a single unit. All budgeting is displayed with total transparency. Through this functionality, donors also receive an 80G tax exemption for their donation.

Donate to Mukhyaman tri Vidyadaan Kosh

Mukhyaman tri Vidyadaan Kosh is the portal's corpus fund and supports high priority projects across the state to specifically improve learning outcomes. This fund enables donors who support education, but don't have a specific thematic or geographic interest, to support the state's mission and ensure their contributions go to high-impact projects. Through this functionality, donors also receive an 80G tax exemption for their donation.

Donate to a School

The Portal's 5th functionality, Donate to a School, is by far one of the most popular with masses of people. Through this feature, any individual can donate to any of Rajasthan's 63,000+ schools from the comfort of their home. This money is then directly routed to the school's SDMC (School Development & Management Committee) account, which is controlled by on-ground school stakeholders (a committee including the Principal, Parents, Teachers, and Community Members). This feature gives energetic Principals and School Communities a platform to mobilize funding for their schools through online/mobile giving, with full assurance that all funds will go directly to schools.

Key reasons

The Gyan Sankalp Portal is a unique portal developed by the Government of Rajasthan to streamline and ease all types of CSR, philanthropic, and crowdfunding contributions through a single online portal. Previous to the existence of the Portal, CSR/philanthropic funding entered the system in an ad-hoc manner, with limited connection to actual education needs and priorities. Now, through the Gyan Sankalp portal, all types of donors can easily donate through the Gyan Sankalp Portal. The portal includes several unique advantages:

- Single window for all donor and donation types (CSR, High-Net-Worth-Individual, Medium/Small Donor, Trusts, Civic Groups, etc.)
- Portal shows real-time gaps in schools, ensuring donors' funding can be channelized to meet important education needs, while nevertheless allowing flexibility in terms of thematic and geographic targeting of funds.
- A CSR Screening Committee within the Education Department evaluates and responds to all submitted proposals within a week in order to ensure that spending contributes to filling important infrastructure and/or learning gaps.
- Donors can contribute directly to any of the state's 63,000+ schools through donate to a school functionality.
- 80G tax emption receipt automatically generated for all donations, and utilization certificates are generated for all donor-implemented projects.

The Portal has been appreciated by the MHRD (Ministry of Human Resources Development) and several other state governments have contacted the Government of Rajasthan to ask for guidance building portals modeled off this one. Until now, over 45 projects have been approved through the Portal at a total value of 54 crore, and over 450 schools have availed the Donate to a School Feature through the Portal.

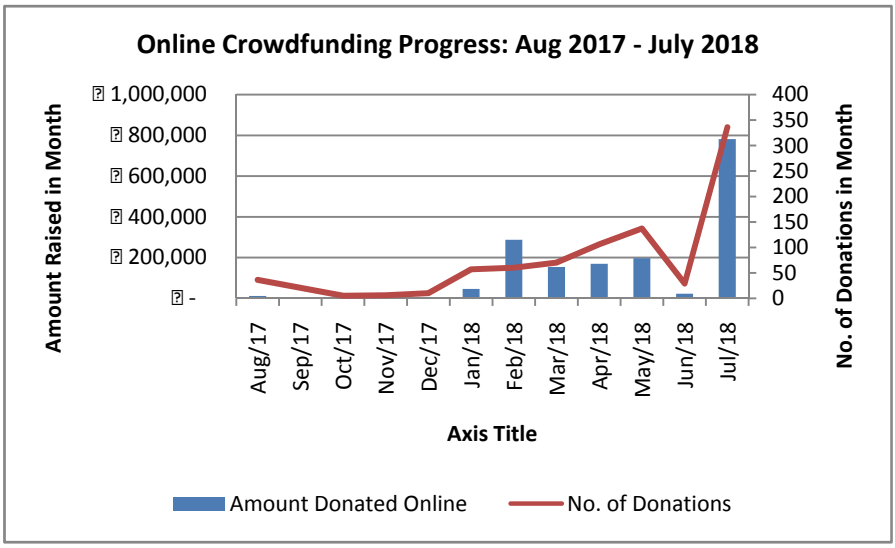
RESULTS INDICATORS

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015 –16	*2016- 17*	*2017-18*
Create a Project	Allows CSR Companies or Bhamashahs to sponsor projects online.	N/A	N/A	46 Projects submitted on portal and approved by Screening Committee with total value of Rs. 54.3 crore.
No. of Registered Portal Users	Number of individuals registered on portal as of July 30	N/A	N/A	1801
Donate to a School & Support a Project	Donations to Support a Project and Donate to a School	N/A	N/A	Rs. 16,95,242 donated by 842 donors. Average donation of Rs. 1,990. Over 450 schools have availed themselves of donations from Gyan Sankalp.
Mukhyaman tri VidyadaanKosh	Portal Corpus Fund	N/A	N/A	Raised 10.47 crore, transforming 14 schools into Centres of Excellence

Implementation Coverage

- CSR/Create a Project Target: Rs. 50 Crore of Project Value (based on Bhamashah Awards 2016-17). Bhamashah Awards was Rs. 63 Crore, goal was to move 80% onto Gyan Sankalp for next year. 54.3 crore of project value was raised through Gyan Sankalp.
- Current targets set at approximately 18,000 schools availing Donate to a School Feature by October 2018. Since beginning of targets and outreach in mid-July, massive increase in take-up:
- Over 1,06,000 visitors to Portal website.

- Over 15,000 followers of Gyan Sankalp Facebook page and over 1,200 Twitter followers to enable digital outreach.



New Services/Enhancements

- Over last year, entire Portal developed and all features developed.
- Portal initial launch in August 2016.
- Create Your Own Project functionality launched in December 2017
- Donate to a School functionality launched January 2018

In Development Process:

- Live-linkage of all schools' infrastructure data on Shala Darpan/Darshan (MIS System) with Gyan Sankalp.
- School Profiles for all schools including school infrastructure data, school type, enrollment, and projects accomplished already via Gyan Sankalp Portal
- Display all projects funded by Mukhyaman tri Vidyadaan Kosh fund, current progress, and before/after photos and indicators (when relevant)
- Automated school funding disbursement model
- District-level dashboards and logins for District Education Officers (DEOs) and Assistant District Project Coordinators (ADPCs)
- School-level logins.
- Full integration with email and SMS to alert donors of updates in progress status.

ENABLER INDICATORS

Adopt a School

- Before Gyan Sankalp, there was no formalized process for adopting and naming schools, nor was there a clear point of contact for donors.
- Infrastructure gaps based on Department's MIS data is clearly shown, enabling gaps to be easily mapped and filled without additional work from donors or department officials.
- Process is now standardized and simplified, and costing is done automatically.
- Utilization certificates can be easily granted to donors to demonstrate work done.
- Donor incentives posted and automatically given upon contribution.

Create Your Own Project

- Single window of clearance created for CSR Donors and Bhamashahs. One application to make and then cooperation guaranteed of District and School officials guaranteed.
- Department CSR Cell immediately notified as soon as a new project is submitted, reviewed within week. No need to rely on long chain of contact beginning with school officials, then district officials, and only later statewide administrators.
- Projects screened to ensure spending has tangible outcomes – for many CSRs, goal of spending is simply meeting a spending target and generating local goodwill – now with screening process in place, Department ensures that CSR contributions add long-term value and have concrete outcomes and/or outputs.
- No requirements for additional paperwork to apply for state Bhamashah Awards, where donors are felicitated statewide.
- Easy granting of Utilization Certificates from State Government for CSR Work required under Companies Act, 2013.

Crowdfunding

- Previously there was no method to donate to school without going in person to school or district office and handing over cash or cheque.
- Process is now standardized through online payment portal accepting payments through credit cards, debit cards, online bank transfers, etc.
- 80G Receipt is automatically generated for donors upon payment. Can be printed at any time and accessed from donor account dashboard.

Technologies

Application was developed using .Net 4.0 & MS SQL Server 2016. This bilingual, workflow based Web-Application uses responsive design, enabling it to be easily accessible through PC/Laptop/Tablet/Mobile devices.

People

Community

- Extensive existence of community support for government schools, as evidenced by community contribution of approximately Rs. 75 crore offline through Akshay Petika in 2017-18 fiscal year.

School-Level Officials

- All Principals and Headmasters trained on how to use Gyan Sankalp at District- and Nodal- level trainings and meetings and shown how to demonstrate portal usage to teachers and community members.
- Top performers felicitated on social media and school/district-level WhatsApp groups.
- Top performers invited to share best practices with other school leaders.

District-Level Officials

- Extensive trainings for District-Level officials in Jaipur during all District Review Meetings and other training programs.
- CSR Cell visits to specific CSR target districts to convene local donor conclaves and live-demonstrate portal to donors and district officials.
- Active involvement of District Officials in teaching HMs and Principals in how to use Donate to a School functionality so they can fundraise for their own schools among small and medium sized donors. Up to 3 lakhs raised by single school.

CSR Cell & Screening Committee

- CSR Cell with representation at Shiksha Sankul in Jaipur and Directorate offices in Bikaner consisting of 5 individuals whose full-time job is to conduct and facilitate CSR outreach, crowdfunding, and development of Gyan Sankalp.
- Steering Committee with extensive involvement with Education Department Civil Section to evaluate project proposals upon submission.
- Meetings of CSR Cell to determine targets and goals on weekly basis.

VALUE INDICATORS

Learnings for sharing

Development of Portal is only first step, outreach and awareness creation is equally important.

- Portal needs to be developed addressing the key needs of all stakeholders in system: CSR Donors, Bhamashahs, HMs/principals, district-level-officials, small donors, and department administrators.
- User interface needs to be as simple as possible.
- Entire process should be visualized during development of Portal, from initiating projects to granting of utilization certificates and 80G Tax Benefit Receipts.

- Portal needs to allow maximum flexibility in terms of thematic and geographic areas of support.
- Creation of designated CSR Cell to ensure that responsiveness is maintained and portal improvement/development remains a continuous process.
- Listening to potential donors is crucial – initially there were only two crowdfunding functionalities – Support a Project and Contribute to Mukyaman tri Vidyadaan Kosh. Accordingly, the team developed the "*Donate to School"* functionality.

Digital Empowerment

- Development of hindi-language explainer videos for Gyan Sankalp Portal to explain all processes. Videos shared on WhatsApp groups and website.
- Integration of payment portal with BHIM UPI app for easy payments.

Green eGovernance

- Prior to development of Gyan Sankalp, CSR applications and clearances required document and file packages consisting of up to 100's of pages to be mailed back and forth between donors/contributors and government. Now can all be easily done online.
- No travel required for extensive document submission and meetings – everything conducted online and via phone, with exception of signing major MoUs.
- As a result, unnecessary travel to Jaipur by company representatives and Bhamashahs has been reduced.

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Higher, Technical and Medical Education Portal

Department of Information Technology & Communication, Govt of Rajasthan

Akhil Arora, and Manu Shukla

PROJECT OVERVIEW

Brief Overview and Scope

Higher, Technical and Medical Education portal is a common IT platform which provides E-Learning solution and automates the complete academic processes for college and university students of Higher and Technical education across the State of Rajasthan. This Higher Education Portal/ Platform provides data for decision support system at State level and serves as a platform for students to get information about options available in higher education.

The main objective of Higher and Technical Education portal is to establish a centralized IT Platform which provides new avenues of learning and streamlines and improves the processes and functioning of colleges/universities.

Salient Features

- Facility for online admission, fee payment, registration,
- Facility for filling examination form, admit card download & result download
- Facility for college infrastructure, attendance of student and faculties, profile management of students and faculty

Benefits:

Major Stakeholders Benefits

Student

- Centralized admission process, availability of online forms, results, mark-sheet and complete academic details of students
- Single gateway for all kinds of academic activities like course information, admission form, examination form etc.
- Collaborative learning through forums, groups
- Provision of Self-assessment by the students

College/University

- Improved management of resources by way of automation of academic processes
- Details of teachers & their profile available on portal
- Details of College Infrastructure available on portal
- Facilitate transparency between university and college administration
- Operational efficiency in Right to Information, Marking
- Student and Faculty attendance monitoring

State Government

- Single database of students & faculties of higher and technical education

- Improved decision making and formulation of policies
- Utilization of State Infrastructure like RSDC, RSWAN etc.
- Centralized Online Monitoring of Universities, Faculties and Students

Current status

(a) 6 different University modules have been made live across 4 departments, 3 Universities

(b) College management modules have been made live for 217 colleges impacting 4 lakh students and 4000 teachers directly or indirectly.

Key reasons

Unique IT platform which brings all state financed universities/institutions, colleges and their academic processes on one Portal. This portal involves following

- Exhaustive information of courses offered, course eligibility and fee structures at one portal
- Generalisation of various academic processes across different Universities.
- Online admission form for students for different universities
- Enroll in universities
- Fill examination form, generate admit card, get mark sheets, degrees
- Look for a suitable job

RESULTS INDICATORS

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
Admission Management (Admission form filling, Verification of student documents, Merit Generation, Seat Allotment)	Admission management enables students to fill admission form and pay fee online, check their merit, seat allotment online. ✓ It reduces student, teachers' efforts, time and manual error in performing daunting task.	Total admission- **4 lakhs students** covering **2** departments- College Education and Polytechnic	Total admission- More than **4 lakhs students** covering **3** departments- **College Education, Polytechnic and Sanskrit education**	Total admission- More than **5 lakhs students** covering **4** departments- **College Education, Polytechnic, Sanskrit and 3 Universities**
Enrolment Management	Student enroll for the courses he/she has applied. ✓ Integrated with admission portal. ✓ No need to verify student again.	**Total enrolment-** 50000 students covering 1 Polytechnic Board and 1 University	**Total enrolment-** 15000 students covering 1 Polytechnic Board	**Total enrolment-** 22000 students covering 1 Polytechnic Board

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Examination Management (examination form filling, date sheet generation and admit card generation)	Student pays the fee of examination and can download admit card and time table online which save time. Increase in operational efficiency of staff	**Total exam students-** 50000 students covering 1 University	**Total exam students -** 1 lakh students covering 1 Polytechnic Board	**Total exam students -** 1.2 lakh students covering 1 Polytechnic Board
NOC (No Object Certificate)	NOC given by department for college to run its courses. ✓ Increase in transparency ✓ Reduction in processing time of application ✓ Online uploading of inspection reports	NA	**2600 colleges** applied through the application	**2100 colleges** applied through the application
Student Course Information System	Common portal display the course details. ✓ Single place where student can know about the courses. ✓ Reduction in time	NA	Covering Course information across Rajasthan of- • **Universities-26** • **Institutions-1500** • **Degrees-180** • **Courses-8500** **Student of Rajasthan state can access this common portal for course information**	Covering Course information across Rajasthan of - • **Universities-75** • **Institutions-3024** • **Degrees- 255** • **Courses- 9814** **Student of Rajasthan state can access this common portal for course information)**
Website	Website of departments, Universities and colleges. ✓ Provides information of University and colleges whose website was not there. ✓ Information for students	NA	Website of following departments/ Universities/ Colleges are available on portal • **Department website-2** • **Colleges - 249** • **Universities-9**	Website of following departments/Universities/Colleges are • **Department website-4** • **Colleges (Graduation and Polytechnic)-284** • **Universities- 24**

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College Management Module	It contains 17 modules which affects student and colleges staff directly and indirectly. ✓ Improved management of resources by way of automation of academic processes ✓ Responsive services to students	NA	NA	17 modules are implemented across 219 graduation colleges
Job Placement	Job placement module enables student to apply for jobs and companies to recruit the suitable candidate. ✓ Online registration of student and company ✓ Selection of student profile by company ✓ Tracking of selected candidate at department level- Increase transparency	NA	NA	More than **60000 students** applied for jobs through the portal

IMPLEMENTATION COVERAGE

S No	Name of module	Volume achieved
a.	Admission Management	More than 15 lakhs students in last 3 years
b.	Enrolment Management	More than 100000 students in last 3 years
c.	Examination Management	2.5 lakh students in last 3 years
d.	NOC (No Object Certificate)	5000 colleges applied in last 2 years
e.	Student Course Information System	Student of Rajasthan state can access this common portal for course information
f.	Website	• Department website-4 • Colleges (Graduation and Polytechnic)-284 • Universities- 24 In last 2 years
g.	College Management Module	Implemented in 219 colleges covering more **4000 teachers**
h.	Job Placement	More than **60000 students** applied for jobs through the portal

Process followed for implementation

- The initial requirement was collected from different types of institutions like Technical, graduation to make generalized portal

- Identification and prioritization of modules for implementation
- Development of Common Forms/ Templates
- Data Collection
- Module-wise development & implementation of the application in pilot
- The various modules have been customized as per the requirement of each University/department
- Comprehensive trainings of each module were conducted at all levels
- Review of functionalities/ reports/ deliverables generated through the application and identifying the gaps and improving on the same
- Implementation in other universities in phase-wise / module-wise manner
- Establishment of help desk at each institution during time of implementation of application

New Services/Enhancements

- The reports and dashboards have been enhanced significantly.
- College Management modules implemented across 219 colleges.
- Affiliation management module will be implemented this year in 2 Universities and 1 Polytechnic board which covers the complete details of colleges apply for affiliation in respective Universities. This will help to on-board the colleges online in the application. Enhance end-to-end implementation of application.
- Roll out of college management modules in 42 polytechnic colleges.
- Development of mobile app for student attendance, leave management and job placement.
- Enabler Indicators
- Online/offline verification of student documents during admission process.
- Online checking of student marks of 10^{th} and 12^{th} from the board (RBSE and CBSE) data
- Fee payment through Common service centre (CSCs)
- Section wise distribution of form enables student to save form intermittently.
- Provide minimum student details during enrolment and examination
- Student name, father and mother name capture in Hindi language helps to use the same during degree publication

Technologies

Following innovate aspects related to technology were used in this project:

- Deployed on multiple servers and used Load balancers to distribute the peak load during admission and examination process
- Separate server deployment for memcaching of the dynamic data

People

Capacity Building

- Training sessions were organized for each module at each institute level

- Help desk team is established at each institution to support institution staff and address student queries
- User manuals are provided in physical format and soft-copies for ready-reference.

Leadership Support

- Project progress is continuously monitored by the top leadership.
- Periodic review meetings are organized to discuss and resolve the issues, if any.

VALUE INDICATORS

Learnings for sharing

- Each University has their own academic rules and regulations. No generalization of academic and internal process of different Universities.
- Constitution of central level committee of domain experts for finalization of requirements
- To make more and more academic staff aware about the use and benefits of Higher Technical Education portal
- To bring private colleges on same platform as their counter-part Government colleges with making them aware and provide adequate trainings.

DIGITAL EMPOWERMENT

- Teachers are trained extensively on the applications. Multiple rounds of trainings and help desk is deployed at their premises to make them use application.
- Empowering students to deposit fees online.

Green eGovernance

Rajasthan state date centre is a 100% green data centre. The upcoming data centre in the state in going to be a tier 4 data centre in the state and the only tier 4 data centre in the country which is owned, operated and controlled by the government. Government of Rajasthan judiciously follows every policy of Green IT, along with this the state also has its own Green IT policy which is followed by all departments and outsourced sectors religiously. All environment friendly practices with respect to creation, use and disposal of ICT gadgets and infrastructures are followed. The Rajasthan Green IT policy has been prevalent since the year 2007 and was revised in the year 2015.

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iStart

Department of Information Technology & Communication
Rajasthan

Akhil Arora, and Manu Shukla

PROJECT OVERVIEW

Rajasthan has been a fountainhead for various entrepreneurs and industrialists. It has given various big business houses and industries to the world economy. With the vision of strengthening up the startup ecosystem, Hon'ble Chief Minister has introduced 'Startup policy' for emerging startup ventures. The objective of this Startup policy is to lead a change by shifting working youth from service industry wherein they are inclined due to various constraints in setting up a new startup & cultivate them in their own ventures.

The Rajasthan Startup policy is an outcome of the demand of "ease of doing business" for new startup ventures. The Government of Rajasthan is focusing on to work with these Startups instead of just incubating them. "iStart" web portal was launched on 18th August, 2017 at Rajasthan Digifest, Kota by Chief Minister Smt. Vasundhara Raje.

The objective behind this ambitious move of the Government is to raise the entrepreneurship spirit in the state through this new platform. Under this program, iStart Nest is the only centralised incubator which is providing free incubation to startups. In line to this, Bhamashah Techno Fund worth Rs 500 Crore has been set aside for the startups, in which, 100 Crore has been set aside to boost women entrepreneurs, whereas 50 crores has been set aside for the green startups.

Key reasons:

iStart Rajasthan is one of a kind end-to-end online platform for startups across the nation. Along with this, iNest- the incubation centre is providing state-of-the-art services to the emerging startups and budding entrepreneurs. Bhamashah Techno Fund of worth Rs. 500 crores has been set aside for the startups by the Government of Rajasthan. This includes fund worth Rs. 100 crores for the women entrepreneurs and fund worth Rs 50 crores for the green startups.

RESULTS INDICATORS

Name of e Service	***Brief service description with benefits***	***Volume (Nos) of Services year wise***		
		2015-16	***2016-17***	***2017-18***
Sustenance Allowance	Sustenance allowance of INR 10,000/- per month for one year to the Startups at	-	12,00,000	14,40,000

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	Idea/Prototype Stage, post approval by the Committee and Nodal Institution			
Marketing Allowance	Marketing assistance of maximum INR 10 lacs will be provided to the startup to launch its product.	-	-	1,90,00,000+
e-Cell Incubation Support	Incubation support is been provided to the startups who register themselves at iStart, including helping entrepreneurs to develop their business in the initial stages.	-	6,00,000	79,50,000
Qrate Rating (Bhamashah Techno Fund)	Bhamashah Techno Fund of Rs. 500 Crores for Start-ups has been introduced to give an open sky to the potential Start-ups of the state.	-	-	1,80,00,000+

Implementation Coverage

iStart Portal is an integrated platform where startup, incubator and investor can register altogether. Here startup, investor and incubators can connect at one place and can avail various benefits offered by the Government of Rajasthan. After the launch of iStart Portal, the residents have shown keen interest in this e-initiative of the government. A large stratum of youth is seeking possibilities and opportunities in the Startups and the Government of Rajasthan is taking their dream to the next level by encouraging startups extensively. They have provided:

- World-class technological facilities, co-working space, mentoring and advisory support all under one roof.
- The biggest startup hub in the country with a seating capacity of more than 700 startups.
- 1,00,000 sqft of incubation space entirely dedicated to entrepreneurship & development.

The Government of Rajasthan's focal point is promoting the startup culture in the state by not just funding the established and growth-bearing startups but also the new and pristine startups. For serving the same motto in the month of March, the government has enjoined the extra INR 500 Crore in the existing policy where the weightage is given to women entrepreneurs and green startups separately. Also, through inviting new investors, venture capitalists and incubators into the system, the government is vigorously furbishing the startup environs. The Startup Policy has the fund of INR 500 Crore for the acceleration of startup kinetics in the state. The Government of Rajasthan is focused on strengthening the startup ecosystem with the massive intervention as funding and incubation support. The state policy stresses over maturing the startup ecosystem through the diverse and inclusive

entrepreneurial portfolio. In the month of March, the Government of Rajasthan has introduced "Bhamashah Techno Fund" of INR 500 Crore for the startups under which INR 100 Crores for the women entrepreneurs and INR 50 Crore for Green Startups have been introduced in the month of March, 2018.

New Services/Enhancements

To enhance the potential of any startup, an assessment program was launched which provides a card to a startup on the basis of its performance. This card is known as Q-Rate card. Bhamashah Techno hub is the biggest startup hub in the country with a seating capacity of more than 700 startups and 1,00,000 sqft of incubation space entirely dedicated to entrepreneurship & development.

Major weightage is given to incubation so the startups can get a first point assistance on their initial level. To serve this objective, the government has established the incubation centre in the major cities of state. These incubation centres are assisting, supporting and incubating multiple startup ventures. In near future, iStart plans to open multiple incubation centres at various cities.

Enablers

Under iStart, the process has been made 100% automated. In line to this, it is 100% paperless, which means there is zero manual intervention. Apart from that, 100% automated data work flow system has been implemented.

Not only this, the money transfer has been made automated and has been put in place with integrated infrastructure. It has also been made sure that financial as well as non-financial transactions that are related to a startup are done in an automated fashion only.

The 100% processes have undergone the process of government process re-engineering to ensure complete ease of access to every startup that is becoming the part of the system.

Technologies

We have got the biggest social media platform working under iStart with maximum following in the entire country for our platforms. IOT enabled infrastructure has been put in all the incubators for data collection related to the startups. Also all the technologies which are available in Rajasthan, which includes applications, platforms, services, softwares, etc. is available as a service through Rajasthan Stack which is another service available for startups.

VALUE INDICATORS

Learnings for sharing

'Challenge for Change', a part of iStart program and a ground-breaking initiative is designed especially to give state's youth an opportunity to partner with state

government, implement their ingenious solutions and get direct work orders worth 1 Crore.

In this one of a kind initiative, the young entrepreneurs can directly collaborate with the government without following the traditional tendering process. Startups are not required to furnish any earnest money deposit (EMD), have any minimum years of prior experience or minimum turnover. By overcoming the traditional tendering process, Government of Rajasthan is providing a fair opportunity for startups to partner with the state government and play an important role in empowering Rajasthan to be the 'Digital-sthan' of the country." The winning startups will be awarded direct work orders worth Rs 1 crore from the Government of Rajasthan.

Many ideas have been submitted till date on various kinds of challenges. Recently, 'Amritdhaara Water Projects' was awarded a direct tender of INR 1 Crore for creating a cutting-edge technique to ensure safe drinking water in Rajasthan.

Digital Empowerment

Under iStart platform, allowances are distributed to different sectors, be it a green initiative or a women-oriented initiative. To further boost the startup paradigm, Qrate - the only startup rating mechanism in the country, accepted by all leading VCs & Investors has been launched. Whereas, iStart Nest is the only centralised incubator which is providing free incubation to startups.

Green eGovernance

100% systems cover green computing practices of eGovernance.

We have adopted environment friendly practices with respect to creation, use and disposal of gadgets.

There is a dedicated Green IT Policy which has been established as a part of eGovernance and IT/ITES Policy 2015 which ensures software and hardware redundancy as well as disposal clearly identified.

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JNANABHUMI - Enabling Excellence

Department of Social Welfare, Government of Andhra Pradesh

Shamsher Sing Rawat, M Rama Rao, V Krishna Devarayulu, and S. Madhusudhana Rao

PROJECT OVERVIEW

In line with the policy of the government of Andhra Pradesh, Jnanabhumi's principal objective is to deliver Post-Matric Scholarships (PMS- MTF & RTF) to all eligible students in the State, to pursue the post matric courses from ITI, Intermediate to Engineering, Medicine, PhD, belonging to the Scheduled Castes (SC), Scheduled Tribes (ST), Backward Classes (BC), Economically Backward Class (EBC), Kapu, Minorities and Differently Abled categories, on a saturation basis, every year.

Jnanabhumi not only covers the post matric scholarship scheme but the educational schemes of the Government as mentioned above. This perhaps is one of the most complex, and large scale project of its kind in India supported by the latest advancements of technology.

The Post-matric scholarship system covers over 7 welfare departments, 7 educational departments, 36 affiliating authorities.

Various functional aspects of scholarships processing have been mentioned below:

Multiple Service Integrations

With a view to minimizing data entry, auto-population of data through integration of multiple databases has been enabled in Jnanabhumi. For the real time validation of the claims with no upload of hard copies for the same, it is integrated with the following databases:

(a) SSC certificate, for auto-population of student's name, gender, date of birth and father & mother names
(b) Mee Seva Integrated Certificate, for auto-population of caste
(c) Ration card, for auto-population of 'Below the Poverty Line (BPL)' status
(d) Mee Seva Income Certificate, for auto-population of student family's income
(e) Intermediate Studies, for auto-population of Intermediate Study details
(f) Praja Sadhikara Survey of GoAP, for fetching up of all the e-KYC based details
(g) CET Admission data of various affiliating authorities, for verification of student details weather he is admitted under convener quota or not (only convener quota students are eligible for the scholarships not for the management and spot quota students).
(h) Saderm data base for verification of disability of the students.
(i) In addition, Jnanabhumi is integrated with the following databases for certain key validations:
(j) State Resident Data Hub (SRDH), for Aadhaar integration, for use in:
    (a) biometric (fingerprint and IRIS enabled) attendance of students
    (b) e-Signature

Key reasons for nomination

"Jnanabhumi" is an integrated portal for both scholarships (Maintenance Fee & Tuition Fee) and education. The portal is completely designed to cater the needs of welfare departments and education departments.

Jnanabhumi, by virtue of being the channel through which the educational scholarships are released, plays a pivotal role in bringing the students from the marginalized sections of the society into the fold of, ensuring their continuity in and eventual completion of post matric and higher education in the state of Andhra Pradesh. Over 1.49 crore students have cumulatively received educational scholarships worth over Rs. 22,000 crores through Jnanabhumi, between 2003 and 2016-17.

Security Features of college, Affiliating authority and Welfare Department process of Jnanabhumi:

(A) **Maker-Checker-Approver Model:** Jnanabhumi operates on 'MAKER-CHECKER-APPROVER (M-C-A)' paradigm. This ensures fixing of accountability at appropriate levels for all stakeholders. The M-C-A paradigm could be used across all levels of Jnanabhumi work flow, i.e., Colleges, Affiliating authorities & Welfare departments.

(B) **eSign / DSK:** eSign / DSK facility is provided to various stakeholders in various levels of Jnanabhumi i.e., for colleges, Affiliating authorities & Welfare officers. Maker/Checker/Approver and eSign/DSK are the inbuilt features of Jnanabhumi at all levels.

RESULTS INDICATORS

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
SUBMISSION OF FEE STRUCTURE BY AFFILIATING AUTHORITY	• Accuracy in populating course fee for different nature of colleges by the respective affiliating authority in a better sense. • Enables monitoring of attendance aligned to academic calendar, which leads to get the better quality in the academic progress of the student.	6759	7452	9358
SUBMISSION OF ACADEMIC CALENDER BY AFFILIATING AUTHORITY		Not implemented	Not Implemented	2398

Contd...

APPROVAL OF COLLEGES BY AFFILIATING AUTHORITIES (AA)	• Provides for mapping colleges to AAs who are the controlling bodies in real sense. • Eliminates the scope for bogus colleges in the ecosystem	7935	8363	8012
STUDENT ADMISSIONS – FRESH AND RENEWALS	• Student need not register for scholarships in Jnanabhumi like the previous system AP Epass. • Paperless capturing of student details • Auto population of details for renewals • No student interface with departments • Saves student time & costs • Eliminates scope for rent seeking	15,14,131	15,80,201	16,84,820
ONE TIME APPROVAL BY COLLEGES	• Establishes the genuineness of students & eliminates scope for bogus students	Not Implemented	Not Implemented	16,03,161
STUDENT BIO-METRIC AUTHENTIC-ATION	• Renewal students gives his bio-metrics (Finger prints / IRIS) at colleges and some portion of fresh students whose details are not with Jnanabhumi give bio-metrics at nearest Meeseva centers with free of cost. • Due to the E-KYC based biometric authentication at one time, only genuine students can avail the benefit of the scheme. • No scope for false, dual student applications.	15,35,348	14,86,323	16,08,520
ATTENDANCE MARKING BY COLLEGES	• Accountability of attendance tied to principals • Enables scholarship release tied to student attendance @ 75%. • Improves quality in progress of student.	Not Implemented	Not Implemented	
ONE TIME APPROVAL BY DEPUTY DIRECTORS OF WELFARE	• After certifying the scholarship eligibility of the student by the principal, DD once again certifies the genuineness before going to release.	14,77,671	15,18,850	15,82,339

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DEPARTMENTS	• Scope for minimize the fraud at 0 level.			
BILL GENERATION	• Fully automated bill generation by Jnanabhumi system. • Generation of bills on FIFO. • Eliminates scope for human errors • No discretion to DD on generation of bills. • Saves time, costs and physical drudgery	14,75,802	15,12,131	15,41,337
SUBMISSION OF BILLS TO CFMS ON FIFO	• Fully integrated with CFMS/Treasury. • Enables paperless bills submissions & processing • Getting reverse file for failure transactions.	Not Implemented	Not Implemented	19,865 bills
RELEASE OF 'REIUMBURSEMENT OF TUITION FEE' (RTF) TO INSTITUIONS 'MAINTANENCE FEE' (MTF) TO STUDENTS' BANK ACCOUNT	• Zero cash transactions. • Provides for log & tracking of releases • MTF releases monthly basis. • RTF releases on quarterly basis.	1994.96 crores 476.04 crores	2447.44 crores 434.16 crores	2972.85 crores 522.75 crores

Implementation Coverage

The implementation coverage of disbursement of post matric scholarships Jnanabhumi is given hereunder:

Category	*Income Eligibility*	*No. of Beneficiaries (In Lakhs)*	*Financial Release (In. Cr.)*
SC	<=Rs. 2,00,000 p.a.	3.49	726.90
ST	<=Rs. 2,00,000 p.a.	0.69	134.77
BC	<=Rs. 1,00,000 p.a.	8.63	1451.64
Differently Abled	<=Rs. 2,00,000 p.a.	0.11	1.18
Minorities	<=Rs. 1,00,000 p.a.	1.27	251.19
EBC	<=Rs. 1,00,000 p.a.	1.32	364.95
KAPU	<=Rs. 1,00,000 p.a.	1.41	564.95
Total		16.84	3495.60

In addition, the scheme wise number of applicants covered by other G2C services of Jnanabhumi is given below:

S.No	Scheme/Program	No. of beneficiaries
1	Hostels (pre matric & post matric)	3.00 LAKHS
2	Social Welfare Residential Schools	2.50 LAKHS
3	NTR Vidyonnati Scheme	3,850
4	Best Available Schools Scheme	40,000
5	Corporate Colleges Scheme	6,500
6	Ambedkar Overseas Vidyanidhi	2000
7	Pre-matric scholarships (5^{th} to 8^{th}) and (9^{th} to 10^{th})	4.00 LAKHS

ENABLER INDICATORS

Challenges faced in previous system

Incorrect/Illegible documents, Repetitive verification and transit delays, manual process and manual verification delays caused many hurdles.

Technology adaptations/Innovative deployment

Knowledge management applications

User manuals

User Manuals are published on Jnanabhumi website for each and every service delivered to stakeholders.

Social Media: A dedicated team is working on knowledge sharing to public about schemes and enhancements being taken in Jnanabhumi via social media platforms like Facebook & Twitter.

Internet of things (IOT): Jnanabhumi is a world class web application with its features like facial recognition and Bio-metric authentication.

Data Analytics

As the Jnanabhumi with its huge data in dashboards with drilldown from department till student level has a large scope for analysis where Jnanabhumi is a single window which can guide student regarding performances of course wise, college wise in different jurisdictions.

SMS Alerts

SMS alerts will be shared in huge extent to various stakeholders in different levels of Jnanabhumi continuously.

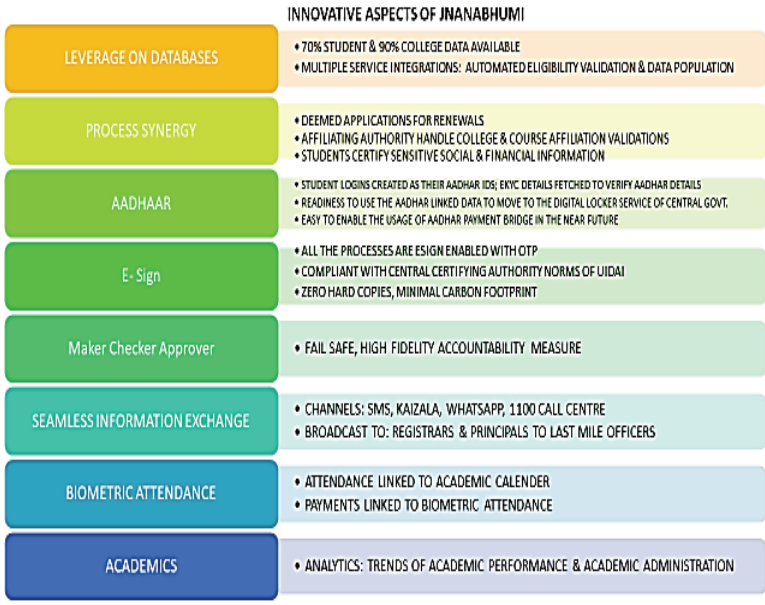
Change Management

The Change Management is constantly brought about by the vision and views expressed by the Hon'ble Chief Minister of Andhra Pradesh in the frequent review meetings held with the Social welfare and other welfare departments. All changes

are brought to the notice of the stakeholders at various levels through the regular and frequent video conferences, tele conferences, press and media briefs, SMS alerts and Emails. Capacity building at all **levels through workshops, video conferences.**

VALUE INDICATORS

The innovative aspects of Jnanabhumi have been depicted below:



Green eGovernance

- All the transactions in Jnanabhumi is completely paperless.
- This saves an estimated 100 metric tons of paper annually.

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Labor Department Management System–(LDMS)

Department of Information Technology & Communication
Government of Rajasthan

Akhil Arora, and Manu Shukla

PROJECT OVERVIEW

Objectives

1. To serve citizens in the most transparent and efficient way.
2. To digitize the activities related to the state labour department & the Building & Other Construction Workers Welfare (BOCW) Board. To re-evaluate the processes and the workflows of the department
3. To reduce the redundancy of work.
4. To minimize the bottlenecks and the person-dependency from the system
5. To enable the officials to take smart decisions.

Scope

1. Functional

(a) To digitize all the workflows specific to the registration, amendment & renewal processes under various acts.

(b) To create and manage the departmental users and assign roles & privileges to them.

(c) To create a workflow for the inspection activity of the establishments conducted by the dept. Inspectors.

(d) Quasi-Judicial module to take care of complaints being reported against the establishments.

(e) Industrial Dispute module to tackle industrial dispute, viz., labour/union versus management.

(f) Recovery Module to ensure collection of penalty/fine/due from the establishment and award of money to the successful petitioner & vice-versa.

(g) To digitize all the activities happening under the tutelage of the Building & other workers Beneficiary Board

  (a) Online & offline Registration, renewal, amendment of beneficiary records.
  (b) Online fees collection for various services.
  (c) Online application disposal and benefit reimbursement under various schemes.
  (d) Finance Management System which shall enable the appropriate stakeholder to allocate budget to carious offices for administrative as well as scheme related expenditures.
  (e) Generation of various reports with different filters and parameters.

(h) Integration of software application with external systems like:

  (a) E-Mitra- To enable financial transactions for various services.
  (b) Bhamashah & Aadhar – For identity validation.
  (c) SSO – For simultaneous access to different Govt. portals/Departments through single log-in
  (d) SWCS – Single window clearing system

(e) e-Sanchar – Integration with SMS gateway enables to push SMS to different users upon occurrence of an event.

(f) e-Panchayat – To push some desired data to e-Panchayat application. Also, the web service enables the e-Panchayat user to fill few forms on Labour Department Management System (LDMS).

2. Geographical

(a) The software application is accessible to all the citizens of the state of Rajasthan as well as Inter-state migrant workers

(b) All the shops, establishments, trade unions, etc in the state of Rajasthan could register & renew their registration under various acts.

(c) The building workers spread across the state of Rajasthan as well as migrant workers from other states could register as beneficiary under the Building & Other Construction Workers Welfare (BOCW) Board. Further, they could avail the benefits under various schemes offered by the Board.

Stakeholders

1. Department of Labour, GoR: Main service provider under various acts as well as BOCW Board.
2. Citizens/Beneficiaries: To avail benefit being offered by the department.
3. Shops/Establishments: To register & comply with the prevailing statutory laws/rules.
4. Government of Rajasthan: To monitor the effectiveness of processes & the level of services & benefits being rendered to the end entities (Businesses/citizens/labour)
5. Department of IT & Communication, GoR: To monitor and review the effectiveness of Software application and other IT solutions been deployed.
6. Service Provider: IT solution service provider to create, maintain, upscale and support the end users of the software solution.

Benefits

Implementation of online system brought following changes:

1. Less footfall of the citizens and business representatives in the office thus lesser interaction with the officials and lesser the chances of malpractices (grafts, undue favours etc.)
2. Enhanced transparency in the system increased the responsibility of the officials thus removal of lackadaisical approach of the officials.
3. Comfort for the citizens and business representatives as they could interact with the department from their home/office/close by (E-Mitra kiosk) without paying physical visits thus saving time and resources.
4. Reduction in redundant jobs, for example, preparation of similar reports at different hierarchical levels
5. Ready availability of a Decision Support System for the management.

Status

The project is under maintenance phase and being used extensively by the department & other stakeholders. All the users have been instructed to use the software application for identified activities. System is quite stable with almost zero shutdown/breakdown incident/s since its inception.

Key reasons

1. Successfully implemented throughout the state & being used by all the stakeholders within schedule.
2. Zero breakdowns & shutdowns since its inception.
3. Popular amongst the end users as reflected by the results of online navigation experience feedback results.
4. Smooth navigation experience and quick response time, considering volume of simultaneous transactions & size of backend database.
5. Ensures complete transparency and tracks each and every transaction till the completion of an activity.
6. Impartially maintains the work queue irrespective of background of end user or the official working on it.
7. Assures minimum footfall of the citizens in the department for any query/work, thus reducing the financial burden on citizen (travelling expenses & time saving). Moreover ensures corruption free best work practices at the department.
8. Seamless integration with other Government portals/services, thus providing convenience to the end user and the department officials.

RESULTS INDICATORS

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
Online Beneficiary Registration (No of applications disposed through online system)	BOCW Board register building construction workers as beneficiaries in an impartial & transparent manner strictly on the basis of facts (supporting documents presented) through the online system.	**131476**	**1108084**	**1524884**
Online Establishment Registration under various Acts (No of applications disposed	Department of Labour. GoR registers various shops/establishments/unions etc. under various acts and acts as their supervising authority. Any conflicts/disputes, issues, benefits, etc. are	**7277**	**45387**	**39209**

Contd...

through online system)	looked after by the department			
Online Scheme Benefit Disbursement (In INR)	BOCW Board encourages its registered beneficiaries to apply for the benefits being offered under various schemes through online system.	**80135760**	**1520137336**	**1445012791**

New Services/ Enhancements

1. Successful clearance of all the stipulations and 100% compliance with EODB(Ease of Doing Business) requirements.
2. Successful implementation of online Financial Management System in BOCW Board. A complete and comprehensive budgeting and finance allocation, order generation, reconciliation & reporting module this has enhanced the efficiency of the departments' work output as well as the transparency in the system.
3. Integrations with various other existing Government Systems for seamless experience to the end user.
4. No Breakdowns & No shutdowns during the year.

Improvements/Enhancements for future

1. Data Analysis by implementing ETL & warehousing concepts
2. Implement Business Intelligence by building a database of threshold values of various activities, activity affecting events, etc.
3. RPP integration for beneficiaries DBT, information would flow directly to Bhamashah for all successful transactions.
4. The government process reengineering will be done to eliminate the requirement of uploading scan copy of filled form and Bhamashah card.
5. Improvement in the GUI of the website and application
6. All the NAREGA labor would be considered as construction labor, so that they can avail the beneficiary services of construction labors.

ENABLER INDICATORS

1. Shop/Establishment/Union Registration processes/workflows were reviewed and re-engineered. Formats to accept the end user/organization information were reviewed, assessed, re-engineered before automating/digitizing the process.
2. Electronic forms were developed in such a way that most of the master data could be offered by the system and the end user just had to select the value from pre-populated options.

3. Onion-peel approach was applied to implement lengthy forms so that sets of similar information could be taken in steps. This would make the end user experience better as well as help in filling accurate information.
4. Renewal and amendment processes would offer pre-populated data in the forms so that the end user would make least efforts to perform the desired action.
5. Standard algorithms were implemented on fields of forms so as to assure the entry of legitimate data.
6. Workflows were re-assessed and bottlenecks were identified and discussed with the departmental authorities. During the implementation such workflows were implemented with appropriate modifications in consultation with the authorities.
7. A prominent BPR element which was deployed in the digital system was FIFO (First in-First out) w.r.t. the applications received. Top authorities were aware of the demons of non-availability of FIFO in physical system and the prevalent corrupt practices in the application (establishment registration/renewal, beneficiary registration/renewal, scheme application/award) disposal workflow.
8. Malpractices as multiple form filling to avail scheme benefits by same applicant has stopped, as the system validates the applicant's background and his/her eligibility and accordingly responds further .
9. Access of software to citizens has been given through E-Mitra kiosks too in his/her region. So a non-computer literate citizen doesn't need to come to department office for any work.
10. A dedicated help-desk has been established to take care of issues being faced by citizens, organizations, e-Mitra agents etc. related to working of software or any transaction.

Technologies

Enterprise Architecture: With simple navigation and enterprise architecture, many departmental end users successfully uploaded the legacy data into the system after proper validations and verification from their work site. Thus it saved a lot of time as well as money. By integrating the application with other Government systems, several master data & validations could be incorporated in the system for proper functionality without actually increasing the load on existing database. Every stakeholder whether the end user (citizen) or the departmental users could perform action or check status of any activity at any moment from anywhere.

Data Analytics: Digitization added the facility of all angle view of data in any format. Reports could be generated on basis of any filter at any level and with any date range. Comparative statements for different offices/zones/districts could be easily drawn on click of a button to evaluate the respective performances. Data could be viewed in tabular, graphical and any user friendly manner, thus saving a lot of time in comprehending the trends.

Information Exchange: Interchange of useful information between different government departments' systems became very easy and its real time availability enabled the systems to perform in much accurate and efficient manner.

Alerts: At any event, alert generation and information dissemination in form of SMS to all the stakeholders has increased the faith of end users (citizens) in the system. Furthermore, communication of system through digital medium has emboldened the end user.

People

As the rule of nature, initially, there was resistance from all the stakeholders' viz. departmental officials, citizens and business organizations for the use of LDMS. Their steadfast stance changed the perception amongst the stakeholders & they started using the software.

Capacity Building: Before the implementation of the software, the departmental users were given comprehensive on-hands training about the working of the software. Practical as well as class room lectures were organized for reasonable durations and their doubts were cleared in best possible manner by the implementing agency. User manual with screen-shots and step-by-step explanation of all the interfaces & workflows in the software was uploaded on the home page of the software.

Leadership Support: There was tremendous support from the head of the department for the implementation of software system, as he was quite tech-savvy as well as he was aware of the benefits of the software solution. Respective Functional heads too were very cooperative during the system analysis and deployment part and coordinated in best possible manner.

VALUE INDICATORS

Learnings for sharing

Major Project Leanings

1. Working at client site with client coming up with frequent new/change requirements are challenging and tough. There is literally no time for Change-Impact analysis as the effort estimation is expected at a very short turnaround time. Thus, sometimes guesstimate with reasonable cushion period, on basis of past experience, was employed whenever necessary.
2. Requirements have been properly managed & tracked till their deployment.
3. All kind of integrations with different existing software systems of other Government departments have been done accurately & successfully.
4. Deployed best practices and tools for huge data management.
5. Suggested process changes to the department for system enhancement.

Digital Empowerment

Financial Inclusion: Before the inception of the software system, the financial benefit disbursement was all physical where a beneficiary had to come to a department's office and apply for benefits under any scheme for which he/she was eligible. With the introduction of software system and its advanced features, only genuine applicants are eligible to apply online from any corner of the state (through home or e-Mitra), strict queue (FIFO) is maintained by the system, application disposal timeline is honored by the officials. Eventually the final payment lands in the bank account of the beneficiary, thus avoiding any chance of corruption at any level. No cash or physical instrument of money is given to anyone thus ensuring the integrity of the system.

Language: The software solution is available in two languages, viz., English as well Hindi (which is a local dialect) thus enabling different kind of end users to interact easily with it.

Class of End Users: It was perceived that all type/class of end users would use the system. Shopkeepers, Entrepreneurs, Trade Unions, Labour, etc. Integration of LDMS software with Rajasthan Government's E-Mitra platform provided a perfect solution to this problem. Thus each and every type of citizen irrespective of their background could interact with the software system and avail services/benefit.

Green eGovernance

With the Enterprise architecture of the software application, almost each and every piece of information is available everywhere. Citizens are no more required to visit the respective department offices in their areas, officials are not required to move around to other offices or head-quarters to check the status/report their work. Thus a lot of travel & commute has reduced resulting in reduction of usage of fossil fuel driven vehicles & thus resulting in less carbon emission and environment protection.

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National Scholarship Portal

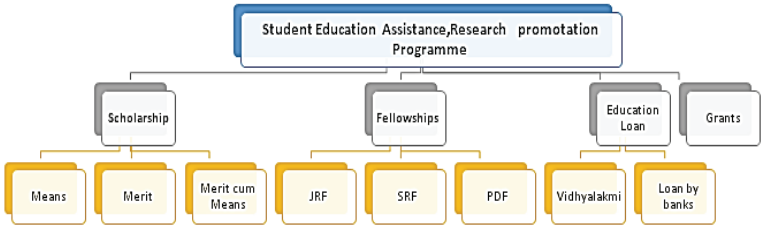
National Informatics Centre, Government of India

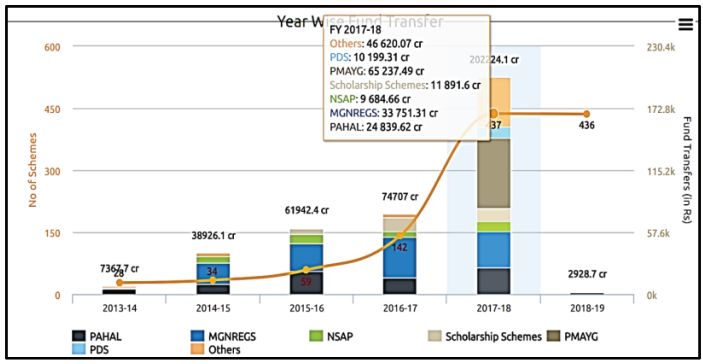
S.B. Singh

PROJECT OVERVIEW

The aim of the National Scholarship Portal Version 2.0 (NSP-2.0) is to create a unique, simplified and user-friendly platform for students to help them avail benefits of educational scholarships in an efficient and transparent manner. In addition, objective of National Scholarship Portal is also to provide automation, streamlining and effective management of processes related to application receipt, Processing, Sanction and Disbursal of Centrally Sponsored Scholarship schemes to students.

A scholarship is an award of financial aid for a student to further their education. Scholarships are awarded based upon various criteria, which usually reflect the values and purposes of the donor or founder of the award. Govt. of India and state Governments runs various scholarship schemes through their different Ministries/Departments.





As per a rough estimate, more than Rs. 20,000 crores are spent annually by Government under different Students' Education Assistance, Research Promotion Programme in India. In FY 2017-18 approximately Rs. 11,000 crores were disbursed through DBT in various Central Government schemes.

Source: DBT, India

Above is the data from Direct Benefit Transfer to various government schemes in the Financial Year 2017-18. As we can see that the amount of scholarship transferred in the FY 2017-18 through DBT was INR 11,891 Cr. This shows the potential of NSP growth in the coming years. In the AY 2017-18, till 27th July May 2018, NSP has disbursed an amount of INR 2018 Cr. to 65 Lakhs beneficiary students. This number both in terms of beneficiary coverage and the amount of scholarship disbursed through NSP can go significantly high, if we maintain the same rate of growth of on boarding in the coming years. AY 2017-18 saw 100% plus surge of scholarship schemes on boarded on NSP in comparison to the last year. With the advent of Fellowship Schemes on NSP and UGC leading the way in onboarding their Fellowship Schemes, many other Ministries/Departments are expected to onboard their Fellowship schemes this AY.

In the last three academic years data analysis evident that NSP has received double applications than quota/slots available due to budget constraints of participating Ministries. This shows the benefit of making 'one stop solution' for all major schemes of one type. Before NSP all applications invitation were not evenly received across schemes. Some schemes were getting more application, which advertised well by Governments, secondly students had to apply for every schemes separately. Now, Students has been enabled to take the informed choice while applying for any schemes. This further has attributed to optimized utilization of fund available under scholarships schemes.

Vision

National Scholarships Portal is one-stop solution through which various services starting from student application, application receipt, processing, sanction and disbursal of various scholarships to Students are enabled.

This initiative aims at providing a Simplified, Mission-oriented, Accountable, Responsive & Transparent **'SMART'** System for faster & effective disposal of Scholarships applications and delivery of funds directly into beneficiaries account without any leakages.

Mission

The Mission Mode Project (MMP) of National Scholarships Portal under the National eGovernance Plan aims at providing common electronic portal for implementing various Scholarships schemes launched by Union Government, State Government and Union Territories across the country.

Objectives

- Ensure timely disbursement of Scholarships to the needy students.

- Provide a common portal for various Scholarship schemes of Central and State Governments
- Create a transparent database of scholars
- Avoid duplication in processing, harmonisation of different Scholarships schemes & norms
- Application of Direct Benefit Transfer (DBT) in efficient and effective manner.

Major objective points are as below:

- Hassle free single point solution for all Governments schemes
- Covering all Central (Central Sector) & Central sponsored Scheme
- Ensure timely disbursement of scholarships to students
- Harmonization of different scholarships schemes & norms
- Direct Benefit Transfer (DBT) in students account
- Create a transparent database of scholars
- Avoid duplication in processing

Features

- A Common application form for all students.
- One student, one application to increase the ambit of scholarship beneficiaries
- Autonomy to administer the scheme by Individual Ministries/states will continue to administer the Schemes.
- Serves as a decision support system (DSS) for Ministries and departments and states for real-time decision making.
- Unique login ID and Password will be made available for all stakeholders.
- Comprehensive MIS System to facilitate monitoring every stage of Scholarships distribution
- Provision for SMS/email alert at various process of implementation

Key reasons

NSP-2.0 is one-stop solution through which various services starting from student application, application receipt, processing, sanction and disbursal of various scholarships to students are enabled. National Scholarships Portal is taken as Mission Mode Project (MMP) under National eGovernance Plan (NeGP). This initiative aims at providing a Simplified, Mission-oriented, Accountable, Responsive and Transparent 'SMART' System for faster and effective disposal of scholarship applications and delivery of funds directly into beneficiaries account through Direct Benefit Transfer (DBT) without any leakages.

Since the inception project has delivered services to more than 3.5 crores and more than Rs. 5000 crores has been disbursed to more than 1.8 crore beneficiaries.

RESULTS INDICATORS

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
1	Spread of Scholarships Schemes	12 schemes of 4 Ministries/ Departments were on-boarded on NSP 2.0	24 Schemes of 8 Ministries/ Departments were on-boarded on NSP 2.0	40 more schemes (22 Central + 28 State level) of 10 Ministries/ Departments and 4 States
2	Fund disbursed to Meritorious Students		1607 crores	1500 crores
3	Students Benefited		1.20 Crores	131 crores
4	Ministries/ Departments/ States benefited by DSS and Big Data Analytics	-	-	-
5	Role based Authorization Authentication yielded Accountability and Transparency	-	-	-

Implementation Coverage

For academic year 2016-17, 24 Schemes of 8 Ministries/Departments were on-boarded on NSP 2.0. For these schemes, 1.20 crore students applied for scholarship, out of which 53.59 lakh fresh and renewal students received scholarship amounting to Rs. 1,607 crores that was transferred directly to students bank accounts through DBT.

New Services/Enhancements

In current academic year, 40 schemes (22 central sector + 18 state level) of 10 Ministries/Departments and 4 states were on-boarded on NSP. For AY 2017-18, 1.31 crore students applied for scholarship under fresh and renewal category.

Out of this 1.18 crore applications were verified by institutes and 1.15 crore applications were final verified by districts/states nodal officers. As on date scholarship applications of 25.97 lakh students have been sent to PFMS for disbursement of scholarship amounting to Rs. 1500 crores approx.

ENABLER INDICATORS

With NSP 2.0, Single and simple application form devised for all categories of scholarships. The Government Resource Planning (GRP) yielded a secured system with all schemes of scholarship clubbed together under one umbrella of NSP 2.0. The complex processes from application submission to processing and disbursement of scholarships to meritorious and deserving students are done

through a simplified and transparent manner through adoption of adequate Government Business Process Reengineering (GBPR) in NSP 2.0.

The in-built Business Intelligence (BI) in NSP 2.0 while filling the application automatically decides the eligibility of applicants against available scholarship schemes. Even though applications are in crores, in NSP 2.0 duplication of applications are reduced drastically with induction of Aadhaar numbers of applicants.

Technologies

Technology/ Innovations used in NSP 2.0

For development of NSP 2.0, the technology environment is blended with innovation by adopting primarily open source like Java, Java Script, JQuery, Postgres/ MySQL with hosting environment Linux, Apache, Postgres/ MySQL.

NSP 2.0 is based on Enterprise Architecture, having following features:

The business perspective defined the processes and standards involved in delivery of Scholarships by which the business operates on a day-to-day basis. The application perspective defined the interactions among the various scholarship processes and standards used by the stakeholders. The information perspective defined and classified the raw data (such as document files, databases, images, presentations, and spreadsheets) that the various Ministries/ Departments/ State Govt. require to efficiently operate scholarship schemes.

The technology perspective defined the hardware, operating systems, programming, and networking solutions used by the NSP 2.0. Moreover, Ministries/ Departments/ States benefited by DSS and Big Data Analytics.

People

The Personnel involved in the operation of NSP Web Portal were adequately trained on the Operation and Management of the evolved system. A number of workshop-cum-training programmes were conducted in various states/ Ministries/ Departments to create Capacity Building within the users. Regular Apex Level leadership support from the user department motivated the Middle and Operational level management to adopt the changes and work efficiently. The entire system has been a Win-Win situation.

VALUE INDICATORS

Learnings for sharing

For success of any ICT Project Key success factors are:

- commitment of the project leader
- training and educating the beneficiaries
- Capacity Building
- Proper Government Business Reengineering

- designing a system that can work reliably in a rural setting
- substantial and direct benefit to the users and
- prevalence of high levels of trust between the Developer and the various stakeholders

DIGITAL EMPOWERMENT

- Application Interface should be in user-friendly languages
- Beneficiary Schemes should evenly address all sections
- Elimination of Intermediaries from the system
- Financial assistance (if any) should be directly passed to user accounts.
- System should be simple, transparent and accountable.

Green eGovernance

Green IT or IT sustainability is the study and practice of environmentally sustainable IT or computing. This includes "designing, manufacturing, using, and disposing of computers, servers, and associated subsystems efficiently and effectively with minimal or no impact on the environment. Besides IT itself being green, it can support, assist, and leverage other environmental initiatives to achieve energy efficiency and reduce carbon footprint in every walk of life by offering innovative solutions.

Sh. S.B. Singh, *Deputy Director General, National Informatics Centre, New Delhi, sbsingh@nic.in*

NREGASoft (An eGovernance Implementation for MGNREGA)

MGNREGA Division, Ministry of Rural Development
Government of India

Aparajita Sarangi, Prashant Kumar Mittal,
Sanjay Kumar Pandey, and M. Selveswaran

PROJECT OVERVIEW

The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) is a demand driven scheme primarily focusing on providing employment to rural household. The MGNREGA was notified on 7th September, 2005 to provide 100 days of guaranteed wage employment in a financial year to every rural household whose adult members volunteer to do unskilled manual work. The Act has been a landmark legislation, providing a rights-based framework for livelihood, social security and economic upliftment of the country. Every year around 30,00,000 works are being created under MGNREGA. This act directly touches the lives of millions of Job Card holders of MGNREGA beneficiaries. For effective implementation of act a robust IT base system is highly desirable that can serve as the backbone of MGNREGA.

NREGASoft is the core system of MGNREGA. This MIS captures all the activities details which are running under MIS. System Captures and does the following tasks

- Job card holders/workers details
- Manages permissible work types and its micro level requirements as per GOI directions.
- Demand capturing
- Work allocation to the workers
- Issue of Muster roll and capturing of Muster roll attendance and measurement book
- Generate Fund Transfer Order
- Ensure amount to be credited directly to the beneficiary accounts (PFMS integration)

Besides the above core modules there are some other important systems which make MGNREGA more transparent and sustainable

1. SECURE – Automated financial and technical estimation of works created in NREGAsoft based on the SoR (Schedule of Rates)
2. GeoMGNREGA - Bhuvan based geo special system to geotag MGNREGA assets
3. Janmanrega app - mobile based NREGA asset search and review application
4. Social Audit for MGNREGA works – Enabling the Social Audits through this MIS such that all Social Audit findings are recorded, assigned and tracked through this application
5. E-Saksham – The new generation digital learning platform jointly developed by MoRD and GIZ, primarily for building the capacities of MGNREGS

functionaries nationwide on the GIS based planning process. It contains videos and content for NREGASoft end user.

The Ministry of Rural Development acknowledges that creation of durable assets and strengthening the livelihood resource base of the rural poor is equally important and it is in this context that Fixed Asset Register (FAR) had been introduced. The FAR is a permanent record of each asset in a physical form. As of now 215,898 Gram Panchayats are maintaining the FAR.

Coverage – Geographical and Demographic:

1. Geographic:
   (a) Total users – ~1.63 Lac
   (b) Number of States Covered – 31
   (c) Number of districts covered – 686
   (d) Number of Blocks covered – 6,888
   (e) Number of Gram Panchayats – 2,62,388

2. Demographic:
   (a) Workers registered in NREGASoft - 24.9 Cr.
   (b) Number of MGNREGA Job cards issued – 12.73 Cr.

Stakeholders:

1. Wage seekers
2. Gram Sabha (GS)
3. Three-tier Panchayati Raj Institutions (PRIs)
4. Programme Officer at the Block level
5. District Programme Coordinator (DPC)
6. State Government
7. Ministry of Rural Development (MoRD)
8. Civil Society
9. Banks, Post offices
10. National Payments Corporation of India (NPCI), Unique Identification Authority of India (UIDAI), Public Financial Management System (PFMS), National Securities Depository Ltd (NSDL)
11. Other stakeholders [viz. line departments, convergence departments, Self-Help Groups (SHGs), etc.]

Performance since inception:

Person days Generated (In Cr.): 2,622.13
Total expenditure (Rs.In Cr.): 4,72,795.77

Every day the expected no. of workers get displayed in the website like around 81,81,876 workers were expected on about 12,09,504 worksites on 30/07/2018.

Key reasons

MGNREGA is the largest employment guarantee scheme in the world. NREGASoft is the largest database of MGNREGA workers and having the database size of around 23 TB. System is performing around 10-12 lakhs financial transactions related to wage, material and admin payments. NREGASoft, is a suite of software which includes everything which is required for successful implementation of MGNREGA act 2005. The software covers all the activities from MGNREGA MIS to citizen-centric app and training modules to end users. MGNREGA product suite is an integral part of successful implementation of MGNREGA act in its true spirit and transparency.

MGNREGA act is one of the important acts introduced by Government of India in 2005. This act changes lives of crores of marginal rural citizens of India. Act was introduced in 2005, but successful implementation required a robust IT system so that crores of beneficiaries got wages in transparent and accountable manner. This requirement brought MGNREGA IT system into existence. Over the years this system become matured enough to implement all the requirements of MGNREGA act upto grass root level. The MGNREGA ecosystem has everything from MGNREGA MIS to citizen-centric apps and training portal.

Values delivered by NREGAsoft suite - Anything, Everything, Anytime as per the accordance of MGNREGA Act. NREGAsoft is a local language enabled work flow based eGovernance system to capture all the activities under MGNREGA at Center/State/District/Block and Panchayat level and use space technology for asset management. MGNREGA MIS is helping Ministry of Rural Development, Government of India in successful implementation of MGNREGA act. This software ensures timely distribution of wages to 11.21 active workers, material payments, MIS reports generation for Lakhs of assets. Moreover new technologies like GeoTagged MGNREGA app based Assets Tracking System (GeoMGNREGA), App based Asset search System Janmanrega are recently introduced in the MGNREGA MIS system. Though the project started way back in 2006, but it never loses its pace with rapidly changing technology. Today the software has every module, from MIS of 24.99 crore workers to DBT enabled system to distribute payments upto last mile.

Values delivered by MGNREGAsoft

- Organization: System increases the transparency and accountability; this also helped in area specific planning and decision making. An offline version of the GeoMGNREGA mobile app developed by National Remote Sensing Centre (NRSC) in consultation with NIC, MoRD helped the scheme to reach the remotely connected hinterlands. An augmented accuracy of data with time stamping and geo-tagging has taken the transparency to the pinnacle.
- Citizens: Janmanrega provides the provision to citizens for to engage directly in the inspection of the assets in their area. The platform has been provided to citizens to get their grievances addressed; they can lodge

complaint and can trace the subsequent responses. The MIS with multiple reports gives a transparent view into the status of the scheme at various locations.

- Stakeholders: System has eased the activity of uploading/verification of photographs by Government staff/inspectors, or people outside the agencies. Convergence with other schemes is also assisted such as payments to Pradhan Mantri Awas Yojana (PMAY) Beneficiaries and Individual Household Latrine Application (IHHL) beneficiaries.
- Collaboration and Coordination: NREGAsoft suite can boast about collaboration among various entities such as NRSC for GeoMGNREGA and NIC Kerala for SECURE.

All stakeholders – wage seekers, functionaries who are part of the administrative machinery at Central and State level, Civil Society organisations, Panchayati Raj institutions at different tiers and state governments have come on one platform, started believing in the potential of the programme and, above all speak the same language.

RESULTS INDICATORS

Name of e Service	***Brief service description with benefits***	***Volume (Nos) of Services year wise***		
		2015-16	***2016-17***	***2017-18***
Job card/Beneficiary Registration	Job card registration creates a onetime digital record of the household/workers to work in MGNREGA.	12.73 Cr. Job cards 24.99 Cr. Workers (Since inception)		
Asset Geotagging	Using the GeoMGNREGA app all completed assets have been tagged with their longitude and latitude, which can be used to conduct audits when required	3.10 Cr (So far)		
Aadhaar Seeded for MGNREGA beneficiaries	With introduction of Aadhaar there was a need to insure Aadhaar is added to the beneficiary profiles along with capturing consent to use aadhaar for ABP	13.78 Cr. (So far)		
Asset creation	The number of works taken under MGNREGA completed yearly	36.18 Lakhs	65.46 Lakhs	59.95 Lakhs
Person days generated	A muster roll is used to capture attendance at a work site. The name of the beneficiary who has demanded work and has been allocated to a given work appears in a muster roll,	235.14 Cr	235.64 Cr	234.28 Cr

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	against which attendance is marked on the site. Any person whose name is not present on the muster cannot be paid for the given work hence increasing accountability			
Total Expenditure	Total Expenditure incurred for Wage, Material and Admin	44002.95 Cr	58062.92 Cr	63674.71 Cr
% of Wage payment through DBT	Using DBT allows the ministry to make benefits reach the citizen directly without any middle man, thus reducing the chances of any corrupt practice. Money goes to whom who has worked directly in their bank/post office accounts.	91.19 %	92.33%	95.87% .
PFMS integration (Number of transactions)	NREGAsoft uses the PFMS bridge for all type of payments – wage, material and admin. Use of a single bridges limits any delays or complications due to multiple systems. Each FTO is digitally signed with two approved signatories and. Each FTO can contain multiple transactions.	25,29.19, 888	34,72,12, 607	36,62,44,61 1

Implementation Coverage

MGNREGA has fully achieved all its targets in terms of implementation and mandate. All the States/UTs are using NREGASoft MIS for capturing all the activities, parameters and achievements related to MGNREGA Act. It is worth to mention that this software is being used effectively in remote and difficult terrain like Jammu & Kashmir, Andaman & Nicobar and North Eastern States where connectivity and digital literacy are a major challenge. Capacity Building of Gram Rojgar Sahayak (GRS) at Grass Root Level for effective MIS. Any software cannot be successful without capacity building, hand-holding support and providing a user-friendly MIS. NREGASoft has a strong team of Central leadership which is backed by 3.4 Lacs GRSs, who maintains core MIS of MGNREGA at Grass Root Level. Software fulfils all the guidelines of MGNREGA act. A dedicated support team of around 40 software professionals is always available to enhance/maintain the software as per the new guidelines and to address user requirement. During past three years more than 8,000 CRFs (Change Request Forms) were entertained for modification and enhancement of the software as per new guidelines, users' request or new requirements.

New Services/Enhancements

1. **Janmanrega App** – The Ministry of Rural Development (MoRD) launched 'Janmanrega' – a Citizen-centric Mobile Application (CCMA). This was launched by Hon'ble Minister of Rural Development on 19th of June 2017. Janmanrega is an instrument for information flow to and from ground-level, which will connect citizens with the system. An initiative towards good governance, Janmanrega is an interface to improve quality of public services.
2. **Role based logins** – To improve the security and accountability of the portal, the login was converted from "location based" to "user based" with each of the 1.63 lac users having individual login ids. Also, logs for sessions are being maintained to check for any inconsistency or inaccuracy. Every individual becomes responsible for any activity performed from their respective login.
3. **Phase 2 of GeoMGNREGA** – Where phase 1 consisted of 'geotagging completed assets', phase 2 is all about 'evidence based progress of assets'. In this phase for each asset 3 photographs will be captured: one before work starts, one during execution and once post completing along with the information board on the site. This will help in making sure that what is being claimed is actually what is being done.

SECURE system implementation – To automate estimate management for all the works created under MGNREGA, a system has been created that uses SoRs for various work types and provides the financial and technical estimates once the work has been shared from NREGASoft to SECURE.

ENABLER INDICATORS

1. Assigned unique no. comprising of location, type of work and the serial number; an inventory of assets created under NREGA has been created and available in public domain.
2. **Spurious Transactions/Partial payments:** No concept of Kaccha Muster roll. Muster roll has to get closed before payment and the payment is through Bank/Post Office. In the end, money reaches the right hands
3. **Transparency:**
    - Muster rolls which were not even known to the worker who is working on, now is in public domain. More than 12.73 Crore job cards and corresponding muster rolls are available in public domain; there is a tight coupling between job card and muster roll.
    - Attendance at worksite being captured by hand held machines in some locations and GPS system to eliminate fudging of data and automating data collection.
    - 86.45% of the job cards have been verified in the system through physical auditing by the program division.

4. **Digital benefit transfer process:**
    - NREGASoft system is fully integrated with PFMS (Public Fund Management System) for Direct Benefit Transfers. NREGASoft is the pioneer to implement DBT and having the voluminous number of transactions across Government applications. In the FY 2017-18, the average monthly DBT transactions were around 3 Crores.
    - National Electronic Fund Management System (NeFMS) implementation was started in 2016 and is currently implemented for 25 States such that for wage payments direct deduction happened from the Central account and no parking of funds happen at the State accounts.
    - Saving of some crores through DBT that earlier would be parked is State department banks and earn interest.
    - With DBT, the timely payment of wages has increased to 86%
5. **Digital Convergence:**
    - NREGASoft communicates with other heterogeneous systems of different programs through 'intelligent' web APIs, for eg. As and when PMAYG house is sanctioned on AwaasSoft a communication through web service is sent to MGNREGA for work creation and response against each request is fetched by scheduled APIs.
6. **Real time and effective monitoring of physical assets:**
    - GeoMGNREGAaobile application runs in two modes, online and offline. In case of no internet connectivity, user can use the system as it is for data/photo capture and sync it later.
7. **Empowerment of citizens through participation:**
    - Empowering illiterate worker to easily access and view wage paid details
    - Gram Sabha has been made final authority for identification, verification and authentication of shelf of works.
    - Two-way communication channels provided to citizens: mobile app, website, e-mails.
8. **Knowledge Network :** Facilitates and expedites adoption of best practices via information exchange platform.
9. **Intelligent ways of IEC (Information, Education and Communication):**
    - Under 'Library' section of NREGASoft, there are Power-point presentations, videos and eBooks available on various materials have been published for e-learning.
    - Trainings are done through central and state level workshops and video conferences

Technologies

1. GIS – Geo special tagging of all assets under MGNREGA with an accuracy of 10 metres
2. Digital Signature based e-payments to implement DBT
3. Role based OTP based user logins for increased security
4. Convergence with Schemes like PMAY, IHHL etc.

5. Data sharing though Web service with DISHA, DARPAN, DBT Mission etc.
6. Localisation - Supports Unicode local languages like Hindi, Kannada, Tamil, Malayalam etc

People

- National/ State level Workshops
- Content Rich Library
- e-Saksham
- Rich MIS Reports section, which is available in public domain. Public can access these reports without any credentials
- Monthly Video Conferencing
- ENCORE – WhatsApp group for real time issue sharing and solutions
- Monitoring and performance based alerts to all officials

VALUE INDICATORS

Learnings for sharing

Initially we came across various implementation challenges, as software has to be implemented in faraway hinterlands, where monitoring becomes next to impossible, which is enough to motivate various unscrupulous activities and corruption by functionaries and beneficiaries. Besides this creating awareness about the software and implementing it at Gram Panchayat level were a major challenge. To overcome this, we designed simple yet powerful solution so that it can be implemented at gross root level and we did this.

The programme had often been mired with allegations of ghost assets. The MoRD is committed, not only for generation of wage employment but also for generation of productive assets and for this, two fundamental points are to be addressed:

- 'Prospective Planning' to help in inventory management, appropriate allocation of resources, pull up maintenance schedules and determine the status of an asset.
- 'Accountability' by bringing in monitoring, management, removing manual documentation, duplicate Data entry and to remove human errors by reducing the chances of errors.

Providing location based logins was a good way to track activities for the location but lead to reduced individual accountability, hence to make the system more secure implementation of individual role based logins was required.

Digital Empowerment

MGNREGA is a 99% Direct Benefit Transfer scheme with all payments being made to beneficiary through PFMS based national electronic fund transfer.

Implementation of NeFMS eliminates the requirement of intermediate accounts at multiple levels of district, block, GP and thus avoids parking of funds in these accounts. This implementation has helped the Ministry save millions of rupees in interest that would else have been accumulated in these accounts.

MGNREGA was the first application in Ministry of Rural Development which uses PFMS platform to transfer money directly to the beneficiaries.

In a recent judgment Honorable Supreme Court also appreciated the efforts of MGNREGA team in using DBT.

Green eGovernance

Almost all the IEC materials are available in the form of Powerpoint presentations, videos, eBooks in the library section of NREGAsoft for the beneficiaries and functionaries in online. This eliminates the need of hard copies to be made available at all GPs. Recently MGNREGA has launched a new platform E-Saksham, which is new concept of capacity building. NREGASoft also incorporates Digital Signature based FTO, which is an electronic transaction. This encourages Green Governance initiatives. Similarly all the major MIS reports are available online without the need of printed hard copies.

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SECURE (Software for Estimate Calculation Using Rural Rates for Employment)

National Informatics Center, Ministry of Electronics & Information Technology, Government of India

T. Mohana Dhas

PROJECT OVERVIEW

Objective

Ensuring uniformity, accountability and Transparency in preparing estimates for MGNREGS works.

SECURE (Software for Estimate Calculation Using Rural Rates for Employment) is a web based application developed by NIC Kerala for creating estimates for MGNREGA works in Kerala. It comprises of an estimation part based on the works created in NREGASOFT and workflow based AS and TS sanctions.

In Kerala, Mahatma Gandhi NREGA work estimates are created based on Unskilled wage rate fixed by Government of India and the LMR (Local Market Rate) fixed by PWD, Kerala for materials and Skilled/Semi Skilled Laborers. The LMR is based on different rates in different locations of the different districts. These rates would change periodically.

Purpose of the Application- Effective monitoring of the Programme necessitates computer based monitoring. Work estimates are created online and it is available in the internet, anytime and anywhere it can be accessed. Further, any person can see the status of the work estimates. Besides, decisions can be taken based on the reports.

Process Flow

- Work name & codes are received from MGNREGA MIS to the concerned Block/GP AE/Overseer login after the approval of Labour budget.
- The AE/Overseer of the Block/GP creates the detailed estimate.
- As per the Government procedure adopted by the state, the above estimates are accorded AS/TS sanctions.
- SECURE generates Detailed Project Report (DPR) and other details required for beneficiary payment.
- Generation of no of unskilled man days for completing the work.
- Generation of Material & labour ratio of each work.
- After According AS/TS sanctions in SECURE, work details will be pulled by NREGASOFT from SECURE through web services.
- Work allocation and muster roll generation should takes place in the **NREGA MIS** after completing the above processes.

Stakeholders

Gram Panchayat & Block Panchayat: All the users in Grama Panchayat (GP) & Block Panchayat including GP Secretary, GP Assistant Secretary, GP Engineer/Overseer and Block level Accredited Engineer must have a clear understanding of the system for creating estimates and the processes incidental for approval within that system.

Programme Officer: Programme Officer must be familiar with the stages and processes involved in the work estimation and approval process of Mahatma Gandhi NREGA. It ensures works which are under Schedule I & II.

District Project Coordinator (DPC): District Project Coordinator and Joint Programme Coordinator must be familiar with the stages and processes involved in the implementation of Mahatma Gandhi NREGA works.

State NREGA Mission: The State Mahatma Gandhi NREGA Mission is responsible for changing the rate and Analysis of rates used for creating the estimates. State admin is responsible for updating the staff module in SECURE.

Ministry of Rural Development (MoRD): MoRD is a monitoring agency for ensuring that the States take up only those works in MGNREGS which are approved in the labour budget, and estimates are prepared for these works. Different analysis can be done with the data like quantity of work done by each MGNREGS worker in the State, rates of materials, rate of labour etc.

