ICT and Societal Concerns at the Grassroots: TARAhaat Experience in Rural Areas of *Tikamgarh* District of Madhya Pradesh in India

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ABSTRACT

In India, District or zila is the most important administrative unit of the government through which it carries out the implementation of its policies and programmes at the grass roots. All the information and issues of the villages related to law and order, public grievance, public distribution system, social welfare, employment generation, land reforms and so on are available at the offices situated at respective districts whose administrative head is a District Collector. A villager has to traverse several miles and spend several hundreds of rupees to have access to the District Collector for getting the mandatory approvals that are necessary for obtaining the requisite license, certificate or any other service. However by the prudent usage of ICT the villagers can have convenient access to all the public services in their own localities through a 'Single Window clearance'. In ideal conditions when an e-Government application metamorphoses as an e-Governance application, it can also empower rural masses in remote villages with greater opportunities to participate in the democratic processes. Nevertheless the success of any rural e-government application is not unconditional. While, these rural e-government applications are designed and implemented with the right earnest, they are not able to render expected social or economic benefits to the rural poor. The success of these applications not just assumes e-readiness of the region in terms of infrastructure facilities but involves several social cultural and political aspects, which are necessary to be identified, delineated and addressed by researchers, project leaders and policy makers alike. This ethnographic research on TARAhaat initiative in Madhya Pradesh, using a Case-Study approach is an attempt in this direction.

***Keywords*:** TARAhaat, ICT, e-Government, Rural Development, Socio-Cultural Issues, Digital Divide, Davis's Technology Acceptance Model (TAM), Village Information Centres, Citizen Service Centres, Alternative Classification Style

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1. Introduction: ICT for Rural Development in India

"*It is almost genetic in its nature, that each generation will become more digital than the preceding one*" (Nicholas Negroponte, *Being Digital, 1995)*

In the present scenario, the inevitable influence of Information Communication Technologies (ICT) on the rural society cannot be undermined. Rapid proliferation of digital technologies in the villagers' life has undoubtedly acclaimed ICT as a tool for rural empowerment and socio-economic development[4]. The Government of India (GoI) in its highlights of Budget- 2007-08 announced that 15,054 villages have been covered under rural telephony and efforts would be made to complete the target of covering 20,000 villages by 2007-08 (http://www.rediff.com/money/2007/feb/28bud4.htm) and Rs. 100 crore were allocated in its 2004-05 budget as "*a national initiative launched by an alliance of nearly 80 organizations, which aims to set up a `knowledge center' in every village by the 60th anniversary of Independence Day*" (Business Line: March 1, 2005, pp 17). The Tenth Five-Year Plan (2002-07) has proposed a major effort to promote use of ICT for rural sector. Several Indian states have already implemented ICT projects in villages through their own initiative, or with centre's support or through other models of Public Private Partnership.

One such initiative by a nongovernmental organization called Development Alternatives, has been '*TARAhaat'*, that has also been the winner of Stockholm Challenge Award (2001) for 'innovative applications of IT in the global village (Rana, 2002). Likewise, more than 50 grassroots' projects are currently using modern ICTs for development in India including setting up of rural PC kiosks. Whether ICT has been able to contribute meaningfully to rural development depends on how pervasive has been the impact of ICTs on the rural society. A very few empirical studies are available to gauge the effect and issues confronting ICT in rural sector, and whatever available don't offer much of an optimistic insight into the same, for instance refer Toyama *et al* (2005) that shows that rural kiosks in India still face the sustainability challenges. Taking a few case studies of IT for Rural Development and for IT in Andra Pradesh, Ramachandran (2003) despairingly points out,"*The basic challenge lie in improving the social sectors such as education, health etc, and developing the infrastructure. If these problems are not tackled the fast growing IT sector will leave the majority of the population behind, leading to a more polarized society*". Heeks & Davies (1999) summarize the situation in general when they state," … *estimates suggest that the majority of the ICT based initiatives end in total failure of a system that never works; partial failure in which the major goals are unattained or in which there are significant undesirable outcomes. "*

This ethnographic research aims to identify some of the social, cultural and political repercussions of ICT on villages and seeks to understand the `Information and Communication Technologies for Development' discourse in context of a developing country like India. For this purpose, *TARAhaat* initiative by a nongovernmental organization called Development Alternatives (DA) in Tikamgarh district of Madhya Pradesh has been selected.