Benefits

- Estimates creation and according AS/TS sanction is online.
- Estimates creation time is very less
- Reduces delay in issue of AS & TS.
- Estimate accuracy can be ensured.
- Estimate status and file movement can be tracked at any level.
- Recalculation of estimates are done automatically whenever LMR changes.
- State specific SOR & rates are used for creating estimates.
- State specific work flow can be adopted in SECURE.
- Already executed projects are taken as templates and this enables reuse of time tested estimates.
- eGovernance ensured with transparency & accountability.
- Different reports are generated for the state and MoRD to monitor the works.
- Centralized user management system.
- **SECURE** is managed by an administration module for user creation, office management, and data entry of SoR / LMR, uploading photographs, news & Government Orders.
- User ids are created based on the staff details of the GP, Block, and District & State.

- Green initiative since it is paper less movement of files.
- Quality of estimates creation is ensured.

Current Status

In 2017, MoRD decided to replicate the SECURE software throughout the country for creating estimates for MGNREGS works. NIC Kerala has given training for all the state resource persons with the help of MoRD. Currently SECURE is rolled out in 25 states across the country.

Key reasons for nomination

SECURE is general purpose utility software implemented across the country for all MGNREGA works.

- Estimates and DPR for thousands of MGNREGA works can be generated with ease utilizing previously executed works estimates as Knowledge base templates.
- Time and energy on estimation of works simplicity reduced enabling government to focus on monitoring related works.

RESULTS INDICATORS

Services

State	*Total No. of Works*	*Total No. of Estimates created*	*Total No. of Approved Estimates*
ASSAM	52	6	0
CHATTISGARH	473	51	0
GUJARAT	3844	237	163
JAMMU AND KASHMIR	2292	412	16
JHARKHAND	1021	7	0
KARNATAKA	5393	163	14
KERALA	**422523**	**138385**	**97964**
MADHYA PRADESH	21527	231	66
MIZORAM	1474	145	142
ODISHA	2247	3	1
PUDUCHERRY	296	9	0
RAJASTHAN	1304	45	1
SIKKIM	110	49	13
TAMIL NADU	10802	3389	2218
TRIPURA	10275	22	8
UTTAR PRADESH	621	3	0
WEST BENGAL	7888	6	0
BIHAR	635	3	0

Implementation Coverage

Implemented in all the 14 Districts of Kerala since November 2016. Replication started in August 2017.

Other than Kerala, it is implemented in 27 districts of 25 States across India since May 2018.

New Services/Enhancements

Planning to roll out in all the 34 states/UTs within two months.

Development of Spill over Module and training on the same to all states.

ENABLERS

Government Process Reengineering

Since MGNREGS scheme is centrally sponsored scheme, there should be a provision to create estimate in a uniform way across the country. SECURE software has helped in providing a common framework for the same.

- State specific SOR & rates are used for creating estimates.
- State specific work flow can be adopted in SECURE.
- Process re-engineering is done for according AS/TS sanction online.
- Recalculation of estimates are done automatically whenever LMR changes.
- Integration of MGNREGA portal and SECURE portal
- Time & Motion study is in progress in other states, 4 states completed.

Technologies

States have built up a knowledge base on their Standard data for using estimates creation, materials used and their rates at specific interval. Rates are used based on their location, geographical condition, climate change etc.

Time & motion study is in progress in all the states based on 5 parameters such as climate, geography, socio economic condition.

Data analysis and social media integration is in the pipeline.

People

In Kerala, all MGNREGS engineers up to Grama Panchayat level, around 1200 engineers have been trained.

In all other States, with around 20 engineers from each State, totally 600 engineers have been trained. We have conducted series of training at NIRD Hyderabad & Guwahati with the help of Kerala Engineers and MoRD.

We are in the process of conducting feedback trainings and selected engineers are being called from States for enhancing the present system and collecting requirement analysis of subsequent modules as part of experience survey.

For all India support, PMU has been set up at MoRD for providing assistance for any queries related to SECURE estimation software. There is also a support team at NIC Kerala.

VALUE INDICATORS

Learnings for sharing

SECURE has ensured usage of standard data for estimate preparation.
The software has also resulted in arriving at the number of laborers and material required for a particular work, at Geographically different locations.

Currently MoRD is focusing on the asset generation through the MGNREGA Scheme and SECURE software ensures the standard data, type of labours are used, and the materials used in the work and hence the quality of estimate and asset improves.

Sanctioning process takes place without any delay.

Best practices from various states are shared Project estimates on Knowledge repositories across the country enabling sharing and learnings.

Digital Empowerment

DBT used for disbursement of wages to NREGA works as per the amount derived from SECURE.

SECURE is multilingual and people from various states can avail services with their language of choice.

Green eGovernance

Many registers are kept in all GPs, Blocks for verification. But now all the registers pertaining to work related can be seen in SECURE, like eg., AS registers, TS registers, different types of work report etc.

Estimates preparation and approval process are online and all the documents related to approval process of estimates are also available as pdf. Software has provision to write remarks and to forward/sending back the files to the officer at any level. So there is no need of physical paper print out at any stage.

Software is responsive and hence any device could be used for accessing the services.

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eGovernance Portal for SVMCM Scholarship Version 2.0

Department of Higher Education, Science and Technology and Biotechnology, Government of West Bengal

Rajendra S. Shukla, and Gopal Chakrabarti

PROJECT OVERVIEW

The **Swami Vivekananda Merit-cum-Means Scholarship** is a giant leap FOR POOR BUT MERITORIOUS STUDENTS for a number of students at Higher Secondary level, Diploma (Polytechnic) level, Under graduate level, Post graduate level, M.Phil/Doctoral level. The income criteria for application under the scheme is not more than Rs. 2,50,000/- per annum subject to fulfillment of other merit criteria.

With a view to assisting the meritorious students belonging to economically backward families in the State of West Bengal to pursue higher studies, the Government of West Bengal introduces this scheme of giving scholarships at different levels of higher studies, at educational institutions based in West Bengal.

Now from the academic year of **2017-2018** the State Government is considering to provide financial assistance in pursuing higher study at Post Graduation level for the **Kanyashree girls** who are enrolled in the Kanyashree Prakalpa of the Department of Women and Child Development and Social Welfare and have received financial assistance under Kanyashree Prakalpa, Stage 2 (i.e., K2), according to the order of 08-EH/N/M&MS-06/2013 (Pt.-I), dated 28th July of 2017. The Kanyashree girls, admitted in Post Graduation courses may apply under **'K3 Component**' of **Swami Vivekananda Merit Cum Means Scholarship**.

Objectives:

- Extending help for economically backward meritorious students and girl students
- Continuation of financial help from one time K2 grant to K3 education scholarship
- Inspire Girl students in Higher Study after graduation
- Accessing education to the unprivileged girls
- Allow girls for financial independence
- Improve women empowerment in the state
- Ease of access to the application process
- Breaking the barrier of geographical distance
- Preventing the submission of duplicate application
- Single point monitoring system for the entire process
- Reduce and Identify the bottleneck
- Shift towards paperless eGovernance

Scope:

Swami Vivekananda Merit-cum-Means Scholarship (svmcm.wbhed.gov.in) is a eGovernance mechanism which provides end-to-end ICT enablement of the Scheme. The entire process, from registration to direct bank transfer is online.

- The basic Service of registration in the Scheme uses electronic mode to receive the request through electronic means including mobile devices.
- The entire Workflow/approval process is electronic.
- Database is electronic/digitized.
- Service delivery is electronic.
- Real-time MIS report generation for monitoring the process.
- SMS and Email alert to beneficiaries for sharing login credentials and scholarship sanctioned and disbursement status.
- In West Bengal all 23 districts are under the Scheme and using the system.
- The system is being used by around 15937 Schools (Secondary/Private/Madrassa), 576 General Degree Colleges & Universities, 81 Medical Colleges and Nursing Training Schools, 126 Degree Engineering Colleges & Universities and 149 Polytechnic Colleges & Institutions.

Stakeholders

State level Users:

- Additional Chief Secretary, Department of Higher Education, Science and Technology and Biotechnology
- Secretary, Department of Higher Education, Science and Technology and Biotechnology
- Special Secretary, Department of Higher Education, Science and Technology and Biotechnology

Directorate level Users:

- Directorate of Public Instruction
- Directorate of Medical Education
- Directorate of Technical Education
- Directorate of Technical Education & Training
- Directorate of School Education

District level Users:

- District Inspectors

Institution level Users:

- Head of the Institution

Beneficiaries:

- The scheme benefits students of Class – XI and XII, and at under Graduate level in Engineering, Medical and Technical / Professional courses besides Under Graduate, Post Graduate level students pursuing General Degree courses.

- Students pursuing M.Phil courses and Doctoral courses (NON-NET JUNIOR RESEARCH FELLOW and NET-LECTURERSHIP) from State-aided Institutions will come under the purview of this Scholarship Scheme.
- Kanyashree recipients (K-2) pursuing Post Graduate courses in Science, Arts and Commerce stream from Universities of this State after obtaining Under Graduate Degree with minimum 45% marks.

Monthly scholarship of INR 1000 for High Secondary level, INR 1000 to INR 5000 for Under Graduate level, INR 1500 for Diploma (Polytechnic) level, INR 2000 to INR 5000 for Postgraduate level and K3 component, INR 5000 to INR 8000 for M.Phil/NON-NET/NET-LS are designed to facilitate the completion of education for the beneficiaries.

Key reasons for nomination

- Scheme – Scholarship disbursement to poor but meritorious students at Higher Secondary level, Diploma (Polytechnic) level, undergraduate level, postgraduate level, M. Phil./ Doctoral level as well as Kanyashree (K-2) recipients in the State of West Bengal to encourage higher studies.
- Target applications – 90 thousand students (approx.)
- Institution involved – 16869 +
- Geographical area – General Degree Colleges and Universities, Medical Colleges and Nursing Training Schools, Degree Engineering Colleges and Universities, Polytechnic Colleges and Institutions, Higher Secondary and Private Schools and all districts of the state.
- Challenges – Online registration, online form fill up, online verification, online approval, merit list generation, Sanction scholarship, disbursement of scholarship through IFMS, single point monitoring system for entire process transparency, accuracy, time bound implementation, paperless eGovernance.

Web-based application - https://svmcm.wbhed.gov.in/developed to mitigate all the challenges is a fine example of application of ICT or eGovernance initiative. Stakeholders are applicants, 15937 schools, 576 General Degree Colleges and Universities, 81 Medical Colleges and Nursing Training Schools, 126 Degree Engineering Colleges and Universities, 149 Polytechnic Colleges nearly 100 departmental officials.

RESULTS INDICATORS

Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
Onetime Registration	Applicants will go through a One Time Registration process.	0	0	1,11,057

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	After successful registration each applicant will get a unique Applicant ID.			
Online submission of scholarship application	Applicants are applied for scholarship application through online in prescribed format and scanned copies regarding verification of application are also uploaded through online. After completion of application process applicants sent their scholarship application to next level for verification through online.	63165	89480	99,333
Online submission of Kanyashree (K3) application	Sanctioned K2 beneficiaries are applied through online process for Kanyashree K3 scheme. This scheme has been introduced by Honorable Chief Minister of West Bengal from the financial year 2017-18, as an integral part of Swami Vivekananda Merit-cum-Means Scholarship.	0	0	6679
Bulk approval of scholarship application	Verified applications are approved from directorate in bulk approval mode	49165	76480	84602
Direct beneficiary transfer through IFMS (in Cr.)	Scholarship payment files has been sent to IFMS server through portal to portal seamless integration process using SFTP mode.	144	150	200
Notification through SMS	At each stage of scholarship application, verification, sanction and disbursement beneficiaries get the alert through SMS. Institution are also get notifications regarding verification process from department through SMS alert. This	0	0	1,50,545

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	service has been implemented from the financial year 2017-18			
Notification through Email	At each stage of scholarship application, verification, sanction and disbursement beneficiaries get the alert through Email. Institution are also get notifications regarding verification process from department through Email alert. This service has been implemented from the financial year 2017-18	0	0	1,50,545

Implementation Coverage

The Scheme is implemented by the Department of Higher Education, Science and Technology and Biotechnology, in convergence with other 3 departments for smooth and timely disbursement of scholarship to the beneficiaries. The system has been implemented throughout the State of West Bengal for the students from higher secondary level to post graduation level and for K2 sanctioned girls pursuing higher education at post graduate level.

Comprehensiveness of reach of delivery centers

The scheme has been rolled out through the State of West Bengal. The access nodes of the scheme are,

- Department of Higher Education, Science and Technology and Biotechnology
  1. Directorate of Public Instruction
     (i) No. of Institutions: 579
     (ii) Districts: 23
     (iii) No. of Courses: 27
  2. Directorate of Technical Education
     (i) No. of Institutions: 126
     (ii) Districts: 23
     (iii) No. of Courses: 12
- Department of School Education
     (i) No. of Schools: 15937
     (ii) Districts: 23
     (iii) No. of Subdivision: 67
- Department of Health & Family Welfare.
     (i) No. of Institutions: 81
     (ii) Districts: 23
     (iii) No. of Courses: 36

- Department of Technical Education, Training & Skill Development
  - (i) No. of Institutions: 149
  - (ii) Districts: 23
  - (iii) No. of Courses: 34

Demographic reach

- Total Registration:1,11,057
- Directorate of Public Instruction:
  - (i) No. of fresh application: 45808
  - (ii) No. of renewal application: 11111
  - (iii) No. of Kanyashree (K3) application: 6679
  - (iv) Sanctioned fresh application: 33836
  - (v) Sanctioned renewal application: 5643
  - (vi) Sanctioned Kanyashree (K3) application: 4374
  - (vii) Total Disbursement: 145 Cr.
- Directorate of Technical Education:
  - (i) No. of fresh application: 1402
  - (ii) No. of renewal application: 724
  - (iii) Sanctioned fresh application: 1154
  - (iv) Sanctioned renewal application:543
  - (v) Total Disbursement:15 Cr.
- Directorate of Medical Education:
  - (i) No. of fresh application: 706
  - (ii) No. of renewal application: 550
  - (iii) Sanctioned fresh application:500
  - (iv) Sanctioned renewal application:491
  - (v) Total Disbursement:3.8 Cr.
- Directorate of Technical Education & Training:
  - (i) No. of fresh application: 671
  - (ii) No. of renewal application: 120
  - (iii) Sanctioned fresh application:322
  - (iv) Sanctioned renewal application:50
  - (v) Total Disbursement:85 lack
- Directorate of School Education:
  - (i) No. of fresh application: 23169
  - (ii) No. of renewal application: 8524
  - (iii) Sanctioned fresh application:16872
  - (iv) Sanctioned renewal application:4160
  - (v) Total Disbursement:37 Cr.

New Services/Enhancements

Swami Vivekananda Merit-cum-Means Scholarship ensured that the Scheme is end-to-end e-enabled with the following features:

- One window service delivery through online portal.

- Transparent, zero-leakage processing of applications as registration, verification and validation of applications and sanctions are completed online, and benefits are paid through direct bank transfer to beneficiaries' accounts through seamless integration with IFMS.
- Beneficiaries can communicate with the system through various channels: directly through their respective login, institutions and district offices.
- Swami Vivekananda Merit-cum-Means Scholarship serves as a real-time MIS for all implementers (in institutions, district offices, departments)
- Each applicant is getting the system generate HOI verification certificate with embedded QR code for the authentication of candidature.

The application software is being upgraded with the following:

The basic objective of this application is to prepare one comprehensive and replicable model through which the following e-Services can be provided to concerned Department:

- OTP based login Module: Registered Beneficiaries and concerned stakeholder's login will be processed by OTP authentication.
- Incorporation of Face Detection Utility: During online application, the photograph of the beneficiary is also required to be uploaded. The Face detection utility ensures that there is a human face available in the image. It also provides a toolkit to crop, rotate, and enhance the image.
- OCR for matching Registration No: The OCR technology has been used to provide further security to the system. The HOI declaration page of the hard copy form has the registration no printed on it. The OCR technology ensures that the right declaration page is only uploaded during the data entry.
- Introduction of Mobile App: The SVMCM mobile app will be introduced for the beneficiaries, stakeholders like Head of the Institutions, District Inspectors, Directorate officials and senior officials. Services like application status tracking, grievance lodging, consolidated MIS reports etc can also be availed through the Mobile App.
- Issue Tracking System: Dedicated issue tracking system for the beneficiaries will be introduced to take prompt necessary action regarding the issues during online application for smooth running of application software.
- Integration with Kanyashree Online: Sharing of Kanyashree (K3) sanctioned data with the Department of Women's and Child Development and Social Welfare through Kanyashree portal using Web Service.

IVRS: As per the potential of Swami Vivekananda Merit-cum-Means Scholarship Scheme and the huge span of the scheme, the students, institutions and citizens wants to know various information about the scheme.

ENABLERS

Government Process Reengineering

Automation

At the very beginning entire process was manual. The applications had to be submitted in papers as hard copy. After introducing the online portal of Swami Vivekananda Merit-cum-Means Scholarship, the beneficiary does not require to visit anywhere to receive the benefit. The application is submitted online by beneficiaries itself. Once the data is entered in the portal, the beneficiary receives the SMS alert.

Standardization

The application software has been developed in Open Source Technology and conforms to open standards. The data centre is ISO: 27001 certified. Efforts have been made to make the application GIGW compliant. The application software has been audited several times based on Open Web Application Security Project (OWASP) guidelines and certified by STQC, Govt of India and Cyber Security Group, Application Security Division, National Informatics Centre, New Delhi.

Simplification

The application is made through a single-window system. Beneficiaries apply in an online mode. Verification of application is done from institutions and district level and directorates through online process. Dedicated helpdesk support (mail based and using Toll-Free number:1800-102-8014) has been provided for beneficiaries for smooth running of application.

Technologies

Open Source

The application is developed under open source environment which ensures the followings,-

- **Cost effective:** The application is developed using PHP, PostgreSQL which are belongs from open source community.
- **Flexibility & Agility:** The application is developed in such a manner as to easily adopt the changes and enhancement process. Initial developments covered only Fresh application and verification. Later the Kanyashree (K3) scheme and Renewal application, verification and IFMS integration for DBT have been adopted.

Integrated Transformative Governance

The system has been integrated with the following, -

- **Kanyashree Portal:** The application has been integrated with Kanyashree portal for authentication of Kanyashree K2 data.
- **Board Data:** The application has been integrated with the database of HS board, Madhyamik board, Madrasa board for qualifying marks validation.
- **IFMS:** The application has been integrated with IFMS in seamless integration manner for Direct Beneficiary Transfer (DBT) of scholarship amount.

National Cloud Hosting:

The system has been hosted in National Cloud Server adopting Platform as a Service (PaaS) with the following supports,-

- Server Vulnerability Assessment
- Server Anti-virus
- Server Backup
- Network/Application Firewall

People

In the course of implementation of such huge application with a great impact in the approaching process of users, it is very obvious practice to prepare the end users and stake holders according to the system. After inauguration of the application by Honorable Minister-In-Charge the department arranged the capacity building programme that included:

- Capacity Building Programme for Principal/TIC/Vice Principal/VC of 579 General degree college and universities
- Capacity Building Programme HOI's of 81 medical college and institutions
- Capacity Building Programme Principals of 126 Engineering college and universities
- Capacity Building Programme HOI's of 149 Polytechnic colleges
- Video conferences for District Inspectors for 23 districts.
- Training of 100+ officials of directorates and departments (Joint DPI, Deputy DTET, Deputy DME, Deputy DTE & Assistant DTE, Deputy DSE, HA, DA & DEO of concerned section).
- The training manuals regarding capacity building programme are provided to all the users.

VALUE INDICATORS

Learnings for sharing

Swami Vivekananda Merit-cum-Means Scholarship application maintains the eGovernance standard of ICT. It is the both way system of event process and response feeding. Users are guided to follow the fundamentals of the policy defined by the departments. There is no scope to violate the basic demands of the system.

Stakeholders are responsible for verification and approval of scholarship applications.

The system is designed in such a way as to adopt changes so that new scope of service delivery process can be facilitated. It can be implemented in the new departments with minimum changes of policy matters.

The following process may be taken for accomplishment,

- Analyzing requirements
- Planning for policy implementation
- Planning to meet objectives
- Impose role and responsibility
- Align the scope and strategies
- Liaison of administrative and technical team
- Blue print for data migration

The implementation of the application consists of the following phases:

- **Inauguration:** The online portal has been inaugurated by Honorable Minister-in-Charge Dr. Partha Chatterjee on 11th September, 2017 at the conference Hall of the Department of Higher Education, Science and Technology and Biotechnology.
- **Rollout:** The online application has been rolled-out to all districts throughout the State of West Bengal on 11th September, 2017 after the inauguration of the portal.
- **Training & Capacity Building:** 3 phase Capacity building program has been organized by the department for the stakeholders of institutions and district officers.

Present Status

Total 16869+ institutions of 20 different districts have been attached to the web portal. The total scholarship disbursement amount for the financial year 2017-18 is 200 Cr.

Digital Empowerment

- The applicants are digitally empowered as the application facility is completely online.
- Applicants will have to provide Mobile phone and Bank account details in the application which ensures financial inclusion
- Safe and secure Cyber-space is provided by National Cloud Server.
- Dedicated single window information sharing system with toll free telephone number has enforced for the smooth running.

- Free SMS services have been implemented for regular status updating and carrying out various alert and notification.
- Availability of digital services in local languages is planned to be delivered from upcoming versions
- The application helps the candidates to determine their eligibility.
- The website has enabled easier access to administrative information and provided a simpler interface
- Application provides that help with administrative procedures such as profile verifications, approval and sanctioning.
- Integrated DBT scheme through IFMS

Green eGovernance

The entire life cycle of Swami Vivekananda Merit-cum-Means Scholarship application processing is online, therefore, environment-friendly.

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Dr. Gopal Chakrabarti, *Joint Director, Joint Director of Public Instruction (S&S), , Department of Higher Education, Science and Technology and Biotechnology, Government of West Bengal, scholarship.jdpi-wb@gov.in*

Yuvasree

Directorate of Employment, Government of West Bengal

Amarnath Mallick, Abhijit Sarkar, and Arunava Datta

PROJECT OVERVIEW

"Yuvasree" is an end-to-end online solution to provide assistance to the unemployed jobseekers of the state to increase their employability.

Objective

Provide monthly financial assistance to one lakh jobseekers of the state to increase their employability.

Scope

System Generated List: To maintain utmost transparency which is the main motto of the eGovernance initiative, Yuvasree list has been generated through a specialized module linked to the Employment Bank.

Physical touch-point free service: Full implementation process from generation of Yuvasree list to Direct Benefit Transfer (DBT) and the submission of utilization declaration of assistance, is almost on-line, it just requires only one time visit to concerned office for submission of application.

Quantum of benefit: Rupees one thousand five hundred per month per beneficiary.

Target coverage: One lakh beneficiaries per month.

Totally unemployed job-seekers registered in Employment Bank with minimum class VIII pass qualification and age within 18-45 years are prima facie considered under this scheme. Only one member of a family and only those who have not received any self-employment assistance under any other scheme can apply.

Online utilization declaration: The beneficiaries are required to submit a six-monthly self-declaration for continuation of assistance, the whole process of which starting from submission to approval and continuation upto next six months is end to end digitised and no physical interface is required.

Integration with the Utkarsh Bangla (DDU-GKY): Database of the Yuvasree beneficiaries has been shared and integrated with the skilling flagship programme of the state of West Bengal Government "Utkarsh Bangla" through PBSSD (Paschim Banga Society for Skill Development)

Seamless portal to portal integration of Employment Bank portal with Integrated Financial Management System (IFMS) portal: Presently Yuvasree bills are submitted through IFMS portal in an offline mode (file download and upload) but

work for portal to portal integration is going on. Bills along with master data can be sent through online system from Employment Bank portal to IFMS portal and centralized payment can be done.

Geographical area: Throughout the state of West Bengal

StakeHolders: This Scheme has the following stakeholders

Jobseekers: At Present almost 29 lakh jobseekers has enrolled their names in the Employment Bank.

Sub-Divisional Offices: 67 Sub-Divisional Offices and one Joint Director of Employment for the Kolkata District are the implementing authority of this scheme at the field level.

Central Management Cell/Directorate of Employment:-Directorate of Employment is responsible for identification of provisionally selected candidates for this scheme.

Finance Department: Payment is made through Integrated Financial Management System (IFMS) portal and Direct Benefit of Transfer (DBT).

During the last 5 years, almost 700 crores of rupees had been disbursed to increase to employability to almost 1.6 lakh of jobseekers in West Bengal.

The Scheme has seamless integration with the Employment Bank database and with the Integrated Financial Management System (IFMS) of the Finance Department for facilitating Direct Benefit Transfer to the concerned beneficiaries.

It provides 24x7 availability of online services and has involved CSCs in the ambit of implementation to provide at the doorstep of the beneficiaries.

Key Reasons for Nominations

Government of West Bengal has launched a unique project named Yuva Utsaha Prakalpa (renamed to YUVASREE) to facilitate Jobseekers for their study, education or any kind of training to increase their employability. This scheme was launched in the year 2013, with an aim to provide financial support to the first one lakh jobseekers enrolled in the Employment Bank- the state-owned job portal of West Bengal. As per several study it has been revealed that, not only this state but also this country did not have employable skills due to lack of proper training or dropping out of main stream education due to financial hardships. This scheme has the main focus area to reduce employable skill gap by providing financial support to potential jobseekers. This eGovernance initiative has make remarkable footprint in the era of increase employability by implement the scheme effectively through

which yearly 180 crore is being disbursed across 1 lakh beneficiaries in each month.

RESULTS INDICATORS

Services

Name of e-Service	*Brief Service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
Generation of New List of Yuvasree	Through a specially designed module new list of Yuvasree has been generated. This list is segregated as per Sub-Division.	26,332	30,639	34,000
Sending SMS through C-DAC	System generated SMS send to all the Newly provisionally identified beneficiaries to submit documents for verification	4.5 lakh approx.	4.8 lakh approx.	5 lakh approx.
Online Submission of Annexure-III	This module is designed for submission of self-declaration (Annexure-III)	1,73,668	1,69,361	1,74,785
Direct Benefit Transfer of assistance (per month)	Payment made through Treasury linked with IFMS portal of Finance Department	99,762	95,595	98,264

Implementation Coverage

Target has been fixed to one lakh jobseekers throughout the state per month. But due to various reasons like non-fulfillment of eligibility criteria, state wise target could not be achieved. Presently it has been decided to generate 20% more beneficiary list in respect of shortfall to reach the target.

New Services/Enhancements

Earlier payment of Yuvasree assistance was given through links banks system, but in 2016 as per directives of the Finance Department, Government of West Bengal, total payment system has been re-engineered and integrated with IFMS portal of Finance Department. Now all the payments are being done through fund transfer system of Treasury and Direct Benefit Transfer (DBT) has been made. Presently this is done through offline mode (bulk file download and upload). Initiative has already been taken to seamless portal to portal integration between these two portals (Employment Bank and IFMS).

ENABLERS INDICATORS

Government Process Reengineering

In 2013 Yuvasree scheme was launched in the state. It has been decided that, beneficiaries would be selected from the Employment Bank portal as per seniority basis. To fulfill the purpose a specially designed module has been created as a sub-module in the Employment Bank.

Module is System driven: Beneficiary list generation module is automatic and there is no scope for manual intervention. Lists are being generated on the basis of seniority of enrollment in the Employment Bank as per command given in the system. Lists have been generated in a minute precision and segregated as per sub-divisions of the West Bengal.

After generation of lists, it can be accessed by the concerned field offices (SDO/JDE offices) in real time.

System driven bulk SMS blast: Provisionally identified beneficiaries receive system driven SMS on real time for submission of documents for one-time verification. SMS is sent through C-DAC SMS gateway.

Payment System is totally online: Initially payment procedure for one lakh beneficiaries throughout the state was done through money transfer system through conventional bank cheque system. This process was complex and involves manual interventions. But as per directives of the Finance Department, Government of West Bengal, payment procedure of Yuvasree has been totally re-engineered. Presently, payment is done through treasury system, and all the funds are transferred through IFMS portal. There is an offline data sharing (bulk file download and upload) between two portals i.e Employment Bank and IFMS. Portal to portal **real time integration** process is going on and it would be completed by the month of August 2018.

Integration of Yuvasree with Skill Development Initiative: Yuvasree data has been shared with the Paschim Banga Society for Skill Development (PBSSD), the body which regulates all the skill development initiative in West Bengal. The motive of sharing such a huge data with PBSSD is to integrate the Skill Development initiatives with the Yuvasree scheme so that, Yuvasree beneficiaries can get proper and effective skilling and tracking can be done through system. Shared data has already uploaded in the PBSSD portal and initiative has already been taken to portal to portal integration to seamless the process.

Online Annexure-III submission and survey for Skill type interest: A six month utilization certificate has been submitted by the live beneficiaries of the Yuvasree. To simplify the process an on-line module has been developed in 2015. Recently a page has been added in the module and choice has been captured in respect of type of training he/she would like to take in future like Wage-related employment

or Self-employment. This data has been captured so that it can be utilized in future for proper channelling of those beneficiaries into the skilling trades offered by the PBSSD.

Technologies

Yuvasree is an online solution for giving assistance to one lakh jobseekers of the state to increase their employability by taking proper skill development training. It is basically a sub-module of Employment Bank portal. Employment Bank is a state own Job portal launched in 2012. Since its inauguration no big structural change has been made. Directorate of Employment has taken initiative to upgrade the portal and incorporate all the modern features like data analytics and block chain technology. Yuvasree data can be analysed with the modern data analytics technology and on the basis of the result it can be linked with Skill Development initiatives to the state. Block chain technology can also be used in future to reduce the skill gap scenario in the State by channelling Yuvasree beneficiaries into the proper Skilling processes.

People

Change management and capacity building is another big achievement of this project. This project involves heterogeneous stakeholders, and to manage such complex stakeholders is a huge challenge. Effective information system and able leadership makes this project a grand success. This project is running successfully in the state almost last 5 years without any problem. Time to time impact assessments, feedback analysis were done to change the system accordingly. Team members of the Central Management Cell (CMC) have maintained regular contact with all the stakeholders like beneficiaries, 68 field offices and technical team members through a dedicated helpline, e-mails and through social media like WhatsApp. Capacity building programme has also taken during procedural changes since inception.

VALUE INDICATORS

Learnings for sharing

The scheme has already attracted the attention of many States. In 2016, members of State **Planning Board of Andhra Pradesh** had visited the State to study YUVASREE as a best practice. Government of Andhra Pradesh has launched a similar scheme on the lines of Yuvasree in 2017.

Key learnings of the scheme for sharing are:

(a) Hassle free beneficiary identification process
(b) Real time availability of lists to all the stakeholders
(c) **Transparency:** As all the processes are online and minimal manual interference allowed, this scheme has become an ideal example of transparency in Government project model.
(d) **Reach:** It covers almost 29 lakhs Jobseekers enrolled in the Employment Bank during beneficiary identifications.

(e) **Impartiality:** As all the steps in this scheme are system driven, it has established a reputation of impartiality in the State. From beneficiary identification, online bank details posting, monthly Statement Generation, Direct Benefit Transfer to six month utilization forms submissions, all the process are online. In all steps, system generated SMS blast has been made to the beneficiaries.

Simplicity: All the steps in this scheme is very simple and user friendly.

Digital Empowerment

The main focus of this scheme is to bring financial inclusion by increasing the employability of the unemployed jobseekers of the state. Publication of notices in the homepage of the Employment Bank portal (can be accessed by mobile phones) and time to time SMS alerts are the key features of Digital empowerment of this scheme. Notices are published in the vernacular language also. A link is always available in the said portal to check the status of Yuvasree by any Jobseeker at any time. After generation of each lists a downloadable PDF (searchable) link has been published in the homepage of the Employment Bank portal for effective transparency of the scheme. A dedicated helpline is there in the Central Management Cell (CMC) working as a real-time grievance redressal unit of this scheme.

Green eGovernance

As has been mentioned that, Yuvasree is an end to end digital solution for giving monthly assistance to one lakh unemployed youth of the state, it is an ideal example of green eGovernance practice in this state. In the total process of Yuvasree, except only one step (i.e submission of Annxure-I & II forms), all the steps are online and no hard copy or paper documents are required. Funds are sub-allotted through IFMS portal's e-Pradan Mode and are transferred to the bank accounts of the beneficiaries directly. Bill preparation process is also done in e-Billing process of the IFMS portal after uploading bulk master and bill files downloaded from the Employment Bank portal after monthly statement generation. Six month utilization certificate also submitted through online Annexure-III submission module of the Employment Bank and no hard copy or paper documents are required.

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Integrated Aadhar Enabled Supply Chain Management with FPS –IAeSCM

AP State Civil Supplies Corporation, Government of Andhra Pradesh

A. Surya Kumari, Guru Prasad, and Annapurna

PROJECT OVERVIEW

Main objective under G2C category has been achieved with targeted population of around 4 Crores. Integrated Aadhaar Enabled Supply Chain Management (IAeSCM) is an important component under Targeted Public Distribution System which targets procurement of food grains under Minimum Support Price (MSP), distribution of essential commodities viz. Rice, Wheat, Sugar, Kerosene, Palmolive Oil and Red gram dal through Fair Price Shops under the Public Distribution System at subsidized rates.

Under the National Food Security Act (NFSA), supply chain management takes care of procurement, storage and distribution of commodities with nutritional value to BPL households, Schools under MDM, and pregnant women and lactating mothers under Integrated Child Development Services (ICDS). It also deals with other welfare schemes like Sabala and Welfare Hostels. The project deals with end to end computerization starting with procurement, storage and distribution of food grains to different schemes. The project's main aim is to keep check on diversion, leakage and pilferation. It provides online tracking of the movement through GPS (vehicle tracking system) and accountability through Aadhaar.

Geographical scope covers the 13 districts, 671 blocks covered with 268 MLS points, 121 Godowns, about 29800 fair price shops, 3621 (SC/ST/BC etc) welfare hostels, 55416 ICDS Anganwadi centres, MDM for 44068 Schools.

Stakeholders

The stakeholders of the project are Govt of Andhra Pradesh, Department of food and Civil supplies, A P State Civil Supplies Corporation, FCI, State Godowns, Commissioner Civil Supplies Office, Chief Minister Office, District Managers, District Supply Officer, Collectors/Joint Collectors, Mandal Revenue Officers, FP Shop Dealers, Ration card holders drawing Ration, Department of School Education, Welfare Institutions, Integrated Child Development Services, Ministry of Women and Child Development.

Key reasons for nominations

IAeSCM is a Government scheme under National Food Security Act for Food Grain Distribution to below poverty line beneficiaries under Public Distribution System. Govt. has to ensure that Food Grains reach the needy that come under NFSA, covering around 3.8 Cr population of the state.

This is made possible with the help of Integrated Aadhaar enabled Supply Chain Management System integrated with last mile delivery system (FPS). Andhra Pradesh is the only state to maintain full transparency in the system with online tracking and covering all schemes under NFSA. Government of India is able to monitor every stage of the project as it meets all needs of end to end computerization.

Following are the main Key reasons for nomination:

- Aadhaar enabled authentication of godown in-charge, route officer and FPS dealer in generating release, dispatch and receive of stock as last mile solution. This will ensure more transparency and accountability in the total system.
- Electronic weighment integration at all level ensures quantity
- GPS tracking ensures no diversions
- Traceability ensures reconciliation
- Seamless information flow
- Enhanced financial flow
- Analytic reports at every level help monitor Improve and take necessary
- Exception reports to correct any gaps
- Data-Driven Supply Chain Management
- Implementation of Cashless system under digital India initiative.

RESULT INDICATORS
Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
Link to stake holders to generate allotment	Automatically the allotment is calculated based on requirement and closing balances and shown in Godowns for the stock movement.	quantity of allotment= 2,50,79,165.09Qtl	quantity of allotment= 2,57,76,742.08 Qtl	quantity of allotment= 2,64,83,228.90Qtl
Link to Millers , suppliers and Buffer Godowns	This facilitates in seamless stage -I movement of commodities in time and status can be easily tracked	Quantity of received stock= 1,61,85,339.41 Qtl.	Quantity of received stock=2, 35,33,902.39Qtl.	Quantity of received stock=2, 39,34,131.08Qtl.
Generaring release orders	Release orders are generated based on payments done and allocation done for a specific shop for a commodity	Number of Rs=7,07,310 and quantity =2,37,49,707.44 Qtl	Number of Rs=8,97,423and quantity =2,35,90,197.73 Qtl	Number of Rs=8,62,102and quantity= 2,40,98,018.96 Qtl

Contd...

Generating truck challans and dispatching stock	Truck challans are generated with e weighment facility in GPS mapped vehicles only	Number of truck chits 5,86,927	Number of truck chits 9,60,382	Number of truck chits 9,23,184
Message dissemination for alerts and status intimations	At every stage the status is intimated to the concerned through SMS	Number of sms=5,86,927	Number of sms=9,60,382	Number of sms=3,44,398
Aadhaar based authentication for door step delivery	After Dispatch of commodities It is ensured that the quantity reaches in time and in place by aadhaar authentication of dealer which gives authenticity and reconciliation	Authentications=3,52,797 Quantity delivered=92,18,980.56 Qtl	Authentications=9,33,878 Quantity delivered=2,33,58,029.67 Qtl	Authentications=9,49,617 Quantity delivered=2,39,32,577.87 Qtl

Implementation Coverage

Stage-I movement Includes: Connection to receipt points include millers, suppliers, FCI, Buffer Godowns, Oil feds and Kendriyabhandar.

Stage-II movement Includes: 13 districts, 671 blocks covered with 268 MLS points, 121 Godowns, about 29800 fair price shops, 3621 (SC/ST/BC etc) welfare hostels, 55416 ICDS Anganwadi centres, MDM for 44068 schools. 100% population targeted under NFSA, as all NFSA schemes are covered in the Supply Chain Management. It caters the food grain requirements of around 3.8 Cr populations of the 4.2 Cr State populations, that is almost 90% of the state population is covered.

New Services/Enhancements

End-to-end computerization of stage 1 and stage 2 movement of stock. Online transparent portal to track the activities. Dispatch and receipt of stock through ePOS which is a handheld device connected to server with 2G/3G sim card to capture aadhaar enabled bio authentication to deliver ration to the beneficiary. Computerization of base level godowns stock points and all stake holders' activity.

Phase 1: Computerization of procurement, stage 1 movement and implementation of online Release Order (RO) and dispatches of stage 2 movement.

Phase 2: Linking SCM with all stake holders for online allocation and stage 2 movements.

Linking dispatches with ePOS with dual authentication of route officers and dealers for dispatch and receipt of stock with Aadhaar authentication. Auto-linking of closing balances from AePDS application for next month stock movement.

Phase 3: Linking godowns with all kinds of suppliers for online stock register with automation of receipt of stock. Enabling vehicle tracking system with GPS tracking. E-weighment at godowns at the time of dispatch of stock with weighing scale and weigh bridges. Aadhaar authentication door delivery at welfare hostels and Aakshayapatra.

Enablers-the Indicators

Government Process Re-Engineering

Carried out detailed base level study in every state before going live.
Best practices from each state are taken. Feasibility study done and ground reality studied at every level with different stakeholders of each access points. Defects in manual practice were studied and efforts were made to come out with a mechanism to overcome them.

1. Timely workshops and training programs are done to take feedback from the stakeholders to refine the system.
2. Data entry from manually filled form is avoided and workflow based system is formulated.This resulted in timely approvals and accountability
3. Stakeholders outside the department are also automated to link with the system to have fool proof system.This leads to automatic allotment fetching in real time
4. Methods of bar codes and digital authentication are used to mark authenticity of data
5. Web services are used to maintain inter-operability to connect with various systems on different platforms.
6. Hand held POS devices are used to integrate with weighing and taking Aadhar authentication.
7. Automatic calculation of Allotment and requirement for PDS, MDM, ICDS and Welfare Hostels are done to get actual requirement analysis to complete procurement in time.
8. Mobile App facility is provided for easy access to information by beneficiaries and higher officials.
9. Linked to Banks to collect information of Payment done by Dealers. Dealers need not go to bank or godown for payment. The payment done through NEFT is auto linked with RO generation which helps in reconciliation.
10. System is made user friendly with less data entry and also made available in local language which ensures less errors at entry level.
11. Application also connected with Govt of India Dashboard, AP CM Dashboards for monitoring the status by higher officials and Govt. of India

12. It is in the process of linking GOI allocation with SCM for stage 1 movement.
13. GPS tagged vehicles are used for stage 1 and stage 2 movement to avoid diversions and pilferage
14. Inspection module: Leads to checks at each stage to ensure quality and godown inspection has led to improvement of godown storage mechanism and proper stock maintenance with less pilferage and loss.
15. SMS intimation to beneficiaries on dispatch of stock empowering the beneficiaries regarding stock availability.
16. Report generation through printouts are avoided and strategy to go green is adopted where dashboards are created to get intelligence reports. System is ensuring a paperless system avoiding books (day books, cash books), registers (stock registers, in-out registers), challan sheets, acknowledgement sheets, release orders and allotment orders.
17. Automating the system is ensuring timeliness, quantity, quality, accountability and reconciliation and reduction of work load of stakeholders increasing their efficiency.
18. Convergence of data to arrive at various relevant analysis to furthur improve the system and fix loop holes
19. Application is developed by NIC without any cost. Cost incurred for GPS and ePOS devices are already returned in the form of huge savings.

Technologies

The application is developed in open source technologies, security audited, Aadhaar authentication for accountability, Analytics tool for MIS reports, Mobile App, SMS for communication and alerts, GIS technology for tracking, exception handling at each level trough SMS and mobile app. Audit trails are maintained at each level.

People

Stakeholders are consulted at each step from design to implementation. Timely workshops and training programs are done to take feedback from the stakeholders to refine the system. VC support for interaction. Capacity building ensured before new module release. Analytic tools used to deliver exception reports. MIS reports and exception reports for decision making. 24×7 help desk is available for round the clock support. Regular ground level feedbacks are taken to improve the system and new method is taken in a convincing manner instead of force which is the key to the success of the project.

Value Indicators

Learnings for sharing

- Automation of procurement process and payment
- All suppliers ordering and receiving automated as per the tenders
- GOI allotments for all schemes (Sabala, MDM, ICDS, Welfare Hostels, WBNP and PDS) automated in SCM. Linking to respective departments
- E-weighment of stocks at the time of dispatch and receipt with bluetooth connectivity with weighing scales and weigh bridges.

- Aadhaar authentication for accountability at Godowns as well as FPSs
- Nutritional basket maintenance for all schemes, including oil, dal, Rice, fortified salt and ragi.
- Geo-Fencing of all godowns and shops. All vehicles fitted with GPS equipment for Vehicle tracking.
- Availability of status checking of allotment, release orders, challans, payments and receipts

Digital Empowerment

As part of the digital empowerment, first time in the country a cashless facility (using AEPS bridge) is kept as an integrated part of the system where payments can be done with fingerprint authentication without worrying about smart phones or apps. The poorest of poor and uneducated can also easily use this facility with Aadhaar linked to their bank accounts. Local language support is provided at all levels.

Green eGovernance

- Effective Transportation Management minimizing number trips.
- Report generation through printouts is avoided and strategy to go green is adopted where dashboards are created to get intelligence reports. System is ensuring a paperless system avoiding books (day books, cash books), registers (stock registers, in-out registers), challan sheets, acknowledgement sheets, release orders and allotment orders.
- Automated workflow and digital message dissemination
- Rigid device with long life and warranty period minimizing the e-waste
- Preferred dedicated ePOS over mobile for better maintenance
- Implementation of efficient MLS points/godown management systems, coupled with technologies allows automation of the logistics processes. These advanced technologies offer data accuracy, reduction of paper work, and easy integration with other tools, thereby ensuring higher green benefits for logistics companies.
- Automated systems are more cost effective. Usage of re-usable/and eco-friendly materials.

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Electronic Public Distribution System (ePDS)
Food, Civil Supplies and Consumer Affairs
Government of Haryana

Ram Niwas, Deepak Bansal, Sanjeev Verma, and
Bidyut Ranjan Gohain

PROJECT OVERVIEW

- To provide subsidized Food Grains to the millions of rightful deprived citizens of the state without any fail or delay.
- To plug the leakages in the system.
- To make the system completely effective, transparent and accountable.
- Real-time reports for better planning and Policies.
- To remove ghost beneficiaries which in turn saves hundreds of crores to the exchequer.
- To build an informed society which also helps the administration to stop the corruption and bring the faith of the citizens in the system.
- To reduce the cost, the project aims for transparent and fully online transactions so that operational costs are reduced in terms of financial as well as timelines.

Scope

1. **Functional:**
   (a) Digitization of Beneficiaries and Stakeholders: A total of 1.3 crore beneficiaries have been digitized which covers more than 50% of the population of the Haryana State.
   (b) Online Ration Card and FPS Management System: All 30 lakh ration cards covered in 5 categories and 9350 FPS are being managed through online RCMS FPS MS modules (ePDS).
   (c) Allocation and Supply Chain Management: Allocation starting from Central Government of food grains for the central pool, Allocation Policy is defined by the State Government for the current month and Year.
   (d) Supply chain activities starts from adjustment of closing balance of the last month, Release order generation from FCI, Delivery Orders for the delivery of food grains and Online Truck Challan generation happens through FEAST Module.
   (e) FPS Automation: State Government has provided PoS Devices to all FPS Owners having Aadhaar Enabled solutions.
   (f) Distribution of the Food grains: All the distribution is being done only after Aadhaar Biometric Authentication.
   (g) eKYC: Beneficiaries can visit any FPS Shop to perform eKYC to authenticate himself. It is an ongoing process.
   (h) Cashless Transactions: AePS was implemented in Amabala District on 20 FPS as a pilot in 2017. Now State Government is rolling out AePS Solution

phase wise. In first phase Panchkula is chosen to be fully cashless in terms of Ration Distribution.

(i) Portability: Beneficiaries can avail Ration through any FPS in the state.

(j) SARAL: An online platform for Service Delivery to citizens has been launched by Hon'ble Chief Minister of Haryana, PDS is integrated with SARAL Platform and provides 7 Ration Card Related Services to the citizens.

Stakeholders

1. **FCS & CA Department:**
   (a) Director FCS & CA : Responsible for Allocation Policy for the month.
   (b) DFSC : For Generation of Release Order. FPS Modifications.
   (c) AFSO : Responsible for Ration Cards modifications, Closing Balance of the FPS.
   (d) Inspector : For verifications.
   (e) DEO : For Data Entry.
2. **NIC:**
   (a) SPMU: Day to day reports, monitoring of overall progress, maintenance and new change requests. Technical architect, Key stakeholder to interact with other stakeholders.
3. **SI:**
   (a) BEL and VisionTek are the System Integrators for maintain PoS Deviceson BOO Model.
4. **Bank:**
   Reputed Public Sector Bank, PNB is chosen for Cashless partner.
5. **FCI:**
   (a) Provides release order for the food grains allotted by Central Government to the Haryana State.
6. **Confed / Hafed:**
   (a) Provides food grains for the state government additional Food grains.
   (b) Collection of Payment from FPS.
7. **State Transporter:**
   (a) To deliver the Food grains to FPS.
8. **CSC:**
   (a) To provide Ration Card related services.
9. **Beneficiaries:**
   (a) To avail the Ration through PoS Device after Aadhaar Authentication.

Intended Benefits

- **Restoration of Peoples' faith** in the system through beneficiaries' empowerment.
- Saving on account of subsidies control as a result of the implementation of the System.

- Elimination of **ghost beneficiaries.**
- Due to elimination of ghost beneficiaries and savings on account of subsidies, there is **potential for enlarging** the base to feed more stomachs and keep the commodity prices under control.
- Transparency and **Community Participation**.
- State of Haryana has become **Kerosene Free**
- AePS based cashless system ensures that beneficiaries are charged exact amount for the commodities lifted by them.
- It's not possible to **fudge any figure** now as the operations are done electronically.
- **No delay** in issuance of ration at FPS as **portability** of availing benefit at any FPS across Haryana helped in delivery of food grain anywhere.
- **Real time reports** for each atomic transaction for all concerned stakeholders.
- **Status of commodity** against each ration card can be tracked at any time.
- Various **MIS reports** can be seen by various stakeholders for action taking thereto.

Current Status

1. End to End operations of PDS is **fully implemented**.
2. Allocation and Supply chain activities are fully online empowering the higher authorities to track the **real time status of Supply chain** and helps to find out the **points of delays** in turn ensures the **timely delivery and distribution** of Ration.
3. All the Ration is being distributed through **Aadhaar Authentication.**
4. Every Month 9350 FPS Shops are online distributing more than **50000 MT** Food grains every Month through PoS Devices.
5. Every month **24 Lac transactions** (avg) are being carried out on PoS for Ration Distribution.
6. Ration Cards related changes are being carried out through various platform, **CSC (Operator), ePDS Application (Departmental Operator) and SARAL (Citizens themselves)**
7. **Real Time MIS Reports** are available 24×7 with the Administrators which makes policy decisions easy and based on real data.
8. **Grievances** of the beneficiaries are being accepted through PDS Grievance Portal, Helpline, Emails and Social Media and resolved as soon as possible.
9. Real Time Reports are available on **Central Dashboard for PDS,** easily accessible for public.

Key reasons for nomination

The Government of Haryana has identified various measures to improve the delivery of citizen centric social services which includes Public Distribution System (e-PDS) by administering efficiency , transparency and effectiveness in the system so that the system is accountable, responsive and meets the expectations of the people in delivering the services as per the programme.

RESULTS INDICATORS
Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
New Ration Card	Online Form to apply for a new Ration Card. Citizens can avail this service through CSC, Departmental window, Aatal Sewa Kendras, SARAL (Online)	124	59249	126528
Modifications in Ration Cards : 1. Head of the Family Change 2. Address Change 3. Member Addition 4. Member Removal	Online Forms to apply for modifications in the Ration Cards. Existing Beneficiaries can avail these services through CSC, Departmental window, Aatal Sewa Kendras, SARAL (Online)	 0 0 2 1	 12333 1647 45367 13205	 43905 5287 177803 59941
Transfer of Ration Card	Online application through CSC, Departmental window, Aatal Sewa Kendras, SARAL (Online) to transfer Ration Cards from One Tehsil to Another.	3	66	1166
Duplicate Ration Card	Online Application through CSC, Departmental window, Aatal Sewa Kendras, SARAL (Online) for thrisuance of duplicate Ration Cards.	1	19	312
Aadhaar and Mobile Number Seeding	Online Application through Departmental window OR PoS Device. Beneficiaries can avail Ration only after seeding of Aadhaar No. Also Mobile No. seeding facilitates SMS Alerts	-	1017901	1470301
Allocation Policy	To define the policy for the beneficiaries. Single interface to generate policy for the State.	12	12	12
Payment From FPS	For the payments in respect to the Allocation from FPS Owner	-	-	101808
Stock Receiving PoS	Based on the Truck Challan, Stocks has to be received in the PoS Device by the FPS Owner	-	-	112245

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eKYC	Through PoS Devices only. Enables beneficiaries to collect his ration. Enables Department to verify beneficiary.	-	-	970401
Ration Distribution	Through PoS Device Only after Aadhaar Authentication. Enables Rightful beneficiary to take Ration. Enables Government to plug leakages.	-	7050627	27917860
Cashless Service (AePS)	Through PoS Device Only after Aadhaar Authentication. Beneficiaries can directly pay the Fair price from their Bank Account. No need to carry cash or Debt/Credit Card. Payment is done through AePS System.	-	-	1513
Portability	Through PoS Devices Only. Beneficiaries can avail Ration from any FPS Shop across the state.	-	-	3175517

Implementation Coverage

1. The system is providing service to Approximately 1.2 Crore beneficiaries with Aadhaar compliance (99.76% in Ration Cards) as per the Government of India notifications.
2. Geographically this system covers all the 9,350 FPS servicing 29,65,321 ration cards across all the 22 districts of Haryana.
3. Portability is implemented in all 22 Districts, 9350 Fair Price Shops. Beneficiaries can avail Ration from any of the 9350 Shops.
4. Cashless Facility is now available in Panchkula at 75 Fair Price shops enabling beneficiaries to go cashless for collection of Ration.

New Services/Enhancements

1. Complete distribution of the Food grains through PoS After Aadhaar Authentication.
2. Portability has been implemented across the state over 9350 Fair Price shops enabling and empowering beneficiaries to take their Ration from any FPS.
3. Online Rollout of eServices related to Ration Cards through Atal Sewa Kendras, CSC and SARAL Portal enabling citizens of Haryana to apply for Ration Card Related Services online.
4. A Successful Pilot for AePS Enables Cashless solution was carried out in Ambala at 20 Fair Price Shops. In First Phase Cashless Solution in Production environment has been rolled out in Panchkula at 75 Fair Price shops.
5. All PoS Devices are provided with Aadhaar No. Seeding through eKYC Process and Mobile No. Seeding through PoS Devices.

Enabler Indicators

1. **All information was in Paper Form:** Consolidation of all the records of the state from paper form was a very tedious and time consuming job. Compilation of the data was also very difficult. After online system, all the information is available with the policy makers on a single click.
2. **Manual Processing:** Amounted to inherent delays in policy making and its execution. Completely online processing and statistics makes it easy to finalize the policies and decisions.
3. **Disjoint activities:** All stakeholders were communicating on paper/file based mechanism which in turn causes big delays. In this system all stakeholders from different departments, corporations and other entities were brought together preventing the unnecessary delays.
4. **Non Availability of auto feedback Mechanism:** Resulting in Undetected or late detection of Overpayments, Frauds and Non availability of Ration at the FPS on time. With the help of Supply chain and help desks, it becomes handy to trace the progress of each and every activity in real time.

Technologies

1. Ideas regarding improvements in the system. Some of the improvements done based on the suggestions received from Social Media are,
   (a) **For Aadhaar and Mobile No. Seeding,** beneficiary was asked to come to department's window, Now this facility is available at each PoS Device and beneficiaries can seed their Aadhaar and Mobile No.
   (b) Online Forms for Ration Cardson public platform related services are also suggested by the citizens which is also in line with the State Governments Faceless, Paperless and Cashless Initiative.
2. **Aadhaar Authentication:** Enabled Project to carry out Authentic and real time transactions for the purpose of distribution of Ration to the rightful beneficiaries.
3. **Aadhaar Enabled Payment System:** Enabled Beneficiaries to pay the FPS Owner directly from their Bank account. This is a very beneficial service which enables the old age beneficiaries receiving their pensions directly into their bank account.
4. **Aadhaar eKYC:** Beneficiaries can verify themselves at Fair Price Shop themselves, No need to travel to departments window.

VALUE INDICATORS

Learnings for sharing

1. **Critical Success Factors:** Clear Vision, Political and Administration will to achieve the desired is a critical factor for any project to succeed.
2. **Business Case:** The project should be designed in keeping the view of all Stakeholders involved who are going to use the system daily. It should have

User Friendly GUIs, Clear Objectives, No redundancy, No duplicacy, Available 24×7, easily accessible and easy to use.

3. **Planning:** This is also critical factor, All stakeholders must be included right from Planning phase so that project development takes place in the right direction and it also reduce the cost factors of implementation of the Project. Stakeholders also gains faith in the system as they will become a part of it.
4. **Team Motivation:** Complete team including Higher authorities, Development Teams, Middle Management, Key Stakeholders across the departments, FPS Owners should be motivated from time to time. For this regular communications, Meetings and Workshops need to be arranged.
5. **Avoiding Scope Creep:** Scope creep refers to a project that has seen its original goals expand while it's in progress. It is always there in any eGov Project. With clear visions and strategies this should be avoided to the extent possible.
6. **Risk Management:** In such a large project where more than 50% of the population of a State is directly taking benefits, always have risks of many types. One needs to identify, discuss and share with the Higher authorities before it becomes a hurdle. Proper management of risks involved cannot be handled alone by any stakeholder present in the system.
7. **Saying No:** Never promise anything you know you cannot deliver. When saying no, be firm and ready to justify the reasons behind your decisions.

Digital Empowerment

1. **FPS Owners:** FPS Owners were reluctant to use the digital mode for Ration Distribution due to cost of the PoS Machine, Fear of loss, and additional operating cost for the paper rolls. Also absence of knowledge of operating the devices and understanding the functionality provided were become a hurdle in the project implementation. Steps had been taken to resolve these issues are :
   (a) Increased commission
   (b) Training sessions
   (c) BOO model for PoS Devices
   (d) Support staff readily available at District HQ of the Department to address any issue which comes in PoS Devices at FPS location.
   (e) Paper rolls free for first 6 months.
   (f) Meetings of FPS Owners with Higher levels.
2. **Beneficiaries:** Beneficiaries were afraid of giving finger prints at the time of taking the ration. Also this became a hurdle when cashless solution was run at 20 FPS as a pilot. No beneficiary came forward due to fear that money will be deducted from their bank accounts and some fraud can happen. Steps taken to resolve these issues are,
   (a) Due Publicity: Department has carried out many awareness campaigns for the citizens to aware them about the technology. It took time to them to understand that Aadhaar Authentication technology is better for them as without their fingerprints no one will take their Ration.

(b) Given proper Time: Authorities have decided to give proper time to the beneficiaries to get adapt to the new solutions. Initially for 6 months, Ration distribution was carried out Online as well as Offline mode. So that No beneficiary was left without Ration and slowly all beneficiaries can take their Ration through Aadhaar Authentication only.

(c) Communications: Beneficiaries are communicated for various events through SMS , Awareness campaigns and Social Media.

Green eGovernance

1. No Hardware procured for the distribution of Ration at FPS, All PoS devices are provided by the SIs on Build-Own-Operate Model.
2. Online forms, Approvals are promoted, thus reducing the paper works.
3. Integration of Ration Cards with DigiLocker in Progress so that citizens have their Ration Card digitally available.

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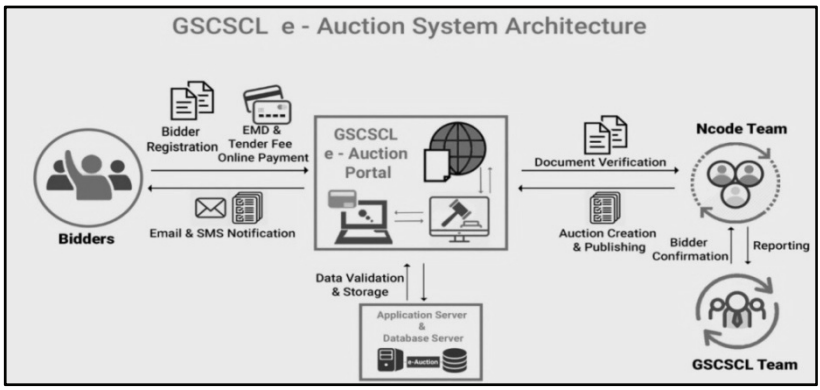
CSCL eRAMS - Electronic Reverse Auction Management System
Gujarat State Civil Supplies Corporation Ltd.
Government of Gujarat

Manish Bhardwaj, Prajit Kansara, and Monika Pandya

PROJECT OVERVIEW

The Gujarat State Civil Supplies Corporation Limited (GSCSCL) is the nodal agency, wholly owned by Govt. of Gujarat, for the logistics and implementation of various services of Targeted Public Distribution System (TPDS). GSCSCL is also providing supply and logistics support to the other welfare schemes like Mid-Day Meal Scheme (MDM) and Integrated Child Development Services (ICDS).

The project is designed based on the fundamental principle of Good Governance, Transparency, Reliability and convenience from the view point of end users and stakeholders. GSCSCL has implemented reverse eAuction to execute online e-Auctions efficiently, secured, transparent & automated environment using best standard industry practice without compromising their existing processes.



Project Objectives

The project aims to help GSCSCL in strengthening and managing good governance by leveraging technology to improve its processes to serve the stakeholders in an effective and efficient manner.

Objective to have e-Auction Solution

- Bring uniformity and automation at various levels
- Register and participate in auction from anywhere
- 24x7 online service availability to all the stakeholders
- Better prices with real time dissemination of information
- Use a centralized database and data definitions
- Real time analytics for better decision making

Project Benefits

- Benefits to Bidder

- Bidder can register through online portal and after approval they can participate in auction.
- Buyer can participate in the auction from anywhere
- Online Payment (registration fee and EMD)
- Bidders' identity remains undisclosed during e-auction process
- Application status can be tracked easily
- Bidder is notified at every stage through email and SMS (Registration Approvals, Payments, Auction publication)
- Better prices with real time dissemination of information

➢ Benefits to Department

- Easy registration approval by department and intimation to Bidder
- Manage Auctions (creation, listing publishing and monitoring) in a transparent manner
- Cost saving
- Centralized database and data definitions
- Real time reports for better decision making
- Transparency and Accountability at each level

Scope

eAuction is a web based and One time password (OTP) supported solution which enables organizations to implement the entire auctioning lifecycle. The e-Auction portal has various features that support different types of auctions i.e. Rank auction, Price auction, auctions where multiple items can be disposed with multiple bidders bidding simultaneously.

Solution Highlights

- Intuitive UI providing ease of access to the users
- Online Bidder registration and approvals
- Bidders' identity remains undisclosed during e-auction process
- Integration with Payment Gateways
- Role based access to the e-Auction System
- Audit trails of entire bidding process
- Robust mechanism to manage end to end Auctions
- Facility to auto extend auction while creating auction
- Secure bidding environment
- Alerts and Notification
- Dashboard and Analytics

Disaster Recovery & service continuity and its compliance

- Application and Database servers hosted in clustered and load-balancing environment, to provide for fail-over and performance
- Transactional Replication of Database to enable service continuity in case of database server crash

- Redundant internet bandwidth to ensure disaster recovery in case of bandwidth failure
- Link load balancing to ensure business continuity in case of bandwidth failure
- Periodic backups of database, application files and configurations

Key reasons for nomination

- Pioneers in using Reverse eAuction method, first initiative in the country by any Civil Supplies Corporation to have its own e-Auction platform for awarding contracts to Transporter and Labor.
- Direct Cost Reductions - GSCSC Ltd saved Rs 31.56 crores by doing reverse e-auction for Transport, Door Step Delivery and Labor Contract. Below table gives details of cost saving (Approved Rate vs eAuction Slab wise)

Category of Auction	*Year 2017-18 expense as per Approved Rates*	*Year 2018-19 as e-Auction - Slabwise L1 expense*	*Total Saving in expense for the year 2018-19 compare to year 2017-18*	*Total Saving in (%)*
Transport	87.70	80.39	7.31	8.34%
Door Step Delivery	61.82	46.65	15.17	24.54%
Labour	32.71	26.50	6.21	18.99%
Total :	182.23	153.54	28.69	15.74%

RESULT INDICATORS

Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
Bidder Registration Services	Bidder who has to participate in auction will have to get registered through eAuction Portal. Bidder can login after their registration is approved. Benefit is Bidder can login and participate in auction from anywhere			**Successful Registrations** Transport / DSD / Labour - 508 Commodity : 25 Other Services : 18
EAuction Services for Different Product Type				
eAuction Services for Transport Contract	Auction Platform to procure transportation/Logistics services using online reverse auction. Benefit is to Minimize costs for transportation and logistics and deliver in possibly shorter time			Total eAuction published - 56 Final eAuction - 27
eAuction Services for	Auction Platform to procure transportation/Logistics			Total eAuction

Contd…

Door Step Delivery	services using online reverse auction. Benefit is to Minimize costs for transportation and logistics and deliver in possibly shorter time			published -330 Final eAuction - 263
eAuction Services for Labour Contract	Auction Platform to procure Labour services using online reverse auction.			Total eAuction published -221 Final eAuction - 195
eAuction Services for Commodity	Auction Platform to procure Commodities using online reverse auction. Benefit is to Minimize costs & maximize the participation.			Total eAuction published - 86 Final eAuction - 76
Payment Services	Payment Services is integrated with solution which becomes easy for bidder to make the payment online thus saving time			Total Amount Received Through Payment Gateway : Rs. 43,87,61,293
Email and SMS Services	Email and SMS Services is implemented so that bidder is notified for actions.			Number of Email Sent to Users : 18,120 Number of OTP Sent to Users : 16,558

Implementation Coverage

- GSCSCSL has planned to implement the project across Gujarat. Advance (12 Days) advertisement was published in newspaper to inform all the concerned to register and participate.
- GSCSCL received excellent response and received more than 450 bidder registrations.
- Bidders were informed that they can participate in any auctions by paying adequate tender fees / EMD online.

New Services/Enhancements

Time and Cost efficiency improvements in delivering ICT enables Services

- Bidder doesn't have to visit the district or head office for the registration and document submission process.
- Bidder now can avail services through Online Bidder Registration Portal easily from anywhere.
- Through eAuction portal department can easily manage auctions online thus saving time and cost
- Auction can be created, published any time whenever the department wants it.

- Improvement/Enhancement Initiative planned

Technologies

The solution is built on n-tier architecture to segregate different applications components to achieve better modularity, scalability, testability, Security and upgradability.

The Security and confidentiality standards adopted and the level of compliance.

1. Authentication and authorization
2. Strong and configurable password policies
3. Secure password recovery mechanism
4. Role based access privileges
5. Strong encryption for sensitive data including configurations

Database Level Security: The proposed system will allow only authorized database administration users with assigned privilege shall be allowed to access database.

Confidentiality: guarantees that the data exchanged between the person requesting it and the provider cannot be intercepted or accessed by a third non-authorized party.

Change management strategy defined and implemented:

- All changes are requested through a predefined format
- Log sheet of the same is maintained as per predefined format
- The feasibility of each change is identified
- The prior approval is sought to bring in change
- Any change made is communicated to GSCSCL through official email and the acknowledgement is obtained

Value Indicators

There are lots to be learned when an application is being developed and implemented for any government department due to its very functioning of nature.

Lessons Learnt –Success, failure

Have Experience and Diverse Technical Team– Developed detailed designs and specification which has resulted in few design changes during implementation. This resulted in considerable cost and schedule saving. Better Project Cost and Time Estimation due to experienced team.

Conducted Training and Mock sessions which has played an important role in successful implementation for carrying out reverse eAuction for Transporters and Door step delivery contractors.

Timely Review– There is a need for timely review of the project progress by project steering committee or project Board, implementation feedback with set of

validation parameters for evaluation of project progress is to be achieved within estimated time and effort.

Empowerment and Local adaptability:
The Idea of this innovative project came into existence to increase participation and implement transparent and result oriented system. For easy adaption of this system user manuals and trainings were imparted in local language (Gujarati). Toll-free number (1800-419-4632) was also setup to help bidders understand registration, EMD Payment and bidding process. Certain criteria in eligibility process was also relaxed which were unnecessarily blocking/reducing participation. 8 resources were deployed dedicatedly during auction timings to support this task and share on-spot results with GSCSCL to enable quick and efficient decision making.

Ownership:
The Project was to be implemented in short span of time due to transport and labour contracts were expiring on 31-03-2018. The Project concerns smooth and efficient functioning of the supply chain of commodities under Targeted Public Distribution System in Gujarat State.

Digital Empowerment
Bidders were given adequate training for better usage of eAuction System. They were given idea to be a part of Hon'ble Prime Minister's visionary step Digital India by using the eAuction System. Now all stakeholders are familiar with the words like Internet Service, eAuction System, Documentation Scanning etc.

Green eGovernance
Green Procurement:
The GSCSC Ltd. procures all the hardware through empanelled agencies decided by Govt. of Gujarat. The technical specifications emphasizes on Advanced Power Management features.

e-Waste Disbursement: The GSCSC Ltd has disposed around 150 Computers after their average end of life through Registered Dismantlers / Recyclers.

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Mobile Apps for Real Time Energy Bill Calculation and Bill Generation at Consumer Premise with Seamless Integration to ERP

Gujarat Urja Vikas Nigam Limited, Government of Gujarat

Pankaj Joshi, and B B Mehta

PROJECT OVERVIEW

G2C concept for articulating the relationship among DISCOMs and LT consumers. ICT solution for transfer of information at customer premise itself delivering enhanced value at beneficiaries' door step. Exemplary New initiative instigates using mobile Technology to develop and deploy Android App with Simple interface, intuitive one and easy navigation for field users as well. Also single application act as an interface to the existing ERP Application and Consumer portal.

As this project comprises men (Meter Readers) and machines (Smart Phone), one-time registration of Meter Reader (user id) and Smart Phone (IMIE Number) are mandatory and kept as unique identification at the system. By installing this App, only authorized users and mobiles be about to connect and communicate with GPRS billing servers. The data allocation of pre-defined billing schedule (received from ERP System) of respective meter readers by their supervisor's web client are determined and allotted at servers against respective Meter Reader, as each meter reader has to perform metering and billing activities in stipulated time according to routing consumer sequence allocated by their supervisors.

Since the slice of data allocated and kept on server distinctly by their respective supervisor for respective meter readers, straight away meter reader has to download data to his mobile device by navigating installed App menu at field itself without visiting his office.

As per spot bill concept, it is mandatory for each meter readers to generate energy bill at consumer premises itself. Though, non-availability of internet network in fields, meter reader has to generate bill using this APP only, therefore meter reader shall generate bill from data downloaded at mobile for that consumer using installed App logics. Such bills are categorized as OFF LINE bills and later on get synchronized with server as soon as meter reader reaches to internet network coverage.

Meter Reader has to visit each consumer premises where Energy Meters are installed. Meter Reader has to just enter present reading and/or meter status information in to his mobile screen. On entering of little required information for that individual consumer through this APP, the bill calculation parameter along with Latitude and Longitude of the consumer premises using GPS, reaches at central server and for that consumer bills calculated at Central Servers using latest available information. The generated bill details calculated at servers are driven back to Meter Reader's mobile set, the server generated bill get printed and served to consumer on the spot at field itself with the help of mobile connected Bluetooth printer.

Subsequently the billed details generated at servers are synchronized with consumer portal in real time to avail consumer the facilities provided at portal to make payment, bill presentment. Furthermore, SMS Alerts, reminders are also easily managed.

Each of the DISCOMs has adopted this inventive App for the targeted 1.3 Crores Nos. of LT (Low Tension Power Supply) valued Consumers scattered geographically all over state of Gujarat. There is a large consumer base of Bi-monthly consumers; hence more than 70 lacs bills are going to be generated simultaneously each month, which are more than 2.5 lacs bills required to generate on daily basis that too during business hours only. Till date 51 % LT Consumers are covered under this project and by March, 2019 all 1.3 Crores Nos. of LT consumers are facelift under this project.

Reasons for Nomination

- ✓ Gujarat DISCOMs are the only power utility in India, which since inception (1961) make and issue energy consumption bill at customer premises itself. Till year 2016, using then available Technologies like HHE, SBM, offline Spot Bill or in major cases manual spot bill generation was in place.
- ✓ Ensuing each consumer's billed data remains at offline devices kept at fields and consumer's billed data was receiving at central repository after couple of days or weeks, which likely to deprive consumer to avail now available cutting edge technologies like online payments, online portal services, email, SMS, IVRS etc. in stipulated time.

Operating System	**Linux CentOS 7**	**Hardware** *(One Application and Two Database Servers for Each DISCOMS are allocated from below Infrastructure)* IBM Power 8 Series E880 with 96 Active Core, 2TB RAM, PowerVM Enterprise Servers. IBM SVC Engine IBM Flash System 900 IBM Store wise V7000 Gen2 IBM TS4500 Tape Library IBM SAN Switch
Apache	**2.4.27**	
PHP	**5.5.19**	
Mysql	**5.5.57**	
NDB Cluster	**7.2.30**	

- ✓ New initiative instigates to develop and deploy Android App with Simple interface, should be intuitive one and easy navigation for field users as well. Also make a decision to build up single application should act as an interface to the existing ERP Application and Consumer portal; and also should tightly couple with deployed ERP CRM-Billing solutions.
- ✓ By adoption of Latest available technology having speed, security, accuracy subsequently sincere

- ✓ endeavor of dedicated in-housed team, leadership by way of policy support/ direction of management and Stakeholders inclusiveness and participation of semi skill work force (Meter Readers), forever and class of services offered to esteem consumers at elusive cost with utmost height of consumer satisfaction.

SW Environment

SW environment of the project deployed including Third party tools (HW, SW, Middleware), packages-integrated/deployed including name of Database e.g. Oracle, DB2, Microsoft SQL etc.

WEB Part with Apache PHP Mysql, function and database triggers API Part Jason data transmission Android Studio SDK 10 Android - Eclipse More than 10 different make DMP and Impact Blue Tooth Printers SDK library insertion Distinct Production and development/Quality set of Servers and Application Package Kit (APKs) for distribution and installation of mobile apps and middleware.

Cyber Security

The pf Sense Open Source network firewall distribution, based on the Free BSD operating system with a custom kernel and including third party software packages for additional functionality deployed for this project. OS Firewall IP Table Security. Mobile IMIE validate at Application.

RESULTS INDICATOR-INFORMATION

Description of various e-Services, Services description, benefits and their Volumes				
Name of e Service	***Brief service description with benefits***	***Volume (Nos) of Services year wise***		
		2015-16	***2016-17***	***2017-18***
Numbers of Bills Generated	Energy ON-THE-SPOT Bills Generated in Real Time, Printed with Blue Tooth Printers and served to consumer at His/ Her Premise itself	**2,620**	**1,57,37,617**	**2,96,12,301**
Revenue inflow	Revenue Generation through Energy Bills	**₹ 4,81,21, 812**	**₹ 41,80,55,59,7 53**	**₹ 93,92,32,13, 757**
Meter Readers Aggregate Avg.	Billing Field activities perform by Meter Readers each day during billing	**5**	**686**	**1,439**

Implementation

In this system, the meter readers won't have to carry printed bill books. They will be equipped with Android Mobile with pre-installed mobile application and a Bluetooth printer. The meter readers will have to just enter consumer number after which the past reading will automatically get displayed on their mobile set. Once, he enters the current reading, the difference and the charges based on the tariff structure will get automatically calculated and using a Bluetooth printer, he will issue a print of the real-time calculated bill to the consumer and the data will automatically get transferred in the server ensuring all manual discrepancies get avoided. This is country's unique smart metering and billing system developed by GUVNL for its DISCOM companies.

Improvements/ enhancements rolled out during the last year

- ✓ Temporary Consumer Bill Generation for connection taken for certain period (few days) on purely temporary basis.
- ✓ Solar Rooftop Bill Generation for grid connected solar rooftop power consumer having Net metering at billing system that allows rooftop owners to sell any excess electricity generated

Improvements Planned

- ✓ Functionalities planned to incorporate Meter Change incidences at ERP-CRM shall reflect at spot Bill Generation at Consumer Premise with combine previous meter consumption automatically by just entering present reading of new meter.
- ✓ Latest Energy Bill Payments from various methods including online payment involve at Bill Generation at Consumer Premise.

Enablers

Process reengineered

As portray above, this project comprises men and machines, both of them have to run jointly alongside. The mix of smart phones, high end servers, internet technology and semi skill manpower (Meter Readers) has to carry out all desired activities under the absolute collaborate at right time at right place. Addressing and have room under this project for on ground reality like occurrence of manpower absentee to whom data once assigned and unable to attend duty, manpower redeploys to other work or location to whom data once assigned etc are some of the challenges faced during pilot execution. On cavernous endeavor with straightforward solutions the issue mitigates adequately.

Technologies

Deployment of high end architecture for each DISCOMs at GUVNL's own full-fledged data centre, as there are sets of application and database servers with clustering. Each request handled by load balancer to optimize the resources. Real time bill generation and serving it to consumers at their premise all along with seamless integration with ERP and consumer portals.

Scale – Touches Consumers scattered geographically all over state of Gujarat.

Speed – By using Cutting edge technologies and deployment of Android App with Simple interface, real time spot bill generation and issue to consumer at consumer premises itself and information availability in real time at consumer portal.

Skill – By use of Android conventional smart phone and use of app with easy responsive navigation menu by little skilled field users with minimum training and easy system adoption using smart phone.

Surveillance/Vigilance – Meter reader field movement monitored by his supervisor desk by Google Maps, as Latitude and Longitude is captured during meter reader visit at consumer premises, which helps supervisor make vigilant.

Supervision/Control - Ongoing activities of each meter reader is controlled and monitor in real time manner from each hierarchies' offices, also monitored from fully fledged central control room from each DISCOM head quarter.

People

Small team size has conceptualized the project outlines and within six months' time frame with use of Open source applications like Apache, PHP MySQL with Clustering, Android and web Technologies etc.

By adoption of latest available technology having speed, security, accuracy subsequently sincere endeavor of dedicated in-housed team, leadership by way of policy support/direction of management and Stakeholders inclusiveness and participation of semi skill work force (Meter Reader), forever and class of services offered to esteem consumers at affordable cost with utmost consumer satisfaction.

User friendly, easy to operate mobile app, light weight device compared to previous HHE, SBMs. Implementing team trained key users, trained trainers, evaluating the effectiveness and efficiency of the learning–relearning process in a dynamic simulation environment performed repetitive exercises at the field level.

VALUE INDICATORS

Learnings for Sharing

SOP and "Help Desk Support" ticketing solution are in-house designed taking key part for prompt resolution of issues if any. SOP is in multi-language English and Gujarati regional language (Hard and Soft Form is always available at each locations). Each operational screen is very well methodically described in Gujarati regional language with respective screen shots.

Digital Empowerment

Sakhi Mandals are a formation of women self-help groups based on thrift and credit principles. It provides financial services to increase the process of economic development and ensure the welfare of women. Sakhi Mandal scheme is to enable the poor women, particularly in rural areas of Gujarat with aims to improve their access to resources and consequently strengthen livelihoods and quality of life.

Many sakhi Mandals are carrying meter reading activities at rural interior areas nevertheless nearby to them. They are encouraged to foster decision skills and develop a framework of a wider range of participation in microfinance development. As part of Green Governance adoption of this project helped in avoiding printing of duplicate copy of bill. In addition Re-align business processes, Automate and streamline business processes among people and systems, reducing paper consumption by eliminating unnecessary papers trails and content storage costs help play a part in becoming more environmentally responsible.

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Online Electrical Permits and Licenses Management System (OEPLMS)

Government of Telangana Electrical Inspectorate

A.G. Ramana Prasad, Rajendra Nimje, and Purushottam Maramamula

PROJECT OVERVIEW

Objectives:

The main objective of this project is to develop “online permit and licensing system for E.I Department" for transparency and accountability in necessary approvals, permits and licenses.

Functional Scope

(a) Development of module for design approval of new installations under Regulation 43
(b) Development of module for issuing renewals under Regulation 30
(c) Development of module for Electricity Duty Act
(d) Development of module for Electrical wiremen and supervisor permits

Geographical scope

The software covers all divisions and CEIG offices of E.I department of Telangana State

Stakeholders

E.I department officers, consumers, applicant who applied for electrical wireman / supervisor license

Benefits:

- Unique number (Docket number) for each registered application, for easy tracking of the sanction status by the investor (consumer)
- Online status report for each applicant of the number of applications received, approved or rejected
- Generation of approval letter (for approved applicants) and rejection letter, showing reasons of rejection, for reject cases
- Tracking of application status and downloading of approval letter by the consumers
- Facilitate EI Department officers to prepare defect notice based on the field inspections
- Generation of list of installations for periodical inspection based on the statutory approvals issued by the Division office
- 24 × 7 accessibility to users

- Password protection and secure transactions over HTTPS
- Role based access permissions and customized reports
- User friendly interfaces
- Expandable and replicable model
- MIS available for effective decision making
- Transparency and accountability in permits and licenses

Key reasons for nomination

In order to bring transparency and effective monitoring of their business processes, the Electrical Inspectorate Department has implemented Information and Communication Technology (ICT) initiatives for electrical installations, permits and licenses, in compliance with the design approvals.

Reasons for nomination of this eGovernance project are:

Ease of applying:

- Online application has been developed such that the applicants/consumers can apply for new installation from any location using internet technologies.

Ease of tracking:

- The applicants/consumers can track the certification status online thus saving time and resources in visiting concerned offices.

Security:

- HTTPS protocol is used
- Authorized E.I Department officers must login to view/edit registered consumers' data, in contrast to the manual processes where possibility of consumer data misuse was high due to unauthorized access
- Provision of automatic back-ups at regular intervals prevents data from permanently being erased due to human error
- Easy accessibility from any location to a system connected to the internet. E.I Department need this flexibility and speed in accessing data and information in a secure manner on various types of information.

RESULTS INDICATORS

Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos.) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
Services relating to design approvals of new electrical installations under	These services help the EI department officers in monitoring the	0	0	33

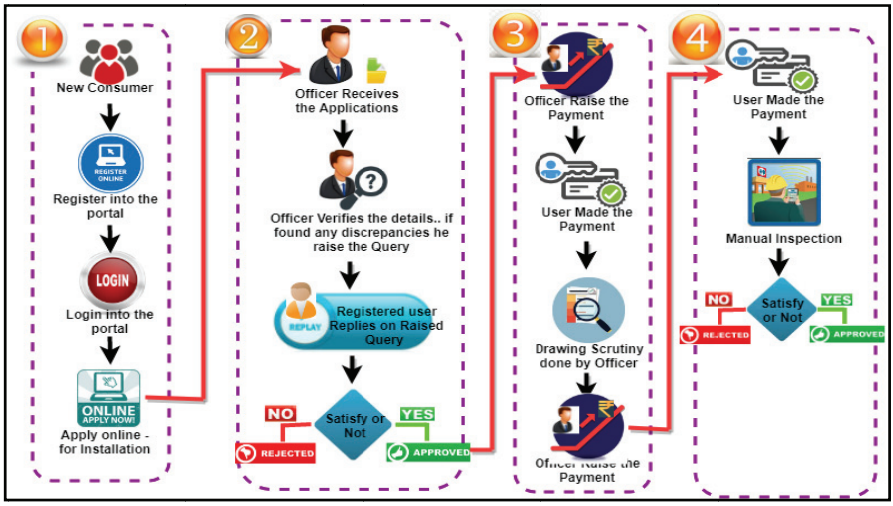
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Regulation 43	application received under Reg. 43 and their disposal. **Benefits:** Helps the E.I Dept. officer to manage the applications received from consumers. The S/W also provides consumers the ease to register and apply online.			
Services relating to renewals of electrical installations under Regulation 30	These services help the EI department officers in monitoring the renewal applications received under Reg. 30 and their disposal. **Benefits:** Helps the E.I Dept. officer to manage the applications received from consumers. The S/W also provides consumers the ease to register and apply online.	0	0	12
Services relating to according approvals to Consumers under Electricity Duty Act	These services help the EI department officers in monitoring the application received under Electricity Duty (ED) and their disposal. **Benefits:** Helps the E.I Dept. officer to manage the applications received from consumers. The S/W also provides consumers the ease to register and apply online.	0	0	9

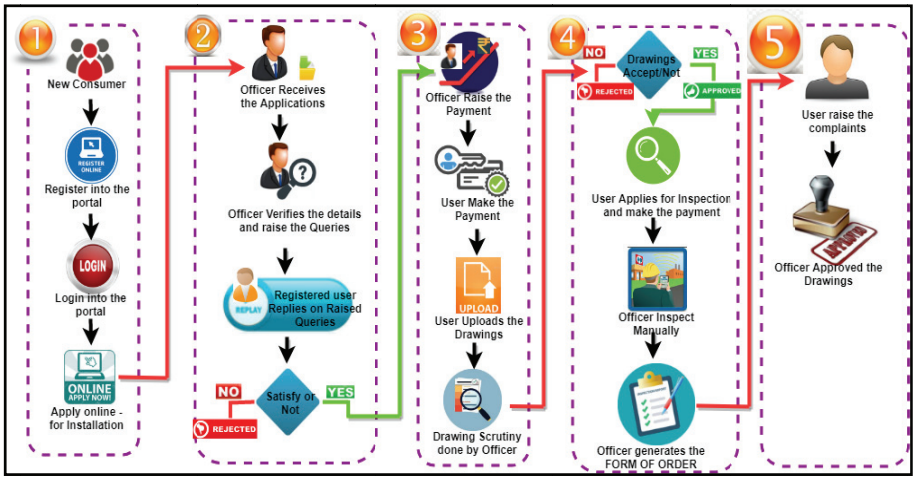
Implementation Coverage

Online Electrical Permits and Licenses Management System (OEPLMS) software was implemented with effect from 1-7-2017 onwards for issue of statutory approvals to new installations.

Design Approval Workflow



Drawing Approval Workflow



New services/Enhancements

For facilitating the consumers (citizens), it is proposed to develop mobile application for tracking the status of the application submitted for new/renewal of electrical installations

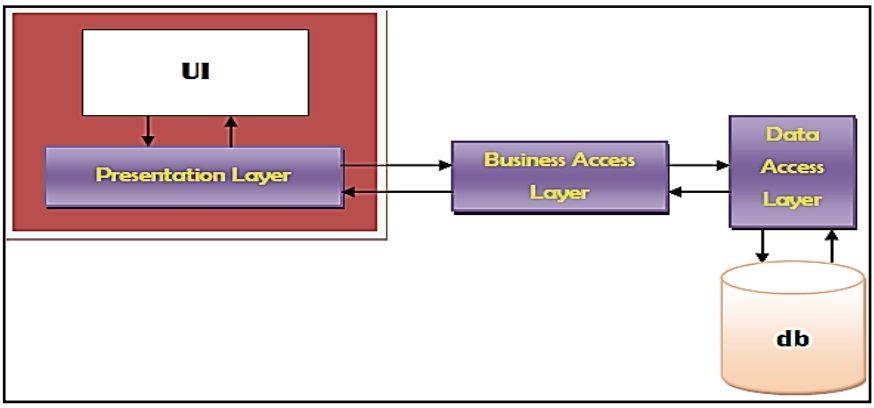
Enabler Indicators

Manual processes of according approvals and permits have given way to automation, resulting in transparency, saving of person hours and effecting in data accuracy. In addition, processes have become simpler and faster.

Technologies

- Web architecture - Three tier (Presentation, Application, data tiers) model is used in this software.

Using 3-tier architecture deployment has the presentation tier deployed to a desktop, laptop, and tablet either via a web browser or a web-based application utilizing a web server. In addition, the data layer normally comprises of one or more relational databases.



People

Training on developed software has been given to E.I Department officers and user manuals also been provided in OEPLMS software in respective officers logins.

VALUE INDICATORS

Learnings for sharing

Transparency in communication

Transparent communication is essential to set right kind of expectations. During the course of the project, the expectations had to be revised a few times for want of clarity in communication. For a world class product to be delivered, communication from the client and the service provider has to be clear.

Close collaboration with the client

A major challenge initially was to manage frequent change requests by the client. To overcome this challenge, CGG team worked closely with all the stakeholders involved in the project and took them into confidence for getting the necessary information on their requirements and making course corrections.

Digital Empowerment

By automating online submission and approval of electrical drawings for installations exceeding 650 volts etc., and provided simplicity and ease in the new processes, which are easy to understand by the end users, over earlier manual process.

Green eGovernance

Online process for Electrical Design Approval and Statutory approval. The OEPLMS web application takes less processing time to perform activities involved in this application and has reduced manpower.

The provision of uploading and downloading of installation certificates, approval certificates, photos and signature etc., have resulted in saving of papers thereby contributing to environmental protection.

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T-Ration Mobile App

Telangana Consumer Affairs, Food & Civil Supplies Dept., Govt. of Telangana

Akun Sabharwal, G. Shivaji, and V. Vijay Mohan

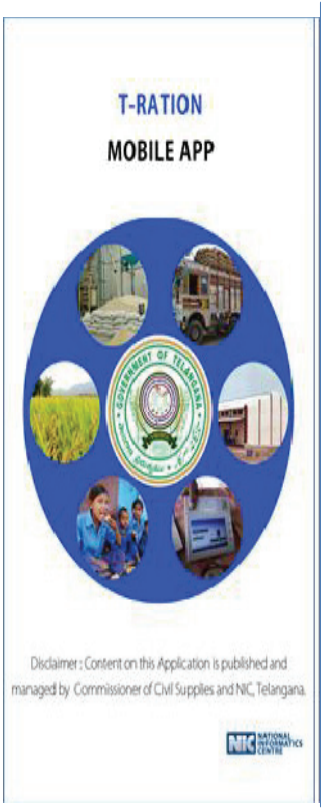
PROJECT OVERVIEW

The main objective of T-Ration Mobile App is to bring accountability and transparency about Public Distribution System (PDS) activities of Telangana state to the government as well as the common people of the state, and to guide through the ration shops location along with the stock availability details to the beneficiary from the current location. This app is available in Google Play Store to download and install.

After the installation, once the app is opened a user has to register with his/her Mobile No. It is a one-time process.

The App is categorized into 2 Modules:

1. Citizen Services (G2C Services :7)
2. Departmental Services (G2G Services : 13)





- **Citizen Services refers to the services that are rendered to the citizen of Telangana state:**
  The G2C services are developed to reach the individual Ration Card (RC) holder to know the associated Ration Card details, Stock allocated to Ration Shops as well as Ration Cards for every month, details of transactions occurred on the individual RC in each month, real time stocks availability in all the Ration Shops and most importantly the Ration Shop Locations Map using which an individual can track the nearby ration shops from current location (provided GPS location is ON in the device) along with the stocks availability to draw the Essential Commodities allocated on the particular RC.
  - Ration Card Search
  - MeeSeva Search
  - Allocation to Ration Card
  - Allocation to Ration Shop
  - Ration Card Transactions
  - Current Stock at Ration Shop
  - Ration Shop Locations
- **Departmental Services:** category is the electronic sharing of data and/or information is for the usage of Civil Supplies Department of Telangana state and other government officials. The goal of departmental services is to support e-Government initiatives by improving communication, accountability, data accessing and data sharing for monitoring the Telangana-PDS end-to-end computerized process.

  Using this app, the government officials can check the statistical information about National Food Security Cards of Telangana state such as RC Status, % of Aadhaar Seeding, Dynamic Key Register (DKR), live ePoS (electronic Point of Sale) sale transactions, Real time stocks available at MLS (Mandal Level Stock) points and buffer godowns, etc. All these G2G Services are summarized and drilled down from State level through the least possible level of each feature such as Ration Shop / Release Order, etc.
  - Ration Card Status Report
  - MeeSeva Application Status Report
  - Aadhaar Seeding Report
  - DKR Report
  - Release Order (RO) Status Reports
  - Live ePoS Sales
  - Stage-1 Buffer Godown Stock Receipts
  - Stage-1 Buffer Godown Stock Issues
  - Stage-1 Buffer Godown Stock Position
  - Stage-2 MLS Point Godown Stock Issues
  - MLS Stock Receipts

- MLS Stock Issues
- Godown Stock Receipts
- Godown Stock Issues

Some of important reports have an additional feature of capturing screenshot and export to PDF / JPEG for future reference.

Key Considerations

- Ration shops location service is widely useful to the beneficiaries to track the near-by Ration shops and stock availability from their current location to draw their allocated commodities from any nearest shop.
  (a) This reduces his time effort to travel to the farthest ration shop to which his RC is mapped
  (b) This helps to know whether the shop is opened or closed at the time whenever the beneficiary want to visit and get the commodities
  (c) Beneficiary will be able to locate the surrounding shop and draw commodities from it while he/she is travelling to other place within the state with the help of portability
  (d) Overcomes the time and energy spending for travelling to closed or stock-less ration shop during some times
  (e) Citizen can easily identify the nearest shops to avail Portability feature of ePoS.
- This app has great usability value as it helps the people to save time and efforts to know their RC details, allocation entitlement details, transaction details, etc.
- User friendly and easy to access.
- T-Ration app brings awareness in the people to know their entitlements in every month on their fingertips instead of rushing to ration shop directly.
- The app has the additional feature of capturing the Screenshot of the entire report and save it in PDF format for further references.

Key reasons for nomination

The T-Ration Mobile App is developed to bring accountability and transparency about Public Distribution System (PDS) activities of Telangana state to the government as well as the common people of the state and also to guide through the ration shops location along with the stock availability details to the beneficiary from the current location. This app is available in Google Play Store to download and install.

Some of the key considerations of this app are:

- Ration Shops Location Map: This service is widely useful to the beneficiaries to track the near-by ration shops and stock availability from their current location to draw their allocated commodities from any nearest shop.
  (a) This reduces his time effort to travel to the farthest ration shop to which his RC is mapped with the help of ***route map to nearest ration shop***

(b) This helps to ***know whether the shop is opened or closed*** whenever the beneficiary wants to draw the commodities instead of travelling and returning to home with regret of finding closed shop or unavailable stocks

(c) Beneficiary will be able to ***locate the closest shop*** and draw commodities from it ***while he/she is travelling to other place within the state*** with the help of portability

(d) Citizen can easily identify the nearest shops to ***avail Portability feature of ePoS***

- This app has great usability value as it helps the people to save time and efforts to know their RC details, monthly allocation entitlement, monthly transaction details, etc.
- User friendly and easy to access.
- T-Ration app brings accountability to the Civil Supplies Department and other government officials to track day-to-day live ePoS sale transactions, stock positions at godowns and MLS points, monthly online Dynamic Key Register (DKR), Aadhaar Seeding status, MeeSeva applications status and many other useful reports are provided and they can be drilled down from state level to the least possible level. It can be accessed on the fingertips instead of browsing the web applications and login each time for any statistical observation.
- The app has the additional feature of capturing the screenshot of the entire report and save it in PDF format for further reference.

RESULTS INDICATORS
Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
Ration Shops Location Map	This feature is used to locate the nearby Ration Shops with respect to the user's current GPS location along with the stock availability in the selected FPS. Also, a route will be highlighted between the selected FPS and current location.			82,00,000 +
Ration Card Search	It is used to fetch the ration card details using either Ration Card Number or Reference Number.			20,43,835
Ration Card Allocation	This is used to get the allocation of commodities details for a particular ration card for the given month, year, Ration Card Number			36,320

Contd...

Ration Card Transaction	RC Transaction is used to get the details of lifted commodities for a particular ration card for the selected month, year, Ration Card Number			46,81,062
Aadhaar Seeding	This gives the real time stock position at the fair price shops where ePoS devices are available.			1,31,855
Live ePoS Sales	It gives the details of commodities sold at Fair Price Shops between the selected dates at real time.			98,01,225
Current Stock at FPS	This gives the real time stock position at the fair price shops where ePoS devices are available.			92,556
Stage-1 and Stage-2 reports	These reports give the quantity of stocks received, dispatched and stock availability at all the times in Buffer Godowns and MLS points of the state between the given dates.			75,837

Implementation Coverage

The T-Ration app has been downloaded and used by the people of Telangana. More than 85 lakhs people have downloaded the app and are using it successfully across 31 districts of Telangana State.

- Ration Card Search helps people to know their card status whether active or inactive and also get the details of the card to which office it belongs to. Around 20,43,835 times the ration card search service is accessed.
- Key Register Details has been so far used by more than 90,000 members in all over the state.
- Seeding report has been accessed for more than 1,31,000 times.
- The count of total applications along with the details such as pending cards, confirmed cards, FSC approved, AFSC approved and rejected cards is being accessed regularly by the government officials for the statistical analysis of the PDS activities.
- The quantity of commodities allotted to the shops and ration cards using key register report.
- The details of the count of total members (units) associated with the cards, rejected units, units with SRDH match, and units without SRDH match.
- The quantity of commodities allotted to FP Shop and the commodities lifted from the FP Shop.
- The count of total transaction in the ePoS at district level, office level and shop levels.

New Services/Enhancements

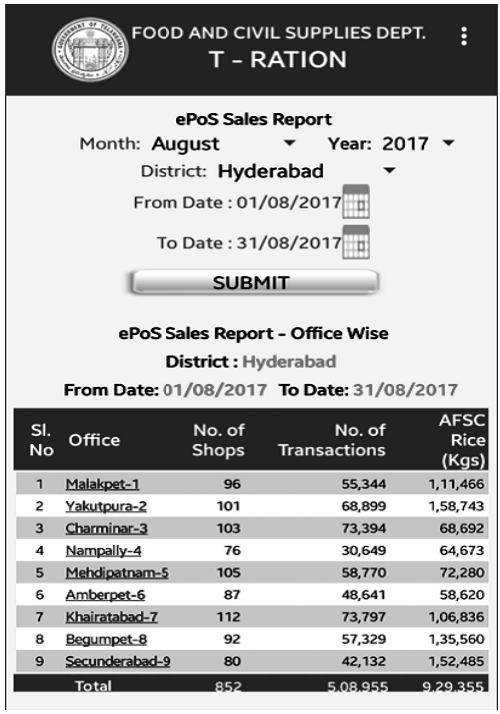
Current Stock at FPS: Real time stock availability in fair price shops and monitoring transactions done is helpful to the government to control the stock diversion and the beneficiaries are benefited with their right allotment.

FPS Locations: One can know the locations of the surrounding fair price shops and directions route map from the current GPS location towards the selected FPS and its stock details.

- This reduces his time effort to travel to the farthest ration shop to which his RC is mapped
- This helps to know whether the shop is opened or closed at the time whenever the beneficiary want to visit and get the commodities
- Beneficiary will be able to locate the surrounding shop and draw commodities from it while he/she is travelling to other place within the state with the help of portability
- Overcomes the time and energy spending for travelling to closed or stock-less ration shop during some times



Live ePoS Sales: This report gives the details of commodities sold at Fair Price Shops (Where ePoS devices are available) between the selected dates. It can be drilled down from top level of the district i.e., Office through least possible level i.e., RC of any member of the selected office and tagged ration shop.


FOOD AND CIVIL SUPPLIES DEPT.
T – RATION

ePoS Sales Report

Month: August Year: 2017

District: Hyderabad

From Date : 01/08/2017

To Date : 31/08/2017

SUBMIT

ePoS Sales Report - Office Wise

District : Hyderabad

From Date: 01/08/2017 To Date: 31/08/2017

Sl. No	Office	No. of Shops	No. of Transactions	AFSC Rice (Kgs)
1	Malakpet-1	96	55,344	1,11,466
2	Yakutpura-2	101	68,899	1,58,743
3	Charminar-3	103	73,394	68,692
4	Nampally-4	76	30,649	64,673
5	Mehdipatnam-5	105	58,770	72,280
6	Amberpet-6	87	48,641	58,620
7	Khairatabad-7	112	73,797	1,06,836
8	Begumpet-8	92	57,329	1,35,560
9	Secunderabad-9	80	42,132	1,52,485
	Total	852	5,08,955	9,29,355

- **Play store:** This app has been launched in September, 2017 and it is available in Google Play Store to download with key words like 'T-Ration', 'Telangana Ration', 'Telangana Civil Supplies Department', 'Food Security Cards Telangana', etc.

Future Plans to be implemented:

Few enhancements are yet to be rolled out in this app. Mentioned below are some of the features, planned to implement in the next release of this app:

1. Using GIS tracking to show the location of vehicles that transfer stocks from godowns to MLS points and from MLS points to Fair Price Shops using google Google Map API to know the exact location of the vehicle.
2. Regional language translation: Now this app is developed in English language only. Hence regional language support will be providing in next release of this app.

Currently the app is developed for Android mobile phones. It has to further be enhanced for availability in the iOS devices too.

ENABLERS

Government Process Reengineering

Initially there was no such public app across the nation for the Civil Supplies activities to get the details of the commodities and people had to invest lot of time

to get the details of their card status and the commodities allotted to their Ration Card. Fair Price Shop dealers had to manually check the allotted quantity of commodities to their shops and the available quantity. They had to check all the details manually or using the web application that was developed. Now, using this mobile application, the efforts of the public and the Government officials have been reduced drastically. The details can be known using the mobile app and there is no need to login into any web application and go through multiple drilled down MIS reports which are in HTML format with a lot of data. Government or departmental officials can easily track and make analysis on the statistics of the PDS activities carrying out at real time on their fingertips.

Technologies

The entire ownership of the data rests with the Civil Supplies Department of Telangana State. All the data is located in co-located Departmental servers in a highly secured environment in SDC (State Data Centre, Telangana), where all the security policies are implemented.

Service delivery needed a complete transformation in capacity which was strategized to be achieved by bringing in innovation in organizational and technological model. This was done by going through with the following cycle department after department. A complete realization that the process had to move through all the stages starting from visioning and leading to a sustainable model of G2C and G2G services.

Below is a news article about T-Ration App **Launched by Sri Etela Rajender garu**, Hon'ble Minister of Finance & Planning, Small Savings, Consumer Affairs, Civil Supplies, Telangana state in September, 2017.



అరచేతిలో రేషన్ సమాచారం

● నేడు 'టి రేషన్' యాప్ ఆవిష్కరణ

ఈనాడు, హైదరాబాద్ : తెలంగాణలో రేషన్ దుకాణాల సమాచారం ప్రజలకు మరింత చేరువకానుంది. సరుకుల రాకపోకలు, నిల్వల తీరు తెన్నులు, రేషన్ దుకాణం ఎక్కడ ఉంది తదితర సమాచారాన్ని కార్డుదారులు ఎప్పటికప్పుడు తెలుసుకునేందుకు మార్గం సుగమం కానుంది. ఇందుకోసం 'టి రేషన్' పేరుతో చరవాణి యాప్‌ను అధికారులు రూపొందించారు. ఈ యాప్‌ను శుక్రవారం నుంచి అందుబాటులోకి తీసుకురానున్నట్లు పౌరసరఫరాల శాఖ కమిషనర్ సీవీ ఆనంద్ గురువారం ఒక ప్రకటనలో తెలిపారు. కార్డుదారులే కాకుండా అధికారులు సైతం యాప్ ద్వారా రాష్ట్రంలోని ఏ రేషన్ దుకాణంలో ఏమి జరుగుతుందన్నది ఈ యాప్ ద్వారా తెలుసుకోవచ్చు. 20 రకాల సమాచారాన్ని కార్డుదారులు తెలుసుకునేందుకు వీలుగా దీనిని సిద్ధం చేశారు. కార్డుదారులు.. సమీపంలో చౌకధరల దుకాణం ఎక్కడ ఉన్నదో తెలుసుకోవటం మొదలు ఏయే దుకాణానికి సరుకులు ఎంతెంత మొత్తంలో కేటాయించారు? రేషన్‌కార్డు చెల్లుబాటులో ఉందా? లేదా? ఆ కుటుంబ సభ్యుల వివరాలు వంటివి తెలుసుకోవచ్చు. రేషన్‌కార్డు కోసం దరఖాస్తు చేసుకోవచ్చు. ఎక్కడి నుంచైనా సరుకులు తీసుకునే(పోర్టబిలిటీ) విధానం అమలు చేస్తున్న నేపథ్యంలో దగ్గరలో రేషన్ దుకాణం ఎక్కడ ఉంటో గూగుల్ మ్యాప్ ద్వారా తెలుసుకునేందుకు టి యాప్‌లో వెసులుబాటు కల్పించారు. రాష్ట్రంలోని 14 జిల్లాల పరిధిలో 8,546 దుకాణాల్లో ఈ-పాస్ యంత్రాల ద్వారా లావాదేవీలు నిర్వహిస్తున్నారు. ఆయా దుకాణాల్లో జరిగే లావాదేవీలను యాప్ ద్వారా తెలుసుకోవచ్చు యాప్‌ను మరింతగా అభివృద్ధి చేయనున్నట్లు ఆనంద్ తెలిపారు. గిడ్డంగులు, సరుకులు రవాణా చేసే వాహనాల కదలికలను కమాండ్ కంట్రోల్ కేంద్రం మాదిరిగా చరవాణిలో కూడా ప్రత్యక్ష కదలికలను చూసేందుకు ఏర్పాట్లు చేస్తున్నట్లు వెల్లడించారు. వచ్చే వానాకాలం సీజన్ నుంచి ధాన్యం కొనుగోళ్లు, చెల్లింపులను సైతం ఈ యాప్ ద్వారా నిర్వహించేలా అభివృద్ధిపరచనున్నట్లు ఆయన వివరించారు.

Team of T-Ration app officials, developers and other coordinators:



People

The stakeholders involved in this app: Beneficiary - the end users who will receive food commodities, Commissioner of Civil Supplies Department of Telangana State, DCSO, District Managers, Tahsildars, other staff of Civil Supplies Dept., common public of Telangana State.

Being a user friendly application, the app can easily be understood by a common man. The app is developed in such a way that there would not be any need of training because many reports have been developed in this app and each report is specific to a particular PDS activity. By the name of the service itself, any person can easily understand the purpose of it. The nomenclature of the services is clear and understandable to its perspective.

Citizens: The main theme of T-Ration mobile app is to enrich the common people to know their eligibility and have knowledge of the subsidies that they get from the Government of India under Food Security Act, 2013. The NFSC beneficiaries or any citizen of Telangana State can use this app to know the details of their cards status whether active or inactive, commodities available in the FP shop, allocation of Essential Commodities to respective FSC, transactions made on an individual ration card, the application status of the cards whether approved / temporarily approved / rejected, also one can get the members details associated with the cards as approved units, with / without SRDH match / rejected.

Also, due to portability implementation in ePoS devices, an FSC (Ration Card) beneficiary can draw the essential commodities not only from the associated Fair Price Shop (FPS), but from any nearby FPS within district. For this purpose, FPS locations option is provided in this app to locate the nearest opened FPS and its stock availability which can be drawn at any moment of time.

Government: It helps the government to analyze the number of applications and their status, seeding % details, status of MeeSeva applications for new cards or any of the mutation, Dynamic Key Register details and Release order details. It also helps to know the quantity allotted to the districts and the distribution of stocks to the Buffer Godowns, MLS points, FP shops, etc. The application also helps the officials to study the statistical data about the lifted and un-lifted stocks that helps in analyzing the allotment for the next month by considering the CBs of FPS to fulfil the requirement of successive month. This results in saving money and subsidy to the government and control the stock diversion.

Capacity building has become dominant subject with the advent of T-Ration app. During the driving phase of the capacity building initiative, leads are assigned, accountability is established, action plans are developed, and project management units are utilized. The criteria of involving domain experts was identified and applied to enhance the effectiveness of the capacity building initiatives. Once the driving stage has reached fruition, constant monitoring of the capacity building initiative has been setup.

VALUE INDICATORS

Learnings for sharing

T-Ration android mobile app has been implemented for the benefit of entire Telangana State in regards of PDS. All the BPL families of the Telangana state who are having **active** food security cards are the beneficiaries.

- Stock availability in all the districts is useful to government to know the stock level in entire state level, district level, mandal level and ration shop itself.
- The beneficiaries can know the location of the associated ration shop and route map from their current location towards the selected FPS and its stock details.
- Real time stock availability and monitoring transactions done is helping the government to control the stock diversion and the beneficiaries are benefited with their right allotment.

It is successfully deployed and being used by all the beneficiaries and officials of Telangana State. This app can be considered as a model for all the other states in the country.

Digital Empowerment

Earlier the users were habituated to use the web portals NFSC, ePoS and SCM to get the necessary details of Food Security Cards, Telangana; also there was no option to locate the opened Ration Shop before approaching physically to draw essential commodities.

After the deployment of this app, the user is able to get many PDS services information on finger tips such as monthly allocation details, Ration Card Search,

monthly Dynamic Key Register, Release Order Status, Live ePoS sale transactions, Real Time stock positions, Ration Shops locations, etc., improvising the accountability and transparency of the Food Security Cards, Telangana state.

Green eGovernance

As this app is designed to have everything in one's hands at all the times, the app is said to be 100% eGovernance with Paper-free nature.

High level officials can have an eye ON all the times and analyze the end-to-end PDS activities of Telangana State at real time like 'Stock Position at MLS points and Buffer Godowns', 'Live ePoS Sales', 'Allocation', 'Dynamic Key Register', 'Aadhaar Seeding', etc. By this the government is able to monitor online and track the stock discrepancies at various levels of stock transferring and distribution.

Ration Shop dealers can maintain and monitor their real time stock position regularly. With the help of the Release Order (RO) status by RO No. and RO status by Ration Shop reports, an FPS dealer can know the details of their release order like 'Payment Date', Quantity of Commodities paid for, 'Approved Date', 'Dispatched Date', Dispatched stocks, 'ACK Date' and Acknowledged stocks quantity in ePoS device. RC Allocation report helps the dealers to know the quantity of stocks allocated to their respective shop for the given month. The dealers need not maintain any book manuals for their regular activities. Because, all the features provided in this app can be drilled down from high level to least possible level at any given time duration.

Beneficiaries are the key users of this app. One of the major feature in this app is Ration Shop Locations Map is very much useful to the beneficiaries to locate the nearby Ration shops from the current GPS location to know whether the shop is opened or closed and whether there is stock availability in the opened shop to draw their necessary commodities at any time. Also the RC holder can know the RC status and other related details, allocation given to any particular Ration Card, Mee Seva application status to know the status of their new card application / any mutation request given at the CSC and a beneficiary can track the no. of transaction details done on his / her card in the given month.

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Water Billing and Payment Portal

Uttarakhand Jal Sansthan, Government of Uttarakhand

S. K. Sharma, and K Narayanan

PROJECT OVERVIEW

Uttarakhand Jal Sansthan is an autonomous body under Government of Uttarakhand which is responsible for providing drinking water to the public. Water billing application has been designed, developed and implemented for the Uttarakhand Jal Sansthan by NIC, Uttarakhand. This application helps department manage new/old water and sewer connections, approval of new connection, generating water bills and payment by consumers. The computerized system is divided into three parts, one is offline application deployed at various divisions/collection centres, second is online workflow based application for department officers for approval of connections and viewing various reports, third is online application for consumers for viewing personal information, billing/payment details , e-payment of bills using various modes. A citizen can apply online for getting new connection using this web portal.

Bills are generated periodically at around 70 collection centres for more than 5 lakh consumers which fall under various divisions of Uttarakhand Jal Sansthan all over the Uttarakhand state. Bills are generated offline at respective collection centres/divisions. Once bills are generated they are uploaded on server through webservices deployed on the UJS-Portal. After uploading of the bills on web, consumers are sent SMS and email alerts to consumers for availability of bills on portal. Consumers can either pay the bills at collection centres or online through payment gateway. Transaction done though offline collection centre is updated at online site through webservices. One more payment option is also there for consumers by which they can make payment in designated bank. At the day end bank uploads payment details (scroll) on department website to keep consumer records updated. UJS-Portal has been integrated with payment gateway of Billdesk which covers many option of payment like Net banking, debit and credit cards etc.

A mobile application has also been developed for ease of consumers for viewing previous/current bill and payment details besides payment option of current bill.

Another module of the UJS-Portal is for online registration and redressal of consumer/general public water and sanitation related grievances/complaints. The module for online application for new water & sewer connection has been integrated with Single Window System of Industry department of Uttarakhand for allowing industries for applying new water connection under Ease of Doing Business (EoDB) programme of Government of India. The portal Has also been integrated with Common Service Centres(CSCs) enabling consumers from rural areas to access various e-Services of the department.

Salient Features:

1. Approval of water/sewer connection though work flow based interface.
2. Generation of periodic water bills.

3. e-payment facility for consumers through various modes.
4. Monitoring the consumer data and revenue collection.
5. Registration and Redressal of consumer/citizen grievances.
6. e-mail and SMS alert facility for consumers.
7. Mobile App for consumers.
8. Ease of Doing Business (EoDB) compliant.
9. Integrated with CSCs
10. On boarded with Bharat Bill Payment System (BBPS)

Key reasons for nomination:

The project meets following standard objectives of eGovernance:

1. **To build an informed society** – By providing single point information about water and sewer connection about a consumer through internet.
2. **To increase Government and Citizen Interaction** – The Uttarakhand Jal Sansthan portal accepts feedback from the citizens and to make the Government aware of people's water and sewer related problems.
3. **To encourage citizen participation** – The project aims to restore democracy to its true meaning by improving citizen participation in the Governing process, by improving the feedback, access to information and overall participation of the citizens in the decision making.
4. **To bring transparency in the governing process** – The project carries an objective to make the Governing process transparent by providing interface for online application for getting new water connection and making status of progress of the application available to the people for access. It is to make people know the decisions, and policies of the Government.
5. **To reduce the cost of Governance** - EGovernance also aims to reduce cost of governance by cutting down on expenditure on physical delivery of information and services. The project aims to do this by cutting down on stationary in physical printing of water bills, manual processing of application form for new connection etc which amounts heavily on government's expenditure. It also does away with the physical communication by sending SMS/E-Mail based alerts thereby reducing the time required for communication while reducing cost.
6. **To reduce the reaction time of the Government** – The project aims to reduce the reaction time of the Government to the people's queries and problems.

RESULT INDICATORS

Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
Bill generated	Bill generated at various collection centres of department	1320256	1543463	1851453

Contd...

Bill Payments (Online through portal)	Bill paid by consumers using online portal	No. : 33637 Amt (Rs) :33397756	No. : 74086 Amt (Rs):70005912	No. : 119818 Amt(Rs): 122612028
Bill Payments (Counter)	Bill paid by consumers at collection centres	No. : 866884 Amt (Rs) :108866416 1	No. : 598016 Amt (Rs) :636198573	No. : 1148809 Amt (Rs):1605137475
Bill Payments (through CSC)	Bill payment at Common Service Centres (CSCs)	NA	No. : 1250 Amt (Rs) :696379	No. : 6230 Amt (Rs):3917372
Connection Approval	Approval of connection through workflow based application	38166	52960	42327
Consumer complaints received	Complaints related to water/sewar problems lodged by consumers/ citizens	11345	12819	15658

Implementation Coverage

- The project covers approximately 90 percent of Uttarakhand state where habitation exists by digitizing consumers' data and making them available on internet.
- Mobile application for payment has been developed and deployed for convenience of the consumers.
- Approximately 6 lakh consumer's billing data have been maintained. Bill generation and revenue collection at more than 20 collection centres in Uttarakhand. Bills are generated periodically (thrice in year) at various collection centres/divisions.

New Services/Enhancements

- Keeping in the view of rural population where internet connectivity is inadequately available, the portal has been integrated to Common Service Centre (CSCs) in the state.
- All services like payment of bills, application for new water connections, registering of complaints are now available to the consumers through CSC kiosks.
- Now a citizen can visit nearest CSC at panchayat level for paying their water bills online.

- The portal has now on-boarded with Bharat Bill Payment System (BBPS) of National Payment Corporation of India (NPCI).

ENABLERS INDICATORS

Processes Re-Engineered

Pre Deployment:

Earlier, department had engaged different agencies for generation of bills and collection of payment. Also at some places tariff was calculated manually for preparing water bills. Due to lack of uniformity in process of bill generation, compilation of data was not easy. Department used to compile various reports manually after analysing the data. No citizen interface was available. Application received from citizen was processed manually for approval of water/sewer connection. Defaulters list was not available with the department due to which revenue loss was there.

Post Deployment:

Consumers have been benefitted after bill and payment details made online for them enabling them to make payment using various modes like net banking, Credit and Debit Card. They can also use mobile application for payment of the bills. Department officers have workflow based interface for approval of connection application. Citizens are also able to view current status of their application for new water & sewer connection through web interface. Department officers can generate various MIS reports, list of water bill defaulters, reports of new application details and reports related to revenue collected.

TECHNOLOGIES

- Smart-phones users are growing day by day, keeping this in view, a mobile Application has been developed for expansion of user base and convenience of consumers.
- Offline version of software has been deployed for generating bills in offline mode due to internet connectivity problem in some offices.
- A mobile wallet has been created which is topped up by CSC. The application has also been integrated with Common Service Centres (CSCs) in the state.
- This has facilitated consumers to pay their bills at nearest CSC and saving their time and avoiding queuing up at collection centre/division office.

People

1. Before introducing new system for billing, s/w and data was being maintained by 3 different agencies at different locations in different formats, at some places data was maintained in excel sheets and manual bills were being prepared. After the department decided to get it done by NIC, first challenge was to bring the data into uniform format. Also, data was in non-Unicode Hindi font, it was converted to Unicode font. After conversion of data into uniform format, it was verified by the department. The data

digitization, compilation, conversion to UNICODE and verification took large many man-days and effort.

2. The different vendors which were running their software and maintaining data earlier were engaged in data entry and verification work so that their employees do not get suffered due to discontinuation of work.
3. Trainings were organised for officers, staff and data entry operators of the department for smooth implementation of the system. State level offices and nearby collection centres were taken up for close monitoring of implementation in the first phase.

VALUE INDICATORS

Learnings for sharing

- The delivery of any service to the beneficiaries should be in the simplest way they are able to understand.
- The delivery of service should be available through various channels with the aim "Reach to the Unreached". In this project it has been through web, smart-phone and CSC.
- The Data Analytics for the drinking water sector helps senior management and policy makers to engage in better planning and management for this critical sector of public interest.

Digital Empowerment

There has been problem of internet connectivity in remote areas of Uttarakhand State. Keeping this in mind, offline version of the software has been developed for processing of bills and payment, so that these area may not deprived of this facility. Also, data has been maintained in Hindi language enabling bill distribution easy for local officials in remote areas/villages.

Green eGovernance

Prior to the implementation of the project, consumers were provided printed bills at their home by the department. Department, now inform the consumers through the SMS after the bills are generated. Also, after bill payment receipt is sent on registered e-mail id of the consumer. These are few steps towards less use of papers thereby saving environment and resources of the department.

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AwaasSoft Product Suite – Implementation of eGovernance Service Delivery

Rural Housing Division, Ministry of Rural Development, Government of India

Prasant Kumar, Prashant Kumar Mittal, and Ajay More

PROJECT OVERVIEW

Government of India has a commitment to provide "Housing for All" by 2022, for that Rural Housing scheme Pradhan Mantri Awaas Yojana-Gramin (PMAYG) was launched in Nov 2016 by Honorable Prime Minister Shri Narendra Modi. PMAYG aims at providing a pucca house, with basic amenities, to all eligible houseless households and those households living in kutcha and dilapidated houses, by 2022. The immediate objective is to cover 1.00 crore households living in the kutcha house/dilapidated houses in three years from 2016-17 to 2018-19.

Program implementation and monitoring is carried out through an end to end eGovernance model using e-Gov/m-Gov solutions AwaasSoft and AwaasApp. While AwaasSoft is a workflow enabled, web-based electronic service delivery platform through which all critical functions of PMAYG, right from identification of beneficiary to providing construction linked assistance are carried out; AwaasApp, a mobile application is used to monitor real-time, evidence-based progress of house construction through date and time stamped and geotagged photographs of the house/site. All payments to beneficiaries are direct benefit transfers (DBT). The system has been developed and deployed at by NIC in collaboration with Ministry of Rural Development. The system is designed for all stakeholders of PMAYG with the loci as the beneficiary.

Coverage – Geographical and Demographic:

(i) Comprehensiveness of reach of delivery centres -Covers all Gram Panchayats in country.

(ii) Number of delivery centres –approx 2,63,000 Gram Panchayats

(iii) Geographical
   (a) National level – No of State covered: **34**
   (b) State/UT level- No of District covered: **685**
   (c) District level- No of Blocks covered: **6865**

(iv) Demographic spread
   - Under "housing for all" PMAYG is mandated to **cover all eligible rural households** of country.
   - As per SECC 2011, 4.06 crores families are houseless or living in depilated *(kuttacha)* house with zero room/ one room/ two room, After validation of the data and final Permanent Wait list preparation by Gram Sabha, all eligible families are to be given *pucca* houses by 2022.

(v) Key Statistics

- Web Interface Users - 2.6 Lakh approx (Upto GP level)
- Mobile App Users - At GP level (Downloads - 5 Lakh+)
- Total profiles registered till June'18– 1.04 Crore approx
- Total houses sanctioned till June'18 - 86 Lakh +
- Total e-Payments made till June'18 - 68,000 Crore approx
- Total geo-tagged images captured till date – 6.7 Crore approx

Key reasons for nomination:

In the words of Shri. Amarjeet Sinha's, IAS, Secretary Rural Development – "AwaasSoft platform, alongwith AwaasApp has demonstrated the power of technology and its extensive use in the remotest corners of the country. This indeed is a transformational success story. As important as the software is, it is the quality of human resource and professionals brought in by the NIC which makes AwaasSoft a true game changer".

The IT application that strengthened the faith of rural citizens in any Government programs. AwaasSoft suite is a workflow enabled end to end ERP system created for Pradhan Mantri Awaas Yojna - Gramin.

A digital overlay on the critical process of identification, disbursement and monitoring helps to weed out possibilities of corruption, enable the system to serve the real beneficiaries, and builds a strong trail for any audit anytime.

Values Delivered by AwaasSoft:

- **Organization:** System reduced the overall transaction time by eliminating the delay in inspection time and enabling real-time monitoring, this also helped in area specific planning and decision making. Before use of AwaasSoft, average completion time of houses construction under IAY was 314 Days, whereas with use of AwaasSoft, average completion time of a house is 114 Days.
- **Citizens:** System provides the provision to citizens for tracking e-payment/house construction status with ease, they can view all reports and alerts real time. Also, since the users were situated in remote locations, mostly in the 117 aspiration districts, an option to use the system in offline mode was provided.
- **Grievance redressal:** A Toll-Free helpdesk – 1800-11-6446 is in place for resolution of grievances and feedbacks.
- **Stakeholders:** System has incorporated evidence based monitoring mechanism which involves the activity of uploading/verification of photographs by Government staff/ inspectors, or beneficiaries.
- Convergence with other schemes is also assisted such as payments to MGNREGA workers for the construction of houses, LPG connection under PM Ujjwala Scheme, infrastructure planning at village level by different departments.

- **ERP:** This is a complete system that is interwoven containing all aspects of PMAYG – Identification, Execution, Monitoring and has reduced the lifecycle from months to days.

RESULTS INDICATORS

Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
Beneficiary Identification and registration	The Beneficiary selection module makes available the Gram Panchayat-wise list of eligible beneficiaries as per SECC- 2011 database, generating priority list of beneficiaries, search Panchayats/villages, and beneficiaries using SECC data. After validation of the data and final Permanent Wait list preparation by Gram Sabha, and while registering the beneficiary data about their Bank Account, Adhaar, MGNREGA Job Card etc. is captured for providing the benefit to right person on right time.	32,48,982	49,58,701	32,02,847
House Geo tagging	Existing site where Beneficiary lives, and proposed site where she is willing to construct PMAYG house is geo-tagged. Proposed site co-ordinates becomes the reference point for further geo-tagging of different stages of construction till completion of house. All completed houses are Geo Tagged and can be viewed on the AwaasApp	22,01,928	46,90,949	25,39,673
e-Sanction	System generated e-Sanction order with QR code is given to Beneficiary at time of sanctioning of the house. All details of payment disbursement and entitlements are in regional language.	21,44,621	39,43,612	26,46,761

Contd...

e-Payments (No. of transactions/ amount in Lakhs)	Direct benefit transfers to beneficiary bank accounts using PFMS FTO is made at block level is same is digitally signed and verified on AwaasSoft. *IAY scheme which was later revamped to PMAY-G	24,15,084 / 7,12,866.6*	37,10,855 / 10,60,426	1,57,06,030/ 55,05,142.5
Physical Progress Monitoring and Completion	All stages of house construction are monitored in real time using AwaasApp. 3 time stamped geo-tagged images are captured and verified for each construction level, enabling next installment of assistance. *Houses of previous years which got completed in this year are included.	18,52,892*	32,22,882*	44,59,462*

The major services delivered through the application have been mentioned here, there are many other micro services along with the above stated services –

Target setting: Social category wise targets are set top to bottom upto GP level

Remand: To remove beneficiaries form permanent wait list at later stages if someone found ineligible as per PMAY-G guidelines.

Refund: For capturing reverse fund flow in exceptional cases like death, permanent migration etc.

Account validations: All accounts are pre-validated through their respective banks before making any e-payment into them.

Implementation Coverage

Under "housing for all" PMAYG is mandated to **cover all eligible rural households** of country. As per SECC 2011, 4.06 crores families are houseless or living in depilated *(kuttacha)* house with zero room/ one room/ two room, After validation of the data and final Permanent Wait list preparation by Gram Sabha, all eligible families are to be given *pucca* houses by 2022.

Out of the target of 1 Cr. beneficiaries, registered more than 1 Cr. citizens with e-sanction released for 88 Lakh beneficiaries.

New Services/Enhancements

1. **GIS Mapping** – In AwaasSoft provisioned GIS Maps drillable to Gram Panchayat boundaries along with performance indexing for those GPs.

2. **e-Payment Dashboard** – Various descriptive analysis' are done and their results are depicted in this dashboard to identify the gaps in end to end DBT process of PMAY-G.
3. **Bank Performance index dashboard** – Performance of Banks with respect to account verification and processing of e-payments are quantified and indexed on live data
4. **Photo Audit Module for image of houses** – For fraud detection, this algorithm is used to identify similar houses in vicinity of each other and check if on same longitude/latitude there are no two or more houses marked, or if same house was geo-tagged at different location in earlier inspections.
5. **Awaas+** -to create an additional list of probable beneficiaries that have been left out of the SECC list due to any reason.
6. **Ranking of peer entities (GP, Blocks, Districts and States)** – Real time national ranking is published which leads to healthy completion and better performance.

ENABLERS
Government Process Reengineering

Old System Processes	New System Processes
Identification of Beneficiary	**Identification of Beneficiary**
GP/Block does the identification based on BPL 2002 data. GS/Block does addition and deletion in that list.	SECC List of deprived households is made available for download on AwaasSoft at GP/Block login. List is auto ranked based on SECC depravation scores. With poorest of the poorest getting first priority. *SECC was done through a comprehensive door to door enumeration across the country, with aim to generate information on a large number of social and economic indicators relating to households across the country. PMAYG was the first program to leverage SECC list for the effective implementation.
Based on same list open ended registrations were done and IAY IDs were generated by system	Each beneficiary is allotted unique PMAYG ID along with SECC TIN number
Vetting by Gram Sabha	**Vetting by Gram Sabha**
BPL five years waiting list was made available to GS by Distt auth.	Upon downloading the list Gram Sabha validates the same, segregates minorities from others categories, removes ineligible beneficiaries. All the processes are done through AwaasSoft login.

Contd...

GS does **addition and deletion** in that list as per GS resolution	Re-affirms the ranking of the filtered list. Tweaks it a bit, as per ground facts, if needed.
	All the proceedings of Gram Sabha are recorded in form of a resolution and same is uploaded on AwaasSoft along with scanned copy of final priority list.
Appeal	**Appeal**
Manual case by case appeals were submitted to Disttauths.	Dedicated committee is formed under the chairmanship of DC. Mandate is to resolve all submitted appeals within one month. Criteria for appeal resolution is clearly defined in guidelines.
Based on discretion Distt auth. may approve or reject the appeals.	Proceedings are recorded on AwaasSoft.
	Remand Module
	After the Appellate approval and freezing of Category wise-Gram Panchayat wise priority list, if some households are found/become ineligible, remand module is provsioned. Such cases can be requested by districts and approved by State for remanding back to Gram Sabha. And again as per decision of Gram Sabha, request is approved/rejected. All these processes are done from respective logins of authorities in AwaasSoft.
Priority List and Ranking	**Priority List and Ranking**
Priority list and ranking was done locally by GS based on their discretion.	After appellate committee's recommendations PWL (Permanent Wait list) gets frozen and permanent rank is given to each beneficiary.
	Pre Sanctioning Requisites
	Elderly lady from the household is chosen preferably as a beneficiary from the eligible households.
	For landless households, land is to be provided by the state government, land entitlement certificate is to be uploaded on AwaasSoft.
	Details of beneficiary taken in to AwaasSoft: - Bank Account Number - MGNREGA Job Card Number - Aadhaar with consent
	Time stamped and Geo-tagged photos of Old Site with Beneficiary and Proposed Site of construction are taken using mobile based application called AwaasApp.
	Bank account details are validated by concerned banks through PFMS. - JCN is verified from NREGASoft through AwaasSoft.

Contd...

	- Aadhaar number is verified by UIDAI. - Photos are verified by BDO office using AwaasSoft.
Sanctioning	**Sanctioning**
From the list given by GS and based on target allotted to concerned blocks, BDO will propose beneficiaries, not necessarily in the order of deprivation / identification.	Criteria adopted for Sanctioning - **Ranking & Targets.** Unlike the old system, there is no provisioning for out of order sanctioning. Which means ranking is strictly followed while sanctioning.
Based on BDO's recommendations District authorities give administrative sanctions.	e-Sanction order is generated and hard copy is given to each beneficiary, with following features: - Order is in regional language - QR code based - Contains photo of proposed site with beneficiary - All entitlement details mentioned - Concerned Tag officer contact details - Available for download on AwaasSoft
Payments to Beneficiary	**Payments to Beneficiary**
Funds were parked at Block Level based on the target assigned.	Single state nodal account is maintained and DBT is done to beneficiaries bank accounts. Interest accrued is also to be utilized in program fund only.
First Payment- Payment was give through the modes like Cash, Cheque, and NEFT, issued by BDO at Block Level. Same was reported later on MIS.	*First payment*-After e-sanctioning and account verification by concerned banks. FTO is made at block level is same is digitally signed and verified on AwaasSoft. Mode of payment is strictly DBT using PFMS.
Remaining Payments- Modes for other payments were same as first one. But, it has to be released after the physical asset monitoring.	*Remaining payments*- Remaining payments are linked with physical progress of house and is enabled automatically upon successful phase wise construction inspections.
	Following checks are in place for initiating e-payments from State Nodal Account: -Beneficiary's account is verified by PFMS and re-vetted by BDO office - There should be sufficient balance in SNA - Payments order should be within the target and utilization limit of concerned block.
Monitoring of Physical Assets	**Monitoring of Physical Assets**
First inspection was done after the release of first payment and initial construction begins.	Inspection starts before any physical progress. First inspection has following two time stamped and Geo-tagged photographs: 1. Depilated house where beneficiary was actually living with beneficiary. 2. Proposed site of construction.

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Inspection site was photographed and physical copies were filed at block level. Later, inspection details along with scanned copies of photographs were uploaded in MIS manually.	In later stages, inspections are done at every phase of physical progress- foundation, plinth, lintel, roof cast etc. till completion (including toilet). And same are digitally captured in real time manner using PMAYG m-governance app called AwaasApp. This digital capturing includes: ✓ Three Good quality photographs ✓ Time stamping of photographs ✓ Geo-referencing of photographs
	If accuracy of captured coordinates is more than 20 meters, then inspection has to be done again. And deviation of coordinators captured at later stages w.r.t. coordinates of proposed sites should be within pre-defined limits.
	Inspection also captures information against pre-defined quality parameters at each stage for e.g., type of mortar filling used, plinth band.
	AwaasApp runs in two modes, online and offline. In case of no internet connectivity, user can use the system as it is for data/ photo capture and sync it later.
	Above mentioned inspection activities can be performed at gram panchayat/block level by Gram Rozgar Sewaks/other ground level officials or by beneficiary herself.
	Digital Convergence
	PMAYG e-Gov system communicates with other heterogeneous systems of different programs through 'intelligent' web APIs.
	For strict adherence of convergence, each and every amenity provided under convergence is monitored using time stamped and geo-referenced photographs.
	House is considered to be completed only till all the basic amenities like Toilet etc. are built, same is monitored using AwaasApp.
	Communication with stakeholders
	SMS is sent to all beneficiaries and concerned implementing officers at every milestone throughout the house construction lifecycle- for e.g. Registration, Sanction, Payments and Inspections
	Stakeholders can submit grievances and provide feedback using Toll Free Help desk, Mobile App, Email, and Websites

Contd...

	Performance Index Dashboard
	Dashboard provides the near real-time information on comparative progress of different states. It also provides the progress as per different stages of house construction.
14 Eliminated Processes	**32 New Processes**

1. **Transparent identification of beneficiaries:** To overcome intrinsic fallacies, flow of data was structured in two approaches, "down to top" for survey and identification needs, and "bottom-up" for verification and authentication needs. SECC Census 2011 is leveraged to ensure only genuine and eligible citizen is benefited, verification of the beneficiary's list is done by Gram Sabha. All above mentioned activities are executed through PMAYG e-Gov system called AwaasSoft.
2. **Digital benefit transfer process:**
   - PMAYG e-Gov system is fully integrated with PFMS (Public Fund Management System) for Direct Benefit Transfers.
   - All beneficiary accounts are verified through PFMS before the remittance of any amount directly in to account of beneficiary.
   - To streamline the process of benefits disbursements and to make it transparent, all payments are now linked with physical progress of house.
   - Saving of hundreds of crores through DBT that earlier would be parked is State department banks and earn interest.
3. **Digital Convergence:**
   - PMAYG e-Gov system communicates with other heterogeneous systems of different programs through 'intelligent' web APIs, for eg. As and when PMAYG house is sanctioned on AwaasSoft a communication is automatically sent to MGNREGA for work creation and Toilet (IHHL), and response against each request is fetched by scheduled APIs.
   - For strict adherence of convergence, each and every amenity provided under convergence is monitored using time stamped and geo-referenced photographs. House is not considered to be completed, till all the basic amenities like Toilet etc. are built, same is monitored using AwaasApp.
4. **Real time and effective monitoring of physical assets:**
   - Now all stages of physical progress starting from depilated house where beneficiary was actually living, the proposed site of construction, different phases (foundation, plinth, lintel, roofcastetc) till completion (including toilet) are digitally captured in real time manner using PMAYG m-governance app called AwaasApp.
     This digital capturing includes:
     - ✓ Three Good quality photographs
     - ✓ Time stamping of photographs
     - ✓ Geo-referencing of photographs

- AwaasApp runs in two modes, online and offline. In case of no internet connectivity, user can use the system as it is for data/ photo capture and sync it later.
- All inspections are moderated at block level login of AwaasSoft.
- This real time and effective inspection and monitoring helped in:
  - ✓ Reduction of total time of house completion
  - ✓ Reduces total cost of house construction
  - ✓ Eliminates delay in construction progress linked payments

5. **Rural Housing Knowledge Network:** To ensure the excellent quality of construction of houses, dedicated portal called "RHKN" has been created to achieve following:
   - ✓ The beneficiary is assisted in house construction with a bouquet of house design typologies inclusive of disaster resilience features that are suitable to their local geo-Climatic conditions.
   - ✓ These designs are designed and developed through an elaborate public consultative process and ensure that beneficiary does not over construct in initial stages of house buildings, which often results in compromised quality, over costing, and inconvenience to the beneficiary's family.
6. **Empowerment of citizens through participation:**
   - ✓ System provides the provision to citizens for tracking e-payment/house construction status with ease, they can view all reports and alerts real time.
   - ✓ Gram Sabha has been made final authority for identification, verification and authentication of beneficiary priority list.
   - ✓ All activities of gram sabha/panchayat are digitally captured and shared across the public domain using AwassSoft/App.
   - ✓ Two way communication channels provided to citizens: Toll Free Help desk, SMS, Mobile App, Website, E-mails.
   - ✓ System generated e-sanction orders containing all eligible entitlements are made available to individual beneficiaries in their regional languages.
7. **Intelligent ways of IEC (Information, Education and Communication):**
   - ✓ There are training videos available in 12 languages for all 12 core modules on website, also training materials have been published for e-learning
   - ✓ All concerned stakeholders including beneficiaries get real time notifications (SMS, E-mails) at all milestones, which includes daily consolidated reports on payments, progress status
   - ✓ Mobile based notification (FCM) and SMS for Scheme implementation related advertisements and awareness
   - ✓ Master trainers have been identified at state and district levels, and all contact details are made available on AwaasSoft.
   - ✓ Trainings are done through central and state level workshops and video conferences

Technologies

1. GIS – Geo special tagging of all houses under PMAYG with an accuracy of 10 metres, and 10 meter deviation for subsequent inspections.
2. APIs of Bharat Maps by NIC, Bhuvan Maps by ISRO, are used to plot the house progress with geo co-ordinates and also to show progress with in the Village boundaries in interactive maps.
3. Knowledge management system- developed and utilized for knowledge sharing on house design typologies which are Zone specific.
4. Social media platforms and SMS based critical alerts and interactions with beneficiaries.
5. Dedicated Toll- Free Helpdesk for Grievances /feedback sharing
6. Digital Signature based e-payments to implement DBT.
7. Regional language enabled E-Sanction orders with QR codes for beneficiaries
8. Citizen engagement by providing OTP based authentication and then allowing inspection of their own houses for enabling next installment payment
9. Performance Dashboard for Banks- for effective monitoring and Ranking of Banks involved in implementation of PMAY-G

People

- Nation/State level Workshops – 102 with nearly 6000 participants
- Monthly Video Conferencing & Bimonthly reviews
- Monitoring and performance based alerts to all officials
- There are training videos available in 12 languages for all 12 core modules on website, also training materials have been published for e-learning.
- Use of whatsapp for coordination among various program functionaries for quick actions and resolutions
- Trainings are done through central and state level workshops and video conferences

VALUE INDICATORS

Learnings for sharing

Initially execution came across various implementation challenges, as scheme has to be implemented in faraway hinterlands, where monitoring becomes next to impossible. To ensure that the **right benefit** reaches the **right beneficiary** in **right time**, for first time it was decided to take help from SECC data.

Digital Empowerment

PMAY-G is a 100% Direct Benefit Transfer scheme with all payments being made to beneficiary through PFMS based electronic fund transfer.

All houses are physically monitored using AwaasApp which is multi-lingual, which can be used by Beneficiary as well as ground level officials. All Geo-tagged time-stamped images are available for public viewing.

QR code enables sanction orders are available that help with real time status check of physical and financial progress, along with reducing the hassle required during inspection, since now a person need not conduct a text or drill search for the house but just scan the QR code and view all information.

Green eGovernance

Almost all IEC material is available for the beneficiary and functionaries online to be used/printed as and when needed. This eliminates the need of hard copies to be made available at all GPs. No record keeping in hard copies at GP/Block/District/State offices, and all are available in their respective logins on AwaasSoft. Created local language training videos seeing which the locals started creating their own versions of the video to ease learning.

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e-AWAS - Chhattisgarh Housing Board Computerization

Chhattisgarh Housing Board, Government of Chhattisgarh

Siddhartha Komal Singh Pardeshi, P. Rama Rao, and C. S. Bajwa

PROJECT OVERVIEW

e-AWAS is a web-based Software Application developed for automating the work flow of the Chhattisgarh Housing Board and making the information readily available online as a part of eGovernance. The objective is to create more transparency between the government and the citizens. The implementation of e-AWAS has resulted in increased credibility, enhanced citizen satisfaction, paperless work, increased efficiency and reduced litigation. Automation also helps in marketing and advertisement of various commercial and residential property of Housing Board on a larger scale owing to the interest shown by the Beneficiaries across the globe for the new projects launched.

Major features of ***e-AWAS***:

- **Estate Management:** Estate Management module facilitates sale and management of properties and record keeping. The major features are registration of Beneficiaries, allotment of houses of various categories through online lottery, installment schedule preparation, fixation of payment, final allotment to investor and online payment ledger.
- **Accounts Management:** Accounting module facilitates records and processes accounting transactions within functional modules such as accounts payable, accounts receivable, monthly accounts and trial balance. It functions as an accounting information system. The software is used to record daily transactions voucher wise, maintain account balances and prepare important financial statements like daily and monthly cash book, Trial balance, Income & Expenditure, Balance Sheet and various other reports.
- **Samriddhi Online:** An online web portal to facilitate citizens to search the vacant commercial and residential property of Chhattisgarh Housing Board. The property can be searched location wise, plot size wise, cost wise and model wise. The complete details of Layout, Building & Floor Plan, Sitemap and real time photographs can be viewed online.
- **Citizen Login:** Beneficiaries can avail the information of e-services like project cost, payment schedules and payment ledgers in the citizen login of e-AWAS.

Salient Features of Board Website (http://www.cghb.gov.in)

1. Online information of new properties for sale.
2. Latest Circulars/Orders Notifications.
3. Tender Notification.
4. RFP/EOI/Drawings.
5. Notification of New Upcoming Projects with Brochure.
6. Schemes Information.

7. All Types of forms are available in website.
8. Recruitments Information.

Major objectives of e-AWAS

1. Improve service delivery.
2. Bring complete transparency in the house allotment and possession.
3. Increase the efficiency of the Board staff of all classes spread across the state.
4. Accounting discipline and timely closing of monthly and yearly accounts.
5. Complete details of all projects online of both commercial and residential type.
6. Online vacant property search.

Key reasons for nomination:

- Smooth, transparent and swift service delivery to citizens through ***e-AWAS***.
- Details of vacant residential and commercial properties can be accessed by citizens online along with layout, building & floor plan, sitemap and real time photographs through ***e-AWAS***.
- Citizen can register for the vacant property from anywhere online and can get the required information before registration from the portal as well as the facilitation counters in all the division offices of the Housing Board spread across the state.
- House allotment done through online lottery for all categories of houses, which brings complete transparency.
- Registered beneficiaries can avail the information related to the payments made and payments pending and check their payment ledger online.
- Centralized monitoring of 21 divisions and 16 zones of CGHB across the state.
- Entire work flow of Estate Management that deals with investor registration, installment fixation, installment payments, final allotment and vacant property has been computerized.
- Entire work flow of Accounts Management that deals with daily vouchers, daily and monthly cash book, preparation of major accounting reports like trail balance, income & expenditure and balance sheet have been computerized.
- Information related to estate and accounts is available online with the senior board officials. This helps them in monitoring current projects and also planning for future projects.

RESULTS INDICATORS

Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
Online Registration	Beneficiary registration facility in e-AWAS	5666	7841	3932

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House Allotment	House allotment via online lottery.	4257	4737	1818
Beneficiary Login	Beneficiary can view their personal, project, payment details.	4257	4737	1818
SMS Service	SMS facility for beneficiary.	24568	285624	573451
Samriddhi Online	Vacant property information including project layout, sitemap and pictures.	5494	8103	3315
Accounting transactions	It involves processing of transactions like payment and receipt.	82348	81217	75901
End Of Day Process for closing accounts	Calculate and maintain balances of every accounting ledger.	22 units	37 units	37 units
Balance Sheet and Trial Balance	Generation of financial end report like Balance Sheet, Trial Balance and Income Expenditure.	Generated for fin. Year 2015-16	Generated for fin. Year 2016-17 in a short span of 3 months	Generated for fin. Year 2017-18 in a short span of 2 months

Implementation Coverage

The implementation is 100% now and all the 21 divisions and 16 zones of the Housing Board are covered under it.

New Services/Enhancements

- In the accounts module, the most important format - *Balance sheet preparation*- was added last year. Now the Chartered Accountants are also using the online data and the format developed for preparing the balance sheet of the Board. With the data available, the previous two years balance sheet was also prepared. This has resulted in faster closing of year books and generating the necessary reports for internal and external audit of the Boards accounts.
- Simplified the EoD (End of Day) process in Accounts module, by making it a *one click process* for completing the whole process.
- *SMS notification* will be sent to the Chief Accounts Officer after the End of Day is completed, every month.
- Customized the *consolidated head-wise report* by adding a drill down report for Bank officials and Accounts department to view unit wise balances and further checking.

- Simplified the Balance sheet process by directly saving the supplementary entries in Trial Balance.

To be rolled out next year

- Implementation of data analysis for usage of the existing data as a *decision support system* for the planners.
- *Real time photographs* of the construction site to be uploaded using mobile apps, which could be seen by the Beneficiaries in their respective login and also to the senior officers to monitor the physical work progress in the particular project.

ENABLERS

Government Process Re-engineering

Registrations of property – For registration of commercial and residential property, CGHB used the traditional method of advertising in newspapers and hoardings or distribute pamphlets. Despite this huge expenditure the coverage was very low and limited. For registration of property the investor had to visit the respective Board office and submit the forms manually within the stipulated time after standing in queues for a long time. The information regarding the lottery for the house allotment and other process was not easily available and they had to make a lot visits to get this information.

After automation, the Board officials use the online portal, the social media like Facebook, WhatsApp and SMS to publish information regarding new projects. This has resulted in saving of valuable Government funds. The citizen can check the new projects and available vacant property information online and can apply from the comfort of their homes. They can apply for any property in the state online without visiting the respective Board offices. The lottery for house allocation is now conducted in a transparent manner using the software eliminating the doubt of any mischief played by the officials. The citizen can also choose the corner or road facing plots through the offer method as published in the website.

This transparent process has resulted in the increase of local, national and global beneficiaries for the Housing Board's projects. NRI registration is rising considerably for projects such as Sector -27 at Naya Raipur.

Vacant property search – Earlier in the manual process the information regarding the vacant property was hardly available. Moreover, updating of the information frequently and accurately was difficult. This resulted in loss of business for the board to other private competitors.

Now a user-friendly tool ***Samriddhi online*** is available which can be accessed from the Boards responsive website and on mobiles. The citizen can search for the vacant property location wise, plot size wise, cost wise and model wise. The complete

details of layout, building & floor plan, sitemap and real-time photographs can be viewed online.

Estate Management – Earlier the allotment of house, fixation of installments, final fixation and allotment was done completely manually by the Board staff by filling cumbersome forms.

After automating the entire work flow, the tasks of registration of Beneficiaries, allotment of houses of various categories through online lottery, installment schedule preparation, fixation of payment, final allotment to investor and online payment ledger are done with minimal effort and with high accuracy. The investor can also track the payment schedule online through the login provided on the Boards portal. The timely alerts are also sent to the investor through the SMS and e-mail.

Accounts Management - Earlier the filling of vouchers for receipts or payments and entry in cash books were done entirely manually, which took huge time for compilation of consolidated reports and was prone to lots of errors. As a result, the closing of annual accounts was very much delayed and auditing of accounts use to take lots of time. Now with e-AWAS software the entire work flow of Accounts is done quite easily with the inputs of voucher of receipt and payments. The implementation of the module has resulted in establishing a financial discipline in the accounts staff.

Technologies

1. The social media is used extensively in the Chhattisgarh Housing Board for publishing information related to the new/existing projects and vacant property information. The CGHB information in Facebook can be viewed at https://www.facebook.com/Housing-Board-Chhattisgarh CGHB.
2. Housing Board also has an online digital library for Knowledge management. Through this the various acts, books & manuals, orders and circulars of various domains like Engineering & Architecture, Accounts, Estate Management and Administration are shared with the officials of the Board for ready reference.
3. Various critical reports using data analysis are provided to the senior Board officials for planning and monitoring viz.
    - Vacant property information (project wise).
    - Zone wise abstract report for various parameters such as lottery, allotment and possession letter for loan, mortgage and sale NOC etc.
    - Project wise installment due report.

- Monitoring dashboard for Accounts for various parameters such as invalid transaction, cheque payment and receipt, challan payment and receipt, cash payment and receipt etc.

People

Regular capacity building sessions are held for the division staff on e-AWAS software. Moreover, frequent domain related and refresher training sessions are also held for the Engineers and Accounts division staff.

VALUE INDICATORS

Learnings for sharing

Housing Board has engaged agents like other private builders for spreading information about the new/existing projects.

1. This innovative activity helped the Board in advertising about new/existing projects through word of mouth and selling their property with increased public participation.
2. IT support offices (facilitation counters) were opened for supporting the visitors and beneficiaries at each division office of Housing Board, where atleast two trained persons were engaged for assisting the Beneficiaries in viewing the projects and performing online registrations.
3. Third party IT staff were trained and engaged for supporting Estate and Accounts department while using the e-AWAS software.
4. At each stage of the work flow i.e. allotment of house, fixation and payment of installment, SMS is being used extensively for alerts and sharing of information with the Beneficiaries.
5. Digital payments are being encouraged and all division offices are equipped with the POS machines and Bank tie ups are also made for payment through challans at designated bank counters.
6. eRegistration facility is provided for Beneficiaries, giving them an ease for applying for any Housing Board project from the comfort of their home/office.
7. The online lottery feature of the e-AWAS portal for allotment of houses is also a key learning for the Housing Board, which has increased the transparency and has improved faith of the Beneficiaries in the government.

DIGITAL EMPOWERMENT

1. Financial Inclusion - The Housing Board's motto is to facilitate 'Housing for all'. The Board provides housing facility to various economic segments. It has always been a priority of CGHB to provide housing facility for various

economic segments (EWS/LIG) at subsidized rates. The various schemes for weaker sections are Atal Awas Yojana (for income less than 3 lac rupees annually) and Deen Dayal Awas Yojana (for income between 3 to 6 lac rupees annually).

2. Digital payments are being encouraged and all division offices are equipped with the POS machines as well as Bank tie-ups are undertaken to facilitate payment through challans, allowing ease of payment to the end beneficiaries.
3. Digital Inclusion - The Housing Board portal supports web reports in bilingual i.e. both Hindi and English for the benefit of all sections of public.

Green eGovernance

Currently paper records are maintained parallelly for most of the Estate and Accounting modules. Once the entire process stabilizes we may stop maintaining manual paper records which will end up saving lots of carbon footprint.

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e-Transport MMP: Digital Transformation

Himachal Pradesh Transport Department, Government of Himachal Pradesh

Ajay Singh Chahal, B.C. Badalia, and Bhupinder Pathak

PROJECT OVERVIEW

With a view to computerizing all the Regional Transport Offices (RTOs) in the country and bringing about uniformity in the Driving License and Vehicle Registration documents issued by the Regional Transport Offices, a project was conceived and has been under implementation since 2005 on client server architecture. The objective of the scheme is to introduce information technology in the road transport sector. The back-end computerization and implementation in **decentralized** client/server architecture manner envisages incorporation of details of existing driving licenses on a standardized common software at Registering & Licensing Authorities (RLAs) & Regional Transport Offices (RTO) level and with essential linkage at State level and National level.

Now this RTO-centric Sarathi 1.0 and Vahan 1.0 applications have been revamped to Centralized, Web-enabled architecture with single database and application for the whole country. The system is accessible over internet for RLA & RTO users through secured log-in and authentication. There is emphasis on modern ICT tools like cloud infrastructure, Centralized Authentication System (CAS) and Single Sign On (SSO), Multi-device capability, Multi-lingual support, Open API, Mobile Apps and so on. Quality and scope of G2G/G2B & G2C services will be enhanced.

The Information & Communication Technology System or eGovernance can play an important role in providing these services Online at the doorstep of rural/urban community or individual by bringing all services related to the Driving License, Learner's License and complete related information about the existing Driving License issued and Vehicle Registration in Himachal Pradesh at a single web portal covering all RLA/RTOs and accessible online 24x7 anywhere and anytime.

Himachal Pradesh is the one of the first states in India which has completed the process in Driving License all the 85 RLA/RTOs in December 2016 including the newly created additional 15 RTO/RLAs and Vehicle Registration in September 2017. The migration of existing data from all the RLA/RTOs and to consolidate into centralized database was a gigantic task.

This new totally web-based system has been implemented on the backbone of a robust HIMSWAN data network with adequate bandwidth and built-in redundancy to facilitate acceptable standard of speed, information security and fault tolerance. Regional Transport Offices and Registering & Licensing Authorities (RTO/RLAs) throughout Himachal Pradesh now operate computerized counters/offices to help citizens to obtain various services under e-Transport MMP. The re-engineered

online process now takes less than 24 hours instead of two three days, as was necessary under the earlier system.

Administrative reforms have been made to empower automobile dealers of Himachal Pradesh to function as inspecting authority for fully built Non-Transport Vehicles and to collect all fees and taxes through payment gateway integration. This will reduce the footfall in the RLA/RTO Offices. The comprehensive Standard Operating Procedure (SOP) has been prepared and notified by the department.

Key reasons for nomination:

The back-end computerization and migration from **decentralized** client/server architecture to standardised common software at Registering & Licensing Authorities (RLAs) & Regional Transport Offices (RTO) level and with essential linkage at State level and National level.

The payment integration with Himachal Pradesh Cyber Treasury (HimKosh) helped the department as well citizen to apply online for various online services related to driving license and vehicle registration services and to make online payment. In all online services, payment integration was one the important factors to provide G2C services and avoiding the citizens to stand in long queues in the RLA/RTO offices.

Himachal being a tourist destination, many tourist vehicles enter the state different locations. Earlier, commercial vehicle owners could pay the token tax which could be paid monthly, quarterly or on a yearly basis in the concerned authority where the vehicle is registered.

RESULTS INDICATORS

Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
New Registration	Issuance of Registration Certificate to New Vehicle		75169	1,49,767
Fitness/Inspection	Issue Fitness Certificate to Transport Vehicles.		18,154	50,365
Transfer of Ownership	Transfer of Ownership		16,147	27,965
Hypothecation Termination	Termination of Bank/Finance Hypothecation		11425	27,965
Renewal of Registration	Renewal of Registration of Private Vehicle after 15 years		5911	13,692
Duplicate RC	Issuance of Duplicate RC		2788	6516

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Vehicle NOC	Issuance of NOC for other State		1873	6314
New Permits	Issuance of Vehicle Permits			6112
Entry Check Post	Himachal Entry Check Post			6250
Learner License	Issuance of New LL	1,39,095	1,57,140	1,42,835
Driving License	Issuance of New Driving License	3,333	188,085	1,88,085

Implementation Coverage

The success of eGovernance solution is evident from the number of applications submitted through this system. 3,60,292 applications have been received in 2017-2018 for Vehicle Registration and 3,30,920 applications have been received and processed for Driving and Learner License in Himachal Pradesh.

The department has prepared the RTO/RLA-wise schedule for migration and implementation of new web-based application in all the 85 RLA/RTOs in HP and the same was achieved in October 2017. 100% coverage as per the plan, without affecting the services at the RTOs was appreciated by the users.

New Services/Enhancements

Following Vehicle related services have been rolled out in last one Year:

- Application for New Vehicle Registration
- Online e-payment Integration through Himkosh (Treasury)
- Payment of Token Tax
- Vehicle Related Services
- Transfer of Ownership
- Change of Address
- Duplicate RC
- Hypothecation Termination
- Hypothecation Continuation
- Hypothecation Addition
- Application for Fitness Certificate
- Pay Balance Fees Fine
- Duplicate Fitness Certificate
- Renewal of Registration
- Conversion of Vehicle
- Re-assignment of vehicle
- Alteration of vehicle
- RC Particulars
- Application for No Objection Certificate
- Application for Fancy Fee/ Choice Registration number fee
- Surrender/Release of RC

- Retention of Choice number on new vehicle.
- High Security Registration Plate Interface.
- Issuance of New Permit (Goods, Contract Carriage, National Permit)
- Renewal of Permit
- Duplicate Permit
- Temporary Permit
- Transfer of Permit
- Surrender of Permit
- Cancellation of Permit
- Replacement of Permit
- Counter Signature of Permit
- Fitness/Inspection at Authorized Testing Stations
- Online Collection of Check post entry Tax (Tax Payment, Check Transaction Status, Print Payment Receipt).