2. Project Details

Development Alternatives (DA), a nongovernmental organization, in the year 2000, started its *TARAhaat*[5] initiative for utilizing Information and Communication Technologies (ICT) for providing sustainable livelihoods and social empowerment to rural people. The mother portal (http://www.tarahaat.com/) has been complemented with establishments of village information centres, which are referred as *TARAkendras*[6]*,* in the villages of Madhya Pradesh and Punjab. "A broad portfolio of services is offered

[4] Development is a widely participatory process of social change in a society intended to bring about both social and economic advancement, including equality, freedom and other valued qualities for the majority of the people through their gaining greater control over their environment.

[5] *TARA* is a Hindi word that means 'Star' and *haat* in Hindi means a 'gathering place' or 'a street market'; *TARA* in this context is an acronym for Technology and Action for Rural Advancement

[6] *Kendra* is a Hindi word that means 'Center'

through TARAkendras – the community knowledge cum business centre. Initial focus has been on vocational training, community development, information and e-governance through a host of programmes customized for local communities" (Source: http://www.tarahaat.com/communication.aspx). There are two business models which have been used for establishing the *TARAkendras,* the first one being Company owned and Company operated (COCO) kendra and the other model is where the *TARAkendra* is owned by the individual village entrepreneur and are operated as a franchise unit. The ICT based services provided at a *TARAkendra* include IT based skill-building programs such as Training programs on Computer Literacy, Conduct of Diploma in Information Technology (DIT), Training on Hardware Assembly and troubleshooting, Training on Accounting Software and Computer Based Training (CBT) module on Basic primary level education. In *TARAkendras*, "Information and services have been separated into "Channels" and "Services". Available channels include Entertainment, Health, Livelihood, Schemes, Law, Governance, Water, Events, Agriculture and TARAgyan. Services offered are TARAmandi, TARAdak, Astrology, Classifieds, Discussions, Resume, Matrimonial, Opportunity and Weather. TARAhaat is also planning to implement services that focus on enterprise development programs, enterprise packages, web based business support services and vocational training programmes that are designed specifically for women to support home enterprises" (Government of India, Ministry of Information and Communication Technology, 2007, http://www.mit.gov.in/default.aspx?id=598).

By the year 2002, *TARAhaat* in Madhya Pradesh got an affiliation of e-Government from district government of Tikamgarh for providing government services and related information at nominal charges to the people in the villages of Orchha and Niwari *tehsils*[7]. *TARAhaat* delivers public services such as Caste certificate, Income Certificate and so on through a network of village information centers referred as *TARAkendras*. At present there are five *TARAkendras* at Orchha, Niwari, Taricher, Tikamgarh, Prathvipur villages of the Tikamgarh district, the first four being COCO and the last one is a franchise centre. All *TARAkendras* are equipped with requisite ICT infrastructure including Computers, Printer, Software and Internet connection required for downloading, printing and submission of application forms. Each of these *TARAkendras* in Tikamgarh district are manned by local staff chiefly comprising of one *TARAkendra* Coordinator, one Lab Instructor, one or two TMA (*TARAhaat* Marketing associates), and one or two other instructors, who are usually women for other vocational training programmes such as Arts and Crafts, Tailoring Course and a teacher for primary level students for *TARAakshar*. The hardware problems of these five *TARAkendras* of Tikamgarh district are jointly handled by a team of a trained hardware engineer and by two other supporting staff. These happen to be former students of Orchha *TARAkendra* and are presently employed by DA. The *TARAkendra* Coordinator is trained to aid the villagers for provision of various services on nominal payment of Rs. 10-30/- per form, as the case may be (refer Table-1 for Cost Details of Government Services Available at Tarakendra). Subsequent to the submission of the completed application forms to *TARAkendra*, in most of the cases, these application forms are sent through e-mail to DA's employee, called as 'e-Government Coordinator', at Tikamgarh district, who then delivers these forms to the respective departments or at the district office. After all the bureaucratic formalities are over, the desired certificates etc. are obtained and dispatched by the e-Government Coordinator, to the respective *TARAkendras* from where the villagers come and collect the same. The expected outcome of the e-Government services at *TARAhaat* initiative is to bring the government closer to the people and thereby ensure better governance in the villages.