The following Driving and Learner License services were rolled out in 2016-2017

Sr. No	Service Name	Sr. No.	Service Name
1	New Learner's Licence	**Fee Payment**	
2	New Driving Licence	1	Fee/Payment
3	Application Status	2	Application Fee
Services on Learner's Licence		3	Additional Fee
1	Issue of Duplicate Learner License	4	Retest Fee
Services on Driving Licence		5	Verify Pay Status
1	Issue of Duplicate Driving License	6	Print Receipt
2	Renewal of Driving License	**Modify Applications**	
3	Addition of another class of motor vehicle to the existing driving license	1	Add Class of Vehicles
4	Hill Endorsement DL	2	Service Withdrawn by Applicant
5	Endorsement of Hazardous Material in DL	3	Application Edit (LL Only)
6	DL Name Change	4	LL Edit Entry
7	DL Photo Change	**LL TEST (STALL)**	
8	Issue of DL Extract	1	Mock Test for LL
9	Issue of CC/NOC		

Future Plan:

The Govt. of HP has notified on 12-07-2018 the Standard Operating Procedure for Registration of Vehicle at the dealer end and in the next one year it has been planned to complete this activity by taking initially two pilot sites of District Shimla and Dharamshala and upon successful implementation, the remaining RTOs/RLA will be covered in next one year.

e-Challan, which is comprehensive digital solution for transport enforcement wing and traffic police with its integration with Vahan and Sarathi application delivered through an Android-based mobile application and a web portal which is being used currently with Transport and Police departments for enforcement in Shimla & Solan.

ENABLERS

Government Process Reengineering

Both the applications - Vahan & Sarathi, are working on centralized architecture. However, since each state is having its own State Motor Vehicle Rules and Taxation Act, the application customization has been done as per the state requirement in implementation of this project.

- No Objection Certificates (NOCs) are not required for the outside State or within state Driving Licenses once the data is available on central server.
- No need to visit RLA/RTO to collect the Learner's license. Applicant can download the same from the portal.
- Application forms are generated automatically as per the CMVR requirements.
- The integration of Himachal Pradesh Cyber Treasury Himkosh with Vahan & Sarathi helped the department and the citizens for payment of fees through Internet Banking and Cards.
- Earlier the payment of token tax of commercial vehicles was allowed only in the RLA/RTO in which the vehicle has been registered. Now the facility of payment of token tax in any of the RLA/RTO has been allowed.
- Payment of fitness fee and inspection was allowed in any of the RLA/RTO.

The Fitness Inspection of the vehicle was earlier happening twice in a month in a particular RLA/RTO but now the H.P. The users and roles have been created for such ATS in Vahan application.

Technologies

The web based software architectures running on cloud and pervasive communication networks to process and convey the contextual information to where it is relevant, and the analytics helps the organization to plan for future and to do analysis.

Following analytics reports are being generated for the department user.

- Year/Month wise Vehicle Registration and Driving License Issuance Trend
- Year/Month wise Revenue Collection Trends
- Year/Month wise Application Trends
- Number of vehicle sold across makers/Model
- Trends of Learner/Driving License across Gender
- RTO wise statistics

The department is planning to put in place the Driving Test tracks by putting sensors. The RFID will be placed along the direction of the "8" Driving Track to record the user movements and IoT will make it possible for the department to collect and analyze the data from RFID sensors installed along the Driving Tracks.

Himachal Pradesh is the first state which has allowed the collection of token tax payment through mParivahan mobile app and UMANG app. The electronic Virtual RC and Virtual DL on mParivahan and DigiLocker will soon be valid electronic document as per the Ministry of Road Transport Highways recent draft notification dated 12-07-2018 by amending the section 139. "**Production of licence and certificate of registration"** of the Central Motor Vehicle Rule 1989.

People

Trainer's training was conducted through Video Conferencing session for the department officers and DIOs.

Regular training sessions were held by the DIOs at the District level for the field staff.

Additional Commissioner Transport was the Nodal Officer for the monitoring of its implementation in all the RLAs/RTOs.

Help desk has been created at the Directorate of Transport, Shimla for supporting all the RLAs/RTOs in the implementation of the project.

VALUEINDICATORS

Learnings for sharing

Following steps were taken for successful implementation and quick roll out in whole state of Himachal Pradesh;

- How to migrate from existing data to web-based application
- Porting of existing data to centralized solution
- Same Vehicle records were available in different RLA/RTO authorities because of previous transactions done. How to take the valid updated records and doing de-duplication of data.
- Connectivity in all the RLA/RTOs and even RLA/RTOs of remote tribal areas.
- Mapping of different master tables of all the ported sites.
- Testing of software on staging server for different types of transactions and issued faced in tackling such cases.
- Issues faced during the pilot run at two sites Dharamshala and Shimla.
- The whole technical process of migration of data was documented having each activity and its executers with roles and responsibility.
- A website hosted with test data for hands on training to field staff on staging server.

- Process Re-engineering to discard unnecessary formalities for quick and efficient service delivery.
- Several Training programs were conducted for Field level officers on VC.
- Trainer's Trainings are conducted at district level through DIOs.
- Regular exclusive workshops were organized for DIOs and Field officers on VC.
- User Manual has been prepared and shared with field staff.
- Comprehensive FAQ's were designed to answers the most common queries.
- DIT-HP has signed MOU with BSNL for VPN connectivity.
- In Himachal Pradesh only 10.03% of population, as per 2011 census data, is living in Urban area and 89.97% of population is living in Rural areas and the literacy rate of Himachal Pradesh as per Census 2011 is 81.85% in Rural area. As most the population is living in rural area and the penetration of internet and mobile is very high. In order to serve those who are not having access to Internet are using the services of Common Service Centre (CSC) known as Lokmitra Kendras which are available in each village of the state are bridging the gap of digital divide in rural areas.

Digital Empowerment

- Over the journey of eGovernance, the model of engagement with citizen has also evolved rapidly, moving from passive and fragmented engagement with more integrated and active engagement. This was made possible in response to the evolving technologies, increasing outreach of computers, mobile & internet; as well as increased expectations of the citizens from eGovernance solutions.
- HP Department of Transport has provided trained Transport Service Providers (TSP), who provide services with reasonable charges at localized RLA/RTOs, facilitating services across Himachal Pradesh, serving cross-cultural citizens irrespective of language.
- Vahan & Sarathi would be used across the state by all users at state, district, Sub. Division, Tehsil and village levels by citizens, Vehicle Drivers & Students. This will also cover the last mile beneficiaries like citizens, students etc.
- To cater the requirement of Commercial Vehicle Taxi, Bus, Truck Drivers the Learning License Mock test is similar to the test which the candidate needs to appear at the RTO office. Option to write the exam in the local regional language is provided. The candidate can select any language of his/her choice i.e. English, Hindi, Punjabi, Tamil, Gujrati, Telugu, Marathi and Malyalam. Similar feature is available when they will come in RTO to appear for the actual screen test Aid for Learner License (STALL).
- The Online system replaces the old age procedure of manual submission of forms and remittance of statutory payments wherein the applicant had to

approach to RTO officer and to stand in queue for submission of application and making payment of fee.

- Those who do not have access to internet are using the services of Common Service Centre (CSC) known as Lokmitra Kendras. There are 3000 CSC/LMK already established in Himachal Pradesh. CSCs are bridging the gap of digital divide in rural areas.

The payment integration with Cyber Treasury (HimKosh) allows payment through Internet Banking, Debit Card etc.

Green eGovernance

- **Green Initiative:** Government of HP is fully committed to its environmental responsibilities. IT has been used to enable paper-less transaction to the extent possible**.** All the forms as defined in Central Motor Vehicle Rules are being submitted online. The Ministry of Road Transport & Highways is amending the Motor Vehicle Rules for the same. No manual NOC is being generated and printed on paper. The individual record is available online on central database and the Driving License and Vehicle Registration holder details are being fetched and verified online for taking service in another RLA/RTO.
- **Smart & Green Solutions:** But as now all those are available online and are being filled electronically, therefore, saving the time and costs to citizens and hydrocarbon fuel used in motor vehicles on part of the state and country and contributing towards of clean environment. On part of the Government, there has been a huge saving of revenue by eliminating the processes of procurement of paper, printing forms, transporting these forms to various office locations throughout the State. The UPS batteries are purchased on buy-back model.
- **Paperless office:** By utilizing the online services, the Government of Himachal Pradesh is aiming to achieve a paperless governance and cashless transactions. This indirectly has impact on reducing the extra Green House Gases that would have been released, had the citizen travelled multiple times to avail the service.
- **Digilocker, mParivahan:** The Driving License and Vehicle Registration have now been integrated with DigiLocker & mParivahan under the Digital India programme. With this integration, people will no longer require carrying around physical copies of Driving Licenses and Registration Certificates of Vehicle. They can instead access electronic virtual RC and DL on their mobile phones via the DigiLocker & mParivahan mobile app. Recently on 12-07-2018, Ministry of Road Transport Highways has issued Draft Notification and amended section 135 by including electronic document as valid document which can be produced to enforcement agencies.

- **UMANG:** The Department has also enabled the Payment of Token Tax for Himachal Pradesh commercial Vehicle owners on UMANG (Unified Mobile Application for New-age Governance) which is envisaged to make eGovernance 'mobile first'.

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An Initiative of "Community Policing" at Hyderabad City Police

Hyderabad City Police Commissionerate, Government of Telangana

Anjani Kumar, and L. Raja Venkat Reddy

PROJECT OVERVIEW

The major purpose of community-oriented policing is to bring police and citizens together to prevent crime and solve community / neighborhood problems. The community-oriented policing plays a pivotal role in the defining elements of policing: police-community relationships and problem solving.

It is an initiative where the emphasis is to prevent crime, foster the citizens more control over the quality of life in their community. It helps the police get a better sense of resident's needs and helps residents to develop greater trust in the police. It promotes to build partnerships between citizens and police in safe guarding the communities and enhances the living standards.

Objective:

The major objectives of community-oriented policing is to build safe and secure communities, and the current initiatives are:

- Intended to prevent crime before it happens rather than responding to crime after it occurs
- Focussed on creating a safe social environment
- Intended to engage residents/citizens to determine their "felt needs" and create policing priorities to address their felt needs of the community
- Intended to encourage residents/citizens to partner with police in order to keep their own community safe.

Geographical Scope

The community policing initiative has been considered in the jurisdiction of Hyderabad Police Commissionerate that covers a geographical area of around 260 sq. km with an approximate density population of 18000 habitants per sq. km. It consists of around 60 police stations and other functional units. Each police station is classified into multiple sectors where at least one Constable ranked officer is being nominated to each sector who acts as Sector Community Policing Officer (SCPO).

Functional Scope

The community-oriented policing enables as a multi-agency community function where a group of people from the Police and members from community entities such as residents, local leaders, community-based organizations etc. Some of such entities are but not limited to:

- Schools, Colleges and other educational institutes
- Corporates, Offices, Business and Trade Entities
- Residential Associations, Commercial Complexes, Cooperatives and Socities
- NGOs, Rights Activists and Civil Society groups

- Legal and Media entities
- Faith-based organizations and Pressure groups
- Other groups for building partnerships and support

SCPO plays an important role of bringing such multiple community groups or forums together and empowers and entrust them to meet the community objectives.

PROCESS APPROACH

The following are some of the process steps to enable the objectivity of the Community policing:

- Relying on community-based crime prevention by utilizing citizen/community education, neighbourhood watch, and a variety of other techniques, as opposed to relying solely on police patrols.
- Supplement police patrols based on the crime patterns, sensitive areas, and other source of information such as felt needs and through neighbourhood watch groups.
- Increase SCPOs accountability to citizens / communities they serve.
- Build and continuous train the Community Quick Response Teams (CQRT)
- Giving special attention to vulnerable groups who are most likely to become victims e.g. women and children.
- Both the community and police must create a working partnership and mutual confidence to solve security problems.
- **Web Interface Tool -** Build a web-based tool to manage the felt needs and achieve the targets and objectives of the community policing.

Stakeholders

The key stakeholders of community policing are Community Representatives/Groups and Police. The following are some of the major responsibilities of each of the roles as:

- Role of Community Representatives /Groups
  - Volunteer information on suspicious characters or activities
  - Helping the police by offering any kind of support.
  - Supporting the victims of crime through counselling.
  - Approach to "Security begins with one-self, be alert always".
  - Be a partner with Law Enforcement agencies in general.
- Role of Police
  - Regular Communication and participation with the community
  - Build Escalation and Feedback Mechanism
  - Being transparent, accountable and in carrying out Police duties
  - Maintenance and enhancement of law and order in crime prevention strategies.
  - Patrolling in their beat areas effectively through vehicular and foot patrolling

- Maintain a robust database of residents contact information to foster a community dialogue or provide effective emergency notifications and other services
- Publish and distribute public information through different communication media such as social media, websites, email, mobile app etc.,

BENEFITS

The key benefits that are derived from the Community-oriented policing are:

- Intended benefits
  - Open and trusted channel of communication and working model between police & communities
  - Improved Community ownership for Crime Prevention, problem solving & Conflict resolution
  - Improved public safety and sense of security in the community
  - Reduced fear of crime and public satisfaction of the Community
  - Improved law-abiding nature of the community
  - Enhanced police engagement and job satisfaction for the police personnel
- Impact on Community
  - Prevention and reduction of crime rate as the root causes are addressed
  - Reduction of fear of crime leading to safe and secure feeling with the surroundings
  - Empowerment of communities and redressal of their grievances
  - Creation of positive relations with police
- Benefits to the police
  - Easy detection of crimes and effective patrolling
  - Deeper understanding of citizen and community needs and their expectations
  - Prevention and reduction in the crime and the fear of crime
  - Better flow of information between police and community
  - Enhanced positive image of Police in public
- Current Status
  - 2000 police personnel are registered as CPOs.
  - All sectors of 60 Police stations are now geo-fenced, based on their operational area.
  - Crime rate has been reduced and response time has been drastically reduced upto 5 minutes.

In response to the felt needs, the following initiatives have been brought by the city police in order to address the root causes resolved in collaboration with the community:

- **Bharosa**

  A support centre for women and children who are victims of violence. This centre offers integrated services like medical, legal, police, psychological and therapy under one roof away from police stations.

- **Operation Chabutra**
  Chabutra (meaning a neighbourhood platform where people sit and chat to pass time) focuses on youths/youngsters including minors who are roaming /wandering at late night on the streets without any purpose/meaning, leading their future in danger and becoming victims of criminal activities. Hyderabad city police has implemented this action plan ''Chabutra'' to prevent youths from any such activities.
- **Job Connect**
  Job Connect uses a first of its kind state of art employment-vehicle equipped with state-of-the-art technology necessary to build a database of information of jobseekers and skill set requirements of employers that would help connect these talented youths of Hyderabad and other parts of Telangana to job opportunities
- **Nenu Saitham**
  Project's vision is to develop healthy communities and ensure that the highest quality of life is derived from the presence of CCTV system.
- **Community CCTV Project**
  As a part of community CCTV project, the Hyderabad City Police is encouraging enterprises, public sector units, resident welfare associations and individuals to buy CCTV system from government empaneled firms and setup monitoring center in their own colonies.
- **Reformative approach**
  By adopting the communities of mass population, where the living standards of residents are noticed to be very below from the average.
  Ex: Mangar Basthi in Habeeb Nagar Police Station Limits – Hyderabad.
  Maratha Basthi in Tukaramgate Police Station Limits – Hyderabad.
- **Conclusions**
  Community-oriented Policing can be a cement for security and development. It is believed that in order to achieve a safe and secured community.

Key reasons for nomination:

The following are key reasons for nominating the "Community Policing" Project initiative.

- It is first-of-its-kind project initiative in India on a large scale to the best of our knowledge.
- Involvement of Community in the policing initiatives have yielded significant results in terms of improving safety and security of citizens and communities.
- "Feel good" factor has been entrusted in police-community relationship
- Significant results have been achieved by partnering with Community in combat of crime.

RESULTS INDICATORS
Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
Felt Need Addressing System	▪ When the felt needs are identified and categorised, a detailed root cause analysis will be done by the CPSC team and a Master Action Plan will be prepared for resolving each felt need. ▪ The SCPO can select root cause and applicable action plan to resolve the felt need, or the SCPO can also add a new action plan on his own. ▪ The SCPO will comply with the activities in action plan and update the status as per target dates and also update the details of actions taken from time to time, till the felt need is addressed, completely. ▪ The CPSC team will monitor the status of all felt needs from time to time, to see if timely actions are initiated for resolving felt needs, resolved or yet to be resolved.		Identified Felt Needs = 6998. Solved Felt Needs = 5586. [Manual Data Collection Mode]	Identified Felt Needs = 2114. Solved Felt Needs = 920. Felt needs in progress = 1194 which shall be solved with the help of other government stakeholders [Web-Application Mode]
Programs & initiatives	▪ In this module, CPSC team will create the community programs / initiatives which need to be taken up within the communities / neighbourhoods. ▪ The programmes include School Contacts, Traffic		City police has conducted various school contact programs, Traffic awareness programs,	Conducted various school contact programs, Traffic awareness programs, Crimes against women, Anti

Contd...

	Awareness etc., along with Standard Operating Procedure (SOPs) to conduct the programs in a standard way across the city. ▪ Programmes can be Area Specific and Felt needs specific. ▪ CPSC team creates and schedules programs after analysis of the felt needs. ▪ Once a program is scheduled by CPSC, the SCPO shall select "Plan Programs". ▪ After that, the SCPO has to enter the details like place, date and time for the proposed program. ▪ After planning, each SCPO earmarked for the program shall communicate to all the concerned Community Liaison groups/target groups and other stakeholders by SMS/social networking websites. ▪ After the conduction of program, the SCPO shall enter the details in the module ▪ As most of the crimes and social untoward incidents occur because of lack of awareness, we conduct awareness programs across the region		Crimes against women, Anti social vices programs across Hyderabad City.	social vices programs across Hyderabad City.
Feedback Management	▪ Once the felt need is addressed, the SCPO shall click on Feedback		In addition to the feedback	

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	tab to collect Feedback from Community Liaison Groups, Stakeholders, Volunteers, Citizens and Participants. ▪ The feedback shall be entered by the SCPO in the portal as defined.		collected and recorded – a third party call center is also been operating.	
Community & Stakeholders	This Module empowers the front line officers by acting as digital database, where a SCPO can: ▪ Create/add Community Liaison groups/ members (eg: colony members etc.) ▪ Create/add Stakeholders (eg: Other Govt. Officers.) ▪ Easy access to all contacts/target groups.		We have added number of Community Liaison Groups and stakeholders to facilitate programs and resolving felt needs	We have added number of Community Liaison Groups and stakeholders to facilitate programs and resolving felt needs
Users	The SCPOs can register in this module to address remaining modules. ▪ After getting user ID, the registered SCPOs will upload the felt need upon identifying them. ▪ And the SCPO can fix a target date to close or to solve the felt needs.		All CPOs were into Community Policing Activities	2099 Police officers registered their names with their ids.
Volunteers	Volunteers will register themselves and mention their free time so that SCPOs will utilize their services in community programs and in resolution of felt needs. Once they register themselves, their services will be utilized in various aspects of the community policing upon the choice of the volunteers.			A good number of volunteers registered themselves from all regions.

Implementation Coverage

All the modules are implemented in Hyderabad Police Commissionerate, at present 4000+ users are active in CPSC and planning to scale up this project to entire Telangana State in next 3 months.

New Services/Enhancements

Standard Operating Procedures for each community programme, Feedback questionnaire for each programme, Victim/ Witness Support, Community Portal and a Dedicated Community Policing Call Centre.

ENABLERS

Government Process Reengineering

(a) The Lessons learnt from the Process re-engineering exercise
- Training in BPR and teamwork are as important as technology training
- Organization structure with Role & Responsibility has been defined
- Awareness sessions and knowledge transfer programs organized to understand the responsibilities.

(b) Best practice methods
- We receive 'problem solving methods' from all CPOs and best practicing methods will be maintained in Master Data and they will be shared with all police stations.

(c) Challenges faced in implementing Process changes
- Change Management is always a challenge for any process initiatives in an organization.
- Going Live
- Information Sharing and Creating Awareness among all police officers to effectively use this APP
- Training and Use of Innovative ICT Technologies among Department Staff
- Post Conversion

Technologies

(a) Description

(i) Technological solution adopted [including the maintenance model]
All Platforms: Windows, Android and ios

(ii) Compliance of the Technology adopted with e-Government standards notified/recommended by the GOI [Please refer to https://egovstandards.gov.in/] including security and confidentiality.
- As per eGov Standards

(iii) Strategy for Disaster Recovery and service continuity
- Hosted on CGG Servers at CGG data centre
- Following CGG Disaster Recovery and Business Continuity Plan

(iv) Briefly describe the impact and value addition through adaption of social media platforms for the project.

- Facebook and Twitter integration led to wide spread awareness in general public about the benefits
- Passing information to the public with the help of WhatsApp also will help police officers deliver the community policing services in more effective manner.

Hyderabad City Police has launched an application ''HawkEye Mobile app – Empowering Public to be Citizen Police''.

People

(a) Description

(i) Leadership support for capacity building, visibility of actions with current status

- Project envisaged by Commissioner of Police, Hyderabad City
- Around 3000 Police Personnel have been trained on this initiative including all SHO's, Supporting Staff of all Police Stations, ACP, DCP offices, SHE Teams, Patrol Mobile Staff and other direct/indirect staff involved in operation

(ii) Change management and Capacity building strategy defined and status thereof

(iii) Project management & Monitoring adopted [whether full or part-time program management teams in place, roles and responsibilities of department officials/consultants etc]

- A Team of 5 personnel deployed to work on full to monitor the complete work flow
- Response/Request Model analysis with respect to the efficiency and transparency

(b) Financial model adopted [Source of funds, description of PPP if any, Total cost of ownership etc]

- In-house, Department funds

(c) Special efforts to ensure sustainability of the eGovernance initiative[s] [including but not limited to carrying out of third-party assessment[s] and implementation of their recommendations where feasible etc].

(d) Challenges faced in Change Management and Capacity building

- Initial resistance from the staff in adoption of the technology
- Technology Fear factor was an impediment

(e) The Lessons learnt from Change Management and Capacity building exercise[s]

- Any initiative should have 100% commitment from the Top Executive as Project Sponsor to drive further down in the organization
- Identifying the risks and mitigation plan under the guidance of the Project Sponsor and track them

- Define and measure Accountability at all levels in the organization for its success

VALUE INDICATORS

Learnings for sharing

The Senior Management is needed to provide vision, direction and encouragement, and take ultimate responsibility for the project. There is a need for clarity in relation to such matters as:

- Roles and responsibilities each Stakeholder
- key shared objectives;
- KPIs, reporting and monitoring; governance;
- Management (including dedicated project).

Digital Empowerment

(a) Challenges faced in implementing Process changes
(b) The Lessons learnt from the Process re-engineering exercise
(c) Best practices adopted from the industry/other State implementations

Green eGovernance

Green eGovernance is about application of Green computing practices to the domain of eGovernance. The objective is to achieve paperless office by minimizing the paper consumption without making an entry.

The adoption of ICT equipment that preserves eco-friendly environment and reviews the power consumption.

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Integrated Citizen-Centric Online Services by Telangana State Disaster Response and Fire Services Department

State Disaster Response and Fire Services Department, Government of Telangana

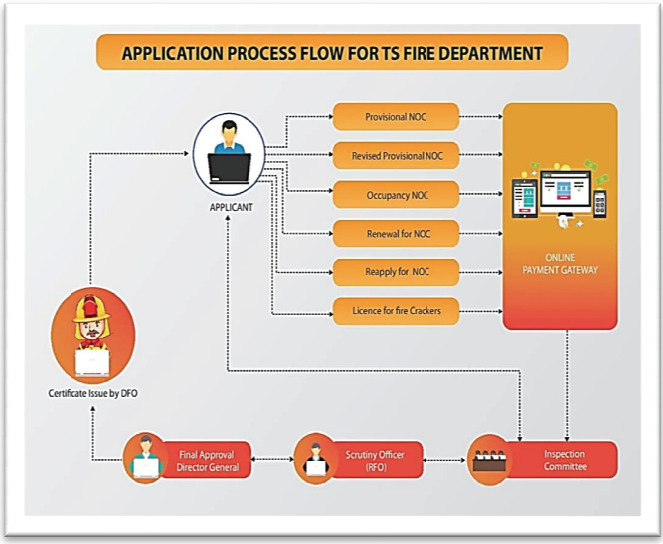
M. Gopi Krishna, Rajendra Nimje, V. Papaiah, and K.V Ramacharyulu

PROJECT OVERVIEW

Overview

A comprehensive online application wherein applicants can apply for any service of the Fire Department online, such as fee payment, application status and downloading of NOC certificate. The business rules are inbuilt in the logic, therefore, it's easy for the department officials to approve, reject or park the application. It is integrated in such a way that citizens can apply for services either from Fire Department portal or from TS-iPASS portal. Various services include:

- Random allocation of establishment inspections to the officials
- Online viewing of inspection reports
- Image uploading through mobile app
- Easy access to the certificate through applicant's mobile
- Fire Attendance Certificate download
- Availability of firecracker license
- Online booking of fire engine
- Online application for trainings conducted by the Fire Services Department



Objective: To develop an online system that makes it easy for citizens to apply for the several services of the Fire Services Department, thereby saving on time and paper wastage, reducing redundancy in tasks and overall operating costs, and improving productivity.

Functional Scope: All the department services, like issuing of No Objection Certificates, renewal of certificates under various categories, issuing fire attendance certificate, fire service license, providing fire engine as a standby and trainings to outsiders are extensively covered.

Geographical Scope: This system is available to any citizen for their buildings/units existing in the entire geographical area of Telangana State.

Stakeholders:

- The Officials of Telangana State Disaster Response and Fire Services Department, GoTS
- The officials of Industries Department, GoTS
- The team from Centre for Good Governance, Hyderabad.

Intended Benefits Accrued to the individual (Citizens/Business):

1. Applicant can apply for any service online instead of personally going to Fire Department office for submitting application thus saving them time.
2. Applicant can pay prescribed fee online instead of going to authorized bank personally
3. Applicant can pay fee at his own convenience
4. Applicant can ascertain the status of his application and download the NOC certificate online instead of personally attending the office.
5. Applicant can maintain history of all applications in their dedicated dashboard
6. It is an Integrated online application, because citizens can apply for services either from Fire Services Department portal or from TS-iPASS portal. Status can be tracked in their respective dashboards
7. The applicants can view inspection reports online
8. SMS alerts are sent to the applicants at different stages of application processing
9. Applicant can apply for Fire License services online and approval process is also online
10. Applicant can book for a standby vehicle online
11. Applicant can download fire attendance certificate from the fire portal
12. Service is faster as it is delivered in a few days compared to the several it took more time before automation

Benefits accrued to the Employees of the Fire Services Department:

1. The department official can either approve, reject or park the application since all the business rules are inbuilt in the logic
2. Department officials can fill the inspection report online
3. Manual fee calculation is replaced by system computation thereby making it more accurate
4. Easy processing of the application online and issuance of certificates, thereby saving time

5. Total number of applications received, approved, rejected, pending. etc can be tracked by the officials through a dedicated dashboard
6. SMS alerts can be sent to the officials for processing of applications
7. Overall status of each application process/status, including department proceedings, can be monitored by the Head of the Department
8. Time spent on processing each file is reduced exponentially, which means more time is available to attend to other duties.

Current status:

This application is successfully running since March 2016 without any interruption or any issues. Few more services are in the pipeline as mentioned below:

- Integration with all the departments like Hyderabad Metropolitan Development Authority (HMDA) and Greater Hyderabad Municipal Corporation (GHMC)
- Mock Drill Training application processing, end to end
- Integrated dashboard for various reports

Key reasons for nomination:

The key reasons for nominating the Integrated citizen-centric online services project by Telangana State Disaster Response and Fire Services Department is that it plays a vital role for the users while applying for a wide range of services of the Fire Department and offers the advantages of eliminating manual and time consuming legacy system and contributes to environment protection by avoiding paper wastage. Some key services that it offers are as below:

- Get different clearance certificates like No Objection Certificate (NOC), firecracker license etc. online.
- Automation of NOC eliminates manual NOC file process and adds transparency as the applicant can check the status any time
- Provision of various services like booking of a stand by vehicle, mock drill and training
- Integrated Fire Department portal with TS iPass Portal enables the applicant to apply for NOC through a single window portal i.e (TS-iPASS)

RESULTS INDICATORS

Services

Name of e- Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2016-17	*2017-18*	*Apr 18 to June 2018*
NOC Services under Fire Services Depart-ment	Applicant can submit application for No Objection Certificates (NOC) by paying a fee online, can download certificates and can check the status process for various services mentioned in sec.3.1 duly avoiding going to Fire Services Department office in person.	1425	1220	314

Contd...

NOC application through TS-iPass Portal	Fire Services Department portal is integrated with TS-iPASS Portal which benefits the applicant to apply for fire NOC through single window portal of Government of Telangana, i.e TS-iPASS thereby providing flexibility to the applicant.	21	28	3
Inspections	Surprise inspections are scheduled by the computer system randomly for the department officials on the day of inspection which helps in unbiased inspections.	370	420	133
Firecracker licenses	Firecracker license issuing is fully online which saves lot of time for the applicant.	Nil	4450	6
Standby Fire Service	This service is meant for booking of standby vehicle (Fire engine) for public/private functions in case of fire emergencies. Online booking of standby vehicle has really helped the citizens in terms of faster application submission and fee payment compared to that in the past	Nil	167	111

Implementation Coverage

1. The original of plan of implementing online submission for Fire NOC, renewals of Fire NOC, scheduling of inspections for the Fire Services Department officials randomly through a computer program, integration of Fire Services Department portal with TS-iPass Portal have been successfully completed and are being used by the citizens. The usage statistics of said services are mentioned in section 4.2. In other words 100% is achieved against the planned implementation.
2. The key users of the said services are the business establishments, schools/colleges, government organizations, construction industries who takes high rise buildings in the jurisdiction of Telangana State etc.

New Services / Enhancements

1. Firecracker license issuance and service for booking standby vehicles at public function, such as exhibitions fairs, carnivals, have been implemented successfully and the usage statistics of said services are mentioned in the section 4.2.
2. Mock Drill: Taking requests for conducting mock drills through online system is another new facility introduced for the big commercial establishments where fire safety is the highest priority.

Improvements/enhancements specifically rolled last year:

1. Continuous efforts were made throughout the year to enhance the processing efficiency by simplifying the application, reducing scope for raising shortfalls in the application, assigning color codes to pending files.
2. To aid higher officials, a computer generated and certified checklist was added, in the workflow, which gives compliance report of certain identified parameters. This is apart from the report submitted by the inspection committee. Such a system helps the decision makers to crosscheck whether the decision communicated by the field officers is in tune with the base rules or not.
3. Integration of TS-iPass (Single window) with Fire Services Department portal successfully completed.
4. Provided online inspection report and final NOC. Based on the online inspection report, system automatically displays deficit of the establishment which is very useful to the department's higher officials.

Improvements/enhancements planned to be rolled out during next one year

In tune with our continuous efforts aimed at service process re-engineering, we are planning the following:

1. **Customizing the application form specific to each type of building occupancy**: Presently it is one large form in which applicants go through all the fields and fill what is relevant for them which makes it cumbersome for them.
2. **Automation to receive applications in a zero defect state**: Presently the applicant uploads building drawings in pdf format and also fills every building parameter in the application. At times, there is data inconsistency among these two. In such cases, query is raised to applicant leading to delays in files clearance. Now, we are planning in such a way that the applicant uploads Autocad drawing and the software fetches complete building data from the drawing itself. Applicant is not required to enter any data but needs to upload the Autocad drawing in the system. Any deficiency noticed in the drawing will be communicated to the applicant at the time of applying itself. Once rectified, application is submitted with no scope for shortfalls.

ENABLERS

Government Process Reengineering

1. **AS IS**: In the legacy system, computation of the prescribed fee to be paid by the applicant consumed a lot of time for the department officials who used to calculate the prescribed fee that is to be paid by the applicant. The applicant then had to make the payment in the treasury and submit receipts to the department officials for issuing NOC.

TO BE: Processes have been automated and standardized so that the fee is calculated by the system and payment is made online. Simplification and ease of operations saves the applicant the trouble of visiting the treasury.

2. **AS IS**: In the legacy system the applicant had to go to the department office to enquire about the status of their application and also to collect the NOC certificate.
   TO BE: The new system is designed in such a way the applicant can check the status, submit responses to queries and can download the certificate online. The entire process is simplified much to the comfort of the end user.

Technologies

Language: C#.Net is used for developing web based application
Frame Work: 4.5.0
Application Server: Windows server 2012 R2
Web services: SOAP web services are used for integration of TS-iPASS portal and Mobile App with the TS-Fire department online application.
Database: Sql Server 2014

Scripting Languages: JQuery, Java Script, HTML, AJAX

People

This project has dedicated and accomplished resources with sufficient backups for providing technical support which is resulting in smooth running of the project.

The Fire Services Department has taken up mandate to switch over to online system for the services being provided to the citizens. Accordingly, the top officials and the ground level officials of Fire Services Department were provided sufficient training to migrate to the online system and to use the system efficiently.

The user community of this online application is provided with user manual to help them understand and make online submission easy and effective. Helpdesk facility and support through a dedicated mail ID is available for users for providing quick response to their queries.

VALUE INDICATORS

Learnings for sharing

Key Learnings:

1. Several parameters are mapped with the online system for automatic generation of inspection report.
2. Manual way of fee calculations are standardized for several department Services.
3. Learned to customize the dashboard for knowing pending item for approval.
4. SMS alerts are used in all possible areas for speedy steps in the approval mechanism.
5. Learned to use the online system in assisting decision makings.

Best Practices

1. A mobile Application is used to capture the real time images of building at the time of inspection by the department officials duly avoiding the manual upload of building images to the Fire Services Department portal.
2. QR code is printed in the No Objection Certificate to check the details in the absence of hard copy with the user.
3. Process adoption and sustainability: A process-oriented approach, in accordance with the ISO processes, was adopted for reliable and consistent outcomes and minimization of mistakes.

Digital Empowerment

1. All the beneficiary related data such as personal details, officer approvals, applications forms and approved certificates are available in digitized form in the Login's of the Users.
2. A comprehensive easy to understand manual prepared keeping the end user in mind. Setting up of help desk for quick response to queries and doubts.

Green eGovernance

1. Exchange of information, application processes, communication transactions, integration of various departments/systems and services between Fire Services Department and the applicant have been made available online thereby saving lot of paper usage. Minimal IT infrastructure is used by both applicants and officials in this project duly avoiding e-waste.

Further paper usage shall be avoided in the near future by uploading Autocad drawing instead of scanned copies.

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Enterprise Ecops – (CCTNS)

Police Computer Services & Standardization, Government of Telangana

Ravi Gupta

PROJECT OVERVIEW

Crime & Criminal Tracking Network and Systems (CCTNS) is a Mission Mode Project (MMP) under National eGovernance Plan (NeGP) of Government of India. It has been customized by Telangana Police.

The aim of this project is to improve connectivity and increase the crime fighting capabilities of the Police. It will facilitate collection, storage, retrieval, analysis, transfer and sharing of data and information at the police station and between the police station, district and the State Headquarters and the Central Police Organizations.

It envisages creating nationwide networking infrastructure for evolution of IT-enabled-state-of-the-art tracking system around 'Investigation of crime and detection of criminals'. The new integrated system will connect 15,000 Police Stations across the country and 6000 Supervisory and related officers.

CCTNS Project is totally funded by MHA, GoI and an allocation of Rs.2000 Crores has been made for CCTNS Project.

Objectives:

- To enhance the efficiency and effectiveness of policing through adopting of principle of eGovernance.
- Creating a nationwide networking infrastructure for evolution of IT-enabled-state-of-the-art tracking system around 'Investigation of crime and detection of criminals'.
- Creating a platform for sharing crime & criminal information across the country
- Increasing transparency and accountability
- Improving effective utilization of police resources.
- To help in reducing the repetitive paperwork/records and making the back-office functions more efficient.
- Improving service delivery to the public through multiple, transparent, and easily accessible channels (portal, mobile, call centre etc.) in a citizen-friendly manner. The focus is not only to improve the current modes of the service delivery but also provide alternate modes such as internet for the public to communicate with the police.

Key reasons for nomination:

- Ability to provide right information to Investigating officers of Police department with analytical data and information pertaining to Crime and criminals.

- Ability to provide various services to the citizen and uniform service delivery across the department.
- Leads to better maintenance of law and order.
- Ability to save huge amounts of manpower and effort, which can be re-deployed for other duties.
- Ability to provide authentic data for utilizing in developing mobile based applications like TSCOP.
- Ability to provide authentic data for integrating CCTNS system with Finger Print Bureau (FPB), Forensic Science Laboratory (FSL) and Jails (In Process).
- Ability to transfer authentic data to eCourts through restful web services, for data updating in CIS system.
- Enhanced Crime Core Dashboard reports for speedy review during crime review meetings at PS and Higher Officers level.
- CCTNS data can be utilized to integrate with Geo-Spatial services (Map based), for displaying hotspots to represent crime scene prone areas.

RESULTS INDICATORS

Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
Number of Online petitions	**Lodge petitions:** Citizens can lodge the petitions though online		106	426
No of FIR viewed/ downloaded by citizens	**FIR viewed/ download:** Citizens can view or download the FIR through the portal	1,150	5,670	33,909
No of case status viewed by citizens	**Case status:** Citizens can view their case status through online portal		1,843	2,208
No of Citizens registered on citizen portal	Citizens registered through Citizen Portal	304	2,095	5303
Missing / arrested Persons information	**Missing / arrested Persons information:** Citizens can view or download missing / arrested person's information		16,484	18,163
No of FIRs registered under CCTNS	**FIRs registered during 01-03-2017 and 30-04-2018**	1,65,918	1,15,854	2,06,883

Contd...

Total No of FIRs in CCTNS	**Total FIRs present in CCTNS Database**	1,65,918	1,15,854	17,51,671
SMS acknowledgements for petitions and complaints for Citizens	**SMS Alerts:** Citizen are getting SMS acknowledgements for their petitions and complaints		1,48,096	14,76,863

Implementation Coverage

Checklist prepared and followed as defined activities in the application release readiness and few of activities are as follows:

New Services / Enhancements

- Mobile application for Identification and detection of missing persons with unknown dead bodies including facial recognition.
- Automation of backend processes
- Integration with Courts, Jails
- For the first time in the country, crime review meetings of superior officers are being held "online", that is paper files are not carried by anyone; all cases are reviewed online. This is a major achievement and has resulted in improved service delivery to citizens.

ENABLERS

PROCESSES RE-ENGINEERED

Automation:

- Automation in any process leads to a reduction in manpower. Under CCTNS project, automation concepts were implemented from Police station level to state which will save more than 20000 man hours in the state.
  Ex-1: "Automation of the major heads and minor heads of crime" is a unique concept which generates accurate reports for review of Crime at all levels online.
  EX-2: To track daily incidents Telangana State Police used CA-SDM (Computer Associate - Service Desk Management) as an process oriented which adhere to ITIL methodology.

Standardization:

- Standard operating procedures have been developed for each type of activity and incorporated in the workflow e.g. for uniformity in investigation of cases etc. This has been done for the first time anywhere in the country.

Simplification:

- Adopted all drill down reports from unit level to higher level helps to monitor closely and do the crime review effectively.
- Seamless integration also done in Telangana (Ex: FPB, E-Courts, FSL etc.,)

TECHNOLOGIES

Technology:

Java, Struts, Spring Frame work, Oracle 12c & My Sql

People

- Role of leadership by way of policy support/direction
- Industry best practices, standards followed
- Change Management (CA-SDM) through regular trainings.

VALUE INDICATORS

Learnings for sharing

- Data digitization and migration: Data digitization was a key challenge during the project execution phase as it was done at district level. Once entire data had been digitized, it was verified for its correctness and once the desired level of correctness was achieved, entre digitized data was migrated to production. Some errors were identified in the live data as well. These errors were rectified with the creation of a "Super Admin" role which was solely responsible for correcting ay existing issues in the live data at PS level.
- Online training: To enhance project sustainability, the LMS (learning management system) was created to train the participants though online training. Online tests were conducted to ensure the effectiveness of the training.
- Auto population of major heads: Across India, there have been issues pertaining to improper mapping of the major heads based on the acts & sections. Under EeCOPS, this has been provided with the auto population of the major heads based on the acts & sections. This was done for the first time in the country in Telangana state.
- Dash boards: Before implementation of the CCTSN project, there was no online crime review dashboards for senior police officers. With the development of EeCOPS, crime dash boards have been provided to senior police officers. The dashboard has been created based on the inputs from the field over a period of time.
- Enterprise search: Key feature of the EeCOPS application is to provide enterprise search results based on query over the CCTNS data and provide the relevant information to police officers.
- RTA database Integration: The RTA database is integrated with CCTNS application in Telangana state.
- Access to Nationwide Criminal database: The functionality provided in the CCTNS application covers entire police department of Telangana state along with access to criminal database of other states in the nation. This provides for efficient and effective police monitoring.

Digital Empowerment

Digital process leads to the empower the stakeholders on hand. Automation, analytics and business intelligence are key adaption in the CCTNS progress to reduce the manpower by automation the process and generation of the MIS reports and trends for strategic decision for Sr. Officers.

Green eGovernance

Paperless concepts has been adopted from Police station to State level with adaptation of the technology enabled automation techniques. Huge amounts of avoidable paperwork have been eliminated through this project. All periodical reports are generated online only.

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eCourts Integrated Mission Mode Project

e-Team, Supreme Court & National Informatics Centre

Yashwant Anand Goswami, SB Singh, Ashish J. Shiradhonkar, and NK Prasad

OVERVIEW

Computerisation in various High Courts started in early 1990. With the passage of time, computerisation has grown at a rapid pace. Daily business of the Court is now dependent on various software applications and the Judges, Registry, Advocates and Litigants are to resort to either web-based information or software applications. Substantial Information and Communication technology (ICT) Infrastructure have already been deployed in various High Courts.



Glimpse of Judiciary System in India

Seeing the overall benefits of ICT deployment in Judiciary, e-Courts emerged asa Mission Mode Project of Govt. of India, transforming the judiciary with the help of ICT interventions in various Courts to facilitate effective, speedy and affordable justice delivery to citizen of India. The e-Courts project has been conceptualized based on the "National Policy and Action Plan for Implementation of Information and Communication Technology in the Indian Judiciary - 2005", prepared by the e-Committee of the Supreme Court of India. The e-Committee was formed in 2004 to draw up an action plan for ICT enablement of the Judiciary under the chairmanship of the Hon'ble Chief Justice of India.

The Indian Judiciary faces a high pendency of cases in District and Subordinate Courts. Over 3 million cases are pending in High Courts and 26.3 million cases are pending in subordinate courts across the country, with only 14.7 judges available for every million people.

The main reason behind this pendency was lack of ICT Enablement in the Judiciary. But, over these years ICT Enablement has not only helped judiciary to emerge more efficient but brought transparency in processes to all its stakeholders.

ECOURTS-IMMP: PROJECT OVERVIEW

The aim of the e-Courts project is to provide designated services to litigants, lawyers and the judiciary by universal computerization of district and subordinate courts in

the country and enhancement of ICT enablement for the timely justice delivery system. The project is being implemented by National Informatics Centre.

Under this project, around 20,000 District & Subordinate courts spread across 3500 court complexes under various High Courts are digitally interconnected to provide court and litigant centric services such as: Filing, up-to date online case status, availability of Judgments and Orders on web, cause lists for advocates/ litigants and courts, digitally signed certified copies, etc.

The case status, cause list information, Judgments and Orders are made available through http://ecourts,gov.in, the mobile application of the e-Committee, SMS Pull and SMS Push services along with automated mailing service.

The Automated Mailing Service (AMS) has emerged most useful and has resolved a number of issues relating to Family Courts where the litigants do not want their data to be available on the Internet. The AMS facilitates data of Family Court litigation through the registered e-mail address of the parties and their lawyers only.

BRIEF ONECOURT-IMMP

eCourts-IMM Penvisages to transform Indian Judiciary to Information and Communication Technology (ICT) enabled courts for enhancement of judicial productivity and delivery of citizen-centricservices.The pan-India Judicial Management Information System is envisaged in two phases to develop, install, and implement decision support system in courts.

SALIENT FEATURES

- Judicial planning, Monitoring and remote administration is easily carried out through National Judicial Data Grid (NJDG) portal. It generates dynamic data in real-time to provide updated information of judicial deliverysystem. http://njdg.ecourts.gov.in/njdg_public/index.php
- NJDG serves as a national data warehouse for case dataincludingtheorders/ judgmentsforcourtswithfull coverage of High Courts and DistrictCourts
- Online analytical processing and business intelligence tools deployed to integrate multiple databases and generate summarised reports for informative management system and dashboards for effective court and case management.
- E-Paymentgateways integrated formakingdeposits,paymentof court fees and fines.
- IT Kiosks in court complexes are provided and through these Information Kiosks, litigants can get all the above mentioned information in the Court complex free of cost along with online provision of certified copies of documents.

- Applications for mobile phones, SMS and emails are operational for dissemination of information to allstakeholders.

KEY STAKEHOLDERS

The key stakeholders of eCourt-IMMP comprises of Police, Advocates, Public/ Litigants, Court, Judicial Management, Court Staff and Government for Monitoring and Planning

SOFTWARE ENVIRONMENT OF ECOURTS-IMMP

The software team of NIC Pune with the help of Stakeholder from the judiciary designed and developed the Case Information System (CIS) National Core (NC) Version 1.0. Initially, CIS-NC Ver. 1.0 was rolled out across the country. Subsequently, with additional features and upgraded innovative ideas two more versions of CIS-NC as 2.0 and 3.0 were also released and gradually being implemented in the country.

Most important fact of CIS-NC is that it is indigenously developed and implemented completely on FOSS (Free and Open Source Software) thereby incurring zero cost on system software.

CYBER SECURITY CERTIFICATION FOR ECOURTS-IMMP

The eCourts Web System has undergone a Cyber Security Auditing by the Cyber Security Division of NIC, MeitY, Govt. of India.The System has undergone Functional, Security and Performance Testing along with Auditing of Processes.

STRATEGY FOR DISASTER RECOVERY

The eCourts-IMMP Web Portal is hosted in the NIC Secured Cloud Services with adequate facility of Disaster Recovery (DR) mechanism to cope up any eventualities and to maintain the continuance of the Services at different locations across the country.

ECOURTS-IMMP SERVICES

PLATFORMS CREATED FOR SERVICE DELIVERY

1. **e-Courts portal:** ecourts.gov.in, services.ecourts.gov.in, districts. ecourts.gov.in

   Online mechanism (web site) is available for stakeholders such as, Litigants, Advocates, Government agencies, Police to get the status of case, view cause lists, judgments, daily orders etc. services.ecourts.gov.in is one stop solution where citizen can locate the case from any court across the country by using various different search criteria available on the web site. The web site records more than 10 Lakh hits daily.

2. **Data available on portal for:** More than 10 Crore Cases (including disposed and 2.7 crore pending cases) from across the country are available online for the citizens.
   More than 7 Crore Judgments and Orders from the sub-ordinate courts are online.
3. **Mobile App:** e-Courts services mobile app available on Android and iOS provides the facility for all stake holders particularly advocates and institutions/organizations (having many cases) to create portfolio of interested cases and track those for future alerts.
4. **SMS Push:** Litigants and Advocates get SMS on occurrence of any events in the case like adjournment, scrutiny, registration, transfer of case, disposal, uploading of order etc on their mobile proactively.
5. **SMS Pull:** Facility is also provided where the stakeholder can send CNR number (which is unique for every single case in the country) of the case to 97668-99899, and in response get the current status of the Case.
6. **Automated e-Mails:** Litigants, Advocates, Police Stations gets the Cause Lists (pertaining to their cases), events like next dates, transfer of case, disposal, copy of order, copy of judgment in .pdf format etc on their eMail daily.
7. **Touch Screen Kiosks and Service Centre:** Touch Screen Kiosks are installed in various court complexes across the country using which the Litigant or Advocate can view the status of the Case.
8. **ePayment:** Online payment of Court Fees, Fine, Penalty and Judicial Deposits through epay.ecourts.gov.in is initiated
9. **E-Filing:** Facility for online filing of case and case papers with no (or limited) visits to the court registry is provided.

IMPLEMENTATION OF ECOURTS-IMMP

To implement the Project successfully, Institutional Mechanism was created where E-committee of judges of Supreme Court of India played key role for framing policy guidelines and strategic direction to the project.Department of Justice of Ministry of Law & Justice of Government of India has extended financial support.Committee of Judges at each High Court entrusted the role of overseeing the implementation at each high court level. Similarly, District Court Computer committee at each district court headed by Principal District Judge of the district made responsible for implementation of CIS in respective districts.

IMPLEMENTATION COVERAGE

The eCourts Project was conceived and implemented by Supreme Court of India and Department of Justice, Government of India. The Project was initiated in 2007 and revised in 2010. It was expected to cover 14000 Courts in more than 2800 court complexes across India.

14,249 courts have been taken for ICT enablement in all respects. The following activities have been completed under Phase I:

- Case Information System (CIS) Software has been installed in 13323 Court Complexes.
- Provided Video Conferencing facility at 493 court complexes and in 347 Jail Complexes.
- Established NJDG (National Judicial Data Grid) at NIC Data Centre, Shastri Park to enable District & Subordinate Courts to upload their Data on to the NJDG web Portal.
- i.e. **http://njdg.ecourts.gov.in/njdg_public/**

Whereas under Phase II, the following activities have been taken up:

- Implemented ICT enablement directly by respective High Courts.
- Established Video conferencing (VC) facility between courts and jails to record evidence in sensitive cases and cover several types of cases.
- Computerisation of District Legal Services Authority, Taluka Legal Services Committee, the National Judicial Academy and the State Judicial Academieswere carried out forefficientdeliveryofservicesandtraining.
- *Core-Periphery model of CIS* adopted with core unified as National Core and periphery developed according to the requirement of each HighCourt.
- Implemented Judicial Knowledge Management System including Integrated Library Management System and DigitalLibraries.

IMPROVEMENTS/ ENHANCEMENTS IN THE SOFTWARE

Initially CIS (Case Information System) NC Ver. 1.0 was implemented in all District Judiciary and subsequently CIS-NS Ver. 1.0 was upgraded CIS-NC Ver. 2.0 with many features and was introduced. Presently, CIS-NC Ver. 3.0 with technologically enhanced and added new functionalities has been rolled out in all District Judiciary.

Several enhancementsunder version**CIS-NC Ver. 3.0**have been carried out. Some of which include:

- Extending the computerization activities to new Courts in the same or new Court Complexes
- Integrated digital document management system with digital inventory of files, properties, with digital signature
- Digital system integration with external entities like police, treasury, jail, Registration office, etc. (B2B)

HIGH COURT CIS VERSION 1.0 FOR ICT ENABLEMENT

There is need of seamless integration between the District Courts and the High Courts. The e-Committee has launched Version 1.0 of the CIS for the High Courts. As of now, 16 High Courts have migrated their data and functionalities to Version 1.0 of the CIS for the High Courts. Their data is now live on NJDG for the High Courts. It is envisaged that in near future all High Courts will migrate their data and functionalities on the Version 1.0 of CIS for High Courts.

ENABLERS

PROCESS RE-ENGINEERED

Indian Judiciary is in urgent need of re-engineering its processes, optimize the use of its human resources and bring about change management by harnessing the potentiality of the available Information and Communication Technology (ICT) to its fullest extent. Keeping in view the above, the objective of this exercise is to enhance judicial productivity both qualitatively and quantitatively as also make the justice delivery system affordable, accessible, cost effective, transparent and accountable.

TECHNOLOGIES

For development of CIS-NC Ver. 2.0/3.0, the technology environment is blended with innovations by adopting primarily FOSS (Free and Open Source Software) like Ubuntu Ver 3.7, Server API 2.0 Handler, Java, Java Script, JQuery, Postgres/ PHP/ MySQL with hosting environment Linux, Apache, Postgres/PHP/ MySQL.

eCourts system is based on Enterprise Architecture.The technology perspective defined the hardware, operating systems, programming, and networking solutions used by the eCourts. Moreover, Apex/ HCs/ District & Subordinate Courts benefited by DSS and Big Data Analytics.

PEOPLE

Human Resources are the real asset which play pivotal role in implementing successfully in any ICT Project.

The Personnel involved in the operation of CIS-NC Ver. 2.0/ 3.0 were adequately trained on the Operation and Management of the evolved system.

VALUE INDICATORS

LEARNING FOR SHARING

Since eCourts-MMP encompasses the entire Nation covering 29 High Courts, 650 District Courts and Sub-divisional. Taluka Courts in each District Court, thus altogether there are 22,000 courts in the country. Hence, Challenges were manifold pertaining to Infrastructure, Software design and development keeping in view the state wise variations in requirements and languages, Software Rollout and tracking, Capacity Building, and Training, etc.

Infrastructure: Building Infrastructure is a big challenge in terms of set up of suitable sites at each locations, availability of power at remote locations, providing cost effective necessary hardware, connectivity etc, particularly for initiating such large scale project.

Learning: To overcome the infrastructure related challenges, it was decided to implement the project in distributed mode from each courts keeping server at their respective court complexes. The connectivity is provided using leased lines at major court complexes and on VPNoBB at other smaller complexes.

Software: While conceiving the entire Project, it was observed that requirements of various states were different and sometimes conflicting. There were peculiarities based on the histories of court system and federal structure. Further there were difference in Procedural law, nomenclature, and state legislation. Judicial domain is complex and difficult to understand.

Learning: To cover the entire Nation with variations, Judicial processes and procedural law was re-engineered. In addition, Process re-engineering was carried out in all High Courts to adapt the IT interventions. As indicated before, the Software development and implementation was done in FOSS. Software was developed as single unified product that caters to varied requirements of the country including bilingual functionality. Linux, apache, php and PostgreSQL were selected as open stack for development and implementation

Human Resources: Challenges on Human Resources were related to unavailability oftechnical manpower in the remote locations to manage the system, imparting large number of training of judicial officers, handholding training for courts ministerial staff, infringing the mental block & overcoming attitudinal change of judicial officers and ministerial staff.

Learning: Every District Court Computerization was handled by a District Systems Administrator (DSA). They are the technical experts from the court staff created through capacity building programmes.

When the software was introduced backlog data entry was a major challenge. But, the entire data entry was done by court's own staff and data of 80 million Cases is already available in the system.

DIGITAL EMPOWERMENT

Digital Empowerment was generously done through various Citizen Centric Services. These are as under:

- **Touch screen kiosk:** Touch screen kiosk module for checking case details in the courts. Touch screen kiosks are installed in the court complexes for providing services to advocates and litigants.
- **ecourts.gov.in**Portal
- **SMS services** are provided to litigants and advocates about various events in the case.
- **eCourts Mobile App**
- **njdg.ecourts.gov.in:** Provides management interface to monitor the pendency and is also open to the public.

GREEN E-GOVERNANCE

With the implementation of eCourts Integrated Mission Mode Project, entire Indian Judiciary system has become ICT Enabled resulting Green e-Governance. High Courts, District Courts and Sub-divisional/ Taluka Courts have reaped the benefits of ICT Tools and Technologies in their Business rules, processes, functions, People office management, official communications, meetings, judgements and orders, and all Citizen-centric services. These are achieved through severalICT Savvy activities.

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Implementation of e-Challan Traffic Enforcement System in Haryana

Transport Department, Government of Haryana

Dhanpat Singh, Deepak Bansal, and Sanjay Sharma

PROJECT OVERVIEW

Objectives:

Bring down loss of human lives in accidents caused due to traffic violation through efficient use of technology in providing an easy, efficient and comprehensive traffic enforcement system to ensure nation-wide data sharing and lead to better traffic discipline and road safety in Haryana

Scope (Functional and Geographical)

Functional

This app-cum web application is integrated with All India Vehicle and Driver Databases and provides a host of user-friendly features while covering all major functionalities of Traffic/Transport Enforcement System. This is an end to end automated system with digital interface for all stakeholders (Ministry, State, and RTO/District/Police Officials/Citizen) in the context of traffic enforcement eco-system.

Features:

Mobile App

- The system provides for automatic location logging (place name, Lat-Long) through GPS.
- There is an in-built function to click and store photos of vehicle, documents, number-plate.
- The app fetches vehicle/driver details from National Register Vahan-Sarathi database by entering DL and RC
- System automatically calculates challan amount based on the type of offence selected by the enforcement officer against the defaulter and the challan history of the defaulter
- System provides synchronization of offline mode of challan issuance with online system
- Automatic alerts and notifications sent to relevant stakeholders at predefined stages of challan process
- Challan receipt printed through a handy and portable thermal printer as well as normal printer on A4
- The receipt has the QR code which the defaulter can scan through his/her mobile to navigate to challan website for online payment of challan amount later
- The Enforcement Officer is able to search for any challan anytime anywhere
- The system allows for evidence to be collected through uploading the photo/video of the receipt and situation

- The system provides the work scheduling tool for Enforcement Officers which allows the admin to allocate work schedules through web while EOs can check theirs online on app
- Enforcement Officers can get details of sections under ACT through mobile app
- Enforcement Officer can give feedback to the NIC support staff on the performance of the application through mobile app
- Currently the system is bilingual i.e it supports English and Hindi

Web Portal

- The application provides a comprehensive array of dashboards, reports, GIS-based analytical tools etc, which help in planning and monitoring. Heat-map based display of distribution pattern of challans across the city identifies areas with higher challan numbers with appropriate color-code. Moreover, the availability of numerous graphs depict various operational indicators like challans issues, revenue earned etc. based on state, zone, district etc.
- Various privileges of the application such as analytics, job allotment, My Assignment, vehicle/document disposal etc. would be managed by the role management feature of the application.

Geographical

The application covers the entire state of Haryana

Intended benefits

- Consistent real time information for Central Monitoring of Road Safety Policy implementation. State HQ/District HQ Monitoring on officials accountability on Road Safety and Revenue Transparency.
- No duplicate or fake challans (Comprehensive monitoring, audit option for each individual challan or concerned official by department remotely)
- Any transaction on concerned vehicle/Driving license will get blocked at RTO in case of pending challan
- Increase in penalty to accused owner on second and subsequent challan. This stops revenue loss of State.
- Conformity to a common standard (forms, procedure and fee)
- Overall improvement in accountability, transparency, and user-experience.
- Overall improvement in efficiency, safety, security, manageability and cost effectiveness of the system.
- Integration with external applications Vahan ver 4 and Sarathi Ver 4 for information sharing in a more efficient and consistent manner.

Present Status

Operational across Haryana in all the 51 challaning branches of Traffic Police and 22 RTO offices. 514 devices are registered in the system and operational. Besides it CCTV based challaning has been implemented at heavy traffic locations in 7 district headquarter which are connecting to control rooms.

Key reasons for nomination

Haryana has always taken lead to adopt IT solutions with best practices to automate the end to end processes of various departments and leverage inter departmental information sharing.

Haryana is among the few of the states who decided to take lead to implement e-Challan system developed under the Mission Mode Project of Ministry of Road Transport and Highways and achieve the target of implementation in all the 51 Challaning Branches of Traffic Police and also implemented for all the 22 RTO offices of Haryana and became first state to implement e-Challan in whole state.

Automation of traffic enforcement related process of Traffic Police and Registration and licensing Authorities of Haryana achieved broadly covering all the tasks related to:

- Challan on offense site (Mobile app)
- Notice cum Challan through CCTV
- Compounding of Challan
- Payment in Challaning Branch / RTO office
- Communication to Court (send to court).
- Vehicle/Driving related inquiry

The primary thrust of the endeavor is to bring down loss of human lives caused due to traffic violation through effective enforcement mechanism. This brings in transparency and improve the efficiency of the Traffic Police/RTO enforcement wing of Haryana to offer a cashless, less paper, and trouble less e-services to the citizen.

The system is built on the backbone of a robust data network with adequate bandwidth and built-in redundancy to facilitate highest acceptable standard of speed, information security and fault tolerance. The data and application is hosted at National Data Center backed up on a Disaster Recovery Center having the latest hardware, software and control infrastructure to achieve optimum operational performance, safety and security.

RESULT INDICATORS

Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
No of challan Issued.	Paperless challaning option			665980
RC / DL inquiry	Free data access of all india vehicle and driving licence details with all parameters eg. Tax, Insurance, PUC, Offence history, Other owners details etc.			15678450
Challan Disposal	No. of challans disposed after compounding.			622663
No. of Vehicle Impounded	Impounded vehicle and document release option			11341

Implementation Coverage

Target achieved with the implementation at all the 51 Challaning Branches of Traffice Police and all the 22 RTO offices of Haryana.

e-Challan is a comprehensive digital solution for Traffic Enforcement System delivered through an Android based mobile app and a web portal. It is an end-to-end digital enforcement solution integrated with Vahan and Sarathi applications and provides a number of user-friendly features & functionalities covering all major aspects of Traffic Enforcement System. It has got two major modules;

Mobile App: For on-road challaning and related activity to be carried out by enforcement/police officials.

Web Portal: Multi-functional web application for use of the enforcement/police officials, RTOs, higher officials, transporters, citizens.

Functionality, delivery channels and stake-holders

New Services/Enhancements

- Provision of uploading video clip as proof of offense taken through CCTV feed at control room.
- Provision of entry of manual challan.
- Provision of challan book management and allocation.
- Provision of backlog entry of challans done prior to implementation of e-Challan system.

ENABLERS

Government Process Reengineering

eChallan system envisages a complete shift of traffic enforcement operations from a primarily manual process to a technology-intensive process – which is much more efficient, comprehensive, transparent and at the same time very user-friendly. The process of challan issuance and disposal, management and monitoring of concerned staff and their performance, payment collection system and so on – all are set to be provided on a technological platform. Monitoring, reporting, back-end processing and integration with concerned stake-holders are all going to be much more comprehensive and feature-rich.

Technologies

CCTV feed based challaning not only ease the work of Traffic Police but also give effective tool to save video clip and snap with GIS coordinate as proof of offense.

Enabled enterprise architecture to do more than their primary functions, by providing access to real-time, accurate, ambient data. Enabled GIS based analytics to identify real time offences booking on road and track road safety implementation throughout the channel.

People

Ministry of Road Transport and Highways (MoRTH) GOI

Plays pivotal role in conceiving the core solution for taffic enforcement processes automation across India by providing common framework with provision for State-specific customization and information sharing among stake-holders.

Office of Hon'ble Chief Minister

Additional Prinicipal Secretary to the Chief Minister review regular basis in the monthly meetings with Deputy Commissioners and SSPs of all the districts. A team of energetic, young professional is engaged through Ashoka University under CSR scheme and supporting Police and Transport department in implementation at grass root level.

Transport Department Haryana

Office of Transport Commissioner Haryana take special interest for implementation in all the RTO offices of Haryana.

Haryana Traffic Police

Traffic Police Haryana works rigoursly to ensure rollout accross Haryana.

National Informatics Centre

National Informatics Centre is looking after all the technical aspect of the project. Comprehensive training and hand-holding to all operational staffs of the concerned department (Transport Enforcement/Traffic Police) provided before and after implementation. Starting with demonstration of mobile app/web application to top-

level officials and detailed training to operational staff, field level run with actual device and then finally to real challaning operations – at all stages, complete support is provided by NIC support team.

VALUE INDICATORS

Learnings for sharing

eChallan system has evolved through a process of learning, changes and enhancements. In the process of implementation in Haryana, various new requirements, situations, issues etc. have provided a rich learning experience and opportunities – which have made the product more robust and richer in terms of features, functionalities and security. A host of sophisticated tools and technologies and also management and support processes have been incorporated to make the project a success.

DIGITAL EMPOWERMENT

The Mobile app is bi-lingual support (Hindi and English).

Although this is primarily a departmental application (from Transport and Traffic Police), the concerned citizen is also automatically made a stakeholder so that he/she can make challan payments through digital mode or follow-up/ grievance options etc. by logging into the portal.

Citizens send snaps of traffic violators on Traffic Police's whatsApp number which is then fed in the e-Challan system to send notices to the violators.

Integration with e-GRAS Haryana is in pipeline and online payment would be implemented shortly.

Green eGovernance

End-to-end automation of enforcement process almost remove the need of paper based documentation of records which reduce carbon footprint and it involves adoption of environmentally friendly practices with respect to creation, use, and disposal of ICT gadgets/infrastructure.

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Pocket Cop-Mobile Application

Home Department, Government of Gujarat

A.M. Tiwari, Shivanand Jha, and Archana Shivhare

PROJECT OVERVIEW

Objective

1. Effective utilization of crime and criminal database
2. Improving efficiency and effectiveness of police in Crime Prevention and Detection.

Functional Scope

- Police Verification for Passport
- Vehicle Search
- Accused Search
- Latitude Longitude Interface – Geo Mapping of Crime Scene

Geographical - Gujarat State

Stakeholders

- Home department
- SCRB (State Crime Records Bureau)
- Citizen

Intended Benefits

- In Gujarat, approx. 6 lakh passport applications are being processed annually. Earlier passport verification process was completed within 11 Days while with the use of Pocket Cop mobile application for passport verification the time to complete the process is getting reduced by 3-5 days. Hence 6 Lakhs citizen will get benefit from the technology of Pocket Cop.
- Citizens are not required to visit police station for passport verification as verifying officer will visit applicant's home for the verification of the passport application. Thus time and cost of commuting for Citizens is saved by removing unnecessary rounds to Police Station for the Passport Verification process.
- Earlier, officers were spending 2-3 hours to retrieve the criminal records from physical registers to see the criminal history of any suspected person. Currently, officers can do it within few minutes with help of Accused search mobile application, thus improving efficiency of work and expediting investigation.
- Investigation officers can access criminal database of entire Gujarat state on their mobiles through 'Accused Search' application. Earlier an investigation officer could access criminal records of only his/her police station while now with the use of mobile application accused search officers are able to access criminal database of all police stations in Gujarat state.

- Earlier, officers had to ask RTO to get registration details of any vehicle during investigation and this process used to take 2-3 days. With the use of the mobile application, vehicle search investigation officers can get vehicle registration and stolen vehicle details within a minute on his/her mobile which is helpful in detection of crime. Application has flexible search facility so that search results can be obtained by entering any one of the parameters like Model Number, Chassis Number and Engine Number or even if a registration number available to investigation officer is incomplete.
- While we head towards paperless police stations, cost of paper and stationary is saved because of online retrieval of records.
- Investigation officers are able to capture geo location at crime scene during investigation. This is helpful in creating crime scenes memo and as location is captured through this application, it helps in strengthening evidence in criminals cases.

Current Status

Mobile instruments have been purchased by department and allocated to field officers. Field officers have started using the mobile applications which is useful in investigation and verification of passport application.

RESULTS INDICATORS

Services

Name of e-Service	*Brief service description with benefits*	*Volume (Nos) of Services*
		2017-18
Police Verification for Passport	Using this application entire police verification can be done at citizen's residence. Citizens are not required to visit police station for passport verification as verifying officer will visit applicant's home for the verification of the passport application, thus time and cost of commuting for Citizens is saved by removing unnecessary rounds to Police Station for the Passport Verification process.	129464
Vehicle Search	With the use of mobile application Vehicle Search investigation officer is able to get Vehicle registration details and stolen vehicle details within a minute on his/her mobile which is helpful in detection of crime. Application has flexible search facility so that search results can be obtained by entering any one of the parameters like Model Number, Chassis Number and Engine Number and even if registration number available to investigation officer is incomplete.	36822

Contd...

Accused Search	Officer is able to do real time criminal background check across all police stations database in Gujarat. 1.03 Crore criminal records are available in eGujCop. Earlier criminal history was checked against the records of particular police station while now a days with the use of mobile application accused search officers are able to do criminal background check of any suspected against all police stations database. Investigation Officer is able to search accused details based on name, alias name, location and act/section through this mobile application accused search. This important information is now available to all investigation officer of Gujarat state on their mobile phones. Earlier officers were spending 2-3 hours to retrieve the criminal records from physical registers to see the criminal history of any suspected person. Currently officers can do it within few minutes with help of Accused search mobile application, thus improving efficiency of work and expediting investigation.	12793
Missing Person Search	46674 missing person records are available in eGujCop. Earlier Missing person history was checked against the records of particular police station while now a days with the use of mobile application missing person search officers are able to check missing person history of any suspected against all police stations database. If any Suspected person/child found at the time of patrolling, this application is useful for police to search the details of person if his/her missing complaint is registered at police station. Investigation officer is able to search missing person details based on name, district, and complain number, gender and age. This helps in finding missing persons if traced any in police station area or reported as unknown persons/dead body in any police station area in Gujarat state.	6375

Implementation Coverage

- Pocket Cop project was planned to be implemented in entire Gujarat state.
- 4900 Pocket Cop mobile apps have been distributed to Investigation officers and personnel deployed for passport verification in the entire state. Thus implementation coverage is as per the plan.

ENABLERS

Government Process Re-engineering

Description

Major ICT and Non-ICT process changes that were planned and the extent to which the plans have been implemented.

- Areas of Concern (Then) –
  1. Time consuming, manual search and data accuracy issues
  2. Physical presence required in Police stations to access data, thus less time spent in field by police officers
  3. Data integrity and MIS Reporting challenges
- Transformation Delivered after Pocket Cop Initiative (Now) –
  1. Data digitization led to stream lining search process, thus reducing time of search and enhancing accuracy.
  2. Digitized state wide criminal database available to all Investigating Officers at single click of their mobiles. Thus they can spend more time in field.
  3. Data digitization exercise involved intensive verification of data before and after digitization which ensures data integrity.

The Pocket Cop system improves efficiency at the tactical level (data capture levels) and enhances effectiveness at the strategic levels eventually enhancing the services delivered to police personnel with a transparent system with total data integrity.

TECHNOLOGIES
Description

- **Technological solution adopted**
  The technology drivers were scalability, deployability, maintainability and affordablity. Looking at the parameters, the stack decided was open source to the best possible extent. Java, J2EE, spring and Hibernate along with MYSQL as the database.
- Compliance of the technology adopted with eGovernance standards notified. Recommended by the GOI including security and confidentiality.
  Pocket Cop application has been tested and certified by CERT-IN approved agency for security penetration and vulnerability testing.
- **Strategy for Disaster Recovery and service continuity**
  The servers are deployed based on central architecture at the State Data Center, Government of Gujarat. To support such critical application of Home Dept., there is a disaster recovery site set up (far DR in a different seismic zone). The DR site is set up at Hyderabad at the NIC data center. There is an active-active connection among DC-DR. in the event of a disaster where SDC is cut off, the DR at Hyderabad can straightaway take over without impacting operations.
- **Briefly describe the impact and value addition thru adaption of Social media platforms for the project.**
  Pocket cop application is an enterprise application running on internet through VPN connection for home department. At present stage social media integration is not planned. The social media integration and mobile app for the project is being planned for rollout in the next phase.

People

- **Capacity building**
  Along with the committed leader, awareness and acceptability at root or field level was essential for sustainability. To develop such awareness and acceptability, sensitization at police station level, comprehensive training across all the level have been undertaken. Many sensitization sessions have been conducted and role-based class-room training has been imparted to police personnel. This empowered the police personnel and transformed their mindset, motivating them to use IT for policing.
- **Leadership support for capacity building, visibility of actions with current status.**
  To drive the project forward as well as to ensure smooth running and functioning of the project, even in case of changing personnel or their mindset, commitment at the highest level was the necessity. To achieve the same, a core team comprising of ADGP, SCRB and DIG, SCRB provided leadership support.
- **Management of Change**
  IT and Behavioral Change Management.
  Change management as a process applies to (1) Changes required in processes due to implementation of information technology i.e., IT Change management or Business Process Reengineering and (2) Changes in human behavior and attitude in accepting the system and the revised government processes that come with it i.e. Behavioral Change management. Workshops, focused group discussions and training sessions followed by personal meetings and visits have been conducted with module leaders, from various HoDs of Home Department, and their teams for reengineering of the government processes to maximize efficiency and simultaneously to minimize the resistance.

VALUE INDICATORS

Learnings for sharing

Challenges faced in implementing Process changes

Resistance to accept transformation due to traditional manual recording of data and access thereby. This was overcome through personal meetings, intensive training, problem solving sessions and personal location visits to sensitize and make the police personnel aware of the field benefits of IT.

Opportunities

Transform working of police from traditional manual record keeping to modern IT based electronic records and search.

Technology related challenges faced

The challenges were more during the selection of the appropriate technology which was scalable, deployable, maintainable and cost effective. At the same time, the

decision was to also avoid constraints on functionality. Apart from it the technology had to be such that training and subsequent hand over to the department staff could happen seamlessly.

During implementation, the open source database and its associated compatibility with the hardware platform was a challenge which was overcome through strong Data Base Administration activities.

Opportunities

- Technology should be scalable, deployable, maintainable and cost effective
- Complexity should be contained for effective long term maintenance
- Constraints to be overcome through strong capacity building and change management along with core technical knowhow.
- Central Architecture more suitable to large and complex systems.

DIGITAL EMPOWERMENT

- The Pocket cop Application is Unicode compliant and can support the native vernacular language – Gujarati. This provides a high level of comfort to the ground level/field staff and avoids alienating them due to only English support.
- The user interface is intuitive so as to enable the users to operate the system without being experts in computer science.
- The Helpdesk setup also extends certain services such as logging ticket on user's behalf to ensure that the complaint is logged correctly and the user is not required to figure out complex technology terms.
- The training was imparted in vernacular language so as to provide the necessary comfort to the users for understanding the operations of Pocket cop application

GREEN EGOVERNANCE

- Paperless work
- Reduced physical touch point

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"Bhoomi Online Parihara"
– Integrated Disaster Relief Management System

Revenue Department, Government of Karnataka

Gangaram Baderiya, and Suresh Nair

PROJECT OVERVIEW

Objective

Drought is a recurrent calamity that has bedevilled Karnataka over decades due to erratic monsoon and poor endowment of surface and ground water resources. The adverse impacts of drought are reflected in deteriorating nutrition status, urban migration and distress among cattle and farm animals. Frequent droughts have led to drop in agriculture and farm incomes thus having a debilitating effect on overall performance of the economy. Distributing **timely** financial assistance in terms of input subsidy to the distressed farmers during drought has remained one of the biggest challenges for the Government. The input subsidy will provide some succour to the aggrieved famers and enable them to buy seeds and other materials for the next cropping season. Bhoomi online Parihara was developed to provide timely input subsidy in transparent manner.

Scope

Drought declaration signifies the beginning of Government response to conditions representing a drought conditions. The drought is declared using Taluk as a unit guided by objective parameters prescribed by the Drought Manual of Government of India that is in vogue during that period. The relief operation such as supply of drinking water, supply and transportation of fodder and employment generation, etc, are mounted in drought declared taluks using funds available in State Disaster Response Fund (SDRF) and State Fund. In most of the cases drought is wide spread and is beyond the coping capacity of the State and memorandum is submitted to the Government of India seeking financial assistance from National Disaster Response Fund (NDRF). The Department of Agriculture, Cooperation and Farmers Welfare, Government of India will constitute and dispatch inter-ministerial central team (IMCT) to the drought affected area. The IMCT will visit drought-affected areas in the State and interact with district and local officers, farmers and other concerned stakeholders. The IMCT will submit a report to sub-committee of National Executive Committee chaired by Union Agriculture Secretary. The sub-committee of National Executive Committee (NEC) after studying the report will place its recommendation before High Level Committee (HLC) chaired by Union Home Minister. HLC approves the quantum of financial assistance (as per the NDRF norms) to be released to the State.

The input subsidy amount released from NDRF to the State is released to the PD account of respective Deputy Commissioners as per the demand in the Memorandum. The Deputy Commissioners in-turn release the amount to drought affected taluk based as per the joint survey report. Tashildar in coordination with Revenue Inspector and Village Accountant identifies beneficiaries and issues cheques or transfers money through RTGS/NEFT. This system was a **protracted**

delivery process which invariably led to inordinate delay in providing input subsidy. There were instances in the past where input subsidy disbursement process took almost a year and a half. Parihara Applications was developed to overcome aforementioned drawbacks and bring in transparency.

Geographical coverage: 26 districts and 23 districts out of total 30 were declared as drought affected during Kharif and Rabi 2016-17. Input subsidies were disbursed to 35 lakh farmers from drought affected districts.

Stakeholders: Farmers who suffered crop loss due to drought and flood.
(Rs.2552 crore disbursed to more than 35 lakh farmers)

Key reasons for nomination:

- The first project in Financial Inclusion Domain in the country that handled more than 70 L financial transactions with less than 0.2% failures.
- 100% in-house effort by the Revenue Department; from concept to development to implementation.
- Identified more than 10 lakh unintended beneficiaries – Saving ₹ 750 Cr to the government.
- Timely payment of input subsidy to more than 35 lakh farmers, and no scope for malfeasance.
- Robust MIS to monitor the progress and to provide quick and convenient method for grievance redressal.
- Robust farmer-level data generated can be useful for planning purposes by all concerned agencies.
- Parihara enhanced **financial inclusion** by bringing more farmers into banking ambit by opening new bank accounts.
- Aadhaar Seeding of nearly 13 lakh bank and further integration with NPCI.

RESULTS INDICATORS
Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
Bhoomi online Parihara	DBT of input subsidy to eligible farmers.		Rs.2552 crore disbursed to 35 lakh famers.	

Implementation Coverage

Input subsidy has been disbursed to all eligible beneficiaries.

New Services/Enhancements

Future Improvements:

1. Mobile app to capture crop loss.
2. Damage assessment through crowd sourcing
3. Geo-fencing

ENABLERS

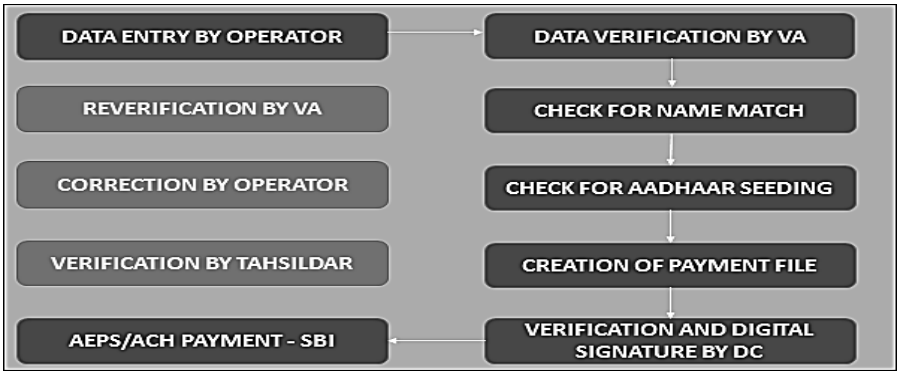
Government Process Reengineering

Name mismatch in databases: The biggest impediment in integrating with different databases in India is name mismatch due to different naming conventions, initials unexpanded/expanded, changing of names after marriage. An algorithm has been developed in house which matches names from different databases and assigns scores. The name/string matching algorithm has been developed in house which is a vital component of Parihara Application. The impact of name/string match algorithm is clearly visible in weeding out lakhs of unintended beneficiaries in distribution of input subsidy for Kharif and Rabi. The algorithm has immense utility for all Government Departments in plugging leakages in DBT.

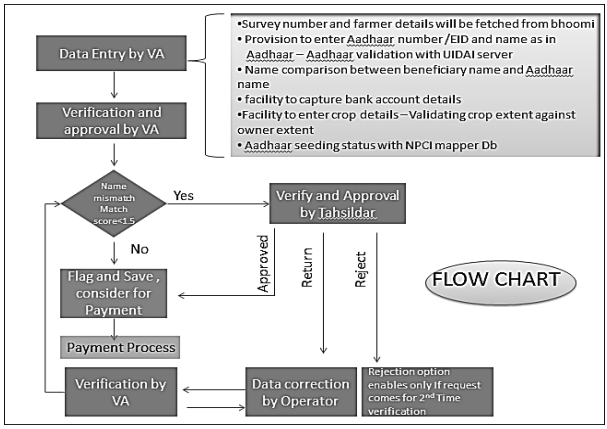
TECHNOLOGIES

Parihara Workflow

The work flow is depicted in the below given flowchart. Data entry of land details, extent of damage, Aadhar number, bank details, etc, is made by the data entry operator. This is verified by Village Accountant and approved. In case there is mismatch between name in RTC and Name in Aadhar database, the record is escalated to Tashildar to verify and approve. Once approved, XML file is created and digitally singed by respective Deputy Commissioners and uploaded for payment.

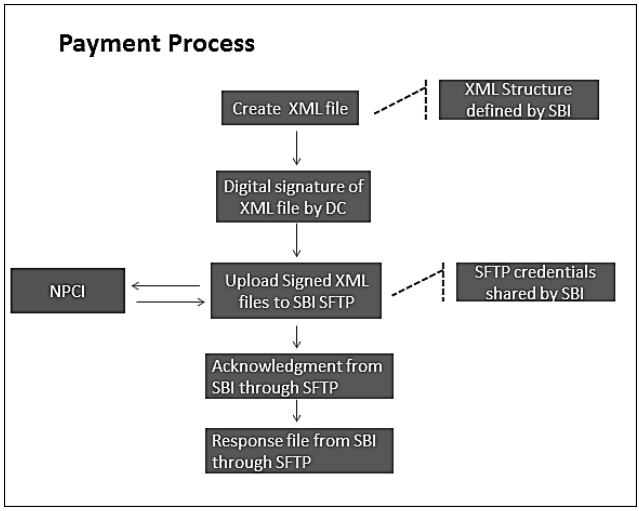


Flow chart depicting verification process



Payment Process in Parihara

Robust mechanism has been developed to ensure transparency and integrity in payment process and flow chart is as follows:



People

It goes without saying that key to any technology intervention is effective implementation. There were, nevertheless, two major challenges in implementing Parihara. The first challenge was to creation (data entry) of 7 million records in quickest possible time and second to ensure integrity of data entered. Around 15 video conferences were held to sensitize the district admin about the application and review data entry status under the Chairmanship of Development Commissioner cum Addl. Chief Secretary/Add. Chief Secretary E-Gov/Principal Secretary, Revenue Department (DM) with Deputy Commissioners of drought affected districts. A record 5 million records were created in Parihara in a short span of 4 months.

VALUE INDICATORS

Learnings for sharing

Problems faced during implementation and initiatives taken to overcome them

1. Un-seeded Bank Accounts: Nearly 40% (13 lakh) of beneficiary bank accounts were unseeded and few accounts even if seeded were not integrated with National Payment Corporation of India (NPCI) database which enables payment through Aaadhar Enabled Payment System (AEPS). The issue was taken up with the State Level Banker Committee at State Level and Lead Bank Managers at district level. Technical issue was also taken up with NPCI. Massive campaign at gram panchayat level for seeding the Aadhar with bank account was taken up. Posters were put up at Gram Panchayat office on how to seed bank accounts. SMS were sent to beneficiaries having unseeded bank accounts. 14 video conferences chaired by Development Commissioner and Addl. Chief Secretary and Principal Secretary, Revenue Department (DM and Bhoomi) conducted with Deputy Commissioners to review progress of seeding bank accounts. Nearly 12 lakh bank accounts were seeded in a span of 3 months.
2. Name Mismatch in databases: The biggest impediment in integrating different databases in India is name mismatch due to different naming conventions, initials unexpanded/expanded, changing of names after marriage. An algorithm has been developed in house which matches names from different database and assigns scores. The name/string matching algorithm has been developed in house which is a vital component of Parihara Application. The impact of name/string match algorithm is clearly visible in weeding out lakhs of unintended beneficiaries in distribution of input subsidy for Kharif and Rabi. The algorithm has immense utility for all Government Departments in plugging leakages in DBT.
3. Wrong Aadhar seeding: Name mismatch database enabled identifying around 8,000 wrongly seeded bank accounts. Database clean-up was taken up to rectify wrong seeding by the banks.

Transparency: Beneficiaries can check the payment status by keying in either aadhar no or user ID in portal given below. The screen shot of the sample output is given below.

http://landrecords.karnataka.gov.in/PariharaPayment/

ಹಣ ಸಂದಾಯದ ವಿವರಗಳು/Payment Details

ಕ್ರಮ ಸಂಖ್ಯೆ/ Sl No	ಜಿಲ್ಲೆಯ ಹೆಸರು/ District Name	ಬ್ಯಾಂಕಿನ ಹೆಸರು/ Bank Name	ಮೊತ್ತ/ Amount (₹)	ಖಾತೆದಾರನ ಹೆಸರು/ A/c Holder Name	ಬ್ಯಾಂಕ್ ಅಕೌಂಟ್ ನಂಬರ್/ Bank Account Number	ಹಣ ಸಂದಾಯದ ಸ್ಥಿತಿ /Payment Status	ಸಂದಾಯದ ದಿನಾಂಕ /Payment Date	ಸಂದಾಯದ ವಿಪತ್ತಿನರೀತಿ /Calamity Type	ಸಂದಾಯದ ಕಾಲ /Season	ಸಂದಾಯದ ವರ್ಷ /Year
1	Gadag	STATE BANK OF INDIA	13599	MR PARVATAGOUD SANGANAGOUD SHAMBNAGOUDAR	XXXXXXXX184	00-Success	15/Sep/2017	DROUGHT	RABI	2016-17

ಪರಿಹಾರ ನಮೂದಿನ ವಿವರಗಳು/Details Of Parihara Entries

ಕ್ರಮ ಸಂಖ್ಯೆ/ Sl No	ನಮೂದು ಸಂಖ್ಯೆ/ Entry ID	ಆಧಾರ್ ಸಂಖ್ಯೆ/ Aadhaar No	ಜಿಲ್ಲೆಯ ಹೆಸರು/ District Name	ತಾಲ್ಲೂಕು/ Taluk Name	ಹೋಬಳಿ/ Hobli Name	ಗ್ರಾಮ/ Village Name	ಸರ್ವೆ ನಂಬರು/ Survey Number	ಬೆಳೆ ಹೆಸರು/ Crop Name	ಬೆಳೆಯ ವಿಧ/ Crop Categary	ಬೆಳೆ ನಷ್ಟವಾದ ವಿಸ್ತೀರ್ಣ (ಏಕರೆ- ಗುಂಟೆ/ಸೆಂಟ್ಸ್) /Crop Loss Extent (Acre-Gunta-Fgunta)
1	5537979	XXXXXXXX451	ಗದಗ್	ಗಜೇಂದ್ರಗಡ	ನರೇಗಲ್ಲ	ಕುರವಿಗಿ	98 / * / 5	ಕಡಲೆ	Rainfed	5 - 0 - 0.00

Digital Empowerment

As stated above many new bank accounts were opened, which will enable financial inclusion.

Green eGovernance

There has been no use of paper whatsoever, xml payment file were digitally singed by Deputy Commissioner.

Shri. Gangaram Baderiya, *IAS, Principal Secretary, Revenue Department, Govt of Karnataka, secy.dm@gmail.com*

Shri. Suresh Nair, Project Manager, *Bhoomi, Revenue Department, Govt of Karnataka, bhoomi.pm@karnataka.gov.in*

Computerized Case Monitoring System (CCMS) -Gujarat Special Secretary Revenue Department (Appeals) Special Secretary Revenue Department (Appeals),

Government of Gujarat

Victor Mecwan

PROJECT OVERVIEW

Objective

Special Secretary, Revenue Department (Appeals) functions as an Apex quasi-judicial Authority of the State of Gujarat. Appeal and Revision cases under Bankruptcy Law Reforms Committee (**BLRC)** and other relevant Acts are filed at this office against the orders issued by the Collector, Deputy Collector, District Development Officer (DDO) and other Revenue Officials. The State of Gujarat has 33 districts and all the Appeal and Revision cases are filed at this apex institution based at Ahmedabad. CCMS project was conceived with the aim to make the justice delivery system inexpensive, reachable, cost effective, transparent and answerable through e Governance.

Scope

An online case management system with necessary software and hardware infrastructure is the total solution covering the life cycle of all cases which are filed at Special Secretary Revenue Department (SSRD). This solution covers, case filing, board generation, notice generation, SMS for notifications of hearings and status updates of case, digital displayboard, order upload and fast retrieval of the required case from the record room.

Key stake holders

1. Citizens
2. Appellants and Respondents
3. Advocates
4. Collector, Deputy Collector, D.D.O., T.D.O., Mamlatdar. (All Revenue Officers)
5. Revenue Department.
6. SSRD

Intended Benefits

1. **Transparent and reachable solution:** Status updates of each case are displayed on the website, Mobile App as well as display boards. Instant SMS are sent to each party for the recent updates with case no., board no., date and time for hearing etc. This system helps getting every stakeholder on the same platform with correct and updated case status details.
2. **Inexpensive &cost-effective solution**: This is the EGovernance initiative (G2C) and hence, there are no fees for the service provided to Citizens, Appellants, Respondents, and Advocates.
3. **Video Conferencing**: At the time of hearing and case trials Video conferencing is also used as a tool to address the litigants and Advocates in far off coastal

districts and Tribal districts. Thus, reducing the financial burden on the litigants and Advocates in terms of travelling and other sundry expenses.

Current Status

This project was successfully planned, developed and implemented with the joint efforts of ***SSRD, NIC (National Informatics Centre), BISAG (Bhaskaracharya Institute for Space Applications and Geo-Informatics) and GIL (Gujarat informatics limited).***

System is 100% implemented and being used by every stakeholder on daily basis. All the intended benefits have been achieved.

Impact:

1. **Increased Transparency** through availability of case judgment and other case related details in public domain.
2. **Reduced the time taken** in conveying the judgment/order passed by the authority to all the parties by providing online access to the citizens on internet.
3. **Increased efficiency** in reaching across remote areas of state.
4. **Decreased the financial burden** on the litigants and Advocates in terms of travelling and other sundry expenses.
5. **Justice delivery** is faster.
6. **Institutional strengthening** through use of eGovernance.
7. **Response time** has decreased through digitization of existing records.
8. **Intelligent feedback CCMS** has been updated to get intelligent feedback through a **Search Module** to speed up the delivery of the cases.

Key reasons for nomination:

Implementation of the CCMS has resulted into;

1. Increased transparency in the system.
2. Increased efficiency (qualitative and quantitative) in the system.
3. Justice delivery system has been made inexpensive and cost effective.
4. Institutional strengthening and citizen participation.
5. Transparent services from government to citizen/stake holders **(G2C).**
6. Process re-engineering has resulted into equitable access to public.
7. The pace of justice delivery system has increased through eGovernance.

RESULTS INDICATORS

Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2016	*2017*	*2018*
1. C.C.M.S.	CCMS with data of all petitions and tracking till disposal of cases has been developed by NIC and is currently under operation at SSRD. Cases are recorded as per calendar year.	4933	9503	4986 (As on date)

Contd...

2.S.M.S.	To make the information accessible to the public at large, SMS is sent to each litigant and Advocate at each stage of change in case status and hearing date. Information is provided bilingually in Gujarati and English	-	-	4042 (Started in March, 2018)
3.ONLINE COURT CASE STATUS	Online service through which the applicant can access full case status details including litigant's details, next date of hearing and case stage which includes admission stage, stay application and final orders.			**Visitors : 1,46,814** (As on date)
4."KNOW YOUR REVENUE CASE" MOBILE APPLICATION	A mobile application with dash-board is developed through BISAG and can be downloaded effortlessly by stakeholders to access status tracking of cases.			1000 + person have downloaded the application
5.INTEGRATION OF CCMS WITH E-DHARA	Integration with E-Dhara to reach 18000 villages/Taluka level. This is already in place with direct electronic posting of SSRD orders through biometric access into Village Form 6 and generation of 135 D notices.	1789 Started in May,2016	6099	3983
6.REAL TIME CASE DISPLAY BOARD (Daily Basis)	Real time case status information for SSRD and all revenue cases with greater transparency in SSRD through LED Screen.	• This Display is online on all working days on daily basis. • Display Board is mounted in all four(4) appellate courts. • Display Board is also put up in Passage to facilitate litigants and Advocates. • LED screen is also mounted in Advocates room for prompt and online information of cases being heard.		
7.E-Notice Board	Online generation of notices through electronic mode through CCMS.			On daily basis
8. E-Records (Scanning)	Digitisation of old documents.		70,000 Cases	
9. E-Records (Data Entry)	Data entry of old cases have been completed.		11,000 Cases	
10. SPEED POST	Notices are dispatched through Speed Post also as it is mandatory as per the judicial process.	79379	122603	77261 (As on date)

New Services/Enhancements

1. **E-Notice:** Online notices are generated through electronic mode for the knowledge of litigants and advocates. This is currently in place with notices dispatched through speed post.
2. **Online Case Notice Board:** Real-time updation of daily case board from the court room itself. Currently online court board notices are placed on the website.
3. **SMS:** To make the information accessible to the public at large, SMS is sent at each stage of change in the case status and information is sent to all litigants.
4. **Real-time case displayboard:** Real time case status information for SSRD and all revenue cases with greater transparency in SSRD.
5. **Online Case Status:** Online service through which the applicant can access full case status details including litigant's details, next date of hearing and case stage which includes admission stage, stay application and final orders.
6. **Mobile App service with dashboard:** SSRD has developed a Mobile Application Service, namely, "Know your Revenue Case", with the help of BISAG & NIC. Through this Mobile Application, a petitioner can get the latest details of his/her case. The Government of India (GOI) under the Digital IT Programme has included "Know your Revenue Case" under "Citizen-centric Services" - "UMANG".
7. **Integration with Land Record Management System (E-Dhara):** Integration with CCMS to reach 18000 village/Taluka level. This is already in place with direct electronic posting of SSRD orders through biometric access into Village Form 6 and generation of 135 D notices.
8. **First Step Towards E-Court :**
   Video Conferencing: Appeal and revision cases have also been heard through the use of Video Conferencing. The Video Conferencing was done on a pilot basis on 16th July, 2018 for the far off tribal district of Dahod.
9. **GIS Dash Board:** This is a web-based interactive Decision Support System (DSS) in the form of Geo-spatial information for the use of Appellate Authority.
10. **CCTV Camera:** CCTVs have also been installed in the premises of the SSRD to see that the process flow of the hearing goes smoothly and the litigants receive the due service in prescribed time.
11. **Digitisation:** Digitisation of old records has helped improve efficiency in record management and retrieval of documents as needed by litigants.
12. **Improvement/enhancement to be rolled out during the year 2018:**
    (a) Publishing and downloading the final orders from the website of SSRD.
    (b) This has been completed.
    (c) Data entry of old 90,000 cases. Shortlisting of the agency is under process through GIL.
    (d) Steps towards e-Court.

ENABLERS

Government Process Re-engineering

This was done on the basis of High Court Case Management System of the High Court of Gujarat. However, manual processes were re-engineered and converted to electronic format and in public domain so that every stakeholder can access that and processes can be transparent and reachable to each individual with current status of the case.

Technologies

CCMS is a web based interactive Decision Support System (DSS) in the form of Geo-spatial information. GIS dashboard has been integrated to know the pending revenue cases.

People

The leadership support from the senior officials of **SSRD, NIC (National Informatics Centre), BISAG (Bhaskaracharya Institute For Space Applications and Geo-Informatics) and GIL (Gujarat informatics limited)** were taken into consideration in review meetings of **IT Action Plan Committee** and **IT Implementation Committee** on periodical basis and eventually the CCMS project was completed successfully. More than ten(10) circulars were issued and in-house training was also provided for usage of CCMS.

VALUE INDICATORS

Learnings for sharing

1. In the manual process with large number of files, it was extremely difficult to find out the same applicant, same case order, but with the help of **"Search Module",** it has become very easy to search the same kind of cases and same case order so Appellate Authority can take appropriate decision.
2. It was also difficult to get the number of pending **High Court** and**Suo-moto**cases, but with the help of CCMS, now it is easy to get the list of High Court case/ Suo-moto case. So that, prompt action can be taken in stipulated time as per the directions of the Hon. High Court.

Digital Empowerment

SMS are sent in Gujarati and English language to Advocates and Litigants to provide information regarding their case details and case orders decision. This has helped the litigants in a big manner.

Green eGovernance

This application covers complete life cycle of cases filed at SSRD (SPECIAL SECRETARY REVENUE DEPARTMENT). For example, filing, board generation, notice generation, SMS, display board, order upload and record room. To utilize Green Networks and Communication practices the use of remote management and video conferencing instead of traveling happens at the time of hearing the cases. Green Cloud

Computing and data storage Practices are taken care by State Data center for allocating the resources on the fly and on-demand to run the application.

Shri Victor Mecwan, *IAS*, *Joint Secretary, Special Secretary Revenue Department (Appeals), Govt of Gujarat, js-ssrd-ahd@gujarat.gov.in*

Comprehensive Financial Management System – CFMS

Finance (IT) Department, Government of Andhra Pradesh

Krishnadevarayalu Vasireddy

PROJECT OVERVIEW

Comprehensive Financial Management System (CFMS) is an enterprise level application, designed, developed and implemented by Andhra Pradesh Centre for Financial Systems and Services (APCFSS) on the SAP S4 HANA platform.

Objectives

The objectives of the CFMS project include an enterprise-wide Financial Management System that enhances efficiency in financial transactions, effectiveness in control, transparency in operations, accountability at all levels, sustainability in the long run and to all stakeholders.

Scope

Functions

The overall scope is classified into 7 categories such as Budget Management, Revenue Management, Expenditure Management, Debt & Investment Management; Human Resources Management and ways & Means Management.

Stakeholders

RBI, AG, GSTN, Finance Department, Heads of the Departments, Drawing and Disbursement Officers, Citizens, Social Security Pensioners, Tax Payers, Banks and Employees

Key reasons for nomination:

- Various services under the Comprehensive Financial Management System improves the services of the Government and its Departments
- It would ensure a 'Single Source of Truth' across the State, accessible by all the stakeholders of the system
- Facilitates agility in enhancing the momentum of decision making, promptness and service delivery to all the Stakeholders inclusive of Government and the Citizens of the State
- The project ensured minimal reconciliations through progressive and refined financial discipline in the State

Intended Benefits:

- CFMS intends to improve the capability of Planning and Budget Management through a collaborative approach between various divisions of the FD and other State government departments ensuring reduced budget preparation and distribution cycle time with the latest of current year's data being considered to project for the next year; availability of real time decision support system for budgetary control and monitoring; reduction in repetitive and unproductive work including reduction in use of paper; and control on over drawls/ fraudulent drawls

- It also improves the Revenue Management by developing a seamless system of capturing and monitoring (at an enterprise wide level) revenue targets, collections/refunds and realization on a real time basis enabling greater control over misclassification and strengthening revenue collection mechanism by introducing easier means of payments (e-receipts) to Government, wide spread reach and minimal reconciliation by ensuring single source of information
- The Expenditure Management aims to conduct a real time monitoring of the payments with monthly/quarterly/annual budgets through a 100% budgetary control with a focused pre – audit on substantial expenditures. The Financial System uses advanced authentication procedures using AADHAAR based Bio – metrics and digital signature devices
- The enhanced Accounts Management allows the Finance Department to access State's Accounts with minimal reconciliation amongst the AG, Treasuries and the Banks
- The ameliorated Debt Management System enables complete financial information of loans and investments on a real time basis
- The Improved Human Resources Management would allow real time view into the employees of various categories and facilitate their hire to retire life cycle event management; pension management and processing of payroll
- Improved ways & Means Management that would include real time decision support mechanism to key functionaries of the FD including a system enabling cash flow projections and management mechanism and minimal/ timely reconciliations

Current Status

The objectives of the overall Project have been met successfully. The Project implementation has led to transparency and accountability amongst various Stakeholders has been augmented.

RESULTS INDICATORS

Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
e-Payment facility for all Departments	The payer accessing CFMS can make online remittances across any department by way of selection of service associated with the department - An initiative towards digital Andhra Pradesh and ease of doing business	NA	NA	1 Crore Challans

Contd...

Ease in Reconciliation Process	The existing practice consumes manual efforts which is time taking leading to delay in day book closure. An automated reconciliation will be introduced avoiding manual effort which would contribute to timely closure of day book	NA	NA	49,12,371 Challans

Implementation Coverage

Plan – Pilot approach was chosen for the project to be implemented in one district initially.

Actual Achievement – A big bang approach was implemented across all the 13 districts of the State of Andhra Pradesh for various modules of Budget, Expenditure, Receipts and Accounting.

New Services/Enhancements

Payments hither to be made through 230 branches of SBI across the State and post the implementation of the Project, payments are being disbursed through RBI – e-Kuber promptly and securely than before.

ENABLERS

PROCESSES RE-ENGINEERED

Processes were re-engineered through standardization and simplification of business functionality and rules for various financial functions such as Budget, Expenditure, Receipts and stream lining the Human Capital Management simultaneously.

Technologies

APCFSS has chosen SAP as a Business and Technology platform which combines in – depth business functionality addressing various Government functions in addition to robust technology solutions such as Cloud, Data Analytics and State of the art user experience. Using this technology, high degree of transparency, automation and eGovernance were achieved and it has helped us take a bigger leap towards Digital Initiatives.

People

1. A team of power users from the key departments were chosen to help minimize the resistance for the project implementation.
2. The Drawing and Disbursement officers and the Treasury officers who were the main stakeholders of the project were sensitized effectively through various workshops.
3. The Unflinching support of the Hon'ble Chief Minister and the Finance Secretaries has resulted in the ultimate success of the project.

VALUE INDICATORS

Learnings for sharing

1. Budget authorization system has been replaced with system validations by communicating the budget to all the relevant stakeholders at a time.
   Example – Action taken – The budget for all the 4 quarters is released to all the departments respectively in the beginning of the financial year.
   Result – The departments were enabled to plan their yearlong activities ahead of time.
2. Action taken - Bill forms for claiming expenditure by all the Government departments was rationalized.
   Result – The employees state wide could benefit from the automated system.

Digital Empowerment

Digital eGovernance journey was initiated by ensuring that all the districts inclusive of the villages and hamlets had efficient infrastructure and networking facilities in place so that the benefits of the eGovernance are felt till the last mile of the respective districts of AP State Government.

Technological and Functional enablement was achieved through effective training and change management towards digital empowerment.

Post implementation care was ensured through establishment of district Help Desks in order to provide hand holding towards inclusion, adoption and sustenance of eGovernance initiatives.

Green eGovernance

The eGovernance plan was initiated with a collective vision and a shared cause by digitizing large scale of records in order to enable paperless eGovernance. The ultimate objective of the State's eGovernance project is to draw the citizens closer to the Government as articulated in the vision of the Project.

eGovernance green initiatives are in place to dispose the ICT gadgets and infrastructure and e-waste in a responsible manner.

Sri. Krishnadevarayalu Vasireddy, *Chief Executive Officer, Andhra Pradesh Centre for Financial Systems and Services, krishna.vasireddy@apcfss.in*

Haryana Cashless Consolidation Portal

E & IT Department, Government of Haryana

Ankur Gupta, and Munish Chandan

PROJECT OVERVIEW

Objective

The objective of the State Government is to promote digital payments and achieve less cash society in line with initiative of Government of India for promoting digital payments & moving towards cashless society.

(a) Haryana Cashless Consolidation Portal is a web-based application for monitoring & tracking the progress of cashless transactions carried out in the state of Haryana.

(b) Haryana Cashless Consolidation Portal (HCCP) as a digital payment transaction monitoring system helps in increasing transparency, enhancing financial inclusion and ensuring a healthy financial ecosystem in the state.

(c) Promotes the use of cards (Debit, Credit and Pre-paid), Digital wallets/ e-wallets, internet banking, Unified Payments Interface (UPI), banking apps, and other government schemes.

Scope

Scope of this portal is to track and manage the count of digital transactions in the Haryana state and also promote Digital Payment Security and helpful tips for the citizens in Haryana State.

(a) Capture digital impressions of digital transactions in the state of Haryana, by tracking transactions in the state.

(b) MeitY and NITI Aayog actively participating in HCCP. Score card by both bodies integrated in data collection modalities at the portal backend

(c) **Dual language:** Portal available for viewing in local language (Hindi) and English

(d) E&IT Department Haryana has developed Haryana Cashless Consolidated Portal (CHC Portal) for online monitoring of cashless transactions are being carried out in the state of Haryana from various payment modes.

(e) It is developed based on open API concept to easily communicate with each payment agencies & to share the cashless transactions details periodically without any manual intervention

(f) It always provides real time reporting on cashless transactions as and when required

(g) Before the HCC Portal, Haryana state was recorded only 6 Cr. cashless transactions from various payment agencies whereas 96.03 Cr. cashless transactions has been recorded as on date (July, 2018) from various payment agencies in Haryana Cashless Consolidation Portal.

(h) Assist Government officials to devise a suitable mechanism to increase the penetration of digital transactions in the state

(i) It is easy to monitor & track the progress of cashless transactions from various payment modes such as Direct Benefit Transfer, AEPS, e-Wallet

payment and take the appropriate action in order to increase the cashless transactions in the state

(j) It also helps department/officials in identification of payment mode which is widely used/accepted among the citizen to perform cashless transactions.

Stakeholders:

(a) Dedicated sections have been created on the portal whereby stakeholders can promote their incentivisation and promotion schemes to the users of the portal.

(b) Following payment agencies have been integrated with HCC Portal:
- More than 36 banks such as SBI, PNB, Allahabad Bank, Bank of Baroda, Bank of India, Canara Bank, HDFC Bank, ICICI Bank, IDBI Bank, Central Bank of India etc;
- Various e-Wallet agencies such as PayTm, Vodafone m-Pesa, Airtel Money, CSC e-Wallet
- Aadhaar enables payments such as DBT, AePS
- Other payment sources such as e-GRAS, USSD, BHIM App, RupayCard on POS, UHBBNL

(c) More than 78 Cr of cashless transactions recorded in the FY 2017-2018.

Key reasons for nomination

In line with the initiative of Government of India for promoting digital payments & moving towards cashless society, Haryana State Government is also working to achieve the same in Haryana. However, to achieve the desired results and less cash society, it is most important to monitor the progress of different modes of digital payment transactions. Keeping it in view, this initiative was envisaged and an integrated monitoring tool has been created to monitor the progress and penetration of different modes of digital payment transactions.

Salient features of Haryana Cashless Consolidation Portal are as follows:

- Provides real time cashless transactions report
- Provides an easy & seamless way to on-board any new/existing payment agencies in order to share cashless transactions data with HCC Portal
- Provides various analytical reports such as prevalent modes of payment for utility bills, commodities payment, etc
- Platform provides in-depth analytics and supports decision making for taking various steps to promote cashless payments & achieve less cash society.

RESULT INDICATORS

Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA

Implementation Coverage

Haryana Cashless Consolidation (HCC) Portal monitors and informs its stakeholders on the demonetization status in Haryana State.

The portal was developed post diligently interfacing with all stakeholders involved, including institutions like state departments, banks, wallet companies etc. Multiple workshops were conducted to engage stakeholders so as to understand their technical and operational concerns around data sharing modalities. These challenges and technical parameters were kept in mind while designing the portal functionalities and the APIs (for real time data exchange).

Government of India has allocated a target of 72 Crore digital transactions for the state of Haryana for FY 2017-2018. In order to achieve this target, Haryana took the initiative to develop Haryana Cashless Consolidation Portal (HCC Portal) to monitor the real time cashless transactions happening in the state.

Cashless transactions data are being received by more than 12 payment sources on a regular basis and more than 78 Cr. of cashless transactions have been recorded in the financial year 2017-2018.

New Services/Enhancements

(i) Tracking the adoption of digital payments – This feature enables the citizens to view and measure the adoption statistics of digital payments in Haryana.
(ii) Secure API Integration – This permits for convenient and real time capturing of data from stakeholders.
(iii) Safe, Secure and Ease of Access – Permits safe storage of data and ease of access, permits easy contact to the Digital Transaction data in the State.
(iv) All data is displayed segregated by the mode and channel employed for the transaction, eg – BHIM, BharatQR, Wallet (PayTM, Airtel Money, Vodafone MPesa Wallet, etc.), Credit/Debit Card, etc.
(v) Dedicated sections have been created on the portal whereby stakeholders can promote modes of digital payments and various promotion/benefit schemes to the users of the portal.

(vi) All transactions are updated monthly, so the users are always informed on the transaction count and other details. Constant monitoring of transactions ensures that transaction information is always accurate.

ENABLERS

Government Process Reengineering

Government of India has been promoting digital modes of payments since demonetization. Before the HCC portal came into place, there was no provision to monitor the progress of Haryana State towards achieving the cashless society. As such, Haryana cashless consolidation portal was envisioned as a digital mode for monitoring, gap analysis and analytics support for designing strategy for promoting digital payments.

HCC portal in line with Digital India mission; was envisaged to monitor modes of digital payments and on boarding of various stakeholders, using multiple secure open source APIs to collect cashless transaction data from various payment agencies. These APIs have been designed & developed using Rest API in standardized format in order to simplify & provide secure, easy and seamless integration with payment agencies.

Technologies

- Capture cashless transactions from all the major Government Departments/ Corporations/ Bank Institutions/e-Wallet Agencies/Telecom Service Providers (TSPs) etc. on periodic basis and analytics used to make the data available at single portal
- For analysing penetration of different mechanism for cashless transaction.
- To facilitate roadblock in cashless transaction
- Encouraging good performing platforms and replicate their good practices in other modes/methods.

People

(a) The Vision is to provide facility of seamless digital payment to all citizens of India in a convenient, easy, affordable, quick and secured fashion.

(b) It also helps Department/officials in identification of payment mode which is widely used/accepted among the citizen to perform cashless transaction.

(c) Dedicated sections have been created on the portal whereby stakeholders can promote their incentivisation and promotion schemes to the users of the portal.

(d) Following payment agencies has been integrated with HCCP Portal:-

- More than 36 banks such as SBI, PNB, Allahabad Bank, Bank of Baroda, Bank of India, Canara Bank, HDFC Bank, ICCI Bank, IDBI Bank, Central Bank of India etc;
- Various e-Wallet agencies such as PayTm, Vodafone m-Pesa, Airtel Money, CSC e-Wallet
- Aadhaar Enables Payments such as DBT, AePS

- Other payment sources such as e-GRAS, USSD, BHIM App, RupayCard on POS, UHBBNL

VALUE INDICATORS

Learnings for sharing

Challenges:

When executing the project, the following challenges need to be taken into consideration.

(a) Following up with the departments, banks and wallets for collection of information need to be consistent and diligent. Ideal way would be to integrate the API of the portal with the department so as to create a seamless data updation process.

(b) Often times the data may have to be collected manually through e-mails.

(c) Some departments may require hand-holding when doing the API integration.

(d) Technical Specifications need to be catered to the dynamic requirements of the portal.

(e) Use technologies that allow for seamless data updation and permit for changes in portal functionalities, look and feel so customization is possible, if and when required.

(a) Need & Planning Considerations - Unavailability of a unified user interface for monitoring Cashless Payment ecosystem was leading to unaccountability of financial growth indicators in Haryana State.

The E & IT Department allocated the task to its **Society for I.T. Initiative Fund for eGovernance** whose development team was allocated the task to build the HCCP portal to track and display cashless payment transaction count.

Development Though-Process Detailing:

(i) Create list of all stakeholders dealing in cashless payments – segregate on the basis of government and private.

(ii) Arrange meetings with stakeholders. This can prove to be a daunting task since this requires voluntary participation from stakeholders. Diligent follow-ups would be required to execute workshops/meetings. Level of participation from stakeholders would also differ from stakeholder to stakeholder.

(iii) Enthusiasm of stakeholders in sharing of data in required format would also vary. It was observed that many stakeholders were not able to share their transaction details due to reasons like – different types of digital transaction in the system, inability to share transaction details on a daily or monthly basis.

(iv) In order to overcome this challenge, the implementing team developed APIs to facilitate stakeholders in the data sharing process.

(v) APIs were created after rigorous stakeholder meetings and feedback, as per the RBI Guidelines of Data Exchange which allowed for easy integration with stakeholders.

(vi) Displaying data, tackling both relevancy and user friendliness can also be challenge, since data received can often be cluttered or non-relevant. Bucketing of users and effectively leveraging a complex database strategy therefore becomes extremely important.

(vii) To generate and display filtered and non–filtered reports to stakeholders was also felt necessary. The reports were deigned and tailored to fit each user/stakeholder bucket.

(viii) MeitY Team and NITI Aayog were interfaced with in order to motivate them to participate in portal design. Scorecards from both were included in the backend to intelligently collect and manage data.

(ix) Security was of utmost concern while designing the portal. Various SSLs were considered during the design process of the portal. DigiCert was the SSL which was finally chosen to be implemented on the Portal due its compatibility with browsers and encryption capabilities.

(x) In order to promote Digital Payment Transactions, a dedicated section was allocated on the Portal where both and government and private stakeholders could showcase upcoming schemes and incentivization.

(b) Total Stakeholders transacting on the Portal: Portal's design allows compatibility for further integrations. Discussions with players like MobiKwik, WhatsApp Payments, Uber, Ola etc. underway to include more counts.

Government/PSU Stakeholders: Namely: Banks (36 banks), DBT Cell (20 departments), AePS (Atal Sewa Kendra/CSC), RuPay Card on POS, BHIM Application, USSD, eGras Revenue Dept (3 Sources), UHBVNL)

Private Stakeholders:

Namely: Airtel Wallet, Vodafone M-Pesa Wallet, PayTM Wallet, Aditya Birla e-Wallet, PayU Money Wallet

Digital Empowerment

(a) Dual language. Portal available for viewing in local language (Hindi) and English.

(b) MeitY and Niti Aayog actively participating in HCCP. Score card by both bodies integrated in data collection modalities at the portal backend

(c) Promotes the use of cards (Debit, Credit and Pre-paid), Digital-wallets/e-wallets, Internet Banking, Unified Payments Interface (UPI), Banking apps, and other government schemes.

(d) Capture digital impressions of digital transactions in the state of Haryana, by tracking transactions in the state.

(e) Global best practices for smooth stakeholder engagement

(f) E&IT Department Haryana has developed Haryana Cashless Consolidated Portal (HCC Portal) for online monitoring of cashless transactions are being carried out in the state of Haryana from various payment modes.

(g) It is developed based on open API concept to easily communicate with each payment agencies & to share the cashless transactions details periodically without any manual intervention

(h) It always provides real time reporting on cashless transactions as and when required
(i) Before the HCC Portal, Haryana state was recorded only 6 Cr. cashless transactions from various payment agencies whereas 78.08 Cr. cashless transactions has been recorded as on date from various payment agencies in Haryana State for FY 2017-2018.
(j) Assist Government officials to devise a suitable mechanism to increase the penetration of digital transactions in the state
(k) It is easy to monitor & track the progress of cashless transactions from various payment modes such as Direct Benefit Transfer, AEPS, e-Wallet payment and take the appropriate action in order to increase the cashless transactions in the state.
(l) It also helps Department/ officials in identification of payment mode which is widely used/ accepted among the citizen to perform cashless transaction

Green eGovernance

The Digital India programme is a flagship programme of the Government of India with a vision to transform India into a digitally empowered society and knowledge economy. "**Faceless**, **Paperless**, **Cashless**" is one of pillars of Cashless India. Promotion of digital payments has been accorded highest priority by the Government of India.

The Vision is to provide facility of seamless digital payment to all citizens of India in a convenient, easy, affordable, quick and secured fashion.

Vision of 'Less-Cash' Haryana

Government of India for promoting digital payments & moving towards cashless society, Haryana State Government is also working to achieve the same in Haryana. However, to achieve the desired results and less cash society, it is most important to monitor the progress of different modes of digital payment transactions. Keeping it in view, this initiative was envisaged and an integrated monitoring tool has been created to monitor the progress and penetration of different modes of digital payment transactions.

With a vision to convert the state into a digitally empowered society, a knowledge economy and to improve the quality of service delivery, the Government of Haryana is offering eGovernance services to its citizens. The final aim is to provide the beneficiaries with the option of electronic/digital payment modes at all levels wherever any Government services are rendered.

The Electronics and Information Technology (E&IT) Department in Haryana is spearheading this initiative in the state. The department created an IT society under its purview with the sole aim of furtherance of eGovernance goals in the state.

In the recent past, Haryana has taken various landmark initiatives for improving access to digital infrastructure, increasing digital delivery of services and empowerment of the citizens. As part of promoting digital transactions and converting Haryana into less-cash society, various modes of digital payments have been made available by the Government, banks and wallets in the State.

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Digidhan Dashboard

Ministry of Electronics and Information Technology, Government of India

S. Gopalakrishnan, Inder Pal Singh Sethi, and Om Pradyumana Gupta

PROJECT OVERVIEW

Objective

Today, digital technology is used in everyday lives from shopping in retail stores to citizen-centric service delivery in government offices, generating a lot of data. The benefits of becoming digital are manifold for citizens as well as for the economy. Hence, the government is trying to create awareness about the use of digital modes in rural and less privileged areas and build required infrastructure in these areas for enabling digital payment transactions.

Hon'ble Finance Minister, in his budget speech announced several activities for the promotion of digital payments including a target of 2,500 Crore digital payment transactions in FY 2017-18, through Unified Payments Interface (UPI), Unstructured Supplementary Service Data (USSD), Aadhaar Pay, Immediate Payment Service (IMPS) and Debit Cards. Ministry of Electronics & Information Technology (MeitY) is entrusted with the responsibility of leading the initiative on "Promotion of Digital Transactions including Digital Payments".

MeitY realized the need of a central platform to monitor the growth of these digital transactions as well as absorb the big data and convert it into meaningful insights for the stakeholders for better planning of promotion of digital payments. MeitY decided to get the Digidhan dashboard developed by National Informatics Centre (NIC) for accurate reporting, monitoring and analysis of all type of digital payments transactions occurring in the country and enablement of infrastructure through deployment of Physical/Mobile/BHIM AadhaarPoS devices.

Digidhan dashboard is integrated with Power BI tool for data visualization. The dashboard besides monitoring digital transaction data, provides an in-depth analysis of digital payments including forecasting for next year and predicting the mode through which these transactions would be generated using advanced analytics techniques.

Scope

Digidhan Dashboard is a platform for tracking and monitoring growth of digital payments. It automatically consolidates the data from RBI, NPCI, around 110 public sector, private sector, payments banks, regional rural and foreign banks and uses Business Intelligence (BI) reporting to generate assorted reports. The dashboard operates at two access levels:

(i) General access provides details of growth of digital payment and related infrastructure

(ii) Privileged access is given to the stakeholders to review their performance for better implementation and promotion of digital payments

The dashboard has the following functionalities -

- Tracking of total digital payments transactions with mode and bank analysis
- Dashboards for data analysis after login:
  - POS deployment and correlation analysis
  - BHIM transaction and decline analysis
  - Aadhaar and mobile seeding analysis
  - Bharat Bill Payment System (BBPS) transaction analysis
  - Closed loop transaction analysis
  - Digital transaction analysis for different banks and Ministries
- Target setting and monitoring to evaluate performance of banks (top and bottom banks)
- Distribution of digital payments transactions state wise on per capita basis
- Composite scorecard to evaluate performance of banks on various parameters
- Tracking of POS & BHIM Aadhaar deployment
- Tracking of Mobile/Aadhaar number seeding to bank account
- Smart city reporting portal embedded. The portal automatically consolidates digital payment data from various Departments/Ministries of 100 smart cities and generates reports to track their performance

Stakeholders

The stakeholders for Digidhan dashboard include-

- Reserve Bank of India (RBI)
- National Payments Corporation of India (NPCI)
- Banks (public sector, private sector, payments banks, regional rural and foreign banks)
- 100 Smart Cities
- Ministry of Railways
- Department of Posts
- Ministry of Civil Aviation
- Ministry of Road and Transport
- Ministry of Petroleum and Natural Gas
- Ministry of Power
- Department of Telecom
- Ministry of Housing and Urban Affairs
- City Corporations of 100 smart cities

Earlier, there was no single secondary source of digital payments data for the stakeholders. Furthermore, there was no platform that would provide analysis of the big data that was being produced every day because of digital transactions. Reports were generated and shared manually with the stakeholders in the absence of a digital dashboard.

Central Govt. portals like eTaal, the e-Transaction aggregation and analysis layer, pull data from Digidhan Dashboard through API. Digidhan dashboard generates latest reports with a time delay of 1 day. The reports are always accessible to the stakeholders to take up any kind of surveil. The attractive visuals and dashboards provide analysis on the go which can be used by government officials in all important review meetings. Promotion activities are being foreseen using the dashboard. Given the Indian landscape, Digidhan dashboard binds the campaigns undertaken in different parts of the country for digitizing the economy and gives aggregated numbers on a single platform.

Current Status

The dashboard has recorded 2070.98 crore digital transactions in FY 2017-18 in 16 different payment modes and is integrated with 110 public sector, private sector, payments, regional rural and foreign banks. 33,93,518 Physical/Mobile Point of Sale devices have been deployed so far and 83% of savings/current accounts have been seeded with Aadhaar number (data till 20th July 2018).

Digidhan dashboard has seen a tremendous growth in digital transactions through BHIM, UPI and IMPS since its launch. IMPS transactions have doubled from 507 mn in 2016-17 to 1010 mn in 2017-18. The dashboard has recorded 627.86 crore digital payment transactions in this financial year (till 22nd July 2018).

Being a central platform, it has been integrated with the smart city reporting portal for reporting the digital transaction collections in 100 smart cities under the smart city campaign.

Key reasons for nomination:

1. Digidhan dashboard was launched by Shri Ravi Shankar Prasad, Hon'ble Union Minister of Electronics & Information Technology and Law & Justice, GoI in presence of eight State IT Ministers and more than 30 State Secretaries during National Conference of State IT Ministers and IT Secretaries at Vigyaan Bhawan.
2. The dashboard is first of its kind and is a monitoring tool to access big data through various channels like Reserve Bank of India (RBI), National Payments Corporation of India (NPCI), public sector, private sector, payments banks, and regional rural and foreign banks. Currently, it is integrated with 110 public sector, private sector, payments, and regional rural and foreign banks.
3. It is the only portal which segregates digital payments volume and value based on 16 different digital payments mode i.e. UPI, USSD, IMPS, Debit Card, Credit Card, Internet Banking etc.
4. It is one of the innovative dashboard that employs advanced technology in the form of Business Intelligence (BI) reports and visuals to give in-depth analysis of digital payments data.

5. The dashboard is distinctive in the sense that it evaluates digital transactions at per capita level for different geographies in the country
6. Digital transaction data is huge in volume. This dashboard seamlessly captures the big data ensuring its completeness, accuracy and relevance, and reveals the potential of data in form of meaningful insights, making it one of most technologically advanced Government portals.
7. Target for each bank is set on the dashboard and their achievement is monitored and displayed with statistics like top and bottom banks
8. National platforms like eTaal, the e-Transaction aggregation and analysis layer, take data from Digidhan Dashboard, increasing its scope and utility
9. During implementation, it was found that few banks launched schemes/payment modes that were specific to them. The dashboard allows other banks to view such schemes and take the learning forward to implement these solutions in their own branch as well.

RESULTS INDICATORS

Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
BI reports (Mode wise analysis)	Mode and Bank wise reports are available on dashboard that can be downloaded in excel format anytime on the go	NA	NA	1,50,915
Missing Instances Report	The dashboard gives missing instances of data on the portal for a given period. Banks and NPCI use this service.	NA	NA	97,915
Scorecard	The dashboard gives composite scorecard to evaluate performance of banks	NA	NA	1,03,200
Digital Payments Analysis	POS deployment and correlation, Seeding, BHIM transaction and decline, BBPS transaction analysis dashboards	NA	NA	1,23,500

Implementation Coverage

Digidhan dashboard acts as a prime monitoring tool today for digital payments transactions. National portals like eTaal pull data from the dashboard through API, hence making the dashboard more than a monitoring tool.

Around 33.93 lakh physical/mobile POS and 5.46 lakh BHIM Aadhaar Pay POS have been deployed so far for enabling digital transaction infrastructure. The dashboard

has also recorded 94.91 crore savings and current accounts that have been seeded with Aadhaar and 94.50 crore savings & current accounts that have been seeded with mobile number.

Initially, it was planned to implement the dashboard as a web service and pull data from RBI, NPCI, and Banks through APIs. As the data is at transaction level, per day transmission size reached up to 5 GB. Therefore, a mechanism was devised using the Secure File Transfer Protocol (SFTP) technology for pulling large data from banks and other agencies.

The dashboard is monitored and updated regularly and also ensured that it has high utility and accuracy in terms of reporting and monitoring of digital payments. The BHIM app which uses UPI platform was launched by Hon'ble Prime Minister on 30th Dec 2017 in New Delhi. The app did not get immediate popularity after launch owing to its high transaction failure rate. Through the Digidhan dashboard, these transactions were identified and the app was able to pick up digital modes.

New Services/Enhancements

The total digital payment transaction has increased in volume by 10.33% in 2017-18. Over the year, BHIM UPI transaction failure has drastically improved. The percent of Technical Decline (TD) has gone down from 26% in April, 2017 to 2% in July, 2018. The percent of Business Decline (BD) has gone down from 28% in April, 2017 to 11% in July, 2018.

The smart city campaign will help to gain additional data specific to 100 smart cities that can be used to model other regions for increasing digital payment transactions.

ENABLERS

Government Process Reengineering

1. To standardize the process of digital payments data sharing over SFTP, a specification file was developed and shared with the agencies for sharing of the data. Data formats and nomenclature have been clearly mentioned to standardize and simplify the process of sharing data by banks and other agencies.
2. Any alerts were initially communicated manually to banks for sharing of digital payments data. Automated SMS and mobile alerts are now sent to management in scenarios such as
   (a) If their file gets rejected
   (b) If the file contains exceptionally high/low numbers

Technologies

The digital transaction data has huge potential for data analytics owing to its large volume and variety. Analysis of digital payments is being done and is available on the dashboard in the form of BI reports. Detailed analysis is embedded on the portal with the help of Microsoft Power BI.

Performance of banks is tracked through target monitoring where a target is shared with each bank. The bank is rated on various parameters including target achievement. This rating is used to finally categorize the bank into a low, medium and high performer. There are other status reports such as bank file sharing status, payment mode wise transaction volume for each bank, bank missing data, etc.

Power BI dashboards include a month over month analysis for each bank for different financial years, a comparative analysis for all banks, Payment mode wise analysis for month and year, POS deployment analysis for each bank, POS correlation analysis, Mobile and Aadhaar seeding analysis, BHIM app transactions analysis, etc. Predictive analysis for identification of potential payment mode for next financial year is being implemented for further insight.

Data analytics has helped in increasing the digital payments reach by providing analysis charts and reports to stakeholders, anytime on the go. These are being used by all stakeholders to plan for their upcoming meetings and take proactive action to increase digital payments. In the absence of other dedicated portal for digital payment, Digidhan dashboard serves as a chief portal for supporting Hon'ble Prime Minister's agenda of digitizing the Indian economy.

People

Initially, banks would push digital payments data on Secure File Transfer Protocol (SFTP) manually. This was a tedious process and prone to human error. Often it would result in delays in sharing the file because of human error.

This manual process was changed. Technical support was provided to banks so that the file transfers could be automated on SFTP. The transition not only solved problems of human error and file delays, but it was welcomed as improvement in the overall operations of banks.

VALUE INDICATORS

Learnings for sharing

After successful implementation of Digidhan dashboard, the smart city dashboard is being built on same lines and is integrated with the Digidhan dashboard.

The smart city dashboard monitors 100 smart cities with respect to the digital payment collections they have reported and gives its stakeholders analysis reports to increase the reach of digital payments in these areas. The smart city campaign is active from July 1st and is being monitored strictly with the help of this dashboard.

Digital Empowerment

The dashboard is equipped with powerful visuals like India Map to communicate digital payments transaction on per capita basis. The map is saturated with red, green and yellow shades to mark progress of digital payments in different regions of the country.

Progressive web apps (PWA) are being planned to be implemented for regions with unstable internet connection and lack of required hardware. The dashboard has been made more responsive for mobile view.

Green eGovernance

Digidhan dashboard is hosted on cloud of National Data Centre (NDC), Shastri Park, New Delhi. NDC is an ISO 27001:2013 & 20000-1:2011 Certified Data Centre.

Benchmarking a Data Centre's energy efficiency is the first key step towards reducing power consumption and minimizing energy costs. Power Usage Effectiveness (PUE) and its reciprocal Data Centre Infrastructure Efficiency (DCiE) are used as benchmarking standards as proposed by the consortium called 'The Green Grid'.

Following are the additional best practices that were implemented at NDC Shastri Park for improving PUE:

- Enhancing UPS Power Redundancy: UPS Configuration has been converted for both Phase-1 and Phase-2 from 2(N+1) to (N+N) i.e. 100% redundancy
- Providing Blanking Panels in Server racks: This has reduced mixing of cold air with hot air
- Temperature of cold aisle increased from 20 degree to 22 degree Continuous monitoring & timely preventive maintenance of all basic infra equipment

The basic infra operations team of NDC has made an effective improvement in this by bringing the PUE to 1.39 even at 60% of current load.

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eBudget

Finance Department, Government of Assam

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PROJECT OVERVIEW

eBudget is a transparent, efficient and Social Audit tool for Budget Execution. An online version of the entire budget documents makes the Budget easily accessible to citizens for better understanding and monitoring of the Budget. The mobile application facilitates the legislators, officials and public to access the budget speech in a categorized manner, follow and track all budget announcements, monitor allocations, view financial statements and reports. In addition to the facility to view entire Budget documents, the e-Budget application is also interactive and presents the key features of the Budget speech in a visually appealing way using info-graphics, graphical reports. The first eBudget was not only presented on a tablet to the MLAs and Senior Govt. officials, but also made available to the public as a mobile app, downloadable on Google Playstore. The media was provided with the eBudget in a Pendrive.

The eBudget 2018-19 for Assam, had other distinct features including sector-wise budget (Child Budget, Girl Child Budget, Gender Budget and Outcome Budget). Facility is provided to search and view the schemes announced under the budget Speech by the Finance Minister. It is also possible to view department-wise Schemes or grant wise schemes.

All budget documents and annual financial statements were included in Assam eBudget in both English and Assamese. The eBudget also contained the budget documents for the previous three years for easy comparison of past financial information visa the current FY.

Key reasons for nomination

Assam is the first state in India to submit a digital budget in Assembly. The members of the State Legislative Assembly were provided with tablets loaded with the budget. No hard copies were distributed to the MLAs, making it the first such digital presentation of the budget in the country. The eBudget was also made available to the public as a mobile app, downloadable from Google Playstore.

RESULTS INDICATORS

Services

Parameter	*2017-18*	*2018-19*
Number of Sets	700	200
Number of Physical Books	30	2
Average Page per book	100	100
Total Pages	210000	40000

Implementation Coverage

The eBudget was fully implemented in the first year itself, with only the electronic version made available to the MLAs, Officials, Media and Public. No hard copy of the budget document was distributed to anyone, making the eBudget 100% effective on the first year of implementation.

New Services/Enhancements

As the first phase of the electronic budget, the entire budget document was digitized and made available to all stakeholders electronically during the current FY (2018-19). As the next phase, it is proposed to publish the budget expenditure to the general public leading to total transparency of the state budget.

ENABLERS

Government Process Re-engineering

As part of the electronic budget submission to the state legislature, prior approvals were taken from the hon'ble speaker of the state assembly for the submission of electronic version instead of the traditional paper copies of the budget. Special permission was also issued by the state assembly to carry the documents in tablets into the assembly; as otherwise, it was not permitted for the members to carry any electronic communication device inside the Assembly.

Technologies

The solution is fully built on Open Technologies

Programming Language:	Java - Ver. 6
Framework:	Struts – Ver. 2
ORM Tools:	Hibernate – Ver. 2.1.7
RDBMS:	MySQL – Ver. 5.0.41
Web Technologies:	JSP / Servlets, XML, Ajax, HTML, Java Script
Web Services:	Tomcat – Ver. 5.5
IDE:	Eclipse – Ver. 3.5.1

A well designed Enterprise Architecture for the solution ensured that the Solution was able to meet the organization objectives in an efficient manner and based on the basic concept of "Single Source of Truth" by which no data is re-entered/recaptured once the same is available in any process anywhere in the solution.

The solution primarily derived from the Knowledge Management built on the Database of Financial Information gathered over the past few Budget Cycles. Data Analytics was effectively utilized as a Decision Support Mechanism, to set Budget Limits and warn of excess requests from specific offices under specific Head of Accounts.

Bootstrap Framework was utilized to ensure that the same solution was accessible over any digital device like PC, Laptop, Tablet or Mobile.

The Social Media was effectively utilized to create a wide publicity and ensuring the participation of the Public in obtaining the necessary inputs while preparing the Budget. It was also used for dissemination of the information about the various facilities by which the Budget Information can be accessed by the General Public.

People

Capacity building was one of the major activity leading to the presentation of the electronic Budget both to the State Assembly and to Senior Officials.

Core Users: Legislators of the State Government in addition to the Senior Functionaries of the Government of Assam who traditionally received 25-30 books with about 3000+ pages cumulatively containing the Budget Speech and the Budget grants. Multiple rounds of orientation/training were organized in the State Assembly to the Hon'ble members of the Assembly before the presentation of the Budget in the Assembly. Training programs were also conducted for the Officials and Staff of the Assembly, so as to provide any assistance to the Members during the Sessions. Training programs were also organized for Senior Officials and Staff of the various departments before the Budget Presentation.

Extended Users: Citizens of the State as they can download the Assam eBudget Mobile App from Google PlayStore onto any mobile device. As the Mobile App was designed by the Design Department, IIT Guwahati, the User Experience of the App is very good and this encourages the citizens to 'search' and understand the various schemes, programs that are announced for the various citizen groups. As part of the Budget Outreach programs conducted by the Finance Department, the general public including College and High School Students were also given a preview of the electronic Budget.

Additional Users: Academicians, Students, Journalists etc. can now download the eBudget App as well as the Budget grants from the website of the Finance Department, Government of Assam. The Budget grants etc. are put up in machine readable format which helps these groups to run analytical algorithms on it to identify the trends in the expenditure growth across various years on a number of parameters. Further, the State Government has signed an MoU with Open Budgets Initiative (under the Centre for Budget Governance & Accountability) under which the State Government has institutionalized the publishing of Budget-related Open Datasets which helps in building Budget Dashboards etc. for public consumption increasing the transparency in Budget making.

VALUE INDICATORS

Learnings for sharing

When the initiative was conceived, there were serious concerns on how the electronic budget will be received primarily by the MLAs and the public, as the budget gets presented exclusively in a paper form from the very beginning. The primary concern was that, even if a single member objected, it would have become

difficult to get the formal approval from the State Legislature. However, with the initial concept presentation, through capacity building exercises, it was possible to overcome all such perceived obstacles and the entire process smoothly implemented. The primary learning was that, even the most difficult (perceived) process change can be managed effectively, if prior effort is made, to take on board all stakeholders.

Digital Empowerment

The project was a major step towards digital empowerment in all sections of the society - right from people representatives to students. It was the first time in the country that all the budget documents including historic data were made available in an easy-to-understand format to the general public, which creates the enthusiasm for the public to access/learn the budget.

With the next step of making budget expenditure online, there will be much more keenness in a citizen to participate actively in the budget preparation and execution process.

Green eGovernance

As part of the present project, all requirements for printing of physical documents (huge volumes of physical documents) were completely done away with. Large number of copies of the entire set of Budget Books were getting printed and distributed to the Assembly/each Office/Media across the State. The project resulted in the saving of large volumes, more than around 16 lakh of papers being printed/wasted as part of the Budget Distribution.

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eHRMS v2.0– (Online Human Resource Management System for Grant-in-Aid Employees)

Department of School Education,Government of West Bengal

Manish Jain, and Debashis Sarkar

PROJECT OVERVIEW

Executive Brief

The initiative has been taken from Govt. of West Bengal (GoWB) to introduce eGovernance in various layers of the Departments and its wings to streamline the Human Recourse Management System to ensure HR services and timely disbursement of salary to the employees under Grant-in-Aid scheme.

National Informatics Centre, West Bengal State Centre has been actively involved with promotion of eGovernance at the State and District levels. Over the years, NIC has developed and implemented several Citizen Centric software, provided operational support and imparted training to the government employees.

In present date around **4,66,700** of **Grant-in-Aid employees** of **71,777 no. of organizations** under School Education Department, Panchayat & Rural Development (P&RD), Department of Municipal Affairs, Department of Vocational Education and Training are using this eHRMS application, Designed, Developed and Maintained by NIC.

Objective of the Application:

The basic objective of this application is to prepare one comprehensive and replicable model through which the various e-Services can be provided to the departments under the state government.

The objective and the scope of the application are,

- A centralized database for the employees under Grant-in-aid scheme. That will help to generate any kind of financial report, distribution of work as per the employee ratio, yearly recruitment and vacancy creation report.
- To create a computerized salary requisition to provide error free calculation and monitoring process.
- To meet the mandate from the department of Finance, GoWB to disburse the salary on the very first date of the respective month.
- To bridge the communication gap between end nodes, dept., bank, treasury.
- Secure online reporting system through which treasury bills, bank bills can be properly generated and monitored.
- Prepare database for the profiles of stakeholders.

So far, the system has covered all the major departments, handling with large number of Grant-in-Aid employees. Until now, the Dept. of School Education, Dept. of Panchayat and Rural Development, State Council of Technical and Vocational

Education and Skill Development under the Dept. of Technical Education Training and Skill Development and Department of Urban Development & Municipal Affairs come under the umbrella of this unique online system of HRMS.

Stakeholder Identification

Followings are the stakeholders and beneficiaries of the eHRMS System:

- State/Department level Officers
- District Level Officers
- Sub Division Level Officers
- Officers of Municipality
- Circle Officers
- Grant-in-Aid employees of Secondary and Primary Schools

Scope of eServices

The process of system consists of following services:

- IFMS integration for direct beneficiary transfer
- ePF Processing
- ePension
- Online Bonus requisition
- Online Arrear submission
- eTransfer of employees
- Online Pay Slip generation for registered employee
- Online salary increment process
- Online Leave management
- Online Employee profile management
- Auto stop employee profile on retirement
- Status update through SMS and Email
- iOSMS version 2.0 has been introduced from May 2017
- Online MIS Report Generation from different level

The System is integrated with the external portals of ePension and IFMS. All the profiles of employees in schools registered in eHRMS is being transferred to the ePension portal prior to retirement of 1 year or in death case the profile of employees would have been sent to the ePension on the approval of concerned officials and in that way the total service tenure has been processed through the platform of eHRMS.

Key reasons for nomination:

The application is delicate one in its category of delivering services to the Grant-in-Aid employees of various state government departments.

Key features of the application:

- Greater employee satisfaction.
- Cost savings of the Government by means of less litigation.

- Sustainable that it is so comfortable to handle regular incremental data.
- Robust to deal with all the HRMS related work like salary disbursement, Payfixation, Provident Fund, Pension, Leave Sanctioning, Transfer, Joining of Employees etc.
- Adoptable in nature to be absorbed by other departments with same process flow and parameters.

RESULTS INDICATORS

Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
Online Disburse-ment of Salary through IFMS	On the basis of prior approval of DDO the salary requisition generated in eHRMS and disbursed in DBT manner through IFMS	Rs. **4886,02,77 ,319.00**	Rs. **14245,33,43,9 07.00**	Rs. **15933,92,29, 487.00**
ePension Processing	Employee profiles, going to be retired in one year are transferred to ePension portal	---	---	**17473**
Online Bonus requisition submission	Festival bonus for Eid or Puja is used to provide to the employees, depending upon criteria of salary	---	Rs.**1976,32,21 6.00**	Rs.**61,64,96,4 00.00**
Online Arrear submission	Option for requisition process of pending salary due to any kind of delay, suspension or litigation matter is also included in the system	Rs.**40,40,1 96.00**	Rs.**2,22,16,02 3.00**	Rs.**20,80,10,7 11.00**
eProfile management	All the employees enlisted for salary requisition process are to be registered by the institutional head and approved by the DDO	**370961**	**372361**	**404054**
eTransfer process	All kind of transfer are being processed through the eHRMS application under the observation of District Authority	**1791**	**4014**	**3407**

Implementation Coverage

The stated application is the very delicate and sensitive one as per its impact to the huge number of employees under the State Government scheme. The application manages the monthly salary disbursement process with the other HR related issues.

(i) Comprehensiveness of reach of delivery channels and category of stakeholders

The application has been rolled out all through the state of West Bengal for the Grant-in-aid employees under the Department of School Education (SED).

1. Head of Institutions for Secondary Schools: **14076**
2. Head of Institution for DA Getting Schools: **37**
3. No. of Primary schools involved: **49239**
4. Districts Sub Division Office (DDO Secondary Schools): **57**
5. Circle Office (SI): **730**
6. District Primary School Council (DDO Primary Schools): **20**
7. DI Secondary: **20**
8. DI Primary: **20**
9. State level: **1**

The proposed access points for the processing of salary requisition of schools under GTA are as follows:

For the Secondary Schools under GTA:

1. HOI of Secondary Schools: **129**
2. No. of Primary schools involved: **751**
3. Districts Sub Division Office (DDO Secondary Schools): **3**
4. Circle Office (SI): **13**
5. District School Board(DSB): **1**
6. District Inspector: **1**
7. Executive Director: **1**
8. State level: **1**

The department wise structures of accessing the services are as follows:

For the Department of P&RD:

1. Gram Panchayat Pradhan: **3349**
2. Dealing Assistant Establishmnet (DAE) under Zila Parisad: **23**
3. Secretary under Zila Parisad: **23**
4. Additional Executive Officer under Zila Parisad: **23**
5. Dealing Assistant Accounts under Zila Parisad: **23**
6. Accountant under Zila Parisad: **23**
7. Financial Controller & Chief Accounts Officer (FC&CAO) under Zila Parisad: **23**
8. Block Development Officers (acting as DDO): **342**
9. District Panchayat and Rural Development Officer: **23**
10. State level: **1**

For the Department of WBSCVET:

1. Head of Institutions: **2850**
2. Districts Sub Division Office (DDO Secondary Schools): **57**
3. DI: **20**
4. State Level: **1**

For the Department of Municipal Affairs:

1. Municipal Offices: **130**
2. Directorate of Local Bodies (DLB): **1**
3. State Level: **1**

(ii) Demographic reach: More than **4** lakhs Grant-in-Aid employees from **65** thousand of Secondary and Primary Schools are getting continuous benefit from the application.

1. No. of employee in SED Secondary: **210381**
2. No. of employee in DA Getting Schools: **566**
3. No. of employee in SED Primary: **191417**
4. No. of DPSC Employee: **610**
5. No. of employee in Secondary Schools in GTA: **2706**
6. No. of employee in Primary Schools in GTA: **1950**

A wing under P&RD has rolled out for the employees of Zilla Parisad

No. of employee in P&RD:

1. No. of employee in Zila Parisad: **1380**
2. No. of employee in Municipal Affairs: **20000**
3. No. of employee in WBSCVET: **15079**

New Services/Enhancements

Introduction of the application of eHRM Soffers a better solution for service delivery to ensure timely disbursement of Salary and other HRMS based services to Grant-in-Aid employees.

Enhancement in last one year:

Innovation in process change to improve quality: The application is a progressive one and a huge scope of enhancement with addition of new module is high on demand. The following steps involved in the way of identification and changes are,

(i) Design plan to meet objectives
(ii) Prepare internal team with roles and responsibility
(iii) Internal change management liaison
(iv) Align changes, vision and strategies
(v) Analyze requirement and provide reports
(vi) Identify the keys of analysis
(vii) Plan to migrate data and files

Innovation in service delivery: The basic objective of this application is to prepare one comprehensive and replicable model through which the following e-Services can be provided to concern Department:

(i) To create a database for all Grant-in-aid employees of the concerned department
(ii) System to computerize Employees' monthly Salary Requisition
(iii) System to computerize PF Details
(iv) Proper & Timely Disbursement of Employees' Salary
(v) To provide a common platform for sharing information of different layers of department
(vi) To bridge the communication gap between organization, department, bank, treasury
(vii) Transparent monitoring system at the all layers
(viii) Secure online reporting system through which treasury bills, bank bills can be properly generated and monitored

Integration with ePension: ePension portal is a new integral part of the eHRMS application. All the data regarding institutions/organizations and employee details of the Grant-in-Aid setup are uploaded to the ePension portal in REST API mode.

Following modules are being implemented for further value addition in the system:

Integration with IFMS: There is a proposed end to end communication with IFMS portal for seamless processing of Direct Beneficiary Transfer of salary to their bank accounts. The bank details of the employees are verified in e-Pradan then the it is processed eBilling to e-Kuber system of RBI for Direct Beneficiary Transfer of salary amount to the Bank Account.

eService Book: The entire service history of an employee including career advancement, increment, leaves, transfer, qualifying service period etc are planned to be recorded in the mode of eService Book and process at the time of retirement along with the ePension.

eAttendance: The biometric attendance process may be implemented for all the Grant-in-Aid employees with an integration of eHRMS for real time attendance checking and leave calculation for salary disbursement.

Implementation in other departments and Territory: As this system is so robust and sustainable in nature it extent its boundary to be absorbed by other departments as well, with identical business structure.

Feedback/grievance/issue tracking mechanism: The system has dedicated technical and administrative support as well through email.

Introduction of Mobile App: The mobile app is planned to introduced for the beneficiaries for the availability of different services like application status tracking, view of profile, view and download facility of annual statement and Payslip etc.

OTP based login Module: The identified stakeholders of all layers will have the OTP based login provision by authorized mobile number for the authentication checking.

IVRS System Implementation: Priority based prompt automated user support mechanism is proposed to be framed for prompt response to reduce call transfer errors.

(a) Timely payment of salary of teaching & non-teaching staffs
(b) Online monitoring of Salary Requisition by senior officials
(c) Online monitoring of PF Details of individual employees and organization
(d) Greater Transparency
(e) Greater Employee Satisfaction

ENABLERS

Government Process Reengineering

(i) Analysis of existing system

At the very beginning entire process of this department was manual. The records stored in papers as hard copies. The salary was disbursed to the teachers as the form of cheque. The calculations ware human driven and error pron.

(ii) Field study for process reengineering

At the very beginning entire process was manual. The records stored in papers as hard copy. The salary was funded to the bank account of the organization and the salary was disbursed to the teachers as the form of cheque. The calculations ware human driven and error pron.

(iii) Identification of persisting problems

In expansion of the application some basics struggles have been faced at both administrative level and Technical level.

Administrative level:

(a) Lack of technically sound manpower
(b) Train a huge number of manpower involved the process at each point
(c) A broad geographical area needed to be covered
(d) Involvement of officials at state level
(e) A huge number of last level user

Technical level:

(a) Process reengineering in implementation of logic base in ICT
(b) Unavailability of proper guidelines
(c) Differences in process in different departments
(d) Presence of different components in salary deduction

(iv) Innovation in service delivery

The basic objective of this application is to prepare one comprehensive and replicable model through which the following e-Services can be provided to concerned Department:

(a) Centralized database for Grant-in-Aid employees of the concerned department
(b) Automation in monthly Salary Requisition process
(c) Timely Disbursement of Salary
(d) eHRMS allows a common platform to sharing information
(e) Communication between organization, department, bank, treasury
(f) Transparent monitoring system at the all layers
(g) Online reporting system in a finger tip

The application software has been developed in open source technology and conforms to open standards. The various data of government structure has been maintained the norms of Local Government Directory (LGD).

Technologies

Enterprise architecture: Enterprise architecture has implemented to design a map of dependencies and link the business processes and a set of governance principles that drive the business strategy and influence the decisions of output how it can be expressed through ICT system.

(i) Business architecture: Different documentations have made to create the outline of the important logic base to run the system. Business architecture has been approved from the concerned department in the form of SRS, FRS, SOP and various logic diagrams.

(ii) Information architecture: The database architecture has designed to store master data and the transactional data and set the rule that how one typically accesses them.

(iii) Application system architecture: The application has in a manner to have a smooth interaction with different modules and also have a communication with external application like IFMS and ePension through API calling.

(iv) The infrastructure technology architecture: The application is hosted in National Cloud server environment under the supervision and support of National Data Center. The software application adopted the Platform as a Service (PaaS) with the following services,

(a) Server Vulnerability Assessment
(b) Server Anti-virus
(c) Server Backup
(d) Network/Application Firewall

Open Source Technology: The application software is developed by adopting open source environment. The application is developed using PHP as server-side scripting, PostgreSQL as backend database software, HTML, JQuery as frontend UI development scripting and hosted in Apache server which are belongs from open source community, hence cost effective. Operating system RHEL7.1 ensure high end security features.

Integration to Transform eGovernance: The system has been integrated with the following external applications,

(i) **ePension:** The employee profile who they are going to retire in next one year are transferred to the ePension portal with all the necessary information from eHRMS portal through webservice.

(ii) **IFMS:** The salary of the employees is disbursed through IFMS in seamless Direct Beneficiary Transfer (DBT) manner.

Kanyashree Portal: The application has been integrated with the database of Kanyashree portal for showing the school wise MIS reports of approved and sanctioned Kanyashree girls.

People

(a) **Capacity building:** In the course of implementation of such huge application with a great impact in the approaching process of users. Some resource persons are chosen to make the users understand the blending of policy in the application. The training manuals are provided to all the users.

(b) **Participation of Stakeholders:** The ownership of the application is in full control of the concerned Departments under GoWB and department is the authority of implementation of the policy. The application is designed with the stated policy for checking eligibility, implementation of functional validation and business logic and salary disbursement.
The events of every level are required to be finalized or approved by its immediate upper level. The salary requisition and locking processes are also directed from stakeholders' end.

(c) **Leadership Support in terms of implementation & monitoring:** It is envisaged to build up a portal based solution to have better service delivery to employees. The officials associated with this initiative will interact with each other through a workflow based solution integrated in the portal. There are number of phases are involved to rollout the application.

VALUE INDICATORS

Learnings for sharing

It is the finest example of finance oriented application maintaining the eGovernance standard of ICT. It is the both way system of event process and response feeding.

Users are guided to follow the fundamentals of the policy defined by the departments. There is no scope to violet the basic demands of the system.

The following process may be taken for accomplishment,

(a) Analyzing requirements
(b) Planning for policy implementation
(c) Planning to meet objectives
(d) Impose role and responsibility
(e) Align the scope and strategies
(f) Liaison of administrative and technical team
(g) Blue print for data migration

The system is scalable as all necessary standards have been maintained during its development.

The software application successfully replicated in 3 tires of P&RD (3 tiers), Vocational Education, and Municipalities for stream lining the various HRMS services for the Grant-in-Aid employees in different tires of the departments.

Digital Empowerment

The state government takes a huge initiative to provide the basic knowledge of computer operation at very early stage of education to build better resource of computer literate persons.

(a) The involved officials and stakeholders are provided sessions for software orientations and operations in a regular time interval.
(b) Departments conduct Video Conference session for any new updates in the application.
(c) Beneficiaries are provided the user manual and the standard operational procedure.
(d) Continuous internet connection has been provided to all the district offices and to the adjacent organizations.
(e) All the beneficiaries are used to get status update and salary credit message through SMS alert.

The technical guidelines regarding operations, validations, mechanism are provided in published user manual.

Green eGovernance

The whole system life cycle and the process flow is online and the data are kept electronically. People need not to travel to submit hard copies for processing of

salary requisition. The required machineries and devices are provided by the state government and the necessary measures are managed by the government for the disposal of eWaste as per the government norms.

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e-office System with Inter Office Communication System and Citizen Interface

National Informatics Centre, Kerala State Unit

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PROJECT OVERVIEW

- The core System used is the e-Office system and with many peripheral applications developed to enhance the features of the system
- eOffice is one of the Mission Mode Projects under the National eGovernance Plan, Department of Information Technology of India. eOffice aims to improve productivity, quality, resource management, turnaround time and increase transparency by replacing the old manual process with an electronic file system.
- The objective of the project is to make the file processing more efficient, improve inter-office communication faster and accountable through electronic means of communications and make the system transparent by providing citizen interface for Government orders and also to provide facility for searching the orders, tapals, petitions and provide the file status.
- The project is envisaged to be implemented throughout the state of Kerala covering all the Government offices in the state.
- Around 25000 offices across the state will be covered in next six-eight months.
- A citizen Interface is provided for the public to search for a file/tapal status across all Directorates/Collectorates/Secretariat Departments of Government of Kerala in which the eOffice is launched.
- Inter-office communication has been enabled between these offices for transfer of files, tapals and dispatches of communications between these offices.
- Various MIS reports are generated for monitoring the pendency and movement of files/Tapals.
- e-File processing efficiency system is provided for the employees to know their own efficiency, their section, their team and their Department.
- Records Management System also introduced to digitize old records in the secretariat and facility to search the old files for reference.

Key reasons for nomination:

- The project is unique in its nature with end-to-end automation of the digital flow of electronic information between offices in the state. The implementation is almost hundred percent in the state secretariat and all the collectorates in the state.
- The implementation is completed in around 205 offices in the state. There is seamless integration for the flow of Tapals and e-files between these offices.

- The core System used is the e-Office system and with many peripheral applications developed to enhance the features of the system.

The System provides the following unique facilities

- Electronic File management
- Inter office Electronic Communication System
- Citizen interface for the citizen to find the status of files
- E-File Processing Efficiency System to monitor the performance of employees
- E-petition System (To be introduced Soon)
- Interface to other applications such as Chief Minister's Public Grievance Redressal System

RESULTS INDICATORS

Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
e-Files Created	No of e-files created for processing	1,74,268	3,71,815	5,94,486
e-File Movements	No of E-file movements	33,69,989	48,67,108	68,73,364
e-Receipts created	No of e-receipts created	2,51,673	6,50,940	8,43,939
No of Offices Implemented	Total 205 Offices	43	72	99
No of instances Created	Total 55 Instances	16	20	19

Implementation Coverage

- Implemented in all the 49 departments in the Kerala Secretariat and is extensively being used.
- Implemented in all the collectorates and 18 revenue divisional offices in Kerala.
- 40 Directorates also have adopted the system.
- Total number of offices where e-office is implemented in the state as on date is 205
- Kerala Public Service Commission has implemented the same in all the offices throughout Kerala.
- Kerala State Planning Board has also implemented the e-office in their head offices and all the DPO offices in the State

- Animal husbandry department also has implemented in their head office and all the District offices in the state and is also implementing the same in all the 2000 odd field level offices within a month
- More Than 12.9 lakhs e-Files created
- More than 1.65 crores electronic file movements
- More than 44 lakhs of e-Receipts created
- Application Integrated with Chief Minister's grievance Portal
- Development of Software for E-File processing Analysis (local Development)
- Software for finding efficiency of E-File Processing (Local development)
- More than 120 VMs are being Managed by our Team

New Services/Enhancements

- Citizen interface provided for citizen to find out the status of files
- Auto publishing of Government orders as soon as they are approved and dispatched
- Integration with Chief ministers Public redressal system.
- Development of module for monthly business statement
- Development of module for personal register
- Modules for various MIS reports like pendency report, age-wise pendency etc are developed and implemented.
- E-office Support system is also configured and enabled for the users to report the issues and monitoring the issues

E-file Processing efficiency System

- Module for finding the E-file efficiency index of employees
- Dash Board to show the efficiency of every employee, his team and his department. Graphical view showing the performance improvements.
- Report on e-file efficiency of employees, sections, organizational units and departments

Additional web Services developed and the instances configured for the Inter office and intra office communication.

- Inter office file transfer
- Inter office tapal transfer
- Inter office dispatch through electronic means
- Track the status of file/tapal dispatch

ENABLERS

Government Process Reengineering

- All the physical files which are coming in the inward section of the offices/departments are scanned and there after complete movement is through the e-filing system only.

- Communications to the Government offices are made mandatorily through the inter-office communication system introduced as part of the e-file implementation process.
- All the Government orders are to be generated in the e-office system only and the G.O. number is automatically allotted.
- All the G.O's are made available into the public domain through the e-office citizen interface module as soon as the same is approved and despatched by the competent authority.

Technologies

Java Wicket Frame Work
PostGres 10.4
Spring Frame Work
Apache Tomcat

People

Regular Capacity Building Programmes are organised and so far around 12500 officials in government of Kerala were trained on the same.

Officials from the lowest level (village office) to the Secretaries to Government, Ministers and Chief minister are using the system extensively.

VALUE INDICATORS

Learnings for sharing

- Infrastructure requirements including the required bandwidth have to be in position before the project is initiated.
- Always better to start with a small section and scale-up rather than going for bing-bang approach.
- The offices/departments must provide the base data of the employees/sections etc
- Required procedures and office orders and guidelines for using the system are to be in place.
- Capacity Building programme has to be conducted before starting the implementation and regular update programme also needs to be organized.

Digital Empowerment

- The system is compatible with Malayalam (Local Language) and per Government order maximum files are to be handled in Malayalam. The same is achieved by providing various tools for handling Malayalam fonts.
- DSC and e-sign based signature are available.

Green eGovernance

- The use of paper is minimized and the files are created digitally and the communications are send to various stakeholders digitally and which enables them to have digital file created without taking print outs.
- Electronic files are maintained instead of physical files.

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GoAP e-Procurement System – An End-to-End Comprehensive Online Procurement Platform

Information Technology, Electronics & Communications Department
Government of Andhra Pradesh

K. Vijayanand, and P. Venugopal

OBJECTIVE

The Government of Andhra Pradesh eProcurement platform is slated to be the largest centralized single instance and comprehensive platform covering the entire range of procurement processes from pre-procurement to post procurement processes to provide the Government buyer entity with total control over the entire cycle as it contains all the below modules that are in continuous sync and communication with each other for seamless flow of data and information.

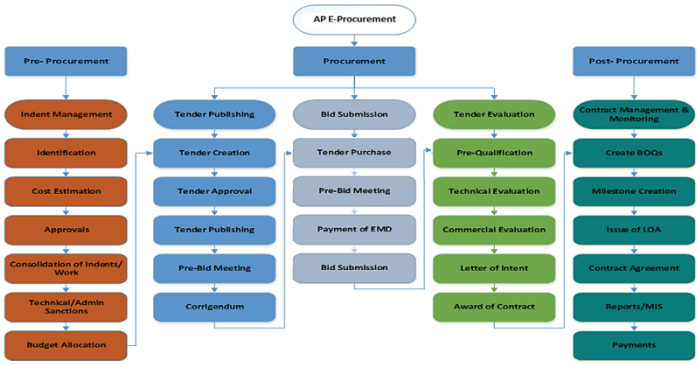
Scope

To facilitate 24×7 bid submission provision to the bidder community by eradicating the departmental dependence and to reduce the bidding costs.

Functions:

- Centralized Supplier Registration
- Indent management and cost estimation
- Core tender management system with distinctive System generated tender IDs for each tender that is published online and helps to track the tender from start to closure of the awarded contract
- Comprehensive contract monitoring and works management system for civil works
- Catalogue management and rate contracts
- Budgeting and Accounts module
- E-Payments
- Integrated data to the dashboards and decision support in each & every Ministry

Process:



Stakeholders

More than 20,000 contractors and suppliers, more than 3,200 department users spread across 34 user departments.

RESULTS INDICATORS

Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
New Supplier Registrations in the eProcurement platform	Ease of Registration formalities in the new platform resulted in increasing the scope and span of new Bidders and their participation in all types of Departmental procurements online.	15000	19300	22800
Published Tenders	With more scope for Customization and Forms available for Tendering requirements which were available only offline earlier, the Number of Tenders published across various Ministries increased manifold.	43055	51409	68414
Exponential increase in User Departments	No. of Ministries/Departments that went into Online Tendering increased manifold over the last 3 years and is growing @ 10% per year.	112	132	158
Average visitors/Day to the eProcurement platform.	Due to the technological advances in the new platform like Multi browser and Multi OS capabilities, the average visitors/day to the platform has grown by leaps and bounds across the globe.	2850	4100	6340

Implementation Coverage

The present system caters to 32 State Departments, 41 State PSUs, 15 Universities and over 150 Urban local Bodies comprising of over 3200 Departmental users and a registered active database of over 20000 civil contractors, product manufacturers, traders and corporates. Over 250+ tenders are published and closed on a daily basis in the state of Andhra Pradesh with the monthly procurement budget of approx. 3000 crore rupees.

New Services/Enhancement

1. Development of custom forms for Quality and Cost Based Selection (QCBS) weightage-based evaluation for Department of Municipal Administration, MA&UD.
2. Swiss Challenge Tender for AP capital region development authorities.
3. Introduction of H1 based evaluation for revenue share tenders by state transport undertakings.

4. Introduction of dynamic eligibility criteria formulae-schema based component system for various user departments for their tendering requirements instead of hard coding.
5. Multiple modes of EMD payment by bidders including partial EMD payments.
6. Introduction of 3 stage tendering for AP technology services ltd and other major user departments.
7. Schedule wise and tender-wise evaluation in products.
8. Inter and intra-departmental tool for corrigendum creation and approval, tender trackers and summaries that give a bird's eye view of the file movement in the system.
9. Huge reduction in dependency on the service provider by creation of self-help processes for password and certificate resets at bidder's end.

Planned for Rollout as Enhancements to the System

1. Complete revamp of the centralized supplier registration page to make it a single page form with upload of supporting documents that minimizes process time for both supplier and the administration teams.
2. Change in bid submission start date to accommodate pre-bid meeting clarification uploads
3. Authentication of new registrations using e-KYC (UIDAI), RMN & email
4. E-sign services for digital signing of documents

ENABLERS INDICATORS

Government Processing Re-engineering

PROCESS RE-ENGINEERING DONE IN THE NEW PLATFORM - SIMPLIFICATION AND AUTOMATION	
Before 2015	After 2015
Manual evaluation of Bidders and separation from Non-responsive bidders based on the Documents uploaded into the system consuming a lot of the evaluator's time	Automatic Bid evaluation of Qualifiers and Non responsive bidders during Prequalification/Technical evaluation stage by the system itself based on input parameters which can be over-ridden by the evaluator if necessary.
Pre-Tendering activities like Estimates Preparation, Sanction of Budget for floating the Tender and Raising of Indents precluded the act of Publishing a Tender online earlier. Moreover, after award of a Tender, the entire process was paper based right from the Agreement stage till Final payment to a contractor taking a lot of manpower, time and resources.	Automation of pre/post procurement activities like Cost Estimation, Generation of Proposals and Estimates for Administrative and Technical sanctions, Contract Monitoring and Management Module, Budget and Accounting module, Price discovery through Catalogue Management module etc.
Entire Tender publishing had to be done at One go with all information on hand	Now, Mandatory fields required earlier in creating Indent has been integrated with Enquiry Creation page so Indent generation is dispensed with thus saving a lot of time and effort for the Tender Inviting Authority.
Documents had to be downloaded manually for each bidder stagewise earlier.	All uploaded documents of the Tender can be segregated and downloaded in one click in Bulk thus saving a lot of time during evaluation. DMS introduced in the new platform.
Single browser user interface earlier	Browser Agnostic platform with use of eMSigner software on web-socket model
No concept of Tender tracking earlier at all levels during the lifecycle of the tender. Lengthy NIT Nos.needed to be remembered and marked in all paperwork	Concept of System generated Tender ID number which is a unique identifier for each tender that is published in the system. This allows easy tracking of the Tender's lifecycle by all stakeholders.

Technologies

SQL Server Reporting Services has been used to generate BI reports on various metrics for the huge amount of data that is available in the e-procurement system and integrate it with KDMs in the Ministries. These reports enable key decision makers to base and generate policy decisions on type and mode of spending, utilization of budgets before expiry and ensure effective Governance at the citizen end.

People

Capacity Building: Training and orientation workshops for departmental user and bidders in multiple locations of AP gave credence to more than 3000 departmental users and over 1000 representative bidders and were spread over 1-year time span with continuous refinements and customization based on inputs received from both user segments buyers and sellers. The whole hearted support from the Nodal agency APTS limited and the ITE&C department in coordinating various events and workshops smoothly along with numerous Review Meetings by the Secretary who is also the Chairman of the Project Steering Committee enabled early Go Live of this huge platform. Change Management was affected using demo test sites for practice by the Department users for familiarization, continuous on-site classroom sessions and upload of training manual presentations on the platform for the benefit of the users.

VALUE INDICATORS

Learnings for sharing

More than two dozen Pilot demonstrations and workshops in 23 major user Departments were conducted in the UAT phase via creation of Test user IDs and passwords for them to test the application stability and functional flows. Thereafter, UATs and sign offs were taken from 12 major user departments including Engineering Departments and diverse ministries with respect to the system for civil work Tenders, products procurement and services tenders.

Pre-Go live activities included building up the ecosystem around the platform as below:

For compliance purposes, the platform underwent STQC Audits for Functionality, Security and Performance and post the clearances were obtained, the Pre-Go live activities involved payment gateway integrations with two leading banks for e-Collections and e-Refunds involving all modes of payment, sizing of the hardware for DC and DR to cater to the expansion needs of the system for next 5 years on storage, processing capabilities and increase in G2B users.

Configuration of Application and Database servers and Security components at the Govt. owned Data center, Migration of legacy master data by synchronizing the data tables from the old platform were done for Deployment into LIVE.

Digital Empowerment

Specific steps taken for financial inclusion was to mandate that all collections into the E-procurement system was made possible by transfer of monies from registered bank accounts of the bidder community only and mandatory entry of the bank account information for automated refunds in case of unsuccessful bidding in the system. This was made possible by design and implementation of Pooling accounts at the Govt. level and Integration of webservices by the payment gateways and the e-procurement platform. There were no other challenges in language, demographics or cultural differences encountered for this system as literacy levels of all the stakeholders was beyond threshold for this due to previous knowledge of offline tendering.

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e-Stamping in Property Registration

Department of Registration, Government of Kerala and
National Informatics Centre, Kerala State Unit

T. Mohana Dhas, and P K Sajan Kumar

PROJECT OVERVIEW

e-Stamping is a secured way of paying non-Judicial stamp duty to the Government. e-Stamp is a computer generated alternative for conventional stamp paper. The prevailing system of physical stamp paper/franking is replaced by eStamping system. Department of Treasury, Government of Kerala is the Central Record Keeping Agency (CRA) for all e-stamps used in the state.

- The Vendor Registration, Vendor Commission etc. can be executed as part of CRA.
- Treasury to keep the record of all physical Stamp Papers
- Under Online e-Stamping system, traditional stamp paper is replaced by eChallan with security details
- Stamp Paper (e-Stamp) generated automatically by the system

Features:

- Easy accessibility and fast processing
- Security
- Cost savings
- User friendly
- On-line payment
- Time saving
- Increases Revenue
- Transparency
- Online verification
- Locking/defacement of e-Stamp by Sub-Registrar

An e-stamp paper generally contains the details:

- Certificate No/GRN(Government Receipt No).
- Certificate issued date
- Account reference
- Unique Doc Reference/Unique Identification Number
- Name of the e-stamp purchaser/Treasury Name
- Description of document
- Value of Instrument
- Name of Party
- Stamp Duty paid

Advantages:

- e-Stamp Certificate can be generated automatically in minutes
- Authenticity of e-Stamp certificate can be checked on-line
- e-Stamp Certificate generated has a Unique Identification Number (UIN)

- Specific denomination is not required
- Need not approach vendors for stamp
- Defacement and verification possible

Security features Incorporated:

- E-stamp Serial No
- GRN (Government Receipt No)
- Transaction Type
- Stamp Duty paid
- Name of the Party
- QR Code
- Water mark
- Online Verification
- Online Defacement/Locking of the stamp
- Authenticity of the document can be checked through the department website

IMPACTS

- Eliminated conventional method of stamp duty through physical Stamp paper
- To prevent paper and process related fraudulent practices
- To provide secure and reliable collection mechanism
- To stop the leakage of government revenues
- To store information in electronic form
- To build a central data repository to facilitate easy verification and generation of MIS reports

E-Stamp Vs Physical Stamp Paper:

Sl No	*Characteristics*	*Physical Stamp Paper*	*e-stamp*
1	Security	Security thread, multi-colour printing, serial number control and security paper but verification almost impossible- Tampering risk with franking machine.	System generated e-stamp with QR code, water mark, Unique identification Number, online Verification/ Defacement/Locking facility.
2	Revenue	Leakage possible	Fool proof and amount directly credited to the Treasury account.
3	Certificate	Pre-printed Paper or franking Based.	Pre-printed stationary not required. E-stamp generated with built-in security features.
4	Document Verification	Almost Impossible.	Online and instant through integrated application PEARL
5	Processing time	Limited-Based on stock and machine- loading.	Unlimited and can be printed anytime.

Contd…

6	Availability	Limited-Based on stock and machine- loading.	Unlimited and can be printed anytime
7	Denomination	Fixed denomination. Scarcity of required	Flexible. Any amount rounded to the next ten rupees.
8	Mode of payment	Only cash payment at SR office	Net banking/direct cash payment at Govt. Treasury. Cashless Sub Registrar Offices. No cash transaction at SR office for document Registration.
9	Additional Payment	Commission to the vendors	No additional payment as commission.
10	Credit to Government	Leakage due to fake stamp paper	Direct to treasury account
11	Outside Agency	No (in Some states SHCIL)	No
12	Additional work for SRO for locking the e- stamp.	No locking	Additional work not required
13	Integrated with Other Departments	Only Manual integration	Integrated with Registration Department, Treasury KIFBY Chitty Registration for Kerala State Financial Enterprises.

Stakeholders

- Registration department
- Taxes Department
- Finance department
- Document writers
- Public
- Banks
- Co-operative Societies

Key reasons for nomination

Nearly 61200 e-Stamps have been generated in the State from the date of its inception i.e., May 2017, that earned an approximate sum of Rs. 1,673 Crore (Rupees One Thousand Six Hundred and Seventy Three Crores only) as revenue to the department. The introduction of e-Stamping for Property Registration brought in more transparency to the system, blocked the chances of using fake stamp papers and helped the department to enhance its revenue. This system also brought in a revolution in the whole Document Registration process by easing the tedious process of procuring printed stamp papers as it enables the public to generate stamp papers online by making digital payments at their comfort.

The success of e-Stamp system for Property Registration in Kerala for which NIC, Kerala played a crucial role to bring out a unique and innovative system in the whole country is a great stride towards the Digital India move of Govt. of India.

RESULTS INDICATORS

Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
E-stamp Generated (Property, Chitty)	The prevailing system of physical stamp paper/franking can be replaced by e-Stamping. e-Stamping is web based solution for payment and collection of non- judicial stamp duty			Started on May 2018 e-stamp generated- 43370 Revenue generated :1210 crores Total e-stamp generated till July 2018- 61200 Total Revenue generated Rs: 1673 crores

Implementation Coverage

- Successfully achieved the goal of eliminating for document registration.
- Replacement of physical stamp paper with e-stamp linked with e-Treasury eliminates revenue leakage.
- All registered documents are available for online verification.
- Increase in Revenue for Government of Kerala

New Services/Enhancements

At present e-stamping implemented for Stamp duty greater than one lakh.

Initiative taken to extend this for all property registrations including less than one lakh and this should be done through e-stamp so that no physical stamp required for any property registration in Kerala State.

Model document based documentation and registration as POC

ENABLERS

Government Process Reengineering

Till last year April 2017, Kerala government using physical Stamp paper for all document registration in the department of Registration.

An innovative method of business re-engineering done on this so that e-stamp with all security features can be automatically generated from the system and physical stamp paper is completely avoided once locked the possibility of re-usage is nil.

Technologies

- EA for Revenue & EA for IFMS frameworks are being developed.
- Dash Boards are available.
- Mobile App development in progress.

People

- Departmental IT Cell has been set up to support implementation at state level. WhatsApp support group with identified district level master trainer is established.
- Software changes are managed through change management procedure.

VALUE INDICATORS

Learnings for sharing

- E-stamp tightly integrated with e-Treasury (IFMS) and defacement of the service is also integrated with e-Treasury eliminating abuse or misuse of e-Stamp.
- All documentations are standardized
- Block Chain technology is planned for next phase.

Digital Empowerment

Software supports Local language.

All payments are either e-stamp or e-payment based

Green eGovernance

The concept of printing pre-printed stationary as Stamp paper is completely avoided. All Stakeholders are digitally empowered.

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Excise Management System

Excise Department, Government of Uttarakhand

Narendra Singh Negi, and T K Pant

INTRODUCTION

The Excise Department of Uttarakhand is the second largest revenue contributor of State Government. The department had a challenging objective to automate the alcohol supply chain management system in whole Uttarakhand in real time mode and to increase the revenue collection for the department. Also, interfaces to all the stakeholders of department shall be automated to expedite the service delivery to citizen & business.

PROJECT OVERVIEW

The Excise Management System for Liquor has been initiated by the Excise Department with the objective to make the system more transparent, efficient, effective and accountable with the help of Information Technology (IT). This is an internet based software application that will act as the single point of communication for Department users, all other stakeholders to view the relevant information of various.

Key reasons for nomination

Effective revenue mobilization

- Better inventory management
- Improving performance and efficiency
- Intelligent and real time Reports
- Better managerial control
- Daily reconciliation and enablement of revenue record
- Controlling leakage of revenue
- Real time reports to ensure better monitoring and efficient decision making
- Reduce paper work and wastage of papers
- Reduce manpower cost
- Providing transparency to department and its business with its stakeholders

Other Benefits/Features:

- Reduction in smuggling and brand pushing of liquor which help in better revenue mobilization.
- The corporations dealing with liquor have seen savings in cost of transfer of funds, reduction of floats, better stock management improving revenues and less time spent in chasing paper.

The various key stakeholders in the project are:

- More than 600 retail licenses
- More than 40 Bonded Warehouses
- 9 Distilleries/Bottling Plants
- Nearly 50 Distilleries of other State
- Breweries

- More than 50 Hotels/Bars
- More than 15 Beer Shops
- Nearly 20 Paramilitary Units
- One CSD Wholesaler
- 7 Mall/Departmental Stores
- 2 Regional Warehouses (FL-2)
- 13 District Warehouses (Sub FL-2)
- More than 50 Excise Inspectors
- 2 Regional Joint Excise Offices

Benefits

- The Bonded Warehouse and Warehouse (FL-2) will see savings in space and reduction of overstocking/stock out situations. They will be able to serve customers with speed and with brand of choice along with accuracy in billing and payments resulting in enhanced satisfaction.
- Generation of timely, intelligent reports and comparisons has helped managerial control, inventory management, improve efficiency and enable revenue record reconciliation on daily basis.
- To generate different MIS reports for top management to help prepare Excise Policy for next year.
- To improve the overall efficiency, effectiveness, transparency and accountability in the process of the Excise Department.

RESULT INDICATORS

Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
Permit Generation	User can generate permit according to their requirement (brand wise) and availability of stock of that particular brand.	202442	229178	238724
Online Payment	Online payment module is integrated with directorate of treasury of the state.	9821	7085	7509
Inventory Management	Liquor daily Stock of Fl2 (Wholesaler), Bonds, Distilleries	165028	195492	184060
Reports	All types of reports like stock of liquor, sale of liquor, district wise fl2 bond licensee, g4 register, g6 register etc	1543	1600	1621

Implementation Coverage

Implementation module for hotel, bar & country liquor license to generate its own permit and integration of SMS Gateway. Mobile application for different type of users to check the details of different permits in android enabled mobile any time anywhere.

New Services/Enhancements

Achievement:

Implementation of MDO, Statistics chart of district offices.

Added new features in existing policies and updated the System according to the new policies of the state government.

Target/Plan :

Online licensing portal. Anyone can apply to get the license for distilleries, bar, vinegary, brewery, hemp cultivation etc. from online portal.

ENABLERS

PROCESSES RE-ENGINEERED

Earlier Department computerization was done by a private firm and it was charging on the basis of number of transactions. This resulted in payment of large sums of money to the firm. Later Govt. has decided that it should be given to NIC.

NIC has redesigned it, hosted in user premises and implemented it successfully.

The number of Processes re-engineered:

(i) For ePayment integrated with Treasury Portal.

(ii) Workflow based transparent online govt duty processing and monitoring mechanism with online verification of processed demand amount, budgeted amount and actual payments

(iii) Creation of Excise Department's IT Cell that has resulted in introducing necessary change management and increased use of ICT in excise department's working in serving the needy.

Challenges faced in implementing Process changes:

(i) Immediate challenge was the in-house resistance that is being overcome regularly with the help of frequent sensitization workshops, training programmes, facilitation/centralized monitoring through establishment of a department's IT Cell headed by a Deputy Commissioner and through suitable administrative (issue of GOs, etc.)/disciplinary actions (incentives, promotions, transfers, suspensions, adverse entries in annual reports, etc.).

(ii) Data non-uniformity: Each district office was maintaining registers manually with lots of inherent inconsistencies in legacy data. Extensive data correction exercise of legacy data had to be undertaken and monitored.

(iii) Timely release of budgeted funds: The release of budgeted amount is at the discretion of the Finance Department, which has its own limitations in timely release of budgeted funds to each of the state's department, including Excise Department. This has been overcome by providing for disbursements through Excise Portal, as per availability of funds.

(iv) All stakeholders are doing their payments through on line only.

The Lessons learnt from the Process re-engineering exercise:

(i) Data inconsistencies and data redundancies: Implementation of excise schemes has an inherent systemic tendency to allow for data inconsistencies and data redundancies to creep in, gain a deep stronghold and thwart any attempt to uproot them whenever there is slackness in effective monitoring or in taking disciplinary action.

(ii) Administrative and political will alone can clean up the mess. IT tools like Excise Management System can act only as an important tool to be used adroitly.

(iii) Judicious use of different models of Software Engineering in different situations, besides administrative support is the key behind any successful IT implementation. Like, Rapid Application Development and Evolutionary Model has been the case behind the success of Excise Management System implementation.

(iv) There is a limit to reap the benefits of ICT initiatives by the users. Although System provides for online payment and online status monitoring, still the deprived status of the users may not make them fully utilize the ICT initiatives of the department.

TECHNOLOGIES

(i) RAD and Evolutionary Software engineering model adopted.

(ii) Currently, the architecture is two-tiered – data access layer and application layer.

(iii) Development platform is MS Visual Studio, Crystal Report, MS Chart and web services, Oracle RDBMS

(iv) The hosting platform is IIS Web Server on Windows and Oracle RDBMS.

(v) Corrective/Adaptive/Perfective/Preventive maintenance are done on a continuous basis, based on new and change requirements. The Excise

Department's IT Cell is responsible for collecting feedback, grievances and providing solutions.

(vi) Regular security audit is conducted and confidentiality is ensured as per Govt of India norms.

(vii) The current version of Excise Management System has outgrown the continuous new and change requirements over the period. The transaction database is also growing heavily. As a future perspective, NIC Uttarakhand plans to revisit the current architecture and revise it into the MVC architecture model, possibly by next financial year.

People

Creation of Excise Department's IT Cell, increasing dependence of department officials on Excise Management System for monitoring purposes, increasing efficiency, cost reduction, wide media coverage and awareness among beneficiaries ensures the sustainability of this particular eGovernance initiative. The dominant challenge was the resistance of department officials to learn and implement. Outsourced manpower under the supervision and guidance of NIC Uttarakhand greatly helped in implementing Change Management and Capacity Building exercises. It was not possible to implement Excise Management System without the technological and operation support of NIC officers.

Leadership support for capacity building, visibility of actions with current status:

Shri T.K.Pant, currently Joint Secretary, Excise, Govt of Uttarakhand took the initiative of sustaining and broadening NIC Uttarakhand's ICT initiatives and has seen to it that they are implemented, despite resistance.

The team is fully supported by the Commissioner, who took upon himself to mobilize the department's officials to maximum extent possible to successfully implement and sustain Excise Management System in all 13 districts.

The technical team of ICT initiatives, headed by Shri Narendra Singh Negi, Technical Director, NIC Uttarakhand team is ably supported by NIC's District.

Informatics Officers (DIOs) at the district level supported the project.

Change management and Capacity building strategy

Besides numerous meetings, approximately 10 state-level and an equal number of district level workshops/training programmes have been organized to implement

the department's ICT initiatives. The participants include almost all the stakeholders. Besides regular training, technical as well as administrative support over emails, telephone and Videoconferencing

Project management & Monitoring adopted:

Professional project management and monitoring techniques like Project Management Plan, Resource management, Feedback mechanism, Gantt charts, individual roles and responsibilities, outsourcing, etc. are being used.

VALUE INDICATORS

Learnings for sharing

Uttarakhand Excise Management System implementation started as a top-down approach using Rapid Application Development and Evolutionary Software Engineering models. Though the mentioned models have many advantages and have proved their worth during the implementation, but the frequently changing and ambiguous user requirements posed many a technological and implementation challenges after the implementation of system.

The following phase-wise implementation, using a mix of bottoms-up and top-down approach, wherever and whenever found suitable was adopted to achieve the desired results, after introducing ICT in the Excise Department.

(i) Taken over from Private Firm
(ii) Study the System
(iii) Change Management & BPR through Suitable Administrative Action
(iv) E-Payment introduced by integrated with Treasury Portal
(v) Data Transparency
(vi) Alignment of Solution Architecture with BPR through workshops and trainings, approximately 10 events, till date.
(vii) Data Correction of Legacy Data through Physical Verification
(viii) Development, Testing, UAT, Security Audit & Implementation of Excise Management System
(ix) Focus on enhanced service delivery mechanisms: Online Application, Web, SMS, Mobile App, IVRS & Speech Recognition, e-Payment through State's Treasury portal
(x) Establishment of Excise Department's IT Cell at Dehradun.
(xi) Development of Mobile App
(xii) Maintenance and sustainability of System
(xiii) Changes as per Excise Policy

Digital Empowerment

(i) Besides online presence, alternative mechanisms like IVRS, Android mobile applications; SMS, etc. have been provided.

(ii) Extensive publicity is likely to help the users, who may not be able to use the aforementioned mechanisms, to take the assistance of IT savvy persons in their neighbourhood.

(iii) Overall, the Excise Department is saving a minimum of Rs. 3 crores annually after introducing NIC Uttarakhand's ICT initiatives.

Green eGovernance

Uttarakhand Excise Management System complete work flow is ICT-based system that has enabled significant reduction in paper consumption and cost to the Excise Department. Provision of online application submission, online sanctioning process, online payment, online monitoring through reports has led to environmentally friendly practices.

As mentioned earlier, System has significantly improved the efficiency at the backend by almost 90% and ensured considerable cost savings to the Excise Department, which is saving a minimum of Rs 3 crores annually after introducing NIC Uttarakhand's ICT initiatives.

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Implementation of eOffice in the State of Andhra Pradesh,

Information Technology, Electronics & Communications Department, Government of Andhra Pradesh

K. Vijayanand, and D. Venkatachalam

PROJECT OVERVIEW

eOffice is a digital workplace solution for government offices that is built based on the Government manual procedures. eOffice was started in order to bring a radical change in the way Government offices function. In addition, eOffice was also aimed bringing in more transparent and standardization across departments, both inter and intra-government processes through standard file heads; standard way of writing notes, scanning, registering and routing the inward correspondences along with creation of file, noting, referencing, correspondence attachment, draft for approvals and finally movement of files as well as receipts.

eOffice provides an effective mechanism to monitor the performance of individuals, pendency of files, files cleared, files worked on, etc. on finger tips which was not available earlier. This monitoring mechanism will increase the accountability and responsibility of staff at all levels and brings a positive change in the administrative system.

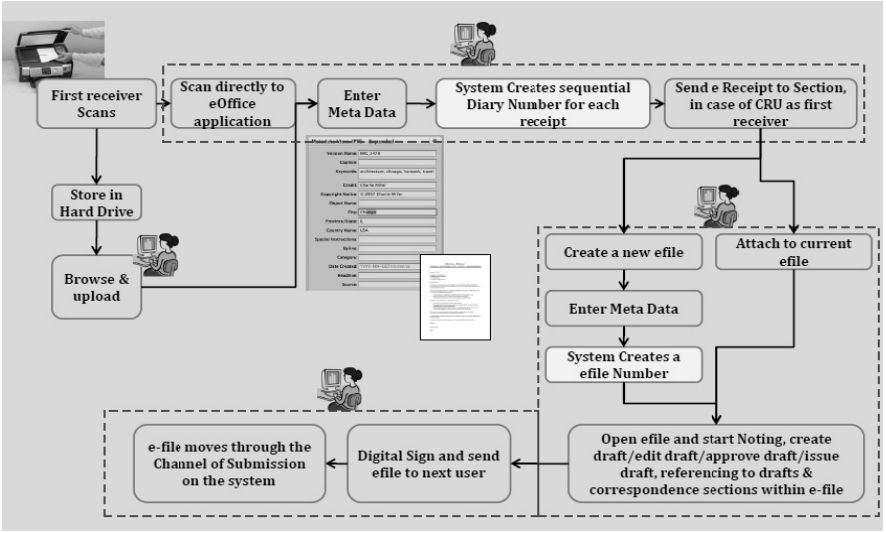
Scope:

Files and receipts become an important entity in any organization. Decision was taken in the year 2014 to implement eOffice in Government of Andhra Pradesh up to the last mile i.e., panchayat level by automation of the manual procedures of digitization of inwards, creation of file, noting, moving, recording, tracking of files/ letters and digitization old physical files.

Functions:

- Email Diarisation
- Generation of Acknowledgement for received letters
- Follow up – Setting remainders on files and receipts
- Added security with Digital Signature
- Email and SMS alert on important files
- Instant messaging for notifications

Process



Stakeholders

The key stakeholders of eOffice are – Secretariat departments (including CM Office, CS Office, Cabinet Ministers), State level HoDs, District Offices upto Panchayat level, Autonomous organizations, etc.

Currently **89,303** users are actively using eOffice application all over the State.

Key reasons for nomination:

The successful implementation of eOffice in all Offices of Government of Andhra Pradesh upto last mile (13000 Gram Panchayats) is a practice to simplify the government processes and procedures, which includes, reducing paperwork, standardization/automation of repetitive processes, eliminating unproductive/non-value added work and streamlining decision making.

The outcomes of eOffice project are as follows:

- File workflow automation including standardization of repetitive processes
- Document management & information retrieval
- Routing of communications with digital signature
- Inter & Intra departments integration
- Accountability & tracking of files
- Analytical dashboard view
- User-friendliness, reduces time & improve productivity
- Faster decision making
- RTI Compliance

RESULTS INDICATORS

Services

Parameters	*Brief description with benefits*	*Volume (Nos) of Depts/HODs year wise*		
		2015 – 16	*2016 – 17*	*2017 -18*
Departments / HODs/ Districts	• Increase Transparency • Increase Accountability • Assure Data Security & Data Integrity • Transform the Government work culture & ethics.	33 Secretariat Departments • 45 HODs/ AOs/SUs 13 Districts Collectorates	76 HODs/ AOs/SUs • 13 Districts upto GP level	• 212HODs/ AOs/SUs

Implementation Coverage

eOffice is a flagship project of Government of Andhra Pradesh under the close monitoring of Hon'ble Chief Minister in order to make all the state government offices a digital enabled office. eOffice was implemented in multiple phases:

- **eOffice Journey:**

Phases	*eOffice Implemented*
2014-15	*33 Secretariat Departments*
2015-16	*45 Head of Departments/State Units/Autonomous Organizations* *13 District Administrative Offices*
2016-17	*76 Head of Departments/State Units/Autonomous Organizations* *13 Districts upto Gram Panchayat level*
2017-18	*212 Head of Departments/State Units/Autonomous Organizations*
Till June 2018	*366 Head of Departments*

The success of the eOffice project execution was able all because of the leadership support; multiple circulars were issued from CM Office/CS Office by making eOffice mandatory and parallel stopping of the physical files and also personal tracking of the implementation progress by conducting every 15 days periodic review meetings.

New Services/Enhancements

State Level eOffice Current Status of Implementation				
S. No	**Category**	**Total Offices**	**No. of Units eOffice implemented**	**Pending**
1	Secretariat Departments	34	34	0
2	Head of the Departments (HoDs)	87	84	3

Contd…

3	Autonomous Organizations (AOs)	336	226	110
4	State Units	23	23	0
5	HoDs at District	793	793	0
6	AOs at Districts	415	415	0
7	State units at Districts	32	32	0
Total		**1720**	**1607**	**113**

Enabler Indicator

To renovate the entire department manual file system, process re-engineering was done in all departments to increase efficiency and effectiveness in day-to-day policy decision making.

Standardization

- Organization buildup based on Employee Master Data
- Identifying the Infrastructure Gap & procurement/upgradation of necessary hardware
- Digitization of existing physical files

Simplification

- Government structure
- Creating of Bulk email Id's
- Complete noting in single file
- File tracking
- Digital repository of files
- Decision making

Automated

- Inward receipts
- Noting & file creation
- Digital Signature
- Intra/Inter movement of files
- Real-time file pendency reports
- Transferring of post

TECHNOLOGIES

Technology adaptations/Innovative deployment

eOffice application is built on an Open Architecture Framework that contains the required flexibility for scaling and meeting the dynamic needs of the Government. Features such as the workflow and rule based file routing, role based access mechanism, central repository of documents, electronic file movement and online forms help to create a paper-less office. Information sharing between systems leads

to effective decision making. This aspect is addressed by integrated workflow processes.

Change Management

This has been observed as the biggest hurdle in smooth implementation with users in the organization being reluctant to change from the traditional way of working over partly due to trust and fear of acceptance to new way of working in computerization.

Leadership Support

Government of Andhra Pradesh has an IT savvy Chief Minister who envisioned all the Government offices into eOffices by introducing eFile management system on 20th December 2014 with 10 Secretariat departments, CM Office and CS Office initially. The below are the key leadership supports:

- Regular review of project deliverables & enforcement of smooth implementation
- Repeated Orders issued on stopping of physical movement of files
- As per directions of Hon'ble CM, GoAP, CMs Office accepted only eFiles in order to make all the departments to adopt eOffice
- Instructions passed on, to digitize the old physical files to align with the new efile management system
- Holds every 15 days' periodic review meetings on efile pendency & quality disposal of files

Capacity Building

A dedicated centralized capacity building team comprises of 5 members' operated from ITE&C Department to train all the 33 Secretariat departments/87 HOD's and also 5 members per each district allotted to train district officials.

Identified efficient 2 master trainers per department to whom training on eOffice has been provided and also the technical know-how of eOffice process to handle critical things post implementation pertaining to their respective department.

Created video and handbook on the entire eOffice application process for hands on training to employees.

So far **1,78,606** officials were trained for organizing smooth and successful implementation of eOffice Project.

Change Management played a vital role in implementation of eOffice as the government organizations are habituated with manual process from the past 50 years.

- eFile has a mandatory process for file movement
- Restructuring/standardizing EMD and file heads (subjects of respective department(s)/organization(s)

- Accessing the infrastructure readiness and overcoming the gap
- Improving the network bandwidth
- Hands on computerization training to the Officers

Digital Empowerment

- Trained on basic computer operational knowledge as part of Digital literacy to all the employees
- Identified 2 officials from each department who are passionate in IT/eGovernance and provided 5 days training in a month for a period of 6 months on Digital Transformation by Indian School of Business (ISB).
- The services of District Information Officer (DIO), NIC in respective Districts are being utilized to impart training on any eGovernance applications to all district officials.

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MLA Constituency Development Fund - Management Information System (MLA CDF MIS)

District Administration, Budgam, Government of Jammu and Kashmir

Syed Sehrish Asgar, and Mohammad Rouf Wani

PROJECT OVERVIEW

Since it is first such effort to simplify the otherwise highly complicated process of managing the Constituency Development Fund of MLA'S and MLC's the project is met with high enthusiasm and praise by the office holders at the District Development Officer, Budgam, Jammu and Kashmir where the employees see it as reducing their effort to 10% of the otherwise normal manual process. The only manual step which now remains is the signing of the printed letter (generated by the software) by the District Development Officer. The database now helps reduce the filing process which otherwise took great efforts to maintain and also a huge amount of physical space and labor.

The project has the potential to be implemented throughout the state and lead to successful implementation on the model of eGovernance.

Key reasons for nomination

The software (MLA/MLC Constituency Development Fund – Management Information System) was decided in June 2017 and is live since 1st January 2018. The project is first of its kind in the whole state of J&K and developed on the lines of an interactive website. The software has a simplified GUI for easy data entry and data retrieval.

The software aimed to highly simplify the manual process of filing and processing and thereafter tracking the Constituency Development funds of the MLA's and MLC's and the works done out of it. It has a real time tracking of funds and status of works.

RESULTS INDICATORS

Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2016-17	*2017-18*	*2018-19*
Processing of DO letter	DO received from MLA/MLC is put in electronic format	-	25	523
Processing of Works	Works mentioned by MLA/MLC is put in electronic format and bound under respective DO	-	39	1359

Contd…

Processing of Estimate Requests	Estimate of each work is to be obtained from the executing agency	-	39	1359
Processing of Estimate Received	Estimate of each work received from the executing agency is put in electronic format	-	39	1359
Processing of Work Orders	Work Order of each work is to be issued to the executing agency	-	39	173
Processing of Work Done	Work done certificate of each work received from the executing agency is put in electronic format	-	39	173
Processing of Release Order	Payment of each work is to be released to the executing agency	-	39	122

Implementation Coverage

The government staff at district administration office and the beneficiaries who visit the district administration office with regards to the MLA/MLC fund stand already benefitted.

The MLA/MLCs and the executing agencies module is under development, though it was decided to be included after the launch. Therefore, it can be considered that the first version is completely running and the development under second version is in progress. The plan for future is to put the works part in public domain.

New Services/Enhancements

The product launch is less than one year old. Therefore the district administration module has been rolled out during last one year.

The MLA/MLCs and the executing agencies modules are planned to be rolled out during the next one year.

ENABLERS

Government Process Reengineering

The word and excel formats that were used in manual management of MLA/MLC fund were incorporated in the software so that the similar reports were obtained through the software.

Technologies

The web application can be run on mobiles. By doing so the mobile scanning and mobile screen shots have made it possible to share the results through social media. It also helped in storing the beneficiary related backups on the cloud drives.

People

Since the project development and implementation started in the district administration office, highly experienced and qualified scientist from NIC is available round the clock for capacity building and product leadership support.

Further inputs from highly qualified district administrator and the planning team has helped in managing the change that was the outcome of technology adoption.

VALUE INDICATORS

Learnings for sharing

We had initially started and developed the project in MS Access. Due to the limitations we later changed to ASP.net/Sql/CSS/C#

Green eGovernance

No big step taken except that use of paper is minimized.

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Rajasthan Civil Registration System "Pehchan"

Directorate of Economics and Statistics, Government of Rajasthan

Om Prakash Bairwa, Amit Agarwal, and Sudesh Kumar

PROJECT OVERVIEW

Registration of Birth and Death is mandatory as per the Registration of Births & Deaths Act, 1969 to register every Birth/Still birth and death with the concerned state/UT Government within 21 days of its occurrence. The Government accordingly has provided for well-defined system for registration of Birth & Death with the Registrar General at the Centre and the Chief Registrars in the States, running through District Registrars and Registrars to the Panchayats and Town Registrars at the periphery. In Rajasthan, Registration of Births & Deaths is compulsory as per provisions of Registration of Births & Deaths Act, 1969 and Rajasthan Registration of Births & Deaths Rules, 2000. Registration of Marriage is being done under Rajasthan Compulsory Marriage Registration Act 2009.

Government has appointed Registrars of birth-death & marriage in every Gram Panchayat and urban local body for the registration of birth, death & marriage. Earlier, Registrars were registering the birth, death & marriage events manually by entering in registers and issuing hand written paper certificates to citizens. This is time consuming and is not fit for effective monitoring. To overcome this problem and to introduce the transparency in the registration process, Civil Registration System, Pehchan has been introduced in Rajasthan. NIC has developed online web portal and access mechanism has been provided to every rural and urban registrar for registration of birth, deaths & marriage events. It also serves by building up the capacity of the Panchayat for prompt and responsive e-service delivery.

Pehchan is the unified web portal for birth, death, still birth and marriage registration in Rajasthan There are about 10,000 birth-death and marriage registrars in Rajasthan. Government has also authorized 2226 medical institutions (PHC/CHC/Hospitals) as sub-registrars (birth-death) to register the birth-deaths that occur in their institutions. Portal has role-based logins for Registrars, Sub Registrars, Block Statistical Officer, District Registrars, & Chief Registrar. Portal has already registered about 1.22 crore registrations. Portal has been integrated with UIDAI for Adhaar authentication. Facility has been provided to send digitally sign/eSign certificate by Registrars & Sub Registrars. SMS alert is sent to an applicant upon registration and digitally signed certificate is delivered to the applicant's email id. About 1000 private hospitals has also been authorized to online apply for the events occurred in hospital. Portal has the facility for citizens to search for the registration online. It also has facility to maintain legacy registration keeping the original registration number. Toll free based helpline is available to answer the queries of citizens about the registration through portal.

Key Module of the projects

- Registration
- Legacy Registration
- Adopted Child Registration
- Language Change
- Child Name Addition
- Widow Registration in Marriage
- Dongle Based Sign and Aadhaar Base e-Signing of Registration
- Online Applications

Stakeholders

- **Citizens:** Citizens may apply for registration online, keep track of their registration and download certificate through portal or mobile app. Digitally signed, computerized certificates are issued to citizens.
- **Registrar:** Registrar can enter the Birth/Death/Still Birth/Marriage events and issue certificates. May perform correction after approval by district registrar. He can also enter Legacy Registration.
- **Sub Registrar:** May enter Birth/Death/Still Birth events only within 21 days of the events and issue certificates. After 21 days, registration can only be done by respective Registrar. Generates progress reports and required statistical reports as per the provisions in the Act.
- **Block Statistical Officer:** This is the monitoring unit of statistical department for monitoring registration of events within their block. Generation of MIS reports for speedy and effective monitoring.
- **District Registrar:** Monitoring of events within district. He has the authority to approve modifications in the registration requested by registrar online. Generate MIS reports and required statistical reports as per the provisions in the Act.
- **Chief Registrar:** Overall responsibility of Birth/Death/Still Birth events in the state. He can propose any modification in the registration rules to government and issue notifications. Generate MIS reports and various vital Statistics online as per the provisions in the Act.
- **Private Hospitals:** Private Hospitals are authorized to enter events occurred in their hospitals. Now they need not send the hard copies of event details.
- **eMitra Kiosks:** eMitra Kiosks authorized by Government of Rajasthan are allowed to enter online applications from citizens. Kiosks also handover the digitally signed certificate to citizens downloaded from portal.

Key benefits of the projects

- Uniform process of Registration across the state.
- Transparency in Civil Registration System.
- Minimized duplicity of registration due to single registration portal at state level.

- Maintenance of Centralised Registration Database which can be used for various analysis purposes.
- Availability of various MIS reports at Block, District & State level.
- Citizen may apply online for Registration.
- Issuance of Digitally Signed/eSigned Certificates to citizens.
- Facility to online search Registration by the citizens.
- Speedy Issuance of Certificates.
- No need to apply for language change due to bilingual registration certificate.
- Uniform Registration certificate in the state.
- Pre-printed stationary not required by department as certificate issued on A4 paper.
- Circulation of instructions, notifications etc. to all Registrars/District Registrars.

Integration with Departments

- Integration with Raj eVault for Digital repository of the certificates.
- Integration with Pregnancy and Child Tracking System (PCTS) of Medical Department for 100% Registration.
- Integration with Adhaar.
- Integration with Rajasthan Bhamashah Scheme.
- Integration with Palanhaar Scheme of Social Justice Department.
- Integration for Death verification for Silicosis diseases

Key reasons for nomination

Revolutionary step in the Civil Registration System (CRS) through which Registration process is simplified and automated and the major advantages are for the citizens of the state. Citizens need not to go to registrar office for registration of institutional events and registration is done automatically after reported by the hospital online. Citizens are also able to apply online on portal or via about 45,000 eMitra Kiosks in the state. Citizens are getting SMS alert and digitally signed certificate by email so they do not have to approach Registrar office for copies of the Registration Certificates. Certificates have the QR Code implemented for verification.

Chief Registrar and District Registrar's offices are getting real time progress of registrations and vital statistics. Offices are now able to apply their time on the real analysis of the data rather than collecting and compiling the Registration Statistics.

The system captures about 20+ lakhs event every year by the centric approach of Development and Implementation methodology. Total 10090 Registrars, 2226 Sub Registrars are working on the system on daily basis. About 1000 private hospitals have been authorized to apply online on portal so that delay in sending hard copies may be eliminated.

Android and IOS Mobile Apps are available to facilitate citizens in their registration process. Citizens are now able to apply for registration, track the status and download their certificates through the mobile app any time.

RESULTS INDICATORS

Services

S. No	*Name of e Service*	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
			2015-16	*2016-17*	*2017-18*
1	Birth Registration	Registration of Birth from Urban and Rural Registrars and Sub Registrars.	2584453	2511127	1894785
2	Death Registration	Registration of Death from Urban and Rural Registrars and Sub Registrars.	580787	600881	499755
3	Marriage Registration	Registration of Marriage from Urban and Rural Registrars.	Not Started	98422	179787
4	Still Birth Registration	Registration of Still Birth from Urban and Rural Registrars and Sub Registrars	12442	11533	9526
5	Online Application through Portal	Online application received through Portal for Registration	10253	109574	21516
6	Private Hospitals Interface	Online Application from authorised private hospitals to minimize reporting time.	Not Started	72234	204587
7	Online Application through eMitra Kiosks	Online Application through 45,000 eMitra Kiosks in the state.	38788	140237	183004
8	Legacy Entry	Portal has the feature to automate legacy registration keeping original Registration No.	832633	789445	302640
9	Download Certificate Online	Digitally Signed certificate may be downloaded through Portal.	Not Started	Not Started	41261

Contd…

10	PVC Birth Card	PVC Birth Card is generated through the Portal for the citizens may be printed from eMitra Kiosks.	Not Started	Not Started	115
11	Digital Certificate Signing	Certificates are digitally signed by DSC (Dongle based) or Aadhaar based eSign	248733	619007	1404975
12	Palanhar Web Service	Integration has been done with Social Justice Department for authentication of Death Registration in the Palanhaar Scheme.	Not Started	Not Started	500
13	Bhamashah Family Data Updation	Integration has been done with Bhamashah Scheme of Rajasthan Government for real time updation in family details.	Not Started	Not Started	1430216
14	PCTS Integration	Integration has been done with PCTS project of Medical department to get Birth, Death & Still Birth events for achieving 100% registration.	Not Started	Not Started	748371

Implementation Coverage

In 2014 portal was started with the coverage of PAN Rajasthan and made mandatory for the Rural and Urban Local Bodies to register Birth and Death events through the portal. In March 2016, Marriage Registration through portal has been launched by Hon'ble CM.

Extensive training has been provided to all District Registrars and Block officers for providing training to all Registrars in their periphery. Toll Free Support system has been installed with a dedicated support team so that any Registrars or citizen query may be answered quickly. Presently 100% Registrars which includes all the Gram Panchayats and Urban Local Bodies are on Portal. 100% authorized Government Hospitals, CHC, PHC are registering the events on portal. 100% authorized Private Hospitals are reporting the events on portal.

New Services/Enhancements

- Implementation of Marriage Registration through Pehchan in the State.
- New Role for Block Offices started for effective monitoring and support.
- IOS Mobile App has been developed and made available to citizens

- Facility to download digitally signed/eSigned certificate through OTP provided to citizens.
- Web service to verify Death Registrations provided to Palanhaar Scheme for Social Justice and Empowerment (SJE) department and Silicosis portal.
- Aadhaar Verification stared through Web Service.
- Bhamashah Integration done so that Bhamashah family data is updated on real time basis with the registration data.
- Draft Save option is developed for Registrar and Sub Registrars. Details can be saved in Draft for 7 days.
- Option done for unclaimed (*Lawaris*) Death Registrations.
- Birth Registration of Foreign Nationals settled in India given under Section 20 started.
- Facility to register Widow Registration in marriage.
- QR Code Implementation on all certificates.
- PVC Birth Card option given to eMitra Kiosks.
- Certificate Repository in eVault.
- Establishment of District Helpline.
- Interface to election department for voter list updations.

Major requirement envisaged (for coming year) are as under-

- GIS Mapping of all registrar and sub registrars' location of the state.
- Development of Mobile App for Registrars, Sub Registrars, District Registrars and Block Officers so that they can monitors progress and authorize change requests on Mobile.
- Provision for online child name addition request from citizens.
- Productisation of Pehchan so that iy may be implemented in other state also. This has been requested by RGI, Delhi. More private hospitals to be added under the coverage of Pehchan.

ENABLERS

Government Process Reengineering

Major innovations were adopted as part of process reengineering in module designing in following entities:

1. Citizens

- Automatic Registration of all events.
- SMS alert to citizens.
- Intimation to citizen for Marriage Registration appointment.
- Bilingual Registration Certificate so that it may be used anywhere.
- QR Code for verification of the certificate
- Android and IOS Mobile App for various services.
- Application on portal of eMitra Kiosks.

2. **Registrars & Sub Registrars**
   - Maintenance of Birth and Death Register as per the Act.
   - Complete automation of Registration process. No need for any manual work.
   - Online Registration and certificate generation.
   - Aadhaar based eSign by Registrar.
   - Various types of Monitoring Reports.
   - No need to send any manual report to District Registrars.
   - Automatic transfer of sub-registrars registration to registrars after 21 days as specified in the act.
3. **Block Statistical Offices**
   - New hierarchy of block created for the speedy and effective monitoring and support to the system.
4. **District Registrars**
   - Real time monitoring of registration in District.
   - Online authorization of changes in registration.
   - No need to send any report to Chief Registrars.
5. **Chief Registrar**
   - Real time monitoring of registration in State.
   - About 100 types of various monitoring reports.
   - No need to compile any report for sending to RGI, New Delhi.
   - Data integration with election department for updation in the electoral rolls.

Technologies

The role based Web-Application uses responsive design, enabling it to be easily accessible through PC/Laptop/Tablet/Mobile devices. NIC SMS services and e-Mail services have been integrated, thus making it possible to send Bulk SMS and emails to Citizens. Mobile App for Android and IOS users available.

People

Extensive capacity building programme has been conducted for all District Registrars and Block officers for providing training to all Registrars in their periphery. Toll Free Support system has been installed with a dedicated support team so that any Registrars or citizen query may be answered quickly. Regular District wise training and monitoring through Video Conferencing done.

VALUE INDICATORS

Learnings for sharing

- **Change Mindset:** The toughest challenge faced was to change the mindset of field officials and Registrars/Sub Registrars which are reluctant to adopt new system.
- The process re-engineering was big challenge due to existing manual and outdated process of registration.
- e-readiness of various stakeholders.

- **Capacity Building and Training:** Since majority of the Registrars were not trained in computers and IT application, it was a big challenge to train them so that they can use the online application.
- **Connectivity:** Since Pehchan is the online portal, it was a challenge to achieve 100% Registration from all rural registrars.
- Modular approach to development, Frequent module launches.
- Daily meetings and interactions to ensure smooth progress.
- Feedback from citizens are used to make the facilities more effective and citizens friendly.

Digital Empowerment

Pehchan Portal is an integrated bilingual web based system, Hindi and English are adopted as primary languages. As Rajasthan is a backward state and major region belongs to rural, the portal is designed in Hindi as default language. SMS alert are send to the citizens in hindi. Portal has the provision to enter registration details in Hindi, English or both the language. For Marriage Registrations, appointment on SMS is very much time savings to the citizens.

Green eGovernance

- Emails through NIC e-mail relay services are being used to send certificates to citizens
- Instead of reporting events in paper format from private hospitals, they have been provided logins to report the events online and no paper is required.
- Aadhaar services are used to verify the identity of the person. No need of any photocopy of identity proof needed.
- No need to send any paper reports to any higher authority. All concerned authorities have been provided login to see their reports.
- Digital certificate repository in Raj eVault facilitates citizens to download certificate anytime from portal or Mobile App.

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Bhamashah Yojana

Department of Information Technology & Communication, Government of Rajasthan

Akhil Arora, and Manu Shukla

PROJECT OVERVIEW

Bhamashah Yojana is a scheme introduced by Government of Rajasthan to transfer financial and non-financial benefits of all the government schemes directly into the bank accounts of beneficiaries in a transparent manner. The scheme was the brainchild of Hon'ble Chief Minister Smt. Vasundhara Raje and was relaunched in the year 2014. The objective of the scheme is financial inclusion, women empowerment and effective service delivery. It is one of its kind direct benefit transfer scheme in the country.

Bhamashah Scheme is a family-based programme of financial inclusion where each family is issued a Bhamashah card that acts as the digital identity of all the family members. The card leverages biometric identification and core banking. The Bhamashah card is linked to the bank account that is in the name of lady of the house who is the head of the family, thus empowering her in real sense.

Multiple benefits of various government schemes like services of Public Distribution System (PDS), Education Scholarships, payments under MNREGA and Social Security Pensions, benefit of other schemes like Distribution of Scooties to Students, Indira AwasYojana, CM BPL House, Janani Suraksha Yojana, Unemployment Allowance, Skill Training etc. are routed through Bhamashah Scheme to the beneficiaries.

Each family under the scheme is mapped correctly and single unique data set for the residents of the State is being made to check duplication. For achieving financial inclusion, Bhamashah Scheme leverages bank accounts opened under Pradhan Mantri Jan Dhan Yojana. The scheme has contributed towards financial inclusion not only by opening bank accounts but it has also ensured doorstep delivery of the banking services by establishing Business Correspondents (BCs) of the banks and Micro ATMs at all panchayats. Further, various mobile payment gateways have been integrated with the Bhamashah platform, thereby making service delivery through JAM (Jan Dhan; Aadhaar; Mobile) trinity a reality in the State.

Components of the Scheme

- State Resident Data Hub
- Family Identification
- Resident Identity Card
- Electronic Benefits Transfer
- Financial Inclusion
- Women Empowerment

Achievements

- More than 5.7 crore members enrolled
- More than 1.58 crore families enrolled
- Benefits worth more than Rs. 20,000 crore transferred to beneficiaries
- Number of transactions - More than 44.3 crore

Key reasons for nomination

Bhamashah Yojana has recently undergone various upgradations and policy changes which have made the initiative more efficient and effective for state residents as well as various government departments. Department of IT & Communications, Rajasthan always quest towards continuously enhancing its projects to ensure ease to all stakeholders - fellow departments as well as citizens and other users. For the same, the department has implemented modifications in Bhamashah Yojana as the frequency of this process is very high, to the tune of several lakhs per year, and is increasing day by day. By integrating advanced information technology, the project has boosted operational efficiency in administration and service delivery. Along with this, re-engineering of this process has also implemented a transparent module which enables complete accountability to citizens as well as department stakeholders, standing true on all the key elements of good governance.

RESULTS INDICATORS

Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
Bhamashah Enrollment	Enrollment of maximum number of families and members with the scheme to reach till the last mile	18793729	11594224	5,74,91,090 (since launch)
ePDS transactions	Electronic Public Distribution system - Biometric authentication system by leveraging the Aadhaar platform	5323185	96176906	85,598,786 (this year)
Social Security Pension	Pension scheme launched by the State Government to ensure social security of the needy. The people who benefit from this scheme include senior citizens, destitute widows and disabled people.	20200206	50247601	14,99,22,538 (since launch)
Bhamashah Swasthya Bima Yojana	A unique medical insurance scheme to provide cashless healthcare facilities to poor eligible families of the state.	46974	688284	20,71,135

Implementation Coverage

First check for data quality assurance has been provided in the enrolment software which ensures that invalid entries are not made in the data fields. Proper validation checks have been provided at relevant data entry fields in the software. No Bhamashah enrolment is undertaken without Aadhaar number and core bank account. If a resident does not have Aadhaar number, then he/she is enrolled for Aadhaar and then Bhamashah enrolment is undertaken using Aadhaar ID. The verification of the Bhamashah enrolment of a resident is done by the verifier on various parameters. The data is digitally signed by Gram Sevak/Patwari and no editing can be done after that. The second level of verification is done by SDM /Tehsildar through public disclosure mechanism. The list of enrolled residents/families is displayed on notice board of the Panchayat and read out in the Gram Sabha for objections, if any. If any objections are received against any resident, the same is intimated by SDM/Tehsildar to the Collector. The list of all such residents is communicated by District Collector to State.

Monitoring & Supervision

RajComp Info Service Ltd. is State Level Scheme Implementation Agency which is engaged as technology/implementation partner(s) for:

- Resident data management
- Linking of resident data with departmental databases
- Transaction monitoring
- Card preparation and distribution

Implementation Stakeholders:

- Field Agency for Enrolment (EA)
- Banking Partner (with core banking network)
- Implementing Agency for further necessary action.
- After uploading of enrolment data, quality check of the data is also done using data quality software. The software generates reports of resident where data quality is doubtful like:
    - Duplicate enrolment report
    - Gender mismatch report
    - Invalid Pattern
- Some of the possible data entry errors :
    - Logical mismatch - Gender & Photo/Age & Photo
    - Incorrect/Poor quality photograph
    - Photo of photo/Inanimate/non-human photo
    - Error in name/address
    - Transliteration errors (Name/Address)
    - Relationship error
    - Incomplete address/Geographic correctness
    - Fraudulent and frivolous/abusive text

Implementation & Management of Scheme

Field Level

- District Collector as District Bhamashah Manager (DBM)
- District Level Statistical Officer is District Bhamashah Officer
- ACP takes care of technical issues
- Block Level Statistical Officer is Block Bhamashah Officer

Role

- Organising Camps
- Data Updation & Verification
- IEC

Implementation Coverage as on today

1. More than 5.74 Crore members enrolled till date
2. More than 44.3 Crore successful transactions
3. Benefits worth more than 20,000 Crores transferred directly to the residents
4. All cash and non-cash benefit schemes of the Government integrated with one bank account, like Social Justice, Pensions, Scholarship, Palanhar, Medical & Health, Bhamashah Swasthya Bima Yojana, Janani Suraksha Yojana, Rajshri Yojana, Agriculture/Farmer Benefits, Ganganagar Sugar Mills Farmer Payment, RAJFED Payment, Agriculture Subsidy, Rajasthan State Cooperative Bank Kisan Credit Card, ePDS, BPL Families Enrolment Benefit, NREGA Payments etc.

New Services/Enhancements

Bhamashah Yojana is expanding its reach day by day and the scheme has recently crossed DBT amount of Rs 20,000 crore which is a big milestone in itself. The State Government has also launched another women oriented scheme under the umbrella of Bhamashah Yojana – e-Sakhi Yojana. Under this scheme, more than 1.5 lakh women volunteers in the state are being trained digitally who will further digitally empower 1.5 crore households of the state. Not just this, the state government has recently launched Bhamashah ATM for ensuring doorstep service delivery to the people of Rajasthan.

In less than 4 years, Bhamashah Yojana has created a huge impact on the citizens of Rajasthan. The scheme has made more than half the state's population financially empowered by ensuring all their benefits are directly transferred into their bank accounts.

- In the next term Bhamashah Yojana aims to enroll all citizens of Rajasthan under this scheme and provide each family with a unique identification card.
- Create a single, unified database of all citizens, their basic information as well as health records which can be used by various other government departments.
- A more systematic DBT platform and add on more government schemes under the umbrella Bhamashah Yojana.

- Focus on change management and capacity building since inception of this initiative for making it user friendly and acceptable to people and public representatives.

ENABLERS

Government Process Reengineering

With an objective to make Rajasthan a women empowered state, government of Rajasthan has launched the Bhamashah Scheme. Under the supervision of Hon'ble Chief Minister, Department of IT & Communications has revamped the Bhamashah scheme to ensure effective transfer of all cash and non-cash benefits under various public welfare schemes of the government.

Government of Rajasthan always quest towards streamlining its projects to ensure ease to all stakeholders - fellow departments as well as citizens and other users. For the same, the department has implemented eGovernance in Bhamashah Yojana as the frequency of this process is very high, to the tune of several lakhs per year, and is increasing day by day. By integrating information technology, the project has enhanced operational efficiency in administration and service delivery. Along with this, re-engineering of this process has also implemented a transparent module which enables complete accountability to citizens as well as department stakeholders, standing true on all the key elements of good governance.

Technologies

Bhamashah card issued to every enrolled citizen is a digital identity itself. The scheme involves the use of latest technology like biometric identification from AADHAR and all cash and non-cash benefits are directly transferred to bank accounts of the beneficiaries. The scheme is regularly promoted on social media platforms to expand its reach.

For every project implemented by the state, the Government of Rajasthan has always guaranteed having the best of the class infrastructure and advanced technologies to be made available. Rajasthan has the biggest Big Data Cluster in the country as well as the biggest cluster for IBM pure app solutions and Oracle echo data, making the state a tier three data centre of the country. We have more than 4000 servers running out of the State data centre with the total capacity of 7 petabytes over which the entire set of applications and storages run. It is ensured that for every project the best set of technology is obtained for implementation of a project, wherein the Department of IT and Communications or an external technical committee decides upon what technology is going to be used. It is a mandatory state policy to get any project more than 25 lacs to be approved by the State eGovernance mission team head by Principal Secretary of IT Department.

Rajasthan happens to be the most progressive state in the field of Social Media. Our Hon'ble Chief Minister Smt. Vasundhara Raje is the most followed Chief Minister on Facebook and Twitter. For every IEC, Change Management and Skill Building, social

media is considered as important a platform as print or electronic media by the government. Due to social media's reach till the last mile, it is judiciously used for promotion of the scheme, as well as to enhance user experience.

People

Capacity Building - State Government has made all the possible efforts so that this innovative scheme can reach and benefit every citizen of the state. So far 5.7 crore+ members and 1.58 crore+ families are enrolled under the Bhamashah scheme. Its successful implementation is a result of the joint efforts of government and citizens.

Rajasthan has implemented an integrated scheme of capacity building and as per a policy decision it has been decided that every project is going to be having a specific component of IEC as well as capacity and capability building. It was ensured under the concept of "Suraaj" that is good governance that every eGovernance initiative is first implemented at the village level, that is called Last Mile, but Rajasthan considered it to be the First Mile. As the Chief Minister believes reaching the key beneficiaries first, which are at the village level. The project is then implemented at Gram Panchayat level and subsequently to districts covering the complete state. The project's capacity building plan is enhanced every six months and is validated through internal evaluation, dipstick surveys as well as external third party checks, to ensure whether the capacity, capability and IEC activities have been enough or not. Also, the implementation done by the government is properly utilised by the beneficiaries or not.

Change Management in terms of Leadership Support - To make sure that Bhamashah scheme functions with the same pace and effectiveness, a team of officials has been appointed that regularly keeps a check on its functioning. Also regular monitoring and audits are being performed to ensure proper validation of each enrolment and benefit transfer.

Rajasthan has been very specific about ensuring that Change management is done for every single initiative and it is duly recognised that people and stakeholders are made equal participants to the project. Which means any stakeholder who is having an impact or is impacted by the project is enjoined upon on the journey of final decision making in regards to implementation of the project. External and internal experts are hired for the process of change management to be hand in hand with technological implementation of every project.

VALUE INDICATORS

Learnings for sharing

- Creating single database as resident data hub
- Unique identity to each family
- Entitlement through single database
- Removal of resident demographic databases created at department level
- DBT Platform to deliver benefits in bank account

- Unified dashboard for benefits given by the Government to a family/individual.

Digital Empowerment

Financial Inclusion is a key enabler to economic, social and transaction security of a country, thereby driving inclusive growth. It is for this reason that financial inclusion has been one of the key priorities for Government of Rajasthan. Rajasthan has always used innovative technology as an effective tool to expand financial inclusion, through various initiatives like direct benefits transfer, mobile banking, Aadhaar enabled banking accounts, e-KYCs and many more. The government always ensures that every single project is bi-lingual in nature. Mandatory guidelines from Hon'ble Chief Minister and Chief Secretary of the state every application platform and front-end portal are in Hindi as well as English. Rajasthan has seven divisions and each division has its specialised portal and sectorial application aligned with the demographic and cultural aspect of that specific area.

Green eGovernance

Rajasthan State Date Centre is a 100% green data centre. The upcoming data centre in the state in going to be a Tier 4 data centre in the state and the only Tier 4 data centre in the country which is owned, operated and controlled by the government. Government of Rajasthan judiciously follows every policy of Green IT, along with this the state also has its own Green IT policy which is followed by all departments and outsourced sectors religiously. All environment friendly practices with respect to creation, use and disposal of ICT gadgets and infrastructures are followed. The Rajasthan Green IT policy has been prevalent since the year 2007 and was revised in the year 2015.

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Digital Panchayat (Suite of Panchayat Statutory Services)

PR &RD Department, Government of Andhra Pradesh

K.S. Jawahar Reddy, N. Achutavenu, and M. Sudhaker

PROJECT OVERVIEW

Project Background

Rural Citizens are facing a lot of difficulties in availing Gram Panchayat level statutory Services. To provide swift and transparent services without any individual presence for submission of application forms, the Government of Andhra Pradesh has requested NIC to come up with an action plan for providing statutory services to rural citizens. National Informatics Centre has designed and developed an eGovernance suite of services for Panchayat Secretaries. For the first time in the country, grass root level village functionaries i.e Gram Panchayats are digitally equipped with mobile-based solution to render all the G2C services to the citizen in a secure, scalable, reliable and user-friendly manner. For the first time, Gram Panchayat functionaries digitally sign the certificates on demand through Tablet/PC/Mobile in the country and it is organized successfully. Citizen can avail the services directly or through kiosks manned by the women Self-help Groups and this is scalable, generic and replicable in the country. The Digital Panchayat services have been inaugurated by the Hon'ble Chief Minister of Andhra Pradesh Sri Nara Chandra Babu Naidu on the 14th of December 2015. Digital Panchayat is an attempt towards simplifying the government procedures and bringing in the services to the door step of common man in the rural areas is a step forward to the Digital India initiative. The principal objective is to offer citizen services through all possible service delivery channels i.e at Gram Panchayat offices, G2C Centres and the internet. NIC APSC has designed, developed and launched the application in a record time.

Scope

The system enables 12,920 Gram Panchayat Secretaries spread in 670 mandals in 13 districts of Andhra Pradesh to process nine statutory services received through online and issuance of certificates, endorsements and proceedings using eSign feature.

Striking Features

- Aadhaar enabled eSign facility for all the Panchayat functionaries
- Event driven SMS, eMail and payment gateway facilities
- Helpdesk
- Dashboard services
- QR code for certificates
- SSL authentication
- Role-based authentication

- Transaction based audit
- Citizen online registration to avail the online services
- G2B interface for MeeSeva and Stree Nidhi Centre
- SLAs

Functional Coverage

- House Tax payments
- Property valuation certificate
- Water tap connection request
- Issuance of Trade License
- Mutation
- NOC for small, medium and large-scale industries
- Marriage registration and issuance of certificate
- Building permission
- Layout permission.

Implementation Status

- Total Gram Panchayats on board are 12,229 GPs out of 12,920 GPs
- Total Enrolled G2B Centres: 4037 (MeeSeva / Stree Nidhi Service Centres)
- Over 89,000 Citizen Requests received.

Objectives

(a) Speedy delivery of services
(b) Encouragement/Enhancement of G2C Service Centres
(c) Maximizing Gram Panchayats' revenues so that they are self-reliant
(d) Maximising the digital usage of a rural citizen
(e) Minimizing cash transactions using payment Gateway
(f) Maintaining of Digital Registers, Certificates
(g) Strict compliance of Act/Rules
(h) Avoiding middlemen intervention
(i) Providing real time information on service delivery to the citizen using SMS and mails
(j) Providing real time MIS reports to support decision making to Panchayat Raj functionaries

National Informatics Centre

Responsible for design, development and maintenance of software web services and conduct of technical training to master trainers.

Benefits and Current Status

The system is being successfully implemented across the state of AP with increased scope year after year. The Gram Panchayat has doubled their revenues.

RESULT INDICATORS

Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Service Requests year wise*		
		2015-16	*2016-17*	*2017-18*
Marriage Certificate	Online generation and delivery of the certificate	154	601	605
House Tax Payments	Online Service for payment	218	589	595
Property Valuation Certificates	Online generation and delivery of the certificate	4861	57587	1323
No Objection Certificate for Small, Medium and Large Scale Industries	Online generation and delivery of the certificate	26	71	22
Water Tap Connection	Online generation and delivery of proceedings	231	3554	52
Trade License	Online generation and delivery of the certificate	170	5837	67
Mutation	Online generation and delivery of proceedings	18	329	52
Building Permission	Online generation and delivery of proceedings	19	38	4
Layout Permission	Online generation and delivery of proceedings			

Implementation Coverage

Planned for implementation at all the gram panchayats of AP ie., about 12,920 in number in a phased manner.

Presently it is being implemented successfully for Major Gram Panchayats. Few services like the marriage registration is being implemented successfully for the entire state and is also integrated with the Chief Minister‘s popular scheme ‘Chandranna Pelli Kanuka’ through tokenized Web services.

New Services/Enhancements

Major Enhancements roll out in the last one year

Interface on Chandranna Pelli Kaanuka Scheme has been provided for Marriage Registration. This will enable smooth disbursement of incentives to the Bride and Groom after Panchayat functionary issues the Marriage Certificate using eSign.

Web services for Hon'ble Ministers dashboard for monitoring and implementation of Digital Panchayat services.

Extensive reports for Panchayat Functionaries at various level.

Proposed Rollout in next one year

Offline Mobile app for field verification.
Data analytics and value added services
Building Data warehouse
Interface with Director Town & Country Planning (DTCP) for integration of Building and Layout Permission.
Extensive capacity Building for Panchayat functionaries

ENABLERS

PROCESSES RE-ENGINEERED

- Standardization of Master data
- In place of manual Application Submission, online registration and application submission is introduced.
- Digitally eSigned Certificates
- Service Level Agreements (SLAs)

Technologies

- Adapted web based online application for submission of service request.
- Web services for sharing data with Ministers'dashbord
- Real time information is provided through online reports and linked to CORE Dash board
- MVC architecture to separate the layers for performance and security of the application.
- eSign and QR codes for verification of Certificates for genuineness

PEOPLE

VALUE INDICATORS

Learnings for sharing

- Field level functionary Management: Functionaries at the field level have initially shown resistance on using the web-based application. Training sessions and workshops have been conducted time and again on the usage of the applications and the benefits derived from the same. This led to the wide acceptance of the application.

- Last mile network connectivity: It is always challenging to have good network connectivity at remote Gram Panchayats. But applications are processed using Tablets/Mobile phones.

Digital Empowerment

- All the field level functionaries numbering 12,920 Panchayat functionaries were well trained to ensure smooth processing of service requests.
- Further, village level workshops are conducted by Panchayat Raj department to enlighten citizens about the new technology and online submission of service request.
- Refresher training and workshops are conducted for the grass root/freshly recruited functionaries from time to time
- The staff are intimated/trained about the new initiatives taken up from time to time through video conference mode. Clarifications/suggestions if any are taken up in the teleconference which is conducted thrice in a week by the department.
- The above steps have ensured smooth implementation and sustainability of the project over the years

Green eGovernance

- Citizen can submit the online application and need not travel to the Gram Panchayat Office. This saves the fuel and minimizes the hydrocarbons in the environment.
- Use of eSign is completely eliminated manual signatures on certificates.
- All types of registers are provided electronically eliminating manual registers
- Simple eSign based system saves time and paper stationery
- Maintenance of Digital Repository which saves the space of the Gram Panchayats.

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eBrahmin Welfare Project

Andhra Pradesh Brahmin Welfare Corporation,
Revenue (Endowments) Department, Government of Andhra Pradesh

M. Padma, and Bhavani Sankaram Ganti

PROJECT OVERVIEW

Government of Andhra Pradesh has established Andhra Pradesh Brahmin Welfare Corporation (ABC) in December 2014 to provide support for the upliftment of poor Brahmins in the society of 13 Districts of Andhra Pradesh.

Vision

Build a vibrant organization to serve the marginalized Brahmin community members in Andhra Pradesh for their overall development which includes economic, social and cultural life on a sustainable basis in a selfless and inspirational manner.

Mission

- Provide financial, intellectual and physical resources to the needy Brahmin Community
- Collaborate with Brahmin associations of various denominations to reach the community
- Inculcate a sense of belonging to the community for improving cohesiveness, morale and pride

Objective

- Provide support to the community in the areas of:
  - Social - Education, Shelter, Food, Clothing & Health
  - Economic - Entrepreneurship, Leadership, Business Management Capabilities, Skill Building for Wage Employment
  - Cultural - Undertake cultural and spiritual activities to instill values among Brahmin youth separately and also in collaboration with Endowments Dept.

The State Government has appointed the Board of Directors of the Corporation consisting of Chairman, Managing Director, Spl. Chief Secretary (Endowments), Commissioner (Endowments), Joint Secretary (Finance) and 6 other nominated directors.

The Corporation is fully funded by the State Government. So far, the Government have released Rs.210 crores of budget in the last 4 years (Rs. 25 Crores for the F.Y. 2014-15, Rs.35 Crores for the F.Y. 2015-16, Rs. 75 crores for the F.Y. 2016-17, Rs.75 crores for they F.Y. 2017-18) which was spent through education, skilling, economic support and welfare schemes of the Corporation. For the financial year 2018-19 the Government has allocated Rs.75 Crores.

Following are the details of various schemes of the Corporation:

Sl. No.	*Scheme Name*	*Description*
1.	Gayathri Scheme for Academic Excellence	To reward the topper of the school/college/institute toppers.
2.	Bharati Scheme for Education	To provide one time financial assistance to the poor Brahmin students of 1st standard to Post Graduation and PG Overseas.
3.	Veda Vyasa Scheme for Vedic Education	To provide financial assistance to the students who are pursuing vedic studies in Veda Patasalas.
4.	Vasishta Scheme for Coaching for Competitive Exams	Provide Coaching for State/Central Government competitive exams like SSC, IBPS, Civil Services, etc. through identified institutions.
5.	Dronacharya Scheme for Skill Development	Provide Skill development training to unemployed youth through identified institutions, to enable them gainfully employed.
6.	Chanakya Scheme for Entrepreneurship	To provide one time financial assistance in terms of subsidy, for entrepreneurship in Andhra Pradesh for the projects of various ranges.
7.	Kashyapa Scheme for Food & Shelter	To help poor orphan children, differently abled, widows, destitute and elderly Brahmins with monthly financial assistance.
8.	Garuda Scheme for Funeral Expenses	To provide financial assistance towards funeral expenses of the deceased.
9.	Bhargava Matching Scheme	To involve community in creating assets (Community Hall, Aarama- kshetram, Old Age Home) and also to conduct socially relevant activities by matching grants.

With effective implementation of **eBrahmin Welfare Project**, during the last three years of operations, around 91,152 families have got benefitted through these schemes, amounting to Rs. 152 Crores.

The uniqueness of the **eBrahmin Welfare Project** is that there is no middleman involved at any stage, starting from registration of application to disbursement of scheme benefit in any of the above schemes. For all the above schemes applications have been invited through online (https://www.andhrabrahmin.ap.gov.in) and the amounts are being disbursed online to the beneficiaries' accounts directly.

Key reasons for nomination

Under the dynamic leadership of Sri Nara Chandrababu Naidu, the Hon'ble CM of AP, first time a Corporation has been established for the welfare of Brahmin Community in the year 2014. The **eBrahmin Welfare Project,** automation of citizen services, has been designed and implemented from the day one onwards. In the last

3 years out of 1,18,141 applications, disbursed Rs.152 crores directly to the 91,152 eligible beneficiaries.

RESULTS INDICATORS

Services

Name of eService and Brief service description with benefits	*2015-16*		*2016-17*		*2017-18*		*Total*	
	Phy.	*Fin.*	*Phy.*	*Fin.*	*Phy.*	*Fin.*	*Phy.*	*Fin.*
Education								
Gayathri scheme for Academic Excellence			247	26.03	286	27.95	533	53.98
Bharati Scheme for Education	10,973	2,876.28	17,947	3,108.04	28,782	2,842.16	57,702	8,826.48
Bharati Scheme for Overseas Education	23	230.00	90	845.00	63	595.00	176	1,670.00
Coaching & Skill Development								
Dronacharya Scheme for Skill Devp.	46	9.72	54	13.96	73	14.34	173	38.02
Vasishta Scheme for Coaching	66	33.14	280	67.78	31	21.15	377	122.08
Entrepreneurship								
Chanakya Scheme for Entrepreneurship			512	766.16	641	917.78	1,153	1,683.94
Welfare								
Kashyapa Scheme for Food & Shelter			13,224	907.09	15,700	1,675.24	28,924	2,582.33
Garuda Scheme for Funeral Expenses			820	82.00	1,294	129.40	2,114	211.40
Total	**11,108**	**3,149.15**	**33,174**	**5,816.06**	**46,870**	**6,223.02**	**91,152**	**15,188.23**

Implementation Coverage

Achieved 100% target in all the 3 years by giving vide publicity of the schemes implemented by the Corporation, by extensive usage of social media viz., WhatsApp, Face-book, etc. We share the announcements through social/electronic media. During the last 3 years the Corporation has spent extremely meagre amount on advertisements. The overall administrative cost is below 5% of the total budget.

	Target	*No. of Applications Registered online*	*Benefitted*	*% on Target*
2015-16	11,000	15,073	11,108	101%
2016-17	33,000	47,498	33,174	100%
2017-18	33,000	55,570	46,870	142%

New Services/Enhancements

- Integration of web services
  - Time to time applicant's file status update in AP Chief Minister's Office real-time executive Dashboard [CORE Dashboard] to show progress abstract
  - Time to time applicant's file status update in AP Real Time Governance [RTGS]
- Intimation of stage wise status of application in administrative process i.e., SMSs sending at the time of registration, scrutiny, after uploading of enclosures, verification, selection, after NEFT transfer.

Enhancements

- AADHAAR seeding
- Yearly validation of Life Certificate by using UIDAI biometric services
- Integration of call centre module
- Geotagging of assets given under chanakya scheme
- Voice SMS to old age people regarding status update/yearly requests for Life Certificate submission
- Integration of WhatsApp & e-Mail for stage wise status update.
- Integration of Web services
  - MAUD Services for Birth & Death
  - Revenue services for Caste/Income & Residence certificates
- Civil Supplies for family members Ration Card information

ENABLER INDICATOR

Government process reengineering

The "***eBrahmin Welfare Project"*** is meant for delivery of services of Brahmin Welfare Corporation to the Brahmin Community members of 13 districts of Andhra Pradesh State. By using the Information and Communications Technology widely, the eBrahmin Welfare Project has brought transparency, efficiency, accountability and speedy delivery.

By re-engineering the processes, the support documents have been scrutinized at central level with minimal manpower. For all the schemes that are being implemented through this Corporation applications have been invited through online (www.andhrabrahmin.ap.gov.in). Nowhere in the process physical copies of the supporting documents are collected from the applicants, which lead to paper-less governance.

All the schemes which are implemented by this Corporation are relevant to other welfare departments also in India. Government of Andhra Pradesh (GoAP), has taken initiatives to computerize Government to Citizen (G2C) services in this Corporation. The important G2C services like On-line enrolment, downloading auto generated filled in application, tracking, uploading necessary documents in pdf format, knowing status through web page, SMS enable people to have efficient, effective, transparent and accountable services.

Many functions of the government are involved in delivery of information and services to the citizens. Tracking movement of application request, monitoring of eligibility, On-line selection and administrative sanctions. Manual process leads to various issues such as huge resource utilizations, long time and corruption etc.

The use of internet by the Corporation to provide its services at the door step of applicants/beneficiaries and other stakeholders. EGovernance web applications have helped Corporation to reach the unreached population.

Technology adaptations/Innovative deployment

Studied the processes implemented by various other welfare organizations. They all are basically having offices at Mandal/District level, collecting the applications physically for some schemes and through citizen service centers for some other schemes. Following are the reports which are automatically generated with the data captured.

Review report by the Managing Director
Drill down - Month - Day wise enrollment Progress report
Officer-wise scrutiny progress
Drill down - Month wise Scrutiny progress
Drill down - Scheme wise report
Drill down – Sub-scheme wise report
Drill down - District wise report
Drill down - Constituency wise report
Drill down - Scheme– District wise report
Drill down - District – All Schemes wise report
Drill down - Administrative Selection Date – Scheme Wise report
Drill down - Scheme Wise - Administrative Selection Date wise report

To renovate the entire department manual file system, process re-engineering was done in all departments to increase efficiency and effectiveness in day-to-day policy decision making.

Standardization

- Organization buildup based on Employee Master Data
- Identifying the Infrastructure gap & procurement/upgradation of necessary hardware
- Digitization of existing physical files

Simplification

- Government structure
- Creating of Bulk email Id's
- Complete noting in single file
- File tracking
- Digital repository of files
- Decision making

Automated

- Inward receipts
- Noting & file creation
- Digital Signature
- Intra/Inter movement of files
- Real-time file pendency reports
- Transferring of post

People

eBrahmin Welfare Project has implemented from the day one onwards, which helped to manage with a lean staff. There are around Seven staff members managing the entire operations of the Corporation under the leadership of a senior IAS officer.

VALUE INDICATORS

Learning for sharing

Bottlenecks, challenges, constraints that triggered the organization to conceptualize this project are:

- This is the first of its kind Corporation in the country, established by the State Government for the welfare of Brahmin community
- There is no database/census records of Brahmin population is available
- Lean organization structure with only 7 staff members at state level
- Reaching the poorest of the poor to benefit

Digital Empowerment

All the scheme guidelines have been translated into the regional language, i.e, Telugu and placed in the website for public. The flyers, leaflets and messages are also being circulated in both Telugu and English languages.

Green eGovernance

By using the eBrahmin Welfare Project, the applicant can apply online from any internet center. He/she need not produce any physical copy to the corporation. The volunteers identified throughout the State will conduct physical meetings at ground level and create awareness on the schemes among the community members and educate them on the process of registration through internet centers. However, lean team of the corporation, with the help of interns will scrutinize the applications received online, by using desktops in head office.

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eScholarship of Social Welfare Department, Uttarakhand

Social Welfare Department, Govt. of Uttarakhand

Ram Bilas Yadav, and Narendra Singh Negi

PROJECT OVERVIEW

Introduction: eScholarship of Social Welfare Department, Uttarakhand at http://escholarship.uk.gov.in successfully implements transparent workflow, web-based process automation, and instant information dissemination of Government's social welfare schemes and e-payments of monetary benefits to the state's students.

Objective

Basic objective is to bring transparency, improvement in service delivery, automation of key functions and digitization of scholarship data by introducing ICT.

Scope

Functionally, system is divided into 3 main areas.

(a) Government at top level for making policies and budgetary provisions.
(b) Department at directorate level for arranging budget and enforce laid down policies. Coordinate interdepartmental level for service identification, integration, workshop and capacity building and monitoring.
(c) Field level offices or entities located across the districts (80% are in hilly area) for implementation, training, micro level planning, gathering change requirements and completing UATs.

Stakeholders

(a) Government Departments(Social Welfare Department/Tribal Welfare Department/Women and Child Development/Finance Department/ Education Department)(Programme Implementer)
(b) Educational institutions/Schools (for registration, processing of applications)
(c) Banks/Financial institutions (for financial services integration)
(d) NGOs etc. (For conducting social audits)

Current Status

Presently system is active and widely used by the stakeholders. Aadhaar validation of scholarship applicants for the Academic Year 2016-17 is in progress. Backlog for previous year 2014-15, 2015-16 and 2017-18 is cleared as per available budget with the Department. Disbursement of scholarship of remaining eligible applicants is underway.

Key reasons for nomination

1. End-to end work flow based online system covering all schemes provided by the Social Welfare Department.
2. Having facility to transfer benefit directly into the beneficiary bank account. 100% e-payment is done no other means of disbursement allowed.

3. Integrated with State Treasury`s Core Treasury System (CTS) for fiscal management. IT helps user department to just prepare e-payment bills and process for payment without withdrawing money into Departmental local bank account. It reduces the time spent on financial approvals.
4. Based on the concept of One time registration and use multiple time, Only renewal of application required.
5. Due to the geography of state this initiative saved beneficiary time and Government resources and brought more transparency in the distribution of benefits.
6. By introducing the project fake/dubious applicants are either caught by the department or denied from availing benefits. This project helps department in identification of fake institutions/schools, students within or outside state.

RESULTS INDICATORS

Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
Pre-Matric Scholarship for SC/ST/OBC and disabled • Registration of school • Submission of application • Verification and Proposal Submission • Sanctioning and Disbursement • E-Payment of Scholarship. • Publishing of beneficiaries list.	It covers both Central Sector Schemes as well State Sector Schemes. Registration, verification, sanctioning & disbursement and final e-payment are basic services covered in all schemes. Maintenance fee is disbursed at specified rate to the eligible applicants.	Registration :52239 Sanctioned: 7729 e-Payment: 5634	Registration: 216534 Sanctioned: 138404 e-Payment: 108419	-- Sanctioned :9995 e-payment: 18853
Post-Matric Scholarship for SC/ST/OBC and disabled • Institute Registration • Applicant registration • Submission/Renewal of online applications and	It covers both Central Sector Schemes as well State Sector Schemes. Registration, verification, sanctioning & disbursement and final e-payment are basic services covered in all	Registration : 124788 Sanctioned: 97111 e-Payment: 74686	Registration: 120272 Sanctioned: 75634 e-Payment: 67041	- Sanctioned :42684 e-payment: 86874

Contd...

document uploading • Verification and proposal submission • Sanctioning, Aadhaar Authentication and disbursement • E-payment of scholarship • Publishing of scholarship beneficiaries list.	schemes. Tuition fee and maintenance fee is disbursed back to the eligible applicants.			
Gaura devi Kanya dhan Yojana • Integrated with Scholarship to pull data from the scholarship and reduce data redundancy • Online application submission through Schools • Application verification through Block • Proposal Submission • Result Updation • Beneficiary list generation • E-payment of benefit • Publishing of beneficiary list.	State Sector Scheme funded by state budget for girls passing 12th from the institutions located in Uttarakhand State. Rs. 50,000 is disbursed in form of Fixed Deposit in the beneficiary bank account.	Registration :32864 Sanctioned: 655 e-payment: 0	-- Sanctioned: 11915 e-payment: 9584	-- Sanctioned :328 e-Payment: 1436

Implementation Coverage Services ["Government" to "Citizen/Business/Government"] that are currently being delivered using ICT

- **G2C services -** Submitting of online application, monitoring its status, monitoring of current as well as previous payments of eligible benefits, knowing current rates of eligible benefits/eligibility conditions/supporting documents required/relevant Government orders/whom to contact/beneficiary details across the state/district/providing online feedback/complaints.

- **G2G services -** appropriate linkages through web services to State's Treasury portal (for e-payments directly into beneficiary's bank account and receiving its acknowledgement)
- **G2B services –** free of cost services to banks (for beneficiary details, location-wise, bank-wise, branch-wise), media houses (for analysis, monitoring, reporting of any inconsistencies, etc.), NGOs/RTI applicants/academicians and researchers (for information, analysis, research, etc.)

Benefits obtained from these services by each category of stakeholders

Earlier, AAA of Altitude, Accessibility & Availability in the difficult geography of Uttarakhand posed a significant challenge from public's point of view. The citizens faced difficulty in getting status information, delay in getting the promised benefits, there were widespread apprehensions about fake beneficiaries, they had difficulty in getting corrected errors in calculation/exact arrears and there was lack of transparency.

New Services/Enhancements

(i) Provisions for the Aadhaar validation of scholarship applications of AY 2016-17 as per UIDAI/NIC`s AUA guidelines. To carry out Aadhaar Validation of scholarship applicants, Separate provisions like SSL, deployment of customized project in National Cloud platform were made.
(ii) The workflow based web system of eScholarship was enhanced by incorporating the Aadhaar based processing of the scholarship application.
(iii) All reports modified to comply with IT ACT 2000, Aadhaar Act 2016 and IT Act 2000 in place, restricting displaying all sensitive personal and financial data in public domain.
(iv) Provisions for the backlog scholarship applications of Academic Year 2014-15, 2015-16 and 2016-17 where 2nd installment was due.

Improvements and enhancements to be rolled out next year:

(i) Integration with DigiLocker for documents used by various authorities.
(ii) Mobile based system as an alternative way to process.
(iii) Upgradation of technology and redesigning of the complete workflow based system

ENABLERS

Government Process Reengineering

(i) Front-end: The beneficiaries may not be in a position to access on their own, but their relatives/well-wishers and other stakeholders are using the following facilities extensively:-

1. Single web interface to access beneficiary details is available for all stakeholders, viz. beneficiaries, citizens, public representatives, department officials, Government agencies, banks, media, NGOs, academicians and researchers.

2. IVRS facility and Android Mobile applications to access current status of e-payment of a beneficiary's benefits on the basis of the beneficiary's bank account number or mobile number registered with eScholarship.

(ii) Back-end: With the use of eScholarship at http://escholarship.uk.gov.in, the Social Welfare Department's officials have to a large extent reduced their dependency on paper work - bulky registers and files. The formats/templates/processes have been standardized and made uniform.

Technologies

Enterprise Architecture: - Project was designed by considering Application Development Policy, Technology policy, Security Policy, Data Policy, API Integration Policy, implementation approach and governance policy.

(i) Application Development Policy: - **Factory Design Pattern** of Enterprise Architecture for the application development was adopted. Application versions were maintained by using Software Versioning and revision control system (SVN)

(ii) Technology Policy:- Best available technology was chosen to develop project by considering available skill set and team

(iii) Security Policy: - Different security policies across various verticals (password, secure application development, Network etc, web security Audit) were followed.

(iv) Data Policy: -Data policy mainly refers to metadata used in the project. So far NIC metadata policies were tried and implemented.

(v) API integration Policy: - NIC standard API policy followed by developing API in open data exchange format.

(vi) Implementation Approach:- Phase wise schemes were selected for development and implemented by conducting state level workshop, training through departmental dedicated IT Cell.

(vii) Governance policy: - Project was initiated on the basis of the laid down government policies. These policies were modified time to time to cater field level requirements.

People

Creation of Social Welfare Department's IT Cell, increasing dependence of department officials on eScholarship for schemes monitoring purposes, increasing efficiency, cost reduction, wide media coverage and awareness among beneficiaries ensures the sustainability of this particular eGovernance initiative. It was not possible to implement eScholarship without the technological and operation support of NIC officers at various levels.

Leadership support for capacity building, visibility of actions with current status

Shri Ranveer Singh, IAS, currently the Additional Chief Secretary, Social Welfare, Govt of Uttarakhand took the initiative of sustaining and broadening NIC Uttarakhand's ICT initiatives and has seen to it that they are implemented, despite resistance.

The team is fully supported by Shri. Ram Bilas Yadav, IAS, currently the Additional Secretary, Social Welfare, who took upon himself to mobilize the department's officials to maximum extent possible to successfully implement and sustain eScholarship in all 13 districts and by Shri Yogendra Yadav, currently the Director, Social Welfare.

The technical team of ICT initiatives, headed by Shri Narendra Singh Negi, Technical Director, NIC Uttarakhand team is ably supported by Shri Chandan Singh Bhakuni (Scientist-B) and Smt. Kanupriya Gaba (Scientist-B) at the state level, besides NIC's District Informatics Officers (DIOs) at the district level.

Change management and Capacity building strategy

Besides numerous meetings, approximately 10 state-level and an equal number of district level workshops/training programmes have been organized to implement the department's ICT initiatives. The participants include almost all the stakeholders. Besides regular training, technical as well as administrative support over emails, telephone and Videoconferencing

Project management & Monitoring adopted

Professional project management and monitoring techniques like Project Management Plan, Resource management, Feedback mechanism, Gantt charts, individual roles and responsibilities, outsourcing, etc. are being used.

VALUE INDICATORS

Learnings for sharing

Several Scholarship disbursement models of various States were discussed before initiating eScholarship project as per the needs of Uttarakhand State. Since most of the Schools are located in the hilly area or areas where ICT penetration was not reached, Schemes were designed in a way that it follows class 1^{st} to 12^{th} in one category and rest in another category. In first scheme, Schools were allowed to first verify the scholarship applications manually as student himself/herself submit scholarship application directly to the school. Only verified scholarship applications were allowed to submit online in the portal. Schools have the responsibility to keep students records so that these records can be verified at the time of field visits by the Officials from Social Welfare Department.

Scholarship applications user the post-Matric Scholarship schemes were directly submitted by the applicants in the portal along with required documents.

The entire exercise is carried out in a phased manner:-
Phase 1 (From July 2014-June 2015):-

(i) Only professional courses under post-Matric Scholarship schemes were launched.
(ii) Only Applicant was allowed to modify/update his/her data up to an extent based on the action taken by the concerned District Social Welfare Officers.
(iii) E-payment through Core Treasury System (CTS) of Finance Department of Government of Uttarakhand to avoid any manipulation of scholarship applications

Phase 2 (From July 2015-June 16)

(i) All courses from 9th onwards were included in the project.
(ii) By considering the ICT penetration, Schools authorized to do online application submission. School Principal has given the Nodal officer`s responsibility.
(iii) E-payment facility for the disbursement of scholarship extended to all level of applications.

Phase 3 (July 16 onwards)

(i) Pre-Matric scholarship included in the project.
(ii) Movement of online scholarship application from one school to another school allowed.
(iii) Aadhaar number made compulsory to get scholarship.
(iv) Provision to validate/authenticate Aadhaar number is done.
(v) E-payment facility for the disbursement of scholarship to all sanctioned applications through CTS is done.
(vi) Provisioned to clear backlog of scholarship applications is done.

Major Key Learning for user Department was of the verification of online applications as there was no streamlined data available to the highest level in the department earlier and on field visit, the official seldom found other version of data especially pertaining to a student's current class/subject/college/fee paid etc. This project helps them identify such applicants who have submitted applications from different colleges for the same course.

Digital Empowerment

1. Since the scholarship is directly transferred to the beneficiary's bank account, it eliminates the middle level hurdles for the applicants, thus helps students to focus on his study/career.
2. eScholarship`s user interface is in Hindi for Pre-Matric and Post-Matric (11^{th} and 12^{th}) schemes
3. Integration with email and SMS services were done.

4. Extensive publicity is likely to help the beneficiaries and their well-wishers, who may not be able to use the aforementioned mechanisms, to take the assistance of IT savvy persons in their neighbourhood.

Green eGovernance

eScholarship is complete workflow-based ICT system that has enabled significant reduction in paper consumption and cost to the Social Welfare Department. Provision of online application submission, online sanctioning process, online disbursement, online monitoring through reports has led to environmentally friendly practices.

As mentioned earlier, eScholarship has significantly improved the efficiency at the backend by almost 80-85% and ensured considerable cost savings to the Social Welfare Department.

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SSY- Single Umbrella for Unorganized Workers

Labour Commissionerate/Labour Department/Government of West Bengal

Jawaid Akhtar, and Sharmila Khatua

PROJECT OVERVIEW

Unorganized workers usually don't have any social safety net like the workers who are in the organized sector. To provide social security to the unorganized workers of the State, a lot of measures (taken in past) were operating under parallel schemes. Five such different Social Security Schemes like scheme for construction workers under the B&OCW (RE & CS) Act, 1996; for transport workers under West Bengal Transport Workers Social Security Scheme, scheme of provident fund and health benefit for other unorganized workers under State Assisted Scheme of Provident Fund for Unorganized Workers and West Bengal Unorganized Sector Workers Health Security Scheme, for Bidi workers under the West Bengal Bidi Workers Welfare Scheme labour were operational with differing processes of registration, benefits, scale of benefits and mode of payment. With a view to provide a holistic coverage under one umbrella, these schemes were integrated and converged in common single comprehensive scheme, named **SAMAJIK SURAKSHA YOJANA 2017**. The premise was to maintain uniform scale of benefits and enhanced safety net to all unorganized workers. The Yojana is effective from April 1, 2017.

To ensure uniqueness of beneficiary among all those schemes, a special process of deduplication has been developed and is being run before registration. The same process was also run to identify unique and probable duplicate beneficiaries among the digitized data of tentatively 79 lakh data initially.

The **most significant feature** of this scheme is its **online delivery**, wherein processes like registration, scrutiny of the beneficiary details, deduplication and approval are presently being done online and benefit claim submission, processing and disbursement will be **done through the digital mode with minimum physical touchpoint**, thereby facilitating every unorganised worker to register into the scheme without visiting the Labour offices and at his/her convenient time, just at the click of a mouse.

This not only is beneficial for the end-users, but also for the officials as the authenticity of applications can be verified digitally and thereby only the genuine beneficiaries are catered to. Such an approach also helps in building a database of the unorganised workers in the State, and this demographic information is vital in policy making.

Key reasons for nomination

The scheme Samajik Suraksha Yojana-2017, a merger of five different schemes, with its exclusively digital mode of service delivery, covers close to 1 crore beneficiaries making it an exemplary social security scheme in the world ever to be digitised. The exclusive digital delivery not only makes it more user-friendly for the beneficiaries, but also helps to develop the much-needed comprehensive database of unorganized workforce of the State. Such databases are a rarity and are of pivotal importance in policy-making.

RESULTS INDICATORS

Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
Registration	No of beneficiaries registered under SSY during 2017-18		Online service was not live	200167
Test for Uniqueness	Total no of beneficiaries who were found unique after de-duplication			5419846
Identify Duplicates	Total no of beneficiaries found duplicate			938000

Implementation Coverage

The plan for the initial phase was to merge the existing data base of three major schemes namely for transport, construction and other unorganized workers, run a deduplication process to identify the unique data, start a mechanism to identify unique data from the probable duplicate data as suggested by the system and online application process for registration under the new scheme SSY. All the tasks were completed and the project has gone live in 16.10.2017.

New Services/Enhancements

In the next phase, the project will be offering online settlement and processing of claims for benefits from the registered beneficiary and payment of provident fund contribution through the portal online.

The project was rolled out on 16.10.17, the registration module is complete and fully functional while the benefit module is in the conceptual stage and will be operational soon.

ENABLERS

Government Process Reengineering

Prior to the SSY the beneficiary had to come to the regional labour offices for registration, subscription payment, and in the process loose a day's wages. Moreover it was difficult to reach out to the eligible beneficiaries in the rural hinterlands with the limited state resources. There were also serious issues of storage space with manual record keeping. Post SSY, these difficulties were eliminated as the scheme is exclusively online, with little or no physical touchpoint.

Merging the isolated databases of the erstwhile schemes into one comprehensive database and carrying out de-duplication tests and assigning SSIN to every unique beneficiary ensure that post SSY- 2017 only genuine beneficiaries are catered to and duplicity in any form is eliminated. Moreover, assignment of a unique id to each enrolled beneficiary helps in building a database of unorganised sector workman in the state.

For the unorganised workers, the digital mode of delivery is much more convenient as it is no longer mandatory for him/her to visit the labour offices for registration and other scheme related formalities. He/she can register into the scheme from any convenient location and at any convenient time. Moreover, as the Common Application Form (CAF) is simple concise and self-explanatory, the registration procedure is faster and user-friendly. Similarly the benefit application, eligibility checking and claim disbursement processes are digital with minimal touch points making them more efficient and customised.

Benefits

Any digital initiative on the part of the Government is meant to bring the citizen closer to the government and hence any benefit of a G2C project can be assessed from both the citizen's and the government's perspectives.

Benefits to citizen

The exclusively digital mode of service delivery under the scheme has ensured that scheme is as accessible to anyone in the rural hinterland as it is to anyone else, ensured that scheme is as accessible to anyone in the rural hinterland as it is to anyone else thereby eliminating any isolated geographical pockets of low/non registration. Moreover, this online mode has ensured that none of the unorganised workmen has to sacrifice his daily wage in coming to the labour office for formalities like verification, subscription payments etc.

The portal will also possess facilities for capturing feedbacks and complaints from beneficiaries and come up with more effective measures and customised solution, implying a process of continuous improvement in service delivery and increased participation of the citizen.

Technologies

The SSY database has vital demographic information of all non-agricultural population of the state and this data base is set to be lined to other data bases like those of school, higher education, hospitals etc. Hence this is a very promising area for application of analytics, like machine learning to extract new insights about the effects of this scheme and other concurrent ones.

For example, Chloropleth mapping of districts will result in dashboards to give more intuitive and real time understanding of the situation for different levels of end users. Such insights will enable the policy makers to predict the future requirements with much more precision and come up with tailor made policies.

Such insights will be further improved with social media integration and through these iterative processes of Continuous Improvement & Continuous Development (CICD) so take efficient proactive measures.

People

The new scheme SSY is a merger of 5 erstwhile schemes, is meant to cover every eligible unorganised worker as per the approved list of unorganised industries and self-employed occupations notified by the Labour Department from time to time as well as construction and transport workers. There are 46 unorganised professions and 15 self-employed occupations which are covered under “unorganised workers”. “Transport workers” covers all workers associated with transport industries including those involved loading and unloading.” “Construction Workers” considers all types of workers associated with construction work including carpenters electricians and others. The beneficiaries already registered under the erstwhile schemes migrate to this new scheme automatically with a few formalities and since 1.4.17 any beneficiary who is eligible for registration under any of the earlier scheme would have to register himself/herself in SSY. As per the records, a little over 92.5 lakh beneficiary from the erstwhile three schemes are covered under SSY along with approximately 2 lakh new beneficiaries who registered in SSY across the state after 1.4.17.

This scheme targets to cover the entire unorganised worker population of the state and their family members including those domiciled in the state from outside. Thus this scheme will cover a very large percentage of the population of the state and hence is of pivotal importance in public policy making.

VALUE INDICATORS

Learnings for sharing

SSY-2017 was conceptualized to do away with the disparity of government benefits available to different categories of unorganized population due to the differences in their vocation.

The sheer **magnitude and nature** of the target population makes the implementation of the project challenging enough. The fact that the scheme is a continuation of earlier running schemes implied that a smooth transition was of utmost importance. Hence management of data of new beneficiaries and those of existing beneficiaries concurrently was a big challenge. Moreover, a lot of the earlier data were either undigitized or were residing in isolated data bases.

These databases were integrated, the data in the different formats and was sanitized and were segregated into the following compartments:

- Clean data
- Incomplete/Defective Data

The clean data was subjected to deduplication tests to ensure only single registration of an eligible beneficiary. Subsequent to the deduplication steps the data set was further divided into **golden records** (unique data) and duplicate records.

Each golden record was assigned a unique identity number and decision regarding the duplicate data was taken through further verifications.

The key learning **was the interplay of digital and human interfaces** regarding decision making, and **leveraging technology for adequately identifying the pain points** for necessary corrective measures. Needless to say, the process has been an iterative one and the **steps has been modified more than once, based on the user feedbacks** to arrive at the best solution, thus maximizing stakeholder involvement in this eGovernance initiative.

Moreover, integration with other databases in future is set to create a database of demographic information of the unorganized population of the state-a first of its kind in the country.

Digital Empowerment

The Government of West Bengal does not discriminate its citizens on location, age, language, religion, gender, income and education levels. Hence to preserve this parity every step has been taken to see that the project is administered through the digital mode only. This ensures that the scheme is as accessible to a person in a rural hinterland as it is to anyone else, given the digital connectivity of the state.

The application form is short, objective and multi lingual to cater to the diverse needs of the unorganized population.

Green eGovernance

With the rise in digital usage and the rapid advancements in hardware technologies, the useful lives of electronic items are fast diminishing. To counter the corresponding rises in e-wastes, every endeavour is made so reduce usages of

physical storages. Hence most of the transactional data is stored and exchanged via clouds. Officials are provided with the latest version of the hardware to ensure longer warranty and less obsolescence.

Regarding disposal every care is taken that e-wastes are accumulated from different units and disposed centrally to designated locations.

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e-Bazaar

Department of Information Technology & Communication, Government of Rajasthan

Akhil Arora, and Manu Shukla

PROJECT OVERVIEW

- The project has been developed with the objective to provide a single window access for e-Commerce activities for various products by Government of Rajasthan for citizens and other Stakeholders.
- Ebazaar is a single e-commerce based solution for inventorying the store and selling of items.
- The online store can be accessed on URL: **http://ebazaar.rajasthan.gov.in**
- Citizen can place their orders by visiting the online platform with online payment.
- Online Store has been developed using dynamic Store Management System.
- Integrated with Rajasthan Payment Platform for all commercial transactions/online payments etc.
- Aims at promoting Rajasthan local artisans get wider range of customers and increase their sales through digital platform.

Stakeholders

- Gramya Khadi Handicraft Emporium
- Energy Efficiency Services Limited
- Rajasthani Handicraft Emporium
- Rajasthan Grameen Aajeevika Vikas Parishad (RAJEEVIKA)
- MMTC LIMITED
- SAHKARI UPBHOKTA WHOLESALE BHANDAR, Sri Ganganagar
- Rajasthan Rajya Sahakari Upbhokta Sangh Confed
- Ajmer Sahakari Upbhokta Wholesale Bhandar

Key reasons for nomination:

Govt. of Rajasthan initiative in the field of e-commerce to provide a platform with the objective of a single window access for e-Commerce activities for various products by Government of Rajasthan for citizens and other Stakeholders with inventory management, payment processing and order tracking.

RESULTS INDICATORS

Services

Name of e Service	***Brief service description with benefits***	***Volume (Nos) of Services year wise***		
		2015-16	***2016-17***	***2017-18***
Payment Transactions	Payment Transactions done in order to place an order on ebazaar	NA	24729	7891

Implementation Coverage
12 departments are linked with 541 online products with a delivery service to whole Rajasthan deep village level

New Services/Enhancements
Sales and inventory management module is being developed to manage the inventory of offline stores of departments link with ebazaar online store to provide single centralized inventory.

ENABLERS
Government Process Reengineering
Availability of products of departments to last mile village with online presence.

Technologies
Order tracking with logistics provider. Complete online order placement, payment, cancellation and refund channel.
Technology used for development: C#, Javascript, HTML, CSS
Database: SQL SERVER
Server: IIS

People
Stackholder departments, SHG and Citizen (Consumer)

VALUE INDICATORS
Learnings for sharing
Digital Empowerment
Department and their connect artisans and SHG have a placement to showcase and sell their products to masses through online e-commerce facility.

Green eGovernance
Online Payment, Message and email based alerts and invoice sharing. OTP on message, email and dashboard of ebzaar to close the order in place of signature based receipt to reduce the carbon footprint in overall.

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JANSAJHEDARI

District Administration Chatra, Government of Jharkhand

Jitendra Kumar Singh, and Rajeev Ranjan

PROJECT OVERVIEW

This GIS based solution is an exclusive new idea to be implemented through JANSAJHEDARI app. In this project, we are providing all the information for all the work in a department at a common platform where everyone can know all the relevant details of project. In this way, we will be able to digitize all the projects with GIS. All the ongoing projects that are completed will exist with record of date of completion. This record will help the administration and department in monitoring the life of the built assets.

JANSAJHEDARI mobile app is available in web (with following url http://www.apnachatra.in) and mobile application (with the url https://play.google.com/store/apps/details?id=com.apnachatra.android) for every citizen.

It has been developed in purely open source technology 'php' and 'mysql' under word press.

Why JANSAJHEDARI for ongoing Projects

Earlier, people looked at infrastructural work going on around them and questioned the following:
What is being built?
What are the specifications?
Estimated cost and budget

Contractors also hide this information many times.

So, Administration came out with this idea to give the details of every project sanctioned directly to the people and NIC designed and developed this solution so that people can see the details directly, anytime, anywhere. Innovative part is that now everything available on the go through mobile phones, so wherever they go and see new thing they can easily find the related official details.

Why JANSAJHEDARI for Government Utilities

There are 1800+ schools, 1100+ anganwadi Kendras, 800+ PDS centres, 500+ Pragya Kendras (CSC) and so many other governments utilities centres present in the district in a very large scale. Generally, Government too, does not have the blueprint of positions and tracks for the all centres. Only concerned department knows these centres. Thus, to solve this problem, this feature was included and then added in common to be used by any citizen.

There is a list of all the government utilities in the App, which can be seen simply by 3 layered search i.e. Block name-Panchayat Name- government utility type. It will enlist all the related government centres from the selected panchayats in the mobile screen.

Why JANSAJHEDARI for Feedback

People can check the project progress details (both physical and financial) based on either their current location or department wise filter. The distance range (in mobile app) is adjustable as per the requirement of the user. This facility makes this app highly user friendly as user can see the projects of almost all corners of the district.

Feedback from for general people regarding quality, quantity has been added for more transparent and effective governance. Feedback can be given with supporting documents like pics clicked from mobile for better way of presentation. Mobile number of the user is saved in the record for getting only authentic feedbacks.

Feedback has been monitored directly by district head officer of the concerned executing department and additionally by Deputy Commissioner (Admin) with various reports like maximum feedback in any project. Feedback with pictures are GIS tagged to check the authenticity of the pictures.

Another feature with GIS & Map wherein people can easily search nearby School, Hospital, PDS Shop, ATM, Bank, Anganwadi Kendra etc., has been implemented with some basic details and guided map route information to reach the destination. These details are available as per current location of the user

District Block Panchayat level search available for effective layered search. It is one common platform for people and works department to take information on activities of works department including physical & financial progress of a project and to give out feedback/suggestions/complaints with images through web or mobile app. There is no need to apply RTI since it is time consuming process.

A feature of broadcast message has been given for multiple works, because with this, we can reach out to maximum number of people in all the locations of the district in no time. It will be used for sending quick information about any coming disaster and news about its solution. To make this feature, we are publishing other important citizen-centric services related news in this broadcast message like pension release date, PDS distribution date, Gram Sabha date etc.

Key reasons for nomination:

This JANSAJHEDARI deals with multi-layered GIS maps which cross-checks the scheme details including boundary limitations.

It collects feedback from people instead of grievances and gives people the real place of administrator in democracy.

JANSAJHEDARI aims to provide the following:

- All the relevant information of the offices in the district
- All the details of the ongoing or completed work/projects along with pictures
- Digital profile of the district.
- Feedback directly to the concerned department for quality and quantity issue of the ongoing projects.
- All the information regarding PDS delivery, pension release to scholarship etc.
- Route guided map for reaching important public facilities such as bank, ATM, Govt offices, schools, Aanganwadi centers etc.
- All the ongoing projects can be recorded digitally.

In this platform called JANSAJHEDARI, we aim to seek people's feedbacks suggestions to make the system accountable, efficient & participative where in citizens are enabled to monitor the Projects & send feedback direct to concerned authorities.

Impacts and benefits: Starting with the idea of showing

1. The top management of district and state can see the progress and monitoring of each and every ongoing project from every department at any time and can verify in their field visits.
2. Now when people are getting all these information readily in the easiest possible of access, it leads to minimization of RTI queries and thus maximum utilization of official work capacity towards progressive office work.
3. Project details are public so the chances of alteration in the specifications have already been reduced even without monitoring fear from department and administration because now people near them watching them closely.
4. We have not only published the data but also enabled the system to get their feedback with pictures here itself that gives the less numbers of grievances in other grievance portals like Jansamvad and CM Sidhi Baat .
5. Once the ongoing project is complete it will be there in the list of completed projects with all those details including date of completion and maintenance. Since the official from department and administration is transferable so these online data of the projects will help the next officials in getting the situation in its actual way. Online data is also free from alteration or modification.
6. This app has not only the data of government utility centers but also the voice guided route to go there. In this way all those distant placed small centers also can accessed and monitored regularly with surprise visits.

Site Architecture

We needed a multi-user framework to operationalize Jan Sajhedari as a system with micro-level geo-tagging needs, multi-point data entry from various nodes [departmental functionaries] to keep data live and “always updated”.

Considering possibility of concurrent users we needed to design a data structure which ensures optimized queries to fetch data and to ensure minimum query execution time.

Intuitive admin interface: We needed to conceive an admin interface which should require minimum end user training needs.
Bulk uploading facility – In order to ensure quick data maintenance, the system should have bulk

1. Import/export facility.
2. Uncompromised security architecture – Considering nature of information stored in the Portal we need to keep the system secured. All queries should be properly handled to prevent SQL INJECTIONS, DDOS attacks and other threats.
3. Possibility of Incorporation of New Features to act as a Single Point e-Service Delivery System for Citizens – We need a flexible architecture which can accommodate addition of new features and alteration of existing features on top of the base architecture.
4. Rapid Development Facilities – We need a framework which supports Rapid Application Development to add new features on the fly without much effort. This keeps maintenance to a minimum.
5. Multi-lingual – Considering the ethnicity of the resident of Chatra, we preferred to design a multi-lingual system to ensure proper information flow to the citizens of all strata of the society.
6. Open Source Technology – In order to keep the development as well as maintenance cost minimized we need to embrace open source technology.

Based on the above mentioned consideration we preferred Word Press among different CMS existing at present.

Specific Design Implementation – Three-tier System Architecture

1. Interface for Citizens
2. Interface for Administrators/Officers
3. Interface for Back Office Operators

Architecture of Web Portal

1. Core admin interface for back office operators
2. Minimal layered admin Interface for departmental officers to view project progress reports
3. Front end Portal for Citizens

Architecture of Mobile App

1. Mobile App has Citizen Interface to keep citizen informed about various ongoing projects.

2. The citizen interface provides information on Banks, Police Stations, Post Offices, Schools, Colleges and much more.
3. Each information comes with geo-tagged so that their specific locations can be viewed on Google Map.
4. The Citizen interface allows Citizens to provide feedback on projects.
5. Mobile App has an interface for officers who can logon to the system to view feedback of Citizens and take necessary actions. Besides, administrative officers can send notices via APP to the citizens.

Mobile App – Portal Connectivity

1. The APP connects with the Portal seamlessly via Rest APIs – optimized to ensure minimal data load on the Web Portal and also without depriving the Core App of desired data without compromising with Core Security Architecture.

Quality Norms

We have adhered to strict policies, on code writing and testing to enhance quality and performance. The system will go through rigorous quality testing till the final release of work.

Strategy in place for Disaster Recovery and service continuity

Back-up upto previous day is being created and stored in server.

As an initiative from the District, not much has been done in this regard, but the planning is as described under new services and enhancements.

RESULT INDICATORS

Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
GIS Mapping of Ongoing & Completed Projects	Google powered voice guided route Map with full details of the projects		32 Projects of five work department	107 Projects of all eight work department
Digital Profiling of all the offices in the district	Brief details of all offices with map guidance		All the offices of four department has been mapped in 75% of the blocks	All the offices of eight department has been mapped in 100% of the blocks
Feedback from people	People after verifying them can		759 feedbacks:	12756 Feedbacks:

Contd...

on almost everything	give their valuable feedback and track		431 are with pictures.	
Message Broadcast	This facility has been used for awareness and information (Accurate and Fast)		Only Weather and Meeting related Messages	On Demand We started to broadcast all the admission and job recruitments along with other important services
eServices – URL and forms at one place	One point solution of all the needs. All-important websites and forms at one place for easy access		We have given 7 forms and 5 urls	We have included all the forms available with us and 15+ URLs

Implementation Coverage

Chatra is in the list of India's least developed 100 districts and thus it describes the remaining story of Power, Network and Literacy. With the help of proper planning and training, this has been used by 10000+ active users in the district. These users provide feedback and read notification messages.

New Services/Enhancements

Now, on their demand and suggestions to generate this as a product, we are planning:

- To get all the data of those schemes with own GIS mapped database from backend and in auto update mode. Like SBM, PMAY, PMGSY etc.
- To create PMU/empowering toll-free centre of the district to run on voice services too.
- Total cloud based maintenance.
- Addition of detailed and filterable Public Transport system just like trains.
- Tourist spot information to be added in the app
- Target is to make an app –Mother of all needs

ENABLERS

PROCESSES RE-ENGINEERED

Supervision is done through the feedback given by people. 'Projects near me' helps everyone get the exact information about government projects. This is important for people and the administration.

Technologies

- With the frequency and type of feedback, using Artificial Intelligence, District administration is able to find out the actual defects or shortcoming in the running projects and offices.

- An innovation in democracy to get feedback from people about ongoing projects on a regular basis. They can share the details from their routine life without going any specific place.
- Its design has been developed for close monitoring and smart supervision as we are using multilayered GIS maps which helps effectively in data scrutiny.
- GIS mapping helps in inspection of offices even in small offices situated in small and distant placed village.
- Message Broadcast facility with push notification to send accurate message to everyone in no time.

People

10000+ people are connected with the app for getting its services.

With the help of regular training, Panchayat wise, we are expecting this number to grow up to 30000.

VALUE INDICATORS

Learnings for sharing

- With the frequency and type of feedback, using Artificial Intelligence, District administration is able to find out the actual defects or shortcoming in the running projects and offices.
- An innovation in democracy to get feedbacks from people for running works on a regular basis. They can share the details from their routine life without going any specific place.
- Its design has been developed for close monitoring and smart supervision as we are using Multilayered GIS maps which helps effectively in data scrutiny.
- GIS mapping helps in inspection of offices even in small offices situated in small and distant placed village.
- Message Broadcast facility with push notification to send accurate message to everyone in no time.

Digital Empowerment

First Time in any district, it is creating its profile digitally in all the sections and departments. With the help of this app we are able to mobilize people for the following benefits:-

Camps for Pension, PDS delivery date and time and Training programs and meeting etc.

Green eGovernance

We are taking everything to digital world and empowering people with this app.

Digital profiling and online feedback system are both innovative outcomes of the usage of technology.

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myGHMC Mobile App

Greater Hyderabad Municipal Corporation, Government of Telangana

Musharraf Faruqui, Rajendra Nimje, and Lokesh Jella

PROJECT OVERVIEW

Objective

The main objective of this initiative is to provide an integrated mobile interface to citizens for easy access of Municipality services provided by GHMC.

Scope

myGHMC Mobile App facilitates the citizens to access the services rendered by GHMC, minimize the time and reduce the strain of the citizens running from pillar to post. The list of services offered through the myGHMC Mobile App are detailed hereunder.

App was developed for both Android & iOS smart phone users. This interface provides access to following services of GHMC to its citizens.

- Property Tax
- Search PTIN
- PTIN details
- Make payment against PTIN
- Trade License
- Trade fee calculation
- TIN details
- Make payment against TIN
- Download Birth & Death Certificate(s)
- Grievance Redressal
- Post Grievance,
- Reopen Grievance,
- Provide feedback,
- Check Status
- LRS details
- Personalised Profile
- Near me
- Where am I
- Weather Forecast and Alerts
- Integration of other GHMC Apps (Swachh Dhooth and Mosquito App)

Stakeholders: Citizens of GHMC area & GHMC

Key reasons for nomination

Enabling major municipality services through an integrated mobile app to facilitate citizens of GHMC. The collaborative effort of GHMC & CGG has elevated citizen centric services; this app has ensured accountability, availability and transparency of

information related to municipality services like payment of property tax & trade license, availing of birth and death certificates and posting grievances on municipality services.

This application has enhanced the customer experience in terms of availing best services.

RESULTS INDICATORS

Services

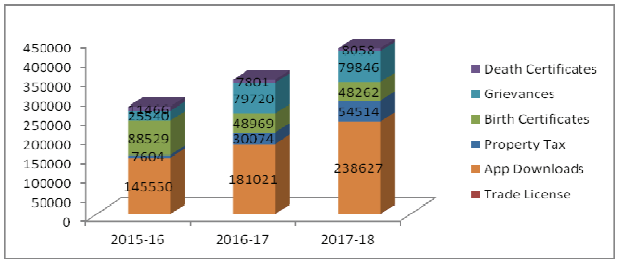
- At any point of time citizens can get the information on their ***property tax, trade license, BRS and LRS.*** Citizen can pay their property tax and trade license dues using online payment.
- Citizens can download the ***Birth and Death Certificates*** to be utilized for school admissions, job purpose, welfare schemes, insurance purposes etc.
- Citizens can use this app to raise their ***Grievances*** by capturing the photographs and mentioning the nature of the issue, like *road conditions, street light, sanitation problems* etc. The raised grievance is directly sent to the concerned officer and the status update by the officer is reflected in the APP for the user information and comment, in case of a closed Grievance, the citizen can reopen it if unsatisfied and the reopened Grievance is escalated to the next level officer for action
- **Weather Forecast and Weather Alerts** (like Thunder Storm, Heavy Rainfall etc.) are made available to the citizens through the app
- Information on Nearby places with Geo Tagging & Navigation (like Government Offices, Sports Complex, Parks, Hospitals etc.) *are available in the app for Citizens information and convenience*
- The citizens can make use of **Election services** (like Information, Electoral Card Enrolment, Electoral Card Changes etc.) from the myGHMC Mobile App
- A service named '**Where am I'** helps the citizens to know the details like Ward, Circle & Zone based on their current location
- **Swachh Dooth** service encourages the citizen toward the **Dry & Wet Waste segregation** by making them eligible for the lucky draw on upload of their Dry & Wet Waste Segregation photos
- A **Questionnaire on Mosquitos** in the App helps citizens gain information on the diseases caused by mosquitos, preventive measures to be taken and in turn on their level of understanding the citizens they are made eligible for the lucky draw
- **Notifications *&* Alerts** posted by GHMC appear on the App for citizen information

User Profile is available for convenience of the citizens to manage and keep track of their App Services Information

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
myGHMC Mobile App	myGHMC Mobile App is available both on Android and IOS platforms	**5,04,042**		
Property Tax	- Know Your PTIN - Pay Property tax	**7604**	**30074**	**55414**
Trade License	- Know Your TIN - Renewal/Payment of TIN - Trade Fee Calculation	**64**	**492**	**750**
Grievance Module	- Grievance Registration - Check Status of grievance - View Comments - Citizen Feedback	**25540**	**79720**	**79846**
Birth Certificate Downloads	- Search based on gender and DoB - Download birth certificate	**88529**	**48969**	**48262**
Death Certificate Downloads	- Search based on gender and DoD - Download death certificate	**11466**	**7801**	**8058**

Implementation Coverage

- App downloads till date 4,97,000 (Android + iOS)
- 54,514 Property Tax demand paid through MyGHMC App
- 750 Trade License demand paid through MyGHMC App
- 1,65,631 Birth Certificates & 24,381 Death Certificates Downloaded so far
- 1,34,739 grievances registered with 95.36% grievances addressed so far
- 15.4 Crore of Property Tax demand paid through MyGHMC App
- 29,35,833 of Trade License demand paid through MyGHMC App
- Out of 437Cr collection of PT in Early bird Scheme (2018-19), 127Cr were online payments through myGHMC App



New Services/Enhancements

Enhancements Rolled out during the last one-year

Version 2 of Android and iOS released

Following personalised and location based services were introduced

- Near Me - Provides the information on nearby GHMC service centers and other Govt. offices on the map along with navigation details.
- Where am I - An unique feature to get
- Weather Forecast and Alerts
- Personalized user profile
- Push Notifications and Alerts

Enhancements to be Rolled out during the next one-year

Not yet planned, depends on the requirements from the user department or based on the need of the hour

ENABLERS

Government Process Reengineering

Earlier citizens had to visit various offices for different services like payment of property tax, to obtain birth or death certificate, to know the current status of submitted LRS/BRS application form and to submit grievance on municipality services.

This app provided a single interface where all the services can be accessed on citizens fingertips reducing the turnaround time and bringing the efficiency and transparency in service delivery.

Technologies

3-Tier Architecture: 3-tier architecture is composed of three "layers" of logical computing. They are used in applications as a specific type of client-server system. 3-tier architectures provide many benefits for production and development environments by modularizing the user interface, business logic, and data storage layers. Three-tier architecture allows any one of the three tiers to be upgraded or replaced independently. The user interface is implemented on a desktop PC and uses a standard graphical user interface with different modules running on the application server. The relational database management system on the database server contains the computer data storage logic. The middle tiers are usually multi-tiered.

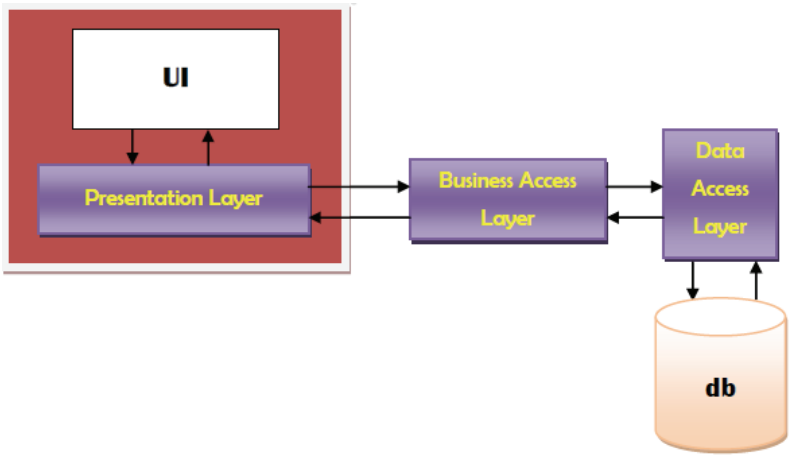
The three tiers in three-tier architecture are:

- Presentation Tier- The presentation tier is the front-end layer in the 3-tier system and consists of the user interface. This user interface is often a graphical one accessible through a web browser or web-based application and which displays content and information useful to an end user. This tier is often built on web technologies such as HTML5, JavaScript, CSS, or

through other popular web development frameworks, and communicates with others layers through API calls.

- Application Tier- The application tier contains the functional business logic, which drives an application's core capabilities.
- Data Tier- The data tier comprises of the database/data storage system and data access layer. Data is accessed by the application layer via API calls.

Using 3-tier, architecture deployment would have the presentation tier deployed to a desktop, laptop, tablet either via a web browser or a web-based application utilizing a web server. In addition, the data layer would normally comprise of one or more relational databases.



People

- **Capacity Building:** It's simple and an easy to use Mobile App with self-explanatory navigation designed for convenience of user. User instructions are also integrated in the app where user can go through and get required help to access the services provided in the app.
- **Leadership Support:** GHMC thought and visualized the need for recognizing best of such initiative. myGHMC app is developed and deployed by CGG has been possible because of complete support from the GHMC top management including Commissioner, ACIT as well as GHMC IT Team. The support provided by GHMC has helped in concisely finalising the requirements and modalities for completion of development of myGHMC app in time bound manner.

VALUE INDICATORS

Learnings for sharing

- **Challenges:** Fetching data related to multiple modules and providing services in one interface was the biggest challenge. Keeping the interfaces to very simple and easy to use and to display the required information precisely due

to limitation of the screen size, but this was achieved with active collaboration, brainstorming and support between the user department & CGG.

- **Opportunity:** With increase in use of Mobile Technology, the opportunity & target was clear to make GHMC information & services to the larger chunk of the citizens through a Mobile App, GHMC in collaboration with CGG left no stone unturned to make its services available through Mobile App

Best Practices: Process adoption and sustainability: A process-oriented approach, in accordance with the ISO processes, was adopted for reliable and consistent outcomes and minimization of mistakes.

Digital Empowerment

- App released for both Android and iOS smart phone users
- Multiple online payment modes were made available in the app for payment of property tax and trade license fee.
- Copy of Payment receipts, Birth and Death certificates can be downloaded at any point of time
- Nearest GHMC service and facility centers and Govt. offices information was made available in the app helping citizens as a navigation tool.

Green eGovernance

Introduction of online payment of property tax & trade license, making the receipts, birth & death certificates available in digital form and sharing the information on other GHMC services in the form of notifications and alerts to the citizens reducing the consumption of paper usage in day to day activities

- 54,514 Property Tax demand paid through MyGHMC App
- 750 Trade License demand paid through MyGHMC App
- 1,65,631 Birth Certificates & 24,381 Death Certificates Downloaded so far
- 79,846 grievances were raised through MyGHMC App
- All these are completely paperless transactions/requests raised through this app which requires a manual receipt or a paper representation in earlier days.

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Online Vehicle Tax Collection & Management System

Bhavnagar Municipal Corporation, Government of Gujarat

M.A. Gandhi, and V.M. Parmar

PROJECT OVERVIEW

Objectives

- Main objective of this project is to facilitate the vehicle tax payer to allow them vehicle tax related facilities like online registration, payment and life time token download from anywhere and at any time.
- Bhavnagar Municipal Corporation in collaboration with vehicle selling agency (dealers) and citizens of Bhavnagar city is working together to explore the possible ways of making online and vehicle registration facility with the cutting edge technologies. After deliberation and discussion with tax collection department, it is noted that online registration of single/multiple vehicle, online/offline payment, its data authentication, online payment, online token generation and automatic reconciliation on daily basis is a challenge for department.
- In order to address the above issue, we at Bhavnagar municipal corporation developed a comprehensive programming platform based on mobile application and web based vehicle tax system with following functionalities:

Scope (Functional and geographical)

- Citizen can perform following function
    - Single Vehicle Registration
    - Online/Offline Payment
    - Verify Payment status
    - Download Token
- Agency can perform following functions
    - Vehicle Registration
    - Challan Generation
    - Online/Offline Payment
    - MIS Reports
- BMC Staff - can perform following functions
    - Layered Approach for Agency Registration
    - User Management
    - Automated Reconciliation
    - MIS Reports
    - Vehicle Tax Collection
- Geographical function
    - Bhavnagar municipal corporation is authorized to collect the vehicle tax of all vehicle which are running and purchased in the geographical limit of Bhavangar city area.
- The notification via SMS feature in the application can allow the departments to manage and track various notifications and issues raised by users.

- Search facility is there to help the department search through agency history
- Robust MIS dashboard for management to monitor and track progresses on users at various levels.
- Management tool for fleet vehicle selling agency to add their multiple vehicles and transacting all vehicles together and track their history.

Stakeholders

- Citizen
- Agency
- BMC Staff

Main Operations to be performed in the Software

The Online Vehicle Tax Collection System of BMC is used for collecting the vehicle tax from the customers through the agency from which they are bought their vehicles. Multiple points are available for paying tax because of including the agencies in the cycle.

- Uploading the sold vehicle details by the agency from their login
- Generate Challan
- Online/Offline Payment
- Generate Life Time Vehicle Tax token
- Alert to Customer through SMS

Benefits

All the benefits are discussed under digital empowerment

Security

- Two way authentication
  - First level authentication - System used User name and password based.
  - Second level authentication – System uses thumb/biometric based authentication to strengthening the authentication process at second level.
  - Systems send SMS when user login in the system to alert user to detect unauthenticated login.
- SQL injection
- Static IP based security
- Role based Authentication

Use of Mobile: Android and iOS Mobile application for citizen centric services

Key reasons for nomination:

Pay your vehicle tax in bulk on your fingertips with single click at any moment, no matter where you are and that’s what we provide.

Out of 8 municipal corporations in Gujarat only two municipal corporations have online vehicle tax software. Bhavnagar Municipal Corporation is one of them. With advanced features like Decentralization of Vehicle Tax Collection, Numerous Vehicle Entry with single click, SMS Alert, Online/Offline Payment, Verification of the online Payment, Token downloading, Two way secured via biometric and password, Layered approach, and Automized Reconciliation.

RESULT INDICATORS

Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
No of Agency Register	Vehicle selling agency can register themselves for process at once	NA	23	3
No of Vehicle Register	Vehicle information is uploaded in tax software in single or bulk with excel upload option	NA	1,429	15,802
No of Two wheeler Registered	Two wheeler vehicle information is uploaded in vehicle tax software in single or bulk with excel upload option	NA	1,137	13,762
No of Three wheeler Registered	Three wheeler vehicle information is uploaded in vehicle tax software in single or bulk with excel upload option	NA	28	220
No of Four wheeler Registered	Four wheeler vehicle information is uploaded in vehicle tax software in single or bulk with excel upload option	NA	264	1820
No of Tax payer - Online	Payment of vehicle registered can make payment via online mode	NA	NA	542
No of Tax payer – Offline	Payment of vehicle registered can make payment via offline mode	NA	1,429	15,211
Amount Collected – Online	MIS report for online collection	NA	NA	5,21,207.75
Amount Collected – Offline	MIS report for offline collection	NA	31,55,660.08	2,43,66,344.68

Implementation Coverage

Parameters	*Before Project Implementation*	*After Project Implementation*
System Interface	Manual work	Web based
Time spends in payment	10-15 minutes	1 or 2 minutes
Easier Access	1 (BMC Counter)	Online via web and mobile
Token and Document availability	Hard Copy	Any time anywhere with single click
MIS Reports	None	Above 12
Payment Media	Cash , Cheque	Cash, Cheque, POS/Plastic Money, Net banking, CC, DC, UPI

New Services/Enhancements

- Every citizen can pay their own vehicle tax online.
- Increase the quantity of **MIS reports** for simplification of the Reconciliation for online payment.
- Strengthening to the Project via higher configuration of the new Server.

ENABLER INDICATORS

PROCESSES RE-ENGINEERED

Automation – All manual processes are reengineered to total atomized system. From application filling to payment and various level of approval.

Standardization – is the process of implementing and developing technical standards based on the consensus of different stakeholders that include agency, users, interest groups, and government authorities. Standardization can help to maximize compatibility, interoperability, safety, repeatability and quality.

Simplification – the process became simpler and easier to do or understand compared to the manual process. All data are stored digitally so, easy to keep records for years with quality.

Technologies

- All manual process are cultivated to integrated online vehicle tax system in to an enterprise architecture
- With great use of MIS report, data analytics can be performed by the higher authorities and departmental user to take higher level decision and to analyses the data on filtering by various factors of data.
- Knowledge management is achieved with the management of information in the system in the digitized format.
- **Internet of Things** (**IoT**) – SecuGen Hamster plus biometric device integration done with the system for user authentication

PEOPLE

Capacity Building

- By multiple trainings result to improve and retain the skills, knowledge, tools, equipment and other resources needed to do make vehicle tax system function competently or to a greater capacity (larger scale, larger audience, larger impact, etc).
- Conceptual approach to social, behavioral change and leads to infrastructure development.
- Enhancing the abilities that will allow them to achieve measurable and sustainable results.

Leadership Support

- Match the work to the employee's skill sets
- Motivate people to do their best work via online mode by acknowledging the advantages of novel vehicle tax system
- Coach and build skills - multiple trainings are given to the vehicle agency and department according to the need. Also physical visit to their place for set and training.

Management of Change

- Atomized reconciliation is the change which is implemented with rich MIS functionality.
- Also system is open for to accept multiple payment gateway.
- System is ready for accepting request of multiple agencies request.

All new requirement and updates related to user department are easily integrated with quality of services. So, we can say that the management of change is properly implemented in the system.

VALUE INDICATORS

Learnings for sharing

- Major challenge is all users of the system are habitual to offline traditional system. It was a challenge to get them from offline to online process.
- Best practices are all transactional activities in the software are in online mode.
- All information stores in the system are in the digital format so that information can be utilized for the analytics.
- All digitized data can be share with other government organization like RTO as when needed. Which impossible in the earlier offline system.

Digital Empowerment

- Improve Quality- Eliminates the Human Errors.
- Easier Access- Simplification of procedure and process.

- Improve Efficiency- Faster approval of application at various level as it is online and faster payment
- Transparent – Transparency due to online payment status tracking
- Digitized Data – Anytime citizens can download their token
- Anytime anywhere Payment – Online Payment facility
- Richest MIS & Alert-
- Easy to reconciliation the income
- Various MIS reports are available in the system
- Alerts through SMS
- Fully Automized Layered Approach - With single clicks all the data available
- Physical visit to BMC almost NIL
- Manpower reduced

Green eGovernance

To initiate the green eGovernance practice we offer following feature.

- In the whole process only single page token require to take print. From beginning to end all process is digitized. We also offer the e-copy of token too. So, we can say that the system is fully digitized.
- In the manual process all information are submitted in hard copy in multiple copies we make them digitized to save paper.
- All messages are convey via SMS. No written conversation to agency.

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eWorks - Works & Accounts Monitoring System for PHED

Public Health Engineering Department, Government of Chhattisgarh

P Anbalagan, P Rama Rao, TG Kosariya, and Sanjay Rathore

PROJECT OVERVIEW

Public Health Engineering Department (Government of Chhattisgarh) strives to provide access to sufficient safe water for drinking, cooking and other domestic needs throughout the year. The department achieves this by designing and constructing sophisticated drinking water infrastructure comprising of rural and groundwater based piped water supply schemes, solar dual pump schemes, handpumps, spot sources, iron and fluoride removal plants, etc. The state already ensures more than 90% of the rural population has guaranteed access safe water up to 40 liters per capita per day.

In this context, it becomes vital to deploy a stable accounts and work management software that ensures suitable compliance with financials protocols. ***eWorks*** is PHED's solution to engender financial eGovernance in the works department by promoting transparency, integrity and efficiency in work management within the department. Its impact is compounded by the fact that these effects are obtained in "real time". It is, in its current avatar, a G2G solution.

The current scope of ***eWorks*** encompasses all the major and minor infrastructure projects, regardless of the budget, undertaken by the department. The software not only promotes **decentralization** by empowering the district and sub-district officials to better manage and record financial transactions; but also equips the Directorate (located in Raipur) to track, monitor and audit transactions in real-time, at the click of a button.

The primary stakeholders of this solution are: (a) Department officials – across the hierarchy, (b) Finance and Treasury department, and (c) Contractors. ***eWorks*** benefits citizens indirectly by ensuring that works are completed more efficiently. Some of the major services provided by ***eWorks*** are mentioned below:

- **(i)** **Budget and expenditure control:** It implements a system of management control wherein head of the department can compare actual expenditure against planned expenditure in order to ascertain whether plans are being followed.
- **(ii)** **Fund allotment:** Through this feature, approved budget for the department is segregated into separate cost-heads and allocated among the 27 districts within the state. As soon as the budget is released, the departments can allocate funds to their field officers through this system
- **(iii)** **Cheque Preparation:** Any payment to the contractor can only be undertaken after completion of due process in eWorks. This ensures that a digital footprint of all such transactions are recorded by the system.
- **(iv)** **Bank Reconciliation:** This is a unique feature of the software than ensure end-to-end accounts reconciliation between the department, bank and

treasury department. All the expenses are auto-populated and reconciled every T+3 days.

(v) **Audit Reports:** eWorks has the capability to generate all the requisite audit reports, in pre-determined format determined by the government.

(vi) **Advance Recovery:** The absence of an automated system, recovery of advance money for undertaking vital work can be a source of fraud. eWork's automated system plugs this void.

(vii) **Online Cash Book:** This feature ensures effective cash management and saves a lot of manual effort in maintaining ledger at the district and sub-division level. Moreover, the software does away with human error in calculations. By revealing details of cash in hand, it prevents any untoward fraud from taking place.

(viii) **Online Tax Payment:** The software is designed to automatically deduct and pay appropriate taxes (previously VAT, Royalty, Karmakar, etc. and currently GST).

(ix) **Stock Transfer:** This is a unique feature that allows district officials to conduct seamless transfer of essential items online by monitoring and requesting.

(x) **System generated reports:** eWorks has the capacity to generate multi-level reports in accordance to the access rights granted to the user.

(xi) **Revision of Administrative Approval, Tender Cost:** The head of the department has been granted special permissions to approve change in tender cost so that unscrupulous and unjustified changes in work order amount is kept in check.

(xii) **Dual-level entry and segregation of duty:** eWorks runs on a dual-level entry system, i.e. a separate maker-checker model wherein the bill is prepared by divisional accountant and the bill is approved by Executive Engineer. This segregation of duty ensures limited scope for manipulation.

(xiii) **Registration of contractors:** The head of the department can approve registration of contractors, those not already registered with CPWD, to keep a track of all the contractors engaged by the department throughout the state.

(xiv) **Agreement Entry:** All the vital information pertaining to the agreement and work order signed by the contractor are entered into the system to maintain a central repository and ensure adherence to standard guidelines laid down by the department.

(xv) **Work code generation:** Each unit of work, undertaken by the department, is assigned a unique ID to foster transparency and ensure greater accountability.

Key reasons for nomination

eWorks is a unique works and account monitoring systems designed for the Public Health Engineering Department, Govt. of Chhattisgarh. It is designed and executed with the objective of ushering in an era of financial discipline in the execution of all works within the department. This initiative has ensured proactive compliance with

financial regulations, optimal information disclosure, better information management, transparency in financial transactions and enforcement of better decision making – all of which translate into better service delivery and governance. Mentioned below are some features of this unique initiative:

1. **Simplification:** An effective account management software puts financial management easily into hands of a non-accounting professional. PHE's engineers have been easily trained to manage expenditure, make cash book entries and release cheques using ***eWorks***.
2. **Cost Savings:** Instead of relying on a complex system of manual entries that is prone to highly consequential errors and mis-calculations, an accounting software automates the most tedious processes and reduces the need to print, distribute and record sensitive financial information. The additional efficiency gain contributes to the significant cost savings in the long run.
3. **Full Financial Transparency:** Provided that the department is dealing with tax payer's money, it is of utmost importance that the expenditure worth very penny is properly recorded and accounted for. Moreover, tracking the entire process from allocation, expenditure to reconciliation instils financial discipline in the establishment. Moreover, each cheque handed over to the contractor, leaves a digital footprint for audit purposes.
4. **Accurate Forecasting:** Tracking actual expenditure against planned expenditure is a vital indicator that reflects the degree to which projects are progressing in accordance to the plan. This, in turn, enables the senior stakeholders to take crucial decision to expedite the lagging processes.
5. **Treasury Compliance: eWorks** manages end-to-end reconciliation of all financial transactions made at the divisional office with the bank and the treasury department.
6. **Tax Compliance:** Prior to the advent of GST, PHE's contractors were bound to pay multiple taxes such as VAT, Royalties, Karmakar (labour tax), etc. ***eWorks*** ensured that any such tax is deducted from the payment made to the contractor.
7. **Reporting and Analysis:** Access to information is the primary driver of eGovernance. **eWorks** has created a multi-level and access credential ranging from head-of-the-department to field staff in sub-divisional office. Moreover, all the requisite audit reports are available in a download able format for quick access.
8. **Interoperability and Scalability: eWorks** is sufficiently flexible enough to be used by other departments such as Treasury for reconciliation. Moreover, it provides information or draws information from other eGovernance initiatives such as eKosh. In terms of scalability, the department is currently in the process of designing a physical progress management module that shall, *in* due course of time, coalesce with **eWorks**.
9. **Expandability:** ***eWorks***, ever since going live in 2012, has consistently expanded its scope to include newer modules that contribute towards the overarching objective of ensuring greater financial discipline and zero-error compliance.

The afore-mentioned features hold ***eWorks*** in good stead to be projected as a ideal eGovernance initiative in the G2G space.

RESULT INDICATORS

Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015 – 16	*2016 – 17*	*2017 - 18*
Number of logins created/ access granted	Each login represents the number of departmental officials who have access to the *eWorks* portal.	158	353	359
Number of work created	Each work represents a project/sub-project undertaken by the department.	8,826	8,112	9,127
Number of contractors registered	This service features ensures that the contractor is officially registered with the department and is eligible to receive cheque formats	1,907	1,229	1,308
Number of cheques released	This service feature benefits the contractors who receive payment in lieu of services provided to the department.	13,585	14,179	13,286
Total value of cheques processed	This represents the total value of the cheques processed (as mentioned above).	INR 583 Cr	INR 648 Cr	INR 650 Cr
No. of tenders processed	eWorks ensures that all details pertaining to the tender and the subsequent work order/agreement are captured digitally.	2,887	2,476	2,373

Implementation Coverage

In accordance to the initial objectives, all the district and divisional offices are using ***eWorks*** to record all budgeted and deposit works undertaken by the department.

New Services/Enhancements

List of enhancements rolled out last year (2017-18 and 2018-19):

1. Compliance with AG IT audit (Second software in Chhattisgarh to do so)
    (a) Form 34: Work abstract (AG report)
    (b) Form 43: Contractor ledger: Single window system for enlisting all works undertaken by a contractor.

(c) Material at site account: This is related to Form 69 of AG report. This was designed expenditure undertaken for material directly delivered at site.
(d) Online cheque reconciliation with treasury department (Form 51)
(e) Year-wise, level-wise administrative approval grant report

2. Security audit of eWorks successfully completed
3. SSL certification for website security obtained.
4. PHED's primary portal has been designed to be disabled-friendly in accordance to the GIGW guidelines.

List of enhancements planned to be rolled out next year:

1. **Contractor-specific module:** The department is considering rolling out a contractor-specific module that enables them to view specific details pertaining to their pending payments and generate mobile alerts upon successful processing of payment.
2. **Citizen-centric module:** To ensure greater accountability to our citizens, we are planning to show certain indicators – pertaining to number of works undertaken, expenditure made, etc.
3. **SMS alerts:** Contractors will be sent SMS alert intimating the processing of payment.
4. **Digital ecosystem:** The application will be made responsive, so that it could be accessed by the officials on mobile also and they can monitor the works from any location.

Infrastructure tracker: The department is developing a software-cum-mobile application to geo-tag and record information regarding latitude-longitude of each asset.

ENABLER INDICATORS

Government Process Re-engineering

eWorks has created a platform for automation of all tasks pertaining to accounting and financial transactions; which used to be carried out manually earlier. This has ensured due processes are carried out as per defined standards and meets compliance requirements.

Simple checks-and-balances imposed by ***eWorks*** ensure that no payment is made beyond the budget allotment and actual expenditure stays tightly linked to planned expenditure. It has, in short, empowered the department officials to carry out their work more effectively and efficiently; with proper adherence to financial protocols.

From simplification perspective, automated generation of monthly AG audit reports has saved large amount of manual efforts undertaken at each district and sub-district office.

Technologies

eWorks leverages data analytics to enable multi-level customized reporting of head-wise payment and expenditure analysis. This also helps in creating appropriate checks and validation for ensuring compliance to standard guidelines. Few reports created automatically are mentioned below:

1. Division-wise Expenditure (State fund) report
2. Division-wise NRDWP (Central fund) Allotment/Expenditure report
3. Work-wise report
4. Financial progress of solar energy-based water supply scheme
5. NRDWP Coverage report
6. NRDWP – Support & WQMS report
7. Water supply in quality affected habitations
8. Financial progress of rural piped water supply scheme

These, and many other reports, ensure that key financial information is available at one-click for deliberation during department meetings and monthly VCs.

People

Provided that ***eWorks*** catalyzed a major shift from manual to digital accounting system, it was vital that the concerned staff is provided due hand-holding support managing this change. Apart from creation of a user manual, the department conducted multiple trainings at the department and division office. The details are mentioned below:

Number of trainings conducted: 15

Number of officials trained: 442

In addition to the training sessions, the following was ensured:

- The senior officer, Chief Engineers and Superintendent Engineers, were projected as sponsors for the implementation of ***eWork***.
- A dedicated change management team comprising of software engineers was established to attend to various queries raised when the officials began using the platform.
- Engagement with frontline employees – who constitute the primary users of ***eWorks*** – through workshops at district and divisional office provided crucial handholding support.

With an objective to ensuring 100% compliance to using ***eWorks***, only those reports that were downloaded from the software became admissible for departmental and secretary-level discussions.

VALUE INDICATORS

Learnings for sharing

1. **Stakeholder meetups and feedback:** If stakeholders external to the department would be affected by ***eWorks***, it was quintessential that system designs lend a patient ear to their requirements and ensure that they're

included in the discussions. This ensured better take-up and easy reconciliation with treasury.

2. **Ensure the system's development in stages:** Rather than design a complex and all-encompassing solution at once, departments can strive to achieve a minimum viable product, prove its utility, and then keep adding functionality.
3. **Test first approach:** A higher quality software can be obtained by ensuring regular testing during the development phase. This also enables the developers to identify loopholes faster and respond to them appropriately.

Digital Empowerment

While this initiative, being a G2G service, has far fewer touch points as compared to G2C service; ***eWorks*** has enabled account officers and engineers in divisional offices to become comfortable transacting, maintaining records, and downloading reports digitally. Requisite digital infrastructures have been set up in all field offices to ensure 100% compliance with departmental guidelines.

User manual, in addition to MIS engineers stationed in Raipur, ensure that all queries are solved within the same business day without hampering field operations. We are planning to make a user interface compliant with GIGW guidelines.

Green eGovernance

eWorks has resulted in massive reduction of paper usage across the department. This has largely been made possible by doing away with the need to manually prepare, record and submit audit and reconciliation reports.

The department has also set up guidelines for auctioning phased out computers and computer accessories for its environment-friendly disposal. During the last round of auctions – 23 desktops, 2 servers, 21 printers and 4 UPSs – were disposed in an environment friendly manner.

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Saral Haryana

Chief Minister Office, Government of Haryana

Rakesh Gupta, Deepak Bansal, and Alok Srivastava

PROJECT OVERVIEW

Currently, when a citizen needs a G2C service/schemes, he/she faces following problems;

- Where can I get a service because different services/schemes are available at different touch points?
- Whom should I contact as no dedicated helpline for queries related to Service Delivery?
- How to fill this form due to complex and non-standardized application form.
- What is the status of my application as there is no mechanism to track the status of the services.
- Why is there a delay in service delivery as RTS Timelines are not adhered to in Service Delivery?

Not only the citizen, government officials are also facing one or other problems like;

- How do I manage applications from multiple sources as applications are received in different formats from different touch points?
- How can I avoid unnecessary public interaction because most of the time is spent in dealing with public in offices?
- What is the status of applications in my department as lack of consolidated data or visibility on the process bottle-necks?
- How many applications are we clearing within RTS because there is no clarity on compliance of RTS Act by the department?
- What is the citizen feedback for our services because no mechanism is established to get feedback from citizens on delivery of services/schemes?

To address the concerns of both citizen and officials, “SARAL” was conceived with following objectives:

- All G2C services/schemes on an integrated online platform
- Revamp of all citizen touch points across the state
- All G2C services/schemes available on all touch points (physical as well as virtual)
- Service delivery within RTS timelines
- Active communication between citizens & government
- Better visibility to both citizens & officials

There are two main components of Saral initiative; Saral Platform & Citizen Touch points.

Saral platform consists of five main features, three for citizen 1. Online application submission 2.Online status tracking 3. Proactive status SMS, and two for officials 1. Review dashboard 2. Department notifications.
All G2C services and schemes will be provided across all touch points through SARAL which includes Mobiles/Computer at home, Atal Sewa Kendras also known as CSCs in the vicinity, State of the art equipped centres like Antyodaya Sewa Kendra at District level which would be delivering schemes only, Antyodaya Saral Kendra at all sub-divison levels delivering services as well as schemes and Saral Kendras at independent tehsils for services only. It has been envisaged that all these centres will have state of the art infrastructure, token system for crowed management, availability of all services at all counters and a help desk to assist the citizen. All these buildings would have modern amenities like AC, water cooler, wi-fi, toilets and waiting rooms.

SARAL implementation is being monitored by Additional Principal Secretary to Chief Minister from Chief Minister Office. Electronics & IT department is providing resources in terms of infrastructure and manpower. NIC has been entrusted the job of development, hosting, implementation, training & support of SARAL. District administration has setup the infrastructure and implemented the project at the service delivery points. Digital Haryana Cell of Chief Minister Office is overall coordinator of this project along with NIC Haryana and Chief Minister's Good Governance Associates (CMGGA) is coordinating the activities at ground level along with NIC District Cell.

Now as the services/schemes are available at every touch points, the citizen can apply on mobile, ASK and Antyodaya SARAL Kendra. A SARAL call center has been established which caters as helpline for all queries, complaints & requests. SARAL ensures delivery of services within stipulated time defined under RTS. Full visibility on application status, which can be tracked online as well as on SMS and through helpline. We are inline to achieve the Paperless, Faceless & Cashless G2C service delivery.

Current Status:

Total Departments Covered - 33
Total Services Live - 186
Total Schemes Live - 218
Total Live Services and Schemes – 404 (*Target - 550+ services & schemes.)
Applications Received till date - 55000+
Proactive SMS sent – 20,06,241sms have been sent on 8,88,802 unique mobiles has been sent.

Key reasons for nomination

Chief Minister Haryana proclaimed a vision last year of "fundamentally transforming citizen services & schemes delivery" from citizen as well as government official's perspective. Taking insight from his vision, "SARAL HARYANA" project has been

conceived which is **S**imple, **A**ll inclusive, **R**eal time, **A**ction orienting, **L**ong lasting to address citizen & officials concerns. Within a short span of time, we have been able to deliver a well thought off, one of its kind project which involved around 36 departments & corporations and day and night collaborative efforts of 150+ developers across departments and NIC and full support from district administration & NIC district units for implementation under the close monitoring of Additional Principal Secretary to CM (APSCM) and his team comprising of CM Digital Haryana Cell (DHC) & Chief Minister's Good Governance Associates (CMGGA). Right now 400+ services & schemes are being offered from single portal (SARAL) through newly created/revamped state of the art touch points Saral Kendras, Antyodaya Kendras, Antyodaya Saral Kendras. Department walk-ins of citizen are being phased out. All launched services have been brought under Right to Service Act (RTSA). A proactive communication has been established between citizen and government through SMS, e-mails, portal & helpdesk without physical presence and provided better visibility to both citizens & officials. This is the first in the country which offers 400+ services & Schemes from a single portal with a target to all 550+ G2C services & schemes in next two months.

RESULTS INDICATOR

Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
SARAL Services/Schemes (*List of all schemes & services enclosed as annexure-A)	Schemes are those where government provides benefits in terms of cash or kind to the citizens and in services government provide some authorization to the citizen like approvals, licenses, certificates etc			218 schemes and 186 services of 33 departments, 55,000+ applications

Implementation Coverage

The main motive of SARAL was to provide all G2C services/schemes to all touch points whether virtual or physical. These touch points are online portal/mobile app, Atal Sewa Kendras (6500+), Antyodaya Bhawans at each 22 district centres (only schemes), Saral Kendra at each 22 district centres (only services), Antyodaya Saral Kendras in remaining 71 sub-divisions & Tehsils (Schemes & Services both). We have been able to achieve the targets.

Online portal/mobile app: Saral portal (saralharyana.gov.in) has been developed & deployed for citizens and officials. This portal provides both front end and back end functionality. The citizen or kiosk operators can apply for any service or schemes at this portal and officials use this portal to process the application. This portal also provides tracking facility.

Atal Sewa Kendras: Also known as Common Service Centre (CSC) based on PPP model and run by VLEs (Village Level Entrepreneur). More than 6500 such ASKs are running in the state and providing G2C services apart from other B2C services.

Antyodaya Bhawans: Government wants to give benefits of schemes to the last mile person who is very poor, doesn't know about the government schemes and also doesn't know from where he can get those schemes. Keeping this in mind government has newly setup Antyodaya Bhawans at district headquarter level to offer all schemes under one roof at this centre. Helpdesk has been setup at these bhawans for such people to not only tell the schemes available for them based on their eligibility but also helps to apply for the schemes. These centres are managed by Social Justice & Empowerment Department.

Saral Kendra/Antyodaya Saral Kendras: 22 saral kendras have been revamped to state-of-the-Art centres at each headquarter which offers services to the citizen. 71 Antyodaya Saral Kendras have been revamped at remaining sub-divisions and tehsils which offer both schemes and services.

Stakeholders: SARAL is planned and monitored by Chief Minister's Office along with Digital Haryana Cell. Chief Minister himself has shown keen interest for implementation of SARAL project and convened two meetings of administrative secretaries to make this project success. APSCM taking fortnightly review meeting of all stakeholders and pushing this project very hard through NIC & District Administrations. ADC has been made nodal for implementation in districts with the help of NIC district centres and CMGGA.

New Services/Enhancements

SARAL was initially launched on the Digital Haryana Summit in September 2017 by Honb'le minister of IT Sh. Ravi Shankar Prasad in which Online status tracking of 134 services, Proactive status SMSs of 134 services and Service Delivery Dashboard of 10 departments were made available.

Another launch took place during the Good Governance day on 25th December 2017 by Chief Minister Haryana in which 106 services of 15 departments at five pilot locations were made live.

On 14th April 2018, 7 Antyodaya Bhawan with an aim to deliver 180+ schemes were inaug rated by the Chief Minister Haryana which facilitated online status tracking of 300 services, Proactive status SMSs of 300 services, Service Delivery Dashboard of 21

departments, Online applications submission of 287 services. By that time SARAL Helpline was made operationalized and Public Service Delivery Dashboard made available to HoDs.

ENABLERS INDICATORS

Government Process Reengineering

- Availability of services at all touch points
- Simplified uniform look and feel of the services everywhere
- All services/schemes under right to service act
- Uniform fee across state for each service
- Acceptance of application from all touch points
- Acceptance of scanned documents submitted along with service request
- Delivery of services from all touch points
- Notifications to user at different stages of service delivery through SMS/e-mail.
- Minimization of department walk-ins.
- Government fee payments through eGRAS system

Introduction of e-Token system for crowd management at all physical touch points; each e-token carries service information along with fee details and enclosures to be attached.

Technologies

For SARAL, a tool was needed which supports

- Service delivery architecture
- No dependency on OS platform, IDE, languages etc.
- No dependency on hardware
- Rapid development
- Scalable
- Accessibility from anywhere, any time
- Integrated with Digital India components like CSC, payGov, DigiLocker, eSign, Aadhaar authentication, Rapid Assessment System (RAS)

All above features found in a single solution name “ServicePlus” developed by National Informatics Centre and available free of cost along with support of strong technical team of NIC.

People

Development of 550+ services for 33 departments in a very short span of time was a very difficult task to accomplish. A strategy has been made to do in-house development of services and make department accountable for their services. Each department has been categorized in four levels; L0 – Totally offline, L1- Backend exists, L2- back end along with work flow, L3- Saral ready. Each department’s capacity was identified, the departments with no capacity were taken up by NIC Haryana and the department with in-house capacity or departments which have

engaged external agencies were made part of team. By this a strong team of 150+ technical professional was created which were imparted the training on SARAL service configuration. A state NIC cell of 5 officers has been created to coordinates with departments and NIC HQ team. No extra manpower/hardware were hired or purchased by the departments.

- Chief Minister has taken various meetings of administrative secretaries and review of DCs through video conferencing.
- APSCM's close monitoring of every aspect of the projects and fortnightly meetings of departments HoDs & nodals to push for early development of services. (DHC)
- SIO took weekly meetings of NIC Delhi, NIC Haryana & Digital Haryana Cell team to remove any bottlenecks being faced technically.
- DHC in close coordination with NIC coordinators, have coordinated the development, implementation & capacity building activities. More than 15 workshops have been organized for departments & in-house professionals.
- At ground level NIC District Units and CMGGA carried out capacity building program. First they have been imparted a training by State NIC team and later they have provided training to officials, operators & VLEs.
- Each department carried out training for their officials themselves.

VALUE INDICATORS

Learnings for sharing

- This project is one of its kind where all departments were working together and were involved from service definition to final service delivery and best of all departments have ownership of their services.
- In-house driven development, where ever departments have capacity they did it in-house or NIC developers helped to get it developed.
- Selection of solution for rapid development in collaborative environment and strong technical architecture with scalability.
- Very low-cost solution as it required no additional hiring of developers and purchase of hardware.
- Timely delivery of services by working day and night as a cohesive team which consist of around 150+ developers of 33 departments.
- A service delivery dashboard made available to department HoDs and DCs along with leadership index based on RTS compliance to make healthy competition among departments. This dashboard is being used in review meetings by the Chief Minister and administrative secretaries.
- State of the art centres has been created/revamped with separate air-conditioned service area and waiting area and all services made available at all counters.
- E-Token system has been implemented for crowd management. A token carries information of the service to be availed along with fee, max delivery time defined under RTSA and documents required for this service.

Digital Empowerment

As Haryana is a small state and has no noticeable difference in language, demographic & culture but yes, government wanted to give benefits of schemes to the person standing at the last mile and have no knowledge of schemes and how & where to avail it. For them, government has newly created Antyodaya Bhawans in all 22 district headquarters where full information of schemes are given based on their eligibility. An app has been developed to know the eligibility based on some parameters and provided to helpdesk operators. These operators also help them in applying for a scheme.

Green eGovernance

Do away with the physical file movement; documents are scanned and uploaded with the application and officials process the files based on those digital files.

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T Wallet - The Official Digital Wallet of the State of Telangana

Department of ITE & C, Government of Telangana

Jayesh Ranjan, and G. T. Venkateshwar Rao

PROJECT OVERVIEW

T-Wallet is the official digital wallet of Telangana State, launched on 1st June 2017. It is the first digital wallet to be owned and operated by a state government in India.

Objectives

The objective of T-Wallet is to increase the number of digital transactions that happen in the state of Telangana. It is available as an anytime, anywhere digital payment option for everyone in the state. This includes smartphone users, PC users, feature phone users and even users who do not have a phone through the innovative method of using UID authentication. Government of Telangana has been in the process of identifying newer ways to cater to the population that reside in rural areas and have minimal access to the benefits of technological development.

T-Wallet has been focusing on creation of an overall ecosystem for moving a number of transactions from cash to digital mode. On one side, this involves transfer of selected government benefits to citizens through T Wallet. On the other side, T Wallet has been focusing on bringing a wide variety of merchants on its platform to allow citizens to make the payments through T Wallet.

Scope

The above objectives have been translated into a working application by the help of the following scope directives:

1. Citizens should be able to access T Wallet through the mobile application in both android and iOS devices. T Wallet should also be accessible through a laptop or a desktop through browser.
2. Citizens who have a feature phone should be able to access T-Wallet through more than 4000 MeeSeva centers that are available across the state or through USSD service which is being developed.
3. Citizens without a phone should be able use T-Wallet through any of the 4500+ MeeSeva centers using their Aadhaar number with Biometric authentication.
4. Citizens should be able to use T-Wallet to make payments for both Government and Private transactions to avail services thus prompting integration with government departments such as TSSPDCL, TSNPDCL, GHMC, HMWSSB and MeeSeva/eSeva application.
5. Citizens should also be able to use T-Wallet to transfer funds to bank accounts through IMPS.

6. To serve as a highly secure place and medium for transactions leveraging an Aadhar based 2 factor authentication system.
7. To serve as a fund transfer to another T-Wallet a/c or Bank a/c.

Geographical Scope

The App intends to cover a 100% of the population of Telangana. Also, to specifically cater to the financial inclusion of rural population, it has been made available in three languages i.e. English, Telugu and Urdu.

Stakeholders

People of Telangana

- Citizens with smartphone
- Citizens with desktop or laptop
- Citizens with feature phone
- Citizens with no phone
- IT&EC Department, Government of Telangana
- Various government departments
- Various private vendors
- A private developer with a UPI license
- Banks

Benefits

People of Telangana :

- Access to mobile wallet that is accessible both via online and offline mediums, via multiple channels mobile, PC, feature phone and even sans a phone.
- Access to a highly secure mobile wallet that is linked with a 2 factor authentication based on one's Aadhaar-linked phone number or Aadhaar based biometric authentication.
- Access to an easily usable e-wallet for the rural sections of Telangana via offline channels and an availability of multiple languages.
- T wallet can be used by citizens to pay various utility bills, recharges and private merchant transactions without incurring any additional user charges which are applicable through the traditional channels.
- Peer to peer transactions or transactions to bank accounts can be carried with ease and no additional charges

IT&EC Department, Government of Telangana

- The development of a network of digital accounts across Telangana and helping the state become a cashless one.

Various government departments:

- T wallet is also designed to provide an option for government to transfer benefits directly to citizens without any delay and leak proof method.

For Civil Supplies department:

- Once T-Wallet is integrated with e-POS machines, the amounts equivalent to the ration can be credited to the accounts of the citizen and they use these amounts to collect the ration.

- Similarly, government benefits under various schemes can be transferred to the T-Wallet accounts of citizens and the amount can further be used at various merchants or can be transferred to bank accounts using IMPS.
- Various private vendors, T-wallet has an option for private shop owners to register with T-Wallet as merchants giving them an option to use T Wallet as payment option.

Current status

T-Wallet has been successfully implemented and is currently operational across the state of Telangana with 11354 merchants, 20 services, and 4500+ number of Meesava's integrated.

At present, new vendors are being added at a rapid rate to the T Wallet. Further the following features and services are in the development pipeline to be integrated into it.

Key reasons for nomination

T-Wallet is the first digital wallet to be owned and operated by a state government in India. It is the first digital wallet to be developed and released to cater to the needs of the rural and non-smart phone populace whilst serving the needs of the general urban population simultaneously.

It is the first digital wallet to make use of the UID biometric authentication for payment services even if a citizen does not have a mobile number. It is the digital wallet with the highest number of government services on boarded in India, ranging from civil supplies to pensions, electricity bills etc. integrated into the application and the only digital wallet where transactions to these services are not charged any service fee unlike the gamut of digital wallets present in the economy. Initiatives such as T Wallet which are striving for the financial inclusion of the rural population of the state is unique and deserves to get due recognition by esteemed organizations such CSI.

RESULTS INDICATORS

Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18 (01 Jun 2017 to 31 Mar 2018)*
IMPS	Money transfer from T Wallet to Bank a/c			1,85,418
Govt. Services through MeeSeva	Citizen services such as Birth Certificate, Community Certificate, etc.			53,738

Contd...

Utility Services	Electricity bill payments and Water bill payments			1,16,234
Others	All other services such as property tax, Mobile recharges, DTH payments, etc.			2,37,479
Grand Total				5,92,869

Implementation Coverage

Implementation of T Wallet yielded mixed results. The main intended targets i.e. the rural non smartphone demographic did exceed the expectation though. With the rapid signing of new merchants and vendors, we expect that our initiative breaks all our expectations and targets to set new records. The targets (cumulative till date) and achievements of different benefits of the initiative are compared and shown:

Outcome Metric	*Targeted*	*Achieved*	*Target Coverage*
Number of Smartphone and Web users	5 Lakh	3.4 Lakh	68 %
Number of non-smartphone registrations	1 Lakh	22,477	22.5 %

New Services/Enhancements

T Wallet was launched on 1st June, 2017. A comprehensive study has been conducted to ideate and arrive at the features and services that have to be part of T Wallet before the start of development. Major part of the features and specifications that are part of T Wallet platform have been developed over the past one year based on the continuous feedback and inputs from the stakeholders.

T Wallet is aimed at being used as the first bi-directional digital wallet where user can load the money into T Wallet and also government can share various benefits and scholarships through T Wallet which saves both time and manpower invested in the process.

The improvements and enhancements that are in the pipeline and will be rolled out during the period of the next one year are as follows:

- T wallet has already been integrated with HMWSSB, TNSPDCL, TSSPDCL, GHMC, civil supplies department, All MeeSeva Centers and few other department bill payments. The team is continuously working to integrate with various other departments.
- Currently efforts are being made to integrate with departments which provide benefits to citizens such as MNREGA payments, Pension payments, Student scholarships and few other government transfer programs.
- Once the integrations with pensions are done more than 70 lakhs citizens will be able to use T wallet for day to day transactions
- The new impetus to financial inclusion activities has been the most significant benefit of T Wallet.

- A campaign called Digithon has been launched to increase the awareness about T Wallet in all 31 districts of Telangana. The campaign has successfully onboard 1,83,000 users from rural population on the T Wallet platform
- Similar campaigns have been planned in the next one year to increase the penetration and awareness about T Wallet in rural regions.

ENABLERS INDICATORS

Government Process Reengineering

T Wallet being the first official digital wallet in the country is also the first wallet that supports Aadhaar based authentication and registrations. Almost all the current wallets are urban-centric and are focused towards the smart phone users. Citizens who have feature phone can use T Wallet through the MeeSeva centers and USSD which is being incorporated in T Wallet. Citizens without phone can use the T Wallet through MeeSeva centers for registration, loading, transferring and bill payments. Currently T wallet can be accessed through the 4000 MeeSeva centers.

T wallet can be used by citizens to pay various utility bills, recharges and private merchant transactions without incurring any additional user charges which are applicable through the traditional channels. T Wallet has been integrated with various government departments such as HMWSSB, TSSPDCL, GHMC and few other department bill payments.

Peer to peer transactions or transactions to bank accounts can be carried with ease and no additional charges. T wallet also provides an option for government to transfer benefits directly to citizens without any delay and leak proof method. Some of the direct applications of T Wallet are as follows

1. Once T Wallet is integrated with ePOS machines, the amounts equivalent to the ration can be credited to the accounts of the citizen and they use these amounts to collect the ration.
2. Similarly, government benefits under various schemes can be transferred to the T Wallet accounts of citizens and the amount can further be used at various merchants or can be transferred to bank accounts using IMPS. This process will reduce the time taken for citizens to collect the benefits and also reduces the effort of citizens going to nearest banks to collect the benefits.

Technologies

- Cloud – This has enabled both horizontal and vertical scaling automatically
- Data analytics – Enabled to launch Digithon 100K program with rural focus.

People

Principal Secretary, IT&EC department of Govt. of Telangana and Commissioner ESD were the pioneers in identifying the tremendously growing volumes of e-services, gap in the financial inclusion of the state populace and a growing need of an accessible digital wallet to both rural and urban population of the state.

A strong technical team and a competent PMU team were set up and directed by the Commissioner. The PMU team chalked out an overall strategy, work allocation plan and timeline for the project.

Capacity building: A series of training programs, campaigns and awareness generation sessions have been carried out across each and every district to establish the use cases of T Wallet and encourage citizens to use T Wallet. Every e-District manager has been trained to handle the queries from the users in the district.

Management of Change: Inclusion of digital solution such as T Wallet would involve a series of changes in the processes followed by various departments of the government to share the mode the benefit transfer. Several ideation meetings have been conducted both internal and with the stakeholder to establish the processes and ensure a fool-proof mechanism is established. Departments have agreed to conduct various pilot projects to understand the feedback from end users and incorporate the same before launching it across the state.

VALUE INDICATORS

Learnings for sharing

Most of the existing digital solutions, before T Wallet was introduced, were primarily integrated with non-government/private services catering to the smartphone users. Hence, such wallets were neither designed nor tailored for the rural areas. Due to the constraints in the space of digital payments, feature phone users and citizens in the rural areas had very limited options for digital payment solutions which resulted in limited understanding of digital payments in the rural areas. T Wallet has taken the initiative of creating awareness across the rural regions to create awareness and equip the citizens with minimum digital literacy that is required for the citizens to use any digital payment solution.

To address this, a considerable amount of effort went into brainstorming to ensure that all the aspects of T Wallet were designed and developed to be multilingual and to be available through channels apart from conventional smartphone/web channels i.e. via feature phones, MeeSeva etc. The focus of T Wallet has always been to cater both the urban and rural populations from which the idea of using UID based authentication for citizens without smartphones was conceptualized. The government has used its established network of 4500+ MeeSeva centers across the state to provide the services of T Wallet to the citizens without a phone.

Digital Empowerment

One of the founding principles of T Wallet was to implement a concept that was ***anytime*** *and* ***anywhere*** digital payment option for ***every one*** in the state. To that note, the features, functions and the design axioms of the application were developed in keeping this factor in mind.

A large population of India has remained untouched by the innovations that have recently happened in financial technologies especially post demonetization when the need for adoption of digital payments become imminent. This has impacted the upliftment of underprivileged sections of the society. Government of Telangana has been in the process of identifying newer ways to cater to the population that reside in rural areas and have minimal access to the benefits of technological development. Also, the Telangana state government, which is already a leader in terms of number of digital transactions in the country, came forward to lend support to the vision of Government of India. As part of its resolve, Telangana government planned to introduce "T Wallet" which will help its citizens to make cashless payments effortlessly and avail both government and private services.

Most of the existing digital solutions, before T Wallet was introduced, were primarily integrated with non-government/private services catering to the smartphone users. Hence, such wallets were not neither designed nor tailored for the rural areas. Hence, feature phone users and citizens in the rural areas had very limited options for digital payments. This resulted in limited understanding of digital payments in the rural areas which was a big challenge for T Wallet to gain mind-share of people. To address this, a considerable amount of effort went into brainstorming to ensure that all the aspects of T Wallet were designed and developed to be multilingual and to be available through channels apart from conventional smartphone/web channels i.e. via feature phones, MeeSevas etc. This has ensured in a greater level of financial inclusion across the rural population of the state of Telangana.

Green eGovernance

1. The following are some of the Green eGovernance practices that have been followed and have resulted in creating good impact on Green eGovernance. With fewer bills to print, T Wallet ensures usage of paper for printing has been reduced.
2. Considerable reduction in the carbon footprint because of printing of physical notes can be achieved by moving towards a cashless society. T Wallet is focusing on achieving a sustainable and inclusive cashless ecosystem in the state.
3. Energy Star compliant state-of-the-art equipment has been insisted onto all the hardware of the service provider thus complying to standard green manufacturing methods and power efficiency.
4. A workshop on power management techniques to reduce power wastage has been conducted with all the relevant employees to help spread awareness to drive a conscious effort toward power conservation.

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Works and GRIEVANCES REDRESSAL Monitoring System

PMIDC, Government of Punjab

Ajoy Sharma, and Rahul Sharma

PROJECT OVERVIEW

Objectives

- Regular monitoring of Sewage Treatment Plants (STP)
- Ensuring that field staff daily visit their works and update the status through geotagged photos
- Tracking the progress of the operation & maintenance works.
- Achieving internal efficiency & effectiveness.
- Keeping senior management upgrade about changes in progress through real time SMS

Scope:

Functional

- **Monitoring through Automation:** The project was started with an aim to monitor the progress of the work quality, performance of field staff and contractual agencies, daily.
- Transparency – To bring transparency in the system and to ensure that all data is available online
- Material Inspection – To reduce the time line for clearance of Material inspections and Bills and increase speed of work.
- Feedback – To get the feedback from Third party Agencies and Citizens are addressed the same in a time.
- Quality Monitoring of STPs – To ensure the regular tests of the parameters like BOD/COD/TSS etc are conducted for STPs and correct data is reported.

Geographical

Application has been rolled out in 60 PWSSB towns of Punjab.

Key reasons for nomination:

Project Development and Implementation: From project development to implementation everything has been taken care by the internal teams of Punjab Municipal Infrastructure Development Company (PMIDC) & Punjab Water Supply and Sewerage Board (PWSSB).

Enhanced transparency and accountability: Progress of works added by the employee is available in the public domain for all the citizens thus correct data is uploaded on the portal.

Improves efficiency & Speed: The project helps in efficient monitoring and governance and speedy resolution of bottlenecks, as real time data on issues are highlighted to the concerned officials.

Social Audit: The project builds trust between the Government and citizens as progress and reports are available in the public domain for citizens to share their feedback.

Improvement in overall quality of work: Due to daily monitoring through the application presence of employee in the field (workplace) increased which led to better quality in execution of works.

Digital India: All stakeholders from JE to EIC and Contractors to Third Party Auditors have been made part of digital India stream and have eventually understood that automation improves their productivity and efficiency. Even employees above the age of 55 years who learnt and started using the Application have shared their feedback on how automation has made their life easy.

Stakeholders:

- Citizens
- Third Party Audit Agencies/Independent quality assurance agencies
- Contractors
- PWSSB staff
- Senior Management of PWSSB
- Department of Local Government

RESULTS INDICATORS

Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*
		2017-18
Sewerage Treatment Plant (STP) Monitoring	COD, TSS, BOD test results uploaded on portal on weekly basis. The portal is accessible to everyone. It has resulted in the following benefits 1. Field staff has started performing Weekly tests at all STPs. Once the regular testing started, there has been a visible change in the STP performance. 2. These results are in public domain. So possibility of wrong reporting has drastically reduced.	60 Towns every week
FIELD STAFF ATTENDANCE	Field staff marks attendance using Mobile Application. Geo tagged picture is submitted by the staff. In case, one is travelling out of his jurisdiction, the same is reported in the comment section. It has following advantages 1. Earlier, there was no way to monitor	Approximately 200 field officers mark their daily attendance using this system

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	whether JE/ SDO/ XEn are regularly and timely going to the work as it was not practical to heep biometric attendance device at each work site. Now with this app, it is easy to keep track of field staff. 2. Report generation/compilation of attendance of the field staff is effortless. This report is one of the important inputs for planning of field visits by the quality checking teams. On pilot basis, real time data from the sensors at the outlet of the STPs is being used for creating alerts	
- FIELD VISITS AND ONGOING WORKS MONITORING - FEEDBACK FROM THE CITIZENS - FEEDBACK FROM INDEPENDENT QUALITY ASSURANCE AGENCY (IQAA) - TECHNICAL INPUTS FROM SENIOR OFFICERS - REPORTING THE ISSUES WHICH ARE HAMPERING THE PROGRESS OF WORK - REPORTING THE RECEIPT OF MATERIAL ON WORK SITE - REPORTING THE QUALITY TESTS DONE ON WORK SITE	Using the mobile app, field officers, update the progress of the work while visiting the work site. Geo tagged pictures and videos of the work are shared and these are available on the portal. Also, these are accessible to the general public. The general public can comment on the works after getting their mobile numbers registered. Similarly, using this mobile application, Independent quality assurance agency (IQAA) also uploads its comments with regard to the progress as well as quality of works while visiting the work site. After looking at the pictures/videos from the work site, senior officers from headquarters offer technical advice to the field officers. It has following benefits: 1. Real time monitoring of the progress and quality of the infrastructure projects being executed. 2. Reliability of data on the progress of the work has increased significantly 3. It is ensured that each field office visits the work regularly as per the protocol which has been standardized. 4. Quality tests being done in the field are mandatorily reported, this has helped us pinpoint the works where quality is not being checked regularly. 5. Citizens/IQAA have access to these reports and can further submit their feedbacks/comments. So this is in a way a social audit of the on going projects.	188 works

Contd...

	6. This data will further help the department in case of any arbitration proceedings in future. 7. Reports with regard to arrival of material on site are also available. Anyone can go and check the quality of the material. 8. Overall, it has brought in more transparency in our operations.	
ONLINE MATERIAL INSPECTION REQUESTS/ REQUESTS FOR DRAWING APPROVALS/PAYMENT OF BILLS	Now the contractors can submit these applications online. SLAs have been fixed for each. This has helped in cutting down the delays and fastened the implementation process.	60 Towns
ONLINE POSTING OF INSPECTION REPORTS AND THEIR COMPLIANCE	The reports are in public domain and can be checked anytime by anybody. It further helps the top management while reviewing the individual projects. Reviews become more focused and meaningful	

Implementation Coverage

- Initially the application was implemented to monitor performance of 40 Sewerage Treatment plants
- After observing the benefits and acceptability the application was rolled out for all 60 towns of PWSSB.
- Scope of project was also enhanced and Contractors, Third Party Auditors and Citizens have also been included in the project implementation.
- The results achieved by the project are appreciated by the Local Government Minister and it has been proposed that Municipal Corporation and Councils should also be brought under the preview of the project.

New Services/Enhancements

1. **Internet of Things:** Capturing feeds directly from STP's on Portal using sensors, process for this has already been initiated.
2. **Increasing Citizens Involvement:** Already initiated and getting feedback from citizens. Our main goal is to involve citizens and bring transparency.

ENABLER INDICATORS

PROCESSES RE-ENGINEERED

Automation

1. Automatic SMS alerts are sent to the concerned officers as well as their reporting officers in case duties are not performed as per the protocol prescribed.
2. Based on the analysis of the information being received through the application, suggestions for field visits by the quality wing have been automated.

Standardization

1. Protocol for frequency of visits by various officers from JE to Chief Engineer standardized. In case anybody falters, automated sms and mail are sent to the officer and also to his reporting officer.
2. Standardized the protocol for quality tests to be done at water supply and sewerage works.
3. Standardised the timelines for disposal of standard requests such as material inspection requests, requests for approval of drawings and clearing the bills.

Simplification

1. Process of application for material inspection/drawing approvals has been simplified. Now, the agency can apply for it online. SLAs have been fixed and regularly monitored to ensure timely inspections/timely approval of drawings.
2. Bottlenecks are reported using the portal/mobile app, this has helped in speedy follow up and resolution of issues as top management can view all the gaps being reported in real time and can take necessary actions on red flagged issues. Earlier, the information would pass through many channels before reaching to the competent level responsible for resolving the issue.
3. Timely Bill clearances of contractors – Bill can also be uploaded in the application and their SLA is monitored so that no employee can stop payment against the valid bills.

Technologies

Based on the analysis of the information collected from the field visits, automated SMS are sent to the field officers if frequency of visits is not as per the protocol prescribed; alerts are sent to senior officers if new material has arrived on site; automated alerts are generated if the quality of works are not up to the mark, or if the progress of works is slow or if there are some obstacles.

Based on the analysis of information, received from various stakeholders i.e. the independent quality assurance agency, field visits by officers, material receipt reports etc, suggestions are generated for the field visits by the quality control wing.

Integration with the sensors at the STPs has been done on pilot basis for real time analysis of the STP performance.

With geo tagged pictures and video, it has been ensured that the employee actually does the field visit.

Integration with the IVRS system for monitoring of grievance redressal is also in place.

People

The Change and its management: Within few days of joining the organization in June 2017, CEO, PWSSB realized that the organization is not working to its full potential; there was lack of transparency; the field engineers were not reporting to the work regularly; there was also the issue of poor quality of works being executed; complaints of the citizens were not addressed timely; the contractual agencies executing the infrastructure projects also felt harassed as the material inspection requests were pending for months, bills were not cleared and drawings were not passed for months.

It was felt that bringing IT system in place and reengineering some of the processes were the only solution to these challenges.

Creation of urgency for the project: To begin with, review sessions were held with field engineers and various instances were shared aloud where organization was at receiving end from the government as well as from the citizen forums. It was communicated to the field staff that the top management of the Board had full trust in them, however without the right data, it is difficult to satisfy the superiors and the citizen forums. Outcome of these sessions was that everyone came on same plane that there was an urgent need to collect data with regard to the good work the department is doing. In this background it was proposed to bring in IT system in place which will help the department collect real time data from the projects. Hitherto, monthly progress reports were prepared and the reliability of these reports was questionable.

Creating a vision and Building a team for driving it: Although we could identify passionate people in PWSSB who were domain knowledge experts yet we did not have IT team which could create the application. As such a joint team was constituted with technical support from Punjab Municipal Infrastructure Development Company (PMIDC) (both PWSSB and PMIDC belong to the department of Local government and incidentally the present CEO PWSSB also held the charge of CEO, PMIDC). This team is responsible for driving the project and has direct access to the CEO. A clear vision of creating a transparent and professional organization was shared with the team and intended outcomes of the project were listed out in complete detail.

Removing obstacles: Regular interaction with the team helped in removing the obstacles and addressing the challenges without any delay.

Pilot and Quick wins: During the brainstorming sessions with the field staff, we could identify the natural leaders in the field who had passion to make the project successful. Accordingly, the first pilot was run in the divisions of these motivated field officers. The modules which could be done immediately were piloted and then rolled out to the whole state.

Consolidating the wins and moving forward: After stabilizing the initial modules in pilot field divisions, we moved to other divisions and then added more modules. Strategies such as naming and encouraging or nudging by making soft telephonic calls helped us stabilize.

Institutionalizing the changes: Now the change has been frozen and institutionalized. No paper reports are accepted where reporting is to be done online. Monthly review meetings are done on the basis of the online reports only. Independent quality assurance agencies and contractual executing agencies have also been made part of ecosystem. Each module is benefitting one or the other stakeholders and it has a critical mass to support it. Now, the highest level of the government has also started using data from this portal which is important for the sustainability of this system.

Capacity Building: Profiles of the employees were analyzed to understand who needs what kind of support apart from basic training on application. There were some employees who did not know the functioning of mobile phones more than the red and green button and dialling a phone number. Trainings were planned and conducted for employees on the usage of portal and Mobile Application. Data was continuously analyzed to see which engineering division is lacking in using the application and accordingly hand holding was done for them. Video lessons were also created and circulated.

Leadership Support: The project was conceptualized and driven by CEO himself. His continuous involvement helped in tackling the issues/challenges which came during the implementation. Continuous feedback by him from various stakeholders further helped in improvising the design without losing much time as well in planning the handholding strategy.

VALUE INDICATORS

Learnings for sharing

Lesson 1: Change management has to be integral part of the project design. Also, it is always helpful to involve stakeholders to ensure robustness of the project design.

- To make this project successful, it was important to bring a critical mass of employees on board. We sat down and analyzed as to what can make the field staff collaborate and what can cause resistance from them. Brainstorming sessions were held with employees to share the vision of the department and narrative was shared with them as to how is it going to help them in long run. E.g. sharing the site visit pictures can help them create evidence that they are regularly inspecting the works. Even objectives and goals of the project were fine-tuned after getting feedbacks from the field employees. Incorporation of feedback, ensured that the employees willingly take ownership of the project and also start feeling that it is something designed by themselves only.

- These brainstorming sessions also helped us identify the natural leaders who had passion to make it successful. Accordingly, the first pilot was run in the divisions of these motivated field officers.
- Handholding and conducting training sessions were held for field officers to make them comfortable in using this system.
- To help the project stabilize, nudges such as telephonic calls to those who do not mark attendance through mobile app or who would send the field visit though email/WhatsApp or patting at the back of those who started using it, helped us. Once the usage crossed critical number, actions such as not accepting any reports which are not system generated or marking absent the ones who did not mark their attendance through mobile app helped us freezing the new processes.

Lesson 2: It is important to closely monitor the implementation of the project and quickly respond to the issues cropped up.

Lesson 3: Sometimes it is important to involve additional stakeholders to make the project stabilize and also to make it sustainable. For example, involving a 3rd party quality assurance agency by making it mandatory for them to post their visits through mobile app improved the usage of app by the field staff also as they needed to respond to 3rd party observations. Otherwise, in the monthly review meetings the field officer not complying with the observation would be taken to task.

Lesson 4: While designing the project, it is important to see that the project does not increase the workload of any employee. In case it does, then we need to plan for additional hands to share that burden.

Digital Empowerment

1. Complaint grievance system also gives an option for registering grievance through toll free number. Anybody can access it anytime and communicate in any language.
2. Employees at all levels have been trained to use the application and now every review is being done on the basis of the online reports; thereby improving the digital literacy within the organization also.

Green eGovernance

Already existing State data center resources have been used thus eliminating the need of buying servers and other hardware. Most of the data coming on portal (responsiveness and mobile friendly) is from Mobile application. All the reporting has been automated and is mainly based on the inputs received through mobile application. This has reduced the need of separate computer as well as manpower for updating various work related progress reports. As the time goes, these machines will not be required to be replaced with new ones. This has resulted in optimization of resources and reduction in e-waste in the long run.

Earlier, every month, large amount of paper was wasted in creating reports for review of projects. Now, it is no longer required.

Online storage of pictures and videos eliminate the need for sending images in a CD which eventually reduces e-waste.

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S3WaaS - Secure, Scalable and Sugamya Website as a Service

National Informatics Centre, Government of India

Alka Misra, and D. P. Misra

PROJECT OVERVIEW

Background: Districts are the key entities in the governance structure where actual execution of schemes and programs takes place. District level websites are an important link between the administration and citizen, disseminating citizen-centric information and services. Digital India aims to bring information and services to the doorstep of the citizen and hence district level websites play an important role in realizing this objective. To enhance the quality of District websites a website generating framework S3WaaS (Secure, Scalable, & Sugamya Website as a Service) has been developed by National Informatics Centre (NIC), MeitY based on SaaS (Software as a Service) model and hosted on the National Cloud of NIC.

Objectives, Scope & Intended Benefits: S3WaaS has been built with an objective to empower the District Administrations across India to generate, configure, deploy and manage the district level websites for publishing district specific information and services in an accessible way, without much effort and technical knowhow in a short span of time. S3WaaS leverages technology to generate websites which are highly customizable and seamlessly deployed on a scalable and completely software defined infrastructure. The broader objectives behind the project include:

- Improve Indian Government presence in districts by enhancing quality of web space with respect to Design, Technology and Content
- Build a repository of **accessible and multilingual website templates** thereby stepping closer towards achieving compliance with Guidelines for Indian Government Website (GIGW)
- Reduce time to design, create and deploy websites by optimizing the resources
- Dependency of district teams on skilled developers is minimized as the product developed offers website as a service
- Seamless deployment of S3WaaS as well as accessible websites created using the product, is available on the NIC Cloud Platform
- Capacity building done through digital mechanisms enable district administrations to build and manage high quality, responsive, accessible and differently-able friendly websites.

Stakeholders: The respective District Administration officials, viz., District Magistrate/Deputy Commissioner/District Collector are the owners of the district websites, supported by the District Informatics Officers (DIOs), officials from NIC deputed to assist the district administration.

Current Status: By July 2018, the status of adoption of S3WaaS platform by districts is listed below:

- ~75% of States/UTs have begun migration efforts (~27/36)

- ~50% of the States/UTs have concluded migrating 100% of their districts (~13/27)
- ~60% of the districts have concluded migration (~327/549)

Strategy in place for Disaster Recovery and service continuity

Disaster Recovery (DR) strategy is in place, to ensure that district websites may continue providing information and services in case of a shutdown or calamity. The **Figure 3.2: S3WaaS Disaster Recovery Architecture** is included for a visual understanding of the DR setup at National Data Centers (NDC) Hyderabad for both the S3WaaS instances at NDC Shastri Park and NDC Bhubaneswar.

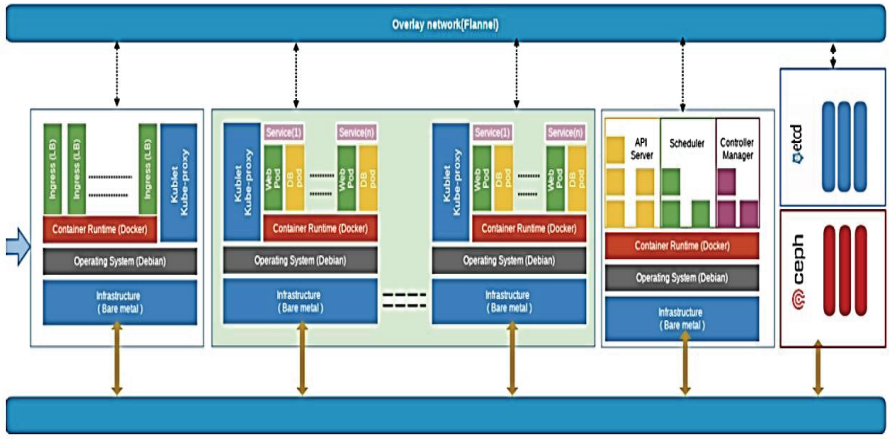


Figure 3.1 S3WaaS Deployment Architecture

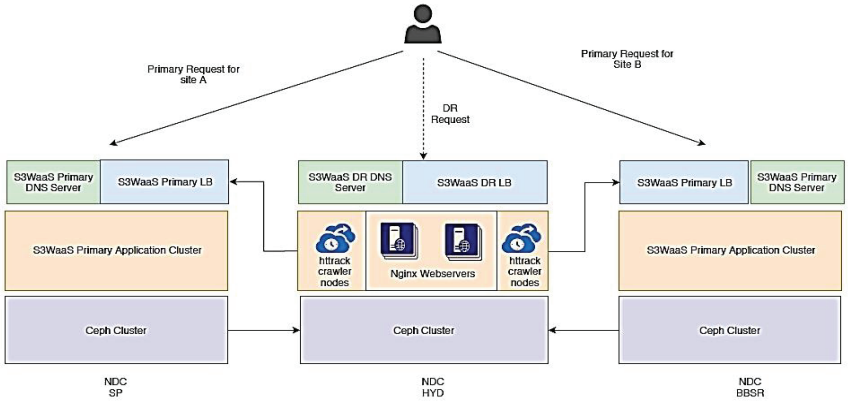


Figure 3.2 S3WaaS Disaster Recovery Architecture

Key reasons for nomination

S3WaaS -Secure, Scalable and Sugamya (accessible) Website as a Service is a platform that has empowered districts across India to build, deploy and maintain user-centric websites, ensuring:

1. **Accessibility** – Ease of access to information and services overcoming deterrents of ability, device, technology, bandwidth, etc.
2. **Ease of use for all** – Citizens facilitated due to empowering of Governance providers to build websites based on a rich choice of templates & simple menu items which are based on a citizen-centric Information Architecture.
3. **Configurability**– Various easy to configure information widgets as per district choice, to facilitate publishing and sharing of contextually relevant user-centric content.
4. **Reduced delivery time** – Swiftly build a website, publish content, deploy and manage at ease.
5. **Automated processes end-to-end** – All services automated - from building of website to its secure hosting, scaling as per end-user needs, handling technology upgrades.
6. **Latest Technology** – State-of-the-art technology to offer the best possible facilities to end-users and district level stakeholders.
7. **Status Updates**– Stakeholders across the implementing agency & district users are kept posted about the status of migration from pre-migration stage to the stage when the district website goes live, with an easy to use dashboard.
8. **Graphical representations/charts** – Stakeholders including citizens are enabled to see the weekly status of the State-wise migration for the entire nation, using the URLs https://s3waas.gov.in and https://www.nic.in.

RESULTS INDICATORS

Services

Name of eService	*Brief service description with benefits*	*Volume (Nos.) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
Registration for website generation	Online secure registration process allowing eligible users to register for website generation	NA	NA	698
Register, update and verify Website Owner's Contact Details	OTP based secure email & mobile authentication of contact details for eligible Website Owner	NA	NA	531
Generate Website with a selected	Instant generation of District website based on District team's choice from a dozen	NA	NA	698

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template	STQC-certified templates			
Customize website	Significant improvement over legacy process of managing static content, by enabling district teams to use STQC-certified standard templates, & a world-class Content Management System (CMS) for publishing accessible content	NA	NA	698
Uploading signed Auth Letter of Owner	Online approval of Authorization letter as per compliance with standardized process	NA	NA	338
Approval of Website to Go Live	- Quality control - Transparent workflow - Smooth migration	NA	NA	333
Online Submission of DNS Request	Paperless, smooth, end-to-end integrated process of making website available for use by citizens	NA	NA	327

Implementation Coverage

Since the formal launch of S3WaaS, **25 States and Union Territories (UTs)** out of 36 have already begun migrating their respective districts representing all areas of India, both inland and offshore (Union Territory Lakshadweep), representing approximately **70% of India's 36 States/UTs**. **356 districts** have been successfully migrated to S3WaaS as of the day of submission of the nomination **(5 August 2018)**, representing approximately **66% of the 538 on-boarded districts** that have begun migration efforts. **9 States and 3 UTs** have concluded the migration process by successfully migrating 100% of their districts (highlighted below), representing approximately 50**% of the States/UTs** that have begun migration efforts. Below is the status as of 3rd August 2018:

#	State/UT	Districts Migrated	Total Districts
1	Andhra Pradesh	2	13
2	Arunachal Pradesh	16	21
3	Bihar	38	38
4	Chandigarh (UT)	1	1
5	Chhattisgarh	19	27
6	Goa	1	2
7	Gujarat	4	33
8	Haryana	22	22
9	Himachal Pradesh	12	12
10	Jharkhand	24	24
11	Jammu & Kashmir	1	22
12	Karnataka	3	30

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13	Kerala	14	14
14	Lakshadweep (UT)	1	1
15	Maharashtra	36	36
16	Manipur	8	16
17	Nagaland	5	11
18	Odisha	30	30
19	Puducherry (UT)	4	4
20	Punjab	7	22
21	Tamil Nadu	32	32
22	Telangana	7	31
23	Tripura	7	8

New Services/Enhancements

The S3WaaS road map envisions enhancing the structure of the district websites in such a way that the published content from districts across India may be aggregated to serve a global audience, thus augmenting the attributes and capabilities of each of India's unique composite parts to present the gloriously diverse albeit united picture of the Indian union – One-India….!

ENABLERS

Government Process Reengineering

Before S3WaaS, there was no uniformity in how a district would approach the designing, hosting and maintaining of its website. The plethora of options that were available to districts led to such divergence that citizens across India could never find any consistency in the way that one could access a district's information and services. Moreover, the district websites used to be mostly devoid of compliance to accessibility due to which many legal issues are sub-judice at various levels in different courts of the country.

S3WaaS has standardized the process of designing, automated the process of hosting & simplified the process of maintaining of websites by offering districts a set of accessible themes and templates, certified by **Standardization Testing and Quality Certification (STQC)**, based on which websites can be generated, deployed and hosted swiftly on a secure & scalable infrastructure – without the overheads of district teams having to fret over technology, hardware and other logistics choices, which normally pose a challenge.

District teams are now empowered to simply choose from a set of standard themes which have a scrupulously thought-through elaborate Information Architecture (IA) and then publish content thus offering citizens consistency in accessing information and services.

Security of the websites, generated using the S3WaaS Framework, is ensured by being hosted in the ISO certified secure National Data Centers (NDC). Any upgrades to technology stack are automatically taken care of for all districts without the

respective district teams having to allocate any dedicated resources or to keep a track of when, which and how frequently such upgrade activities have happened and are performed in all websites generated using the S3WaaS Framework.

Technologies

The genesis of S3WaaS may be attributed to the continuous interaction in the form of queries and feedback from citizens, government departments and other stakeholders with respect to design, development, deployment, management including accessibility requirements in government websites. All these rich and varied inputs and comprehensive requirements have been considered in architecting the S3WaaS solution and have contributed to the stupendously successful rollout by migrating district websites at a rapid pace.

Data Analytics have been used to monitor & ensure a steady progress of district migrations across States & Union Territories on a regular basis – daily, weekly, fortnightly, monthly and quarterly.

Knowledge Management best practices have been adopted to ensure the systemic generation, capture and dissemination of knowledge with stakeholders. Key stakeholders have been identified as Knowledge Experts/Champions to lead the migration efforts of their assigned districts and to further aid the migration efforts across other districts, often transcending the State boundaries. The knowledge of these Champions has been codified regularly and syndicated with relevant stakeholders to benefit the objectives of S3WaaS. A knowledge repository has also been organized to enable access to contextually useful knowledge by appropriate stakeholders.

Social media has been a regularly used enabler to allow swift communication and even facilitate workflow collaboration with stakeholders thus overcoming boundaries of geography, time, schedules, etc.

People

Capacity Building: Workshops have been conducted in person and support has been extended virtually, over Video-conferences, telephone & emails to ensure that the District teams are empowered to do the needful for rapidly building the district websites, publishing the content and getting their sites live for use by citizens. Even after migration, the district teams are being assisted with ensuring continued compliance by the NIC team at NIC HQ, Delhi. However, S3WaaS has been architected in such a manner that it doesn't require much of technical knowledge and handholding.

Leadership Support: The implementing team has been inspiringly encouraged, by the leaderships at the Ministry of Electronics and Information Technology starting from the Hon'ble Minister to the Secretary to the Director General of NIC and the hundreds of District Magistrates who patronized S3WaaS and made it a grand

success, by accepting the challenge that this unprecedented product presented – helping 600+ districts migrate to an accessible, secure and scalable platform in a record six months' timeline. District teams have likewise risen up to competently conclude the task, led by the consistent motivation and substantial support from District Administration that have been providing content in bilingual form to benefit the citizens. State Level leaderships right from the Chief Ministers to the Chief Secretaries to the IT Secretaries have kept up the momentum by ensuring swift progress in migrating districts to the S3WaaS platform.

Change Management: The S3WaaS solution was devised after analysing the impact of the legacy static district websites – whose content was barely accessible, often not citizen-centric, and tough to maintain given the lack of standardization and sophistication in choice of tools and technology. In introducing S3WaaS, the objective to make user-friendly, user-centric, universally accessible websites has been amply redeemed. There has been a significantly positive impact on the District teams whose efforts have received a tremendous boost by being motivated with a **simple workflow** to generate a website without causing any disruption to existing systems and publish content using an easy-to-use Content Management System (CMS) after which the S3WaaS district website is hosted and legacy website is surrendered - all of which are having a multiplier effect on citizens who benefit from the S3WaaS hosted district websites. The **Figure 3.3: S3WaaS Process** is included for a visual understanding of the S3WaaS Process flow.

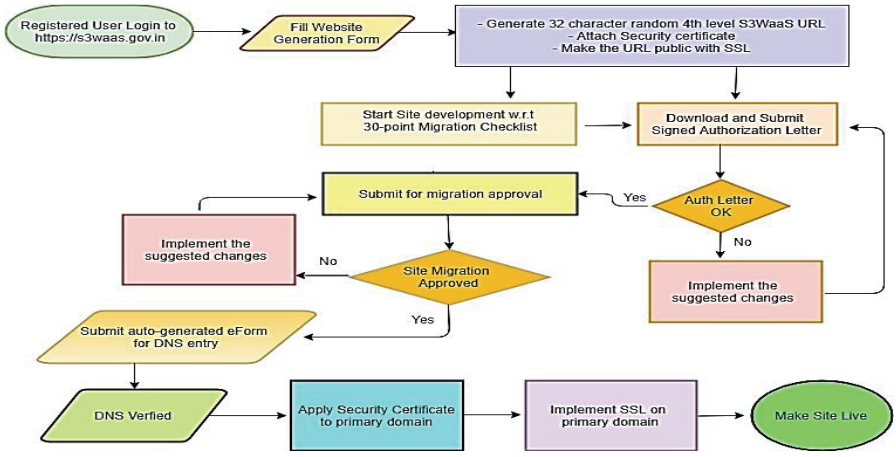


Figure 3.3 S3WaaS Process Flow

VALUE INDICATORS

Learnings for sharing

Challenges/Opportunities:

Conceptualizing/Planning: Key challenges faced at conception stage were to analyze the requirements for 700 districts most of who were accustomed to maintaining static websites, often hosting them locally and to provide alternate design & hosting

options that would accommodate the requirements of each district as well as be a robust, easy-to-adopt, reliable solution to be acceptable to the district teams and to be ultimately able to cater to the needs of potentially a billion strong citizen user-base, allowing the citizens to easily access consistently feature-rich, world-class, responsive websites that offered accessible information and services, without being hassled about their physical ability, device, education etc. with minimal downtime.

Open source tools and technology stacks were preferred to ensure that the herculean task does not come with an equally gigantic and unsustainable cost implication as well as high level technical skills to manage and maintain.

Several challenges presented themselves owing naturally to the mammoth scale that has not been attempted so far within the implementing organization and hence without the presence of any benchmarks to accurately forewarn of the likely hurdles that may be faced. Most anticipated challenges were proposed to be handled by diligent study of industry best practices and subsequent planning to overcome each specific challenge.

Executing: Despite the best preparations, some practical challenges were faced at execution stage and swiftly resolved by setting up test beds to devise solutions and/or by occasionally switching tactical choices of software and/or configuration to manage automation, deployment, accessibility, scalability, security, etc. The NIC HQ team has been available consistently to support the district teams with quality monitoring during and even after migration, to ensure continued compliance.

Maintaining/Supporting: Stakeholder buy-in was most crucial without which the S3WaaS district websites would not see light of day. District Administrations were successfully encouraged to consider migration to S3WaaS and continue publishing content post-migration given its unique advantage of being a hassle-free easy-to-use option to use as a service, with no overheads of hosting, procuring or maintaining the infrastructure, or grappling with underlying technology choices.

Key Learnings

Maintaining/Supporting: Having migrated 300+ districts to S3WaaS successfully with continued compliance post-migration, thus crossing the half-way milestone of the ambitious journey, it is indeed a treasurable moment to share that most of the stakeholders who have experienced both the ease of using S3WaaS & have witnessed the benefits that are accruing to citizens after migrating to S3WaaS have begun strongly rooting for encores, formally expressing their intent to migrate their department websites, State Portals et al to S3WaaS.

Executing: Several lessons have been learnt during the course of executing the S3WaaS rollout, the significant ones being listed herewith:

1. Publishing data that is more structured could enhance its usefulness not only to end-users at the district level, but also help to aggregate such structured

data from all districts across India to present a comprehensive picture at the national level.

2. District users have been encouraged to use certified code from a Sample page made available with each S3WaaS template to improve the compliance, and expedite migration.
3. Despite program-level checks and balances such as making the Alternate text field mandatory for each uploaded image to aid the visually challenged audiences, it has been observed that occasionally District teams would enter some dummy/non-contextual alternate text to over-ride the validation check. An automated script deployed by the NIC HQ team lists all Alternate text values at one place to help institute a convenient check for the district teams, thus facilitating better compliance.
4. A 30-point S3WaaS Migration Checklist along with a 7-point A-G Guideline Compliance check has been designed to add rigor to the checks that were being conducted during migration and even post-migration to ensure continued compliance of all district websites.

A small team at NIC HQ has been helping district teams during and after S3WaaS migration, by adopting various approaches such as conducting workshops, assisting district teams over Video conferences, phone, emails etc, deploying an automated script that tests and reports on specific accessibility issues found with a district website and also guides with the solution for those issues, doing manual checks for those issues which the script is incapable of testing, detecting & reporting any inconsistencies found in publishing bilingual content etc.

Digital Empowerment

S3WaaS district websites are responsive, empowering citizens to access information and services from their mobile devices, which have become the de facto normal with maximum penetration and easy adoption.

S3WaaS district websites are bilingual, publishing content in two languages: English and regional. The availability of content in two languages enables citizens who may not be versatile in one of the two languages to easily access and use the content in the alternate language provided.

S3WaaS district websites by virtue of being built using STQC-certified accessible themes and templates enable citizens to access content by overcoming boundaries of ability, device, technology etc.

Green eGovernance

S3WaaS follows Green eGovernance practices by enabling the hosting of websites on shared resources using latest state-of-the-art environment friendly configuration choices.

A comparative analysis may help appreciate how hosting of approximately 700 websites would consume energy and utilize resources if hosted on each of the 3 options in the table below:

Local Hosting	*VM Hosting*	*S3WaaS Container Hosting*
- Local hosting per district would require 2 servers, [so on a nation-wide basis, approximately 1400 servers would be needed], and consume approximately 7,446 kWh x 2 servers = 14.892 kWh per year. Thus, energy consumed per district x Number of districts, (say 700) = 10,424 MWh annually. - Moreover, resources would be utilized for maintaining the local servers at each district.	- 40 virtualized servers can host 700 district websites, consuming 298 MWh annually, saving 97% of the energy consumed for local hosting. - A small fraction of the resources needed for local hosting would suffice to maintain virtualized servers.	- 10 servers hosting 700 district websites, consuming 75 MWh annually, saving 75% of the energy consumed on virtualization (VM) and 99.3% of the energy used for local hosting. - Far fewer resources are utilized for maintaining the S3WaaS hosted server v/s virtualization and local hosting alternatives. This option is adopted for S3WaaS deployment in the ISO certified Green National Data Centres at Shastri Park, New Delhi and Bhubaneswar.

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Panchayati Raj Institutions Accounting Software [PRIASoft]

Panchayat Informatics Division, National Informatics Centre, Ministry of Communication and Information Technology, Government of India

Manie Khaneja, Bala Prasad, and Sanjay Kumar Joshi

PROJECT OVERVIEW

Objective

To facilitate better financial management of Panchayati Raj Institutions (PRIs) by bringing about transparency and accountability in the maintenance of accounts thereby leading to better credibility and ultimately strengthening of PRIs.

The Scope of the application:

- It is a web-based application developed in open source technology and readily available 24 × 7 for end user.
- Application is being used by the panchayat functionaries, accountants across all the states, districts, blocks and village Panchayats
- Allow all the state to configure the application as per their need.
- Various MIS/Reports are available for the benefits of users and public.
- Integration methodology adopted in exchanging data with state using their own account application

Stakeholders

The major stakeholders are: Central Ministry (Panchayati Raj), State Panchayati Raj department, Panchayat functionaries (District/Block and Village level), DRDA

- User can able to record transactions in all the four type of vouchers.
- Facilitate the user to generate and maintain the cash book from the online entered data.
- Monthly Cash book reconciliation facility is provided to minimize the error and correcting the mismatch in the closing balance

Current Status

As on dated 25th July, a total of 217749 PRIs are on board using the application in various FY. The status of last two financial years is:

Description/Parameter	*FY 2017-2018*	*FY 2018-2019*
No. of Voucher booked	21834 by 1002 PRIs	22351 by 1350 PRIs
No. of Voucher freezed	47158 by 1746 PRIs	26928 by 1844 PRIs
Day Book closed	1005 PRIs	316 PRIs
Year Book Closed	1056 PRIs	Not Applicable
Total Receipt of Fund through Portal	Rs. 52,566,51,48,850.27	Rs.1,958,03,14,929.73
Total Payment through Portal	Rs. 2,27,349,60,50,598.11	Rs. 1,839,51,24,911.53

Key reasons for nomination

This eGovernance accounting application has been developed as per the initiatives by the Central Ministry of Panchayati Raj, considering the needs of officials of panchayats maintaining the accounts of local body (Panchayats). Earlier some of accountants/Panchayat Secretary were maintaining their cash book manually or in MS Excel format. Some of Panchayats officials are hiring Private Tally Experts to maintain their cash book accounts.

So in order to resolve the issues faced by Panchayat Officials of all three levels (District, Block and Village Panchayats) in maintaining accounts, Ministry of Panchayati Raj has taken initiatives to develop accounting application. The various meetings were conducted between the Senior officers of Ministry, National Informatics Center (NIC) and Comptroller and Auditor General (C&AG). Based on the outcome of meetings, the new centralized accounting application was developed. The advantages of these applications are:

(a) To work as good financial management tools as per accounting rules and principles.
(b) To improve transparency and accountability of panchayat in managing the large flow of funds.
(c) To enhance the credibility of Panchayats of all levels.
(d) To enhance ability of higher authority to monitor effectively the funds and making better planning for its utilization.

RESULTS INDICATORS

Services

Name of e Service	*Brief service description with benefits*	*Volume (Nos) of Services year wise*		
		2015-16	*2016-17*	*2017-18*
No. of booked Receipt Vouchers	All inflow (receipt) of funds are captured using these vouchers for all schemes	10263705	9160881	7619596
No. of booked Payment Vouchers	All outflow (expenditure) of funds are captured using these vouchers for all schemes	11772119	10975496	8767130
Booking of Payment vouchers linked with the ported Works (From Action Soft PES application)	This service/module helps the user to book the expenditure details against the particular works executed in the particular panchayats The works are created in the other PES application.	14322	592936	446685

Implementation Coverage

The implementation of Project is PAN India across 29 states and 7 Union Territories.

- The Central Ministry of Panchayati Raj have set a target that all village panchayats across the countries have to be on board in this application by closing their book of account of previous financial year 2017-2018.
- 5 States which were using their own state specific accounting applications, have started the integration process to push their data into PRIASoft application. And some of the states have tested the pushing of the requisite data into PRIASoft accounting application using the web services.

New Services/Enhancements

In the last one year, a major improvement was made in Dashboard to display the data of panchayat entities of all level in effective way with more transparency.

This includes graphical representation in the form of charts of

- Various accounting reports explaining about the adoption/usage.
- Understanding the better utilization of funds across various Panchayats in India.
- Helps in effective monitoring by higher authorities.

This year it is planned to integrate PRIASoft application with PFMS (Ministry of Finance Portal) to facilitate real time expenditure transactions by village panchayats across all the states under the Fourteen Finance Commission grant. In order to maintain the authenticity and avoid the fraudulent, only the digitally signed payment file will be entertained in PFMS portal after due validation.

ENABLERS

Government Process Reengineering

- Government of India is promoting to adhere the online transactions in receiving of fund and incurring expenditure out of those funds in all government schemes. So Processes Re-Enginnering has been adopted to bring in the online scenario, as usually presently PRIASoft application facilitates to capture the accounting details even after the expenditure is already made to beneficiaries.
- PRIASoft is moving ahead to promote the same in Panchayats by using the payment gateway interface of PFMS as mode of payment. Rigorous exercises are carried out on agreed upon processes in integrating PRIASoft accounting application with PFMS. It will facilitate transparency in the utilization of funds received through various schemes.
- The standardization is maintained in terms of unique entity (LGD) code of panchayat, scheme code, beneficiary codes.
- Automation approach is handled in generating the standardized MAS format as per the data entered by the panchayats.

- Each module of the application is security audited as per government guidelines (at Application level, Network Level and Firewall level) and proper measures are taken to avoid any security breach or hacking etc.
- There are separate logins for different hierarchy of users to standardize the process. This helps the user to perform tasks/activities as per assigned roles linked to those tasks/activities as per defined structure of Indian government.

Technologies

- There were various accounting packages/applications such as Tally, MS Excel etc. available to be used for accounting purpose, but all such were not fulfilled the specific requirement of Panchayat accounting structure. Therefore, Ministry of Panchayati Raj with the association of C&AG developed an Enterprise Architecture (Model Accounting System) which fulfill the emerging need and same architecture was analyzed by the skilled team of National Informatcis Centre, New Delhi to develop a web-based unique accounting product named as "PRIASoft". It facilitates very effective accounting solution for Panchayats.
- Accounting data is gathered from Panchayats and some analytics are worked out, to develop various reports, graphical presentations from the entered data across the country. The accounting reports displayed the valuable correct form of data with accuracy as entered by panchayats.
- The system closely adheres to all the accounting principles mainly Credit and debit transactions (Double Entry/Cash basis) for accuracy as per the formats of MAS.

People

- A hierarchy wise approach of resource people is build up across the country.
- A frequent trainings are conducted at Central and State level to develop a capacity building. The master trainer at State/District Headquarter are trained on usage of newly developed modules and enables them to trained the lower tier panchayat functionaries at Block and Village panchayat level.
- Time to time standing instructions/directions are issued from Central Ministry to Senior Officer of states (top management) in rolling out the applications to lower tier level.
- The resource team of the technical managerial capacity is deployed for effective implementation across the states/districts.

VALUE INDICATORS

Learnings for sharing

Lot of challenges are faced in planning, executing and maintaining the project across the country.

- As India is a big country consists of no. of states/UTS with diversities hence, implementation of this PRIASoft product across the country was never an easy task. The structure, hierarchies, languages was main concerns as per changing demographics details and geographical scenario.

- Some states/UTs are following 3 tier Panchayat structure while some states/UTs are following 2 tier structure. Therefore, proper analyzing was required to provide customization in the workflow approach in the application/product that can cater to the requirement of each state/UTs and panchayat.
- In addition to MAS standardized format, some states have specific formats of accounting reports to render the data therefore, state specific reports were developed by properly analyzing their requirement.

Digital Empowerment

- The software is built up with multi-lingual approach and it facilitates the regional states to configure it as per state-specific local regional language. This helps in better penetration of user base as English is not primarily used at Panchayats level in all the States. Therefore, the provision to use the application in their local language may promote more adoption of PRIASoft.
- In order to address the new changes of states, the team of Central Ministry, and technical development team (NIC) analyzed the requirement and implemented the same and all these are done at free of cost to the satisfaction of end user.
- There are few remote rural or hilly areas in India where internet facility is not run effectively/constantly due to frequent breakdown/weak signal/low bandwidth compared to as in other urban areas, one of the reason is lack of proper infrastructure due to demographic conditions such as hilly regions etc. Therefore, to avoid the inconvenience faced by Panchayats of such regions team of National Informatics Center developed Offline version in PRIASoft for major used modules such as Receipt and Payment Modules which facilitates user to enter the receipt and payment transactions in offline modules/version and upload the same into Online version when ever having the internet facilities.
- Panchayats can record their accounting transactions easily. Therefore, it helps in better adoption of software in remote areas.

Green eGovernance

- In fact the PRIASoft application is used as per scenario of G2G i.e. “Government to Government “ , however it also promotes “Government to Citizen” i.e. G2C structure of eGovernance to deliver convenient, efficient and transparent accounting solution to the citizens of India at various Panchayat levels in the form of developed MIS.
- PRIASoft facilitates online accounting solutions for Panchayats by replacing obsolete paper based structure which was difficult to manage and not environment friendly as well.
- Panchayats can access the data on the go with the use of online application and mobile application as well.

- The respective States have taken corrective measures as required to follow the Green eGovernance by disposing the obsolete ICT infrastructure once they have attained their usage.

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Section – IV
Sustenance of eGovernance Initiatives

Sustenance of eGovernance Initiatives
Electronic Services Delivery through Common Service Centers -A Review

SVS Kasturi, and Prabhu Gollamudi

BACKGROUND

In the year 2002, Computer Society of India Special Interest Group on eGovernance (CSI SIG eGov) and Nihilent Technologies Ltd., together instituted 'CSI Nihilent eGovernance Awards (CNeGA)' to recognize the government entities, who were adapting Information and Communication Technologies (ICTs) in their administration process and to deliver the citizen services, effectively. This recognition and sharing of best practices amongst eGovernance practioners, through publications, like this compendium, is being carried out for many years now. One such recognition pertains to *sustainability of the eGovernance projects, for which a separate award category was introduced in the year* 2011.

As a process, Government entities, who were earlier winners of "Award of Excellence" under project category, five years prior to the year of review, get invited to nominate the same project and participate for the 'Sustenance Award'. During the 2017-18 awards cycle too similar invites were sent to the Award of Excellence Project Category winners. An attempt has been made in this article to review three of the nominations, all of whom pertain to *Electronic Service Delivery* through *Common Service Centers (CSC)*. These cases are from the States of Andhra Pradesh, Rajasthan and Telangana. In the case of one project i.e., MeeSeva, during the year when the award was presented, it was to the undivided state of Andhra Pradesh. However, post bifurcation both the states (Andhra Pradesh and newly formed Telangana State) pursued with the project and continued service delivery in their own ways. Considering the circumstance and the context of recognition, both the States were invited to participate for 'Sustenance Category Award' during the awards cycle 2017-18. eMitra (CSC of Rajasthan State) was also one of the award winners in the category, during that year. This article is a review of all these three cases, which are continuing their existence, from a 'Sustenance' perspective.

CONTEXT

Sustainability is a process of validating continued utility of the project to all the stake holders and initiating improvements and appropriate interventions. With reference to eGovernance projects, all of which start with a goal to address needs of the stakeholders, gets initiated and further rolled out. However in the context, where such initiatives are addressing citizens as key stakeholders, sustaining such initiatives requires effective monitoring of service adequacy-utility value, quality and timeliness of delivery. If quality of the service is good then what are the critical success factors and if not good, where they are now - is the question that gets validated on a continuous way.

From a larger perspective, the value of sustainability largely depends on Economic, Social and Environmental indicators (Michalos, 1997 & Janowski T, 2011) [1]. Considering these indicators, five parameters are identified in the Sustainability assessment [2] for the year 2017-18. These are (i) Project Information (ii) Project finances (iii) Business viability (iv) Technology intervention and, (v) Project integration . While information sought helped us to review from a common set of considerations, it has been noticed that projects also do sustain because of reputation, project leadership , political will, financial continuity, the governance structure and some due to processes reengineering carried out within a projects.

METHODOLOGY

Considering this background, this year too, the nominations pertaining to citizen services through Citizen Service Centers were analyzed from the point of original objectives, results over the years, enabling factors etc for effectiveness of Sustainability.

The evaluation exercise is adopted based on both field and secondary data. The primary data was obtained from the nominations received during the then awards year 2012-13, i,e., the year these were first awarded, and secondary data was collected from the nominations submitted in the year 2018. The three projects, that were assessed are - the Common Service Centers (CSCs) from Telangana, Andhra Pradesh – both popularly known as MeeSeva and Rajasthan –known as eMitra centers. As part of the assessment, data of 2012-13 is compared with the data of 2018, using a perspective based qualitative methodology.

EVOLUTION OF COMMON SERVICE CENTRES [MEESEVA, TELANGANA AND ANDHRA PRADESH &EMITRA, RAJASTHAN]

In the year 2005, Ministry of Electronics and Information Technology (MeitY), Government of India had initiated a National eGovernance Plan (NeGP) with an aim to establish ICT infrastructure to deliver citizen-centric services through Common / Citizen Service Centers (CSCs). The Common Service Center (CSC) goal is to facilitate delivering various public services using ICTs, covering at least six village's needs from a centre. So that it serves at least 1,500 families - on average 7,000 citizens from six villages as one cluster. The vision is, "Make all Government services accessible to the common man in his locality, through common service delivery outlets, and ensure efficiency, transparency, and reliability of such services at affordable costs to realize the basic needs of the common man" [3]. The plan got further boosted with the launch of Mission Mode Projects (MMP) in three categories - Central (11), State (14) and Integrated (7). The program focused on delivery of government, business and social services in both rural and urban areas. With the extension of Public Private Partnership (PPP) models for delivery of ICT based services, CSC's got strengthened and could bring services closer to citizens.

MeeSeva, Andhra Pradesh

MeeSeva is a true convergence of NeGP initiatives in rendering G2C services in a transparent, fast and secure way. To achieve a faster, easier and transparent way of delivering services, a Centralized System called MeeSeva (meaning 'At your service') is developed for delivering citizen services. Simply stated, MeeSeva is a system, by which documents and certificates, pertaining to individuals, are issued by the Government through a common kiosk. All the documents rendered were digitally signed and electronically verifiable. MeeSeva thus ended the 'tyranny of ink signatures'. It created a silent wave and with it's sweep allowed many moribund processes and approaches to be revamped. The effectiveness can be measured in the satisfied eyes of the citizen taking this hassle-free service ensuring true democracy to be ushered in and emergence of true independent India. With MeeSeva in place it will also be possible to implement and monitor the Right to Services Act, which is in the offing.

Economic Sustainability

MeeSeva works on Public Private Partnership (PPP) mode wherein MeeSeva Centers are maintained, operated and run by Authorized Agents (AAs) who are appointed are managed by Authorized Service Providers (ASPs). These ASPs and AAs are Government approved agents mandated with proper terms and conditions for delivering the services. The project was launched with an initial seed investment. But the user fee model, introduced later, for certain transactions, allows ploughing back the revenues for maintenance, development and upgrading of services. The project has attained critical mass and with multiple stakeholders both within and outside the government, it would be virtually impossible for anybody to reverse the processes and gains achieved.

Infrastructure

MeeSeva brings in a digital PKI enabled integrated architecture through multiple service delivery points by fusing in various pre-existing state initiatives. Entire MeeSeva solution is hosted in a state-of-the-art Data Centre with a robust infrastructure. As the developed system is a web based one, deployed at a central location, it is easily accessible by all the stakeholders, anytime and anywhere

Specifically, learning from post demonetization transition related digitalization journey, the department realized that their efforts to introduce cashless payments faced hurdles due to the level of digital literacy in rural parts of the State affecting faster technology adaption. Realizing the urgency, the department worked on a plan and introduced digital literacy drive using infrastructure of Meeseva centres to 20,00,000 rural citizens of Andhra Pradesh state. The focus is on imparting basic digital literacy (internet surfing, smart phone usage, digital payments) in the first phase to rural citizens. In the second phase, the plan is to impart advanced digital literacy (MS office usage) to rural citizens, which would ensure functional literacy too (reading, writing and mathematics). Nominee has submitted another nomination on this project, where in it was claimed that training was imparted on

digital literacy basics to 2,45,812 rural citizens, and 1,35,461rural citizens have also passed the online examination.

Capacity Building
ITE&C Department has collaborated with Andhra Pradesh Information Technology Academy (APITA) to organize trainings to kiosk operators and department officials on MeeSeva services. Monthly training calendar is prepared and communicated to government offices and kiosk operators for attending these trainings based on their convenience.

MeeSeva, Telangana
MeeSeva platform was established in 2011 with the intention of bringing benefits of technology to citizens and government departments in the domain of G2C services. The responsibility of ensuring smooth functioning of MeeSeva platform lies with Electronic Service Delivery (ESD), Department of Information Technology, Electronics & Communications (ITE&C), Government of Telangana.

The primary objectives are:

- Anytime: Aim for 24 X 7 service delivery (Online/Mobile)
- Anywhere: Instead of citizens visiting the MeeSeva center for service delivery, part of the transactions from citizens' place of choice including his house/workplace (Online/Mobile)
- Any mode: Mostly, payment is made in cash to the MeeSeva operator. Aim was to provide wide payment options

MeeSeva adopts an approach of assisted service delivery keeping the socio-economic conditions of the citizens. At its core, MeeSeva has been designed to leverage Information Technology in transforming the way G2C services are delivered. In comparison to pre-MeeSeva era, MeeSeva separates the point of service delivery and point of decision making on citizens' application for government services. As part of MeeSeva initiative, citizen services of government departments are brought to a single platform, which are subsequently delivered to citizens through multiple MeeSeva touch points. Since its inception, MeeSeva has delivered many benefits to the citizens and government departments. One single parameter which can explain the wide acceptance of MeeSeva in Telangana is the number of transactions happening through MeeSeva. The monthly transactions through MeeSeva was increased from ~7 Lakhs in 2012-13 to ~33 Lakhs registering a Compound Annual Growth Rate (CAGR) of ~27%. Telangana state witnessed the highest number of e-transactions per thousand population as per the e-Taal website for the year 2017.

The increased adoption of MeeSeva by citizens and departments has made MeeSeva a critical and most prominent channel of citizen service delivery in the state. To enable MeeSeva to continue to deliver the benefits, Government has made sure that MeeSeva network expands continuously along with keeping MeeSeva platform

updated with the developments in the Information Technology. From 2012-13 to 2017-18, MeeSeva has witnessed a wide scale expansion

- The no. of services has increased from 53 to 600
- The no. of departments has increased from 10 to 40
- The no. of MeeSeva centres has increased from 2000 to 4500

The significant impact that MeeSeva has been able to deliver to all stakeholders is recognized by multiple Government and Non-Government agencies. Some of the notable recent recognitions are :

(a) WITSA Chairman's Award 2018 conferred by WITSA World Congress on Information Technology (WCIT): This award recognized MeeSeva's contribution in providing digital opportunity to the citizens of Telangana.

(b) National E-Governance Award 2018 by Government of India under the category of "Innovations in existing projects of Government Departments other than PSUs": The award category pertained to improvements in the projects that had won a National E-Governance Award in 2014. The award recognized the improvements and consistent value that MeeSeva has delivered over last four years.

Realizing that, quality of service delivery is one of the key performance indicators for MeeSeva. ITE & C department of Govt. of Telangana, developed and implemented an Interactive MeeSeva Dashboard. This provides a holistic view of the functioning of processes related to MeeSeva that includes three distinct channels. This include a close watch on the number of transactions being initiated at MeeSeva centres and how processing happens at various stages i.e., at department that owns a service. Close monitoring of Service Level Agreements (SLAs) by decision-makers is a key benefit that the department derives from this initiative.

The Dashboard, for example provides to department heads – information to enable track the performance of department across the districts and district officials will be able to track the performance of various departments within a district. The Dashboard also captures the information about 600+ services across 4500+ MeeSeva centers in 33 districts. Dashboard also contains information about all the approving authorities for each and every service and the operators of every MeeSeva kiosks along with their contact information.

Interactive MeeSeva Dashboard is currently operational covering about 600+ services across 4500+ MeeSeva centers in 33 districts. It also captures information about the performance of 1800+ approving officers across 600 services from 40 departments and already populated with more than 1.5 crore transactions.

eMitra, Rajasthan

eMitra project was started with an objective of providing all Government services to the common man in their locality, through a one-stop-shop (integrated service delivery), ensuring efficiency, transparency and reliability. The idea was to link the

residents of the state, especially in the rural areas, to a basket of information and services through an IT-enabled service delivery platform. For deploying - assessment of local needs, aield-studies, process reengineering was carried out to simplify and automate the internal processes.

Modes of Delivery
Residents can avail the services through below service delivery points:

- Online web-based e-Mitra application (http://emitra.rajasthan.gov.in).
- e-Mitra mobile app available in Windows, iOS and Android versions that can be downloaded from e-Mitra application or Google Play Store.
- IT enabled physical kiosks set up on Public Private Partnership (PPP) model in both - urban and rural areas of Rajasthan close to the doorsteps of the residents. These kiosks act as the front end service delivery points for various Government Departments and Organizations and also private service providers.
- e-Mitra Plus: Interactive Self Service Kiosk (SSK): In alignment with the "Digital India Mission'' and towards making Rajasthan a digital leader - Rajasthan has become the first State in India to introduce high-end technology based, next generation e-Mitra kiosks "eMitra+". Installation of "eMitra+" is in progress at Gram Panchayat level.
- Presently, more than 51,000 kiosks are delivering 425 plus G2C & B2C services with approx. 70 lac transactions per month across the State, collecting revenue of around Rs.700 crores. New services are being added to its fold, regularly.

Nominee has submitted another related project for award under different category, where in it is informed that several initiatives have helped in making eMitra a continued success, which include:

1. Citizen centricity is the success key for any e-Governance Project. eMitra, now provides *over-the-counter service delivery till the last mile* - eMitra counters are present in all Atal Seva Kendras (IT facilitation centres) till Gram Panchayat level across Rajasthan.
2. Maintaining a strong and cohesive relationship with all stakeholders is the necessity towards successful roll out of the project. To ensure this complete automation of service delivery processes along with complete process reengineering providing *online-real time commission payout to stakeholders in their e-wallets* is maintained on eMitra portal.
3. Sensitization and awareness about the scheme, services being delivered and other initiatives is of paramount importance. Thus, all kiosks are *connected to soft-Video Conferencing* facility that is used for training of kiosk owners till Gram Panchayat levels in 33 districts of the state, as a service for Citizen Grievance Redressal by local administration.
4. Bulk of the *kiosks work as Banking Correspondents and are Micro ATM equipped*, ensuring their financial viability with an extensive service basket to offer.

5. m-Governance is not a replacement for eGovernance, rather it complements eGovernance. Thus eMitra *launched a mobile app along with web portal* and physical kiosks.
6. eMitra project implemented convenient and transparent service delivery by breaking the monopolistic approach of kiosk holders through *transaction based, commission charges and performance based, approval for operating the kiosks*.

It was seen, the above three projects have introduced good innovations within their projects to meet the citizen service needs. For instance, introducing MeeSeva mobile based applications in Telangana, introducing IT enabled physical kiosks in Rajasthan and to familiarize their employees – Andhra Pradesh's capacity building programs are very noteworthy. Contemplating these, the following additional features are making the projects sustenance, more significantly.

CONCLUSION

Citizen's trust towards the service delivery is always a challenge for governments and becomes increasingly difficult to retain with alternate channels of delivery in demand and demand for new services keeping in pace with newer schemes and policy announcements of Governments.

From making services available on an assured basis in rural areas, issues like last mile connectivity, availability of power etc continue to offer opportunities for improvement for the Governments and the infrastructure planners.

With more and more departments channelizing their services through Common Service Centers, integration with multiple application systems pose a different kind of effort towards standardization of interfaces and making data exchange reliable and transactions traceable.

With services being offered through PPP driven business models, viability of operations on a sustainable mode is a big challenge for service providers at the ground level. Transaction volumes and citizens visits – monthly and seasonal both, continue to influence the viability apart from branding publicity to facilities by Governments.

In all the three cases assessed, it is observed that the challenges from the stakeholder's perspective in making the services available on an assured and satisfactory basis are adequately and continuously addressed by the Governments through appropriate interventions. Data made available in terms of No. of centers, transactions and, making interactions affordable and easier through mobile technologies etc., adds credibility to their nominations, making these projects qualified as substantially sustained.

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Citizen Empowerment through e-Governance Select Initiatives from India

The sine qua non for Citizen Empowerment is good and transparent governance for which there is perhaps no better means than the usage of Information and Communication Technology. A citizen empowered adds strength and solidity to the democratic processes and its values.

This compendium **"Citizen Empowerment through eGovernance – Select Initiatives 2018"** captures and presents a set of initiatives; pan India, grounded by the authorities and institutions associated with Governments at State or Central level. It is indeed their dedication, hard work and the appropriate usage of ICT that have contributed to paving the way for true empowerment of citizens in the country.

The results, critical success factors, the nuances of implementation, the key learnings, the infrastructure development, training of human resources, process reengineering, and other related factors, as articulated by the authorities of various government entities, form the core content of this compendium.

The set of success stories presented covers sectors such as – Agriculture, Animal Husbandry, Fisheries, Environment, Education, Employment, Energy, Water, Food and Civil Supplies, Housing, Urban Development, Police, Security, Courts, Revenue, Finance, General Administration, Social and Citizen Welfare Services etc.

The Special Interest Group on eGovernance of Computer Society of India (CSI) has been at the forefront in bringing out to the discerned readers, year on year for over fifteen years, publications on **"Select eGovernance Initiatives",** many of them of type G2C, aimed at citizens' empowerment through adaptation of eGovernance best practices, from across India.

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