[7] A *Tehsil* is an Urdu word meaning 'collection'. In context of Public Administration in India it represents an administrative subdivision or tier of local government of nearly 100-350 villages. In certain cases tehsil and district (also referred as Zila) represent the same thing but in context of this research, Orchha and Niwari are *tehsils* under the District Collector's office situated at Tikamgarh district/*zila* of Tikamgarh district.

Apart from the ICT initiative disseminated through *TARAkendras*, the other initiatives in the region by DA include livestock development, women's enterprise for kitchen spices under the name of 'Shakti *masaley'*, improved agricultural practices including vermicomposts, bio-mass gasifiers, rain-water harvesting projects, creation of 'chek'-dams, '*goushaala'* initiative for building shelter homes for old cattle and so on. DA is instrumental in creation of several community-based organizations for youth, farmers, young girls and artisans. Special Self-Help Groups for women have also been initiated for inculcating social and financial awareness in them. Approximately 8 kms away fom the main Orchha village, Development Alternatives has also set up a colony called as '*TARAgram'*, spread over 10 acres, that encompasses several small scale enterprises especially a hand-made paper manufacturing unit along with a sales- outlet that provides livelihoods to several villagers especially women.

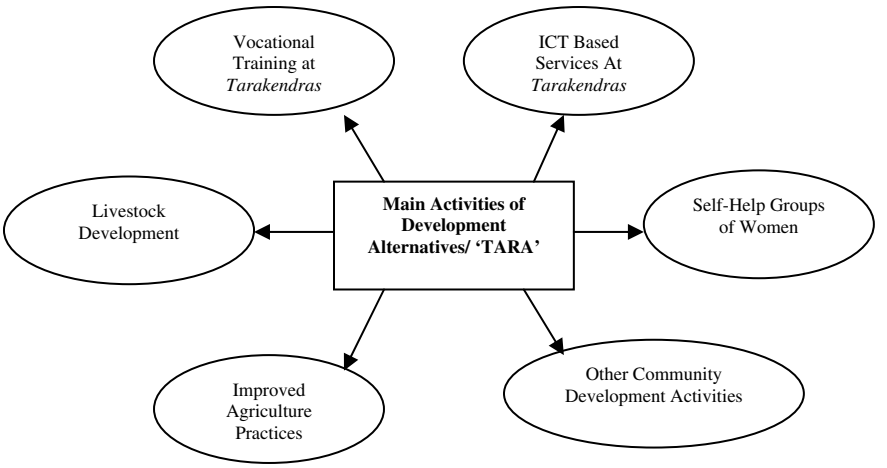

Figure1: Various Activities Undertaken by Development Alternatives under the Ambit of 'TARA'

3. Reasons of Selection of the Research-Site

TARAhaat initiative in Orchha and Niwari *tehsils* of Tikamgarh of Madhya Pradesh serves as an interesting case study to research the issues and the concerns impeding growth of ICT in the rural context especially in the matters concerning government and governance. This has been done on the basis of its established reputation (it won Stockholm Challenge Award, 2001; and it is widely referred in academic literature, for instance refer Lal *et al*, 2006), proximity (415 Km from Delhi and well connected by train till city of Jhansi and then 16 km by a road), acceptance (for instance refer news item "Success Stories of Hari Shankar and Priti Sharma at TARAhaat, India" by Partha, 2005, in http://www.grassrootsvoices.net/newsletters/tarahaat-newsletters_1.pdf/view, accessed on 3rd July, 2008 and also several reputed publications, for instance refer Lawlor *et al,* 2001), diversity of the pioneering organization (it has researched and developed several hundreds of rural projects in rural India, under the ambit of Development Alternatives and replicated approximately 10-15 of these projects as Business proposition under the brand name of *TARA*) and its scale of replication (*TARAhaat* initiative of DA is currently in 9 states of India including Madhya Pradesh and Punjab). The social fiber of the villagers' in the entire Bundelkhand area of Madhya Pradesh has been influenced by the presence of DA and TARA in ways more than one.

4. Research Design

The objective of this research is to understand the various concerns and issues confronting implementation of *TARAhaat* in villages of Orchha and Niwari tehsils of *Tikamgarh* district of Madya Pradesh. The social impact has been studied in terms of three parameters *viz.* Acceptance of Technology, Access to

Technology, and the Perceived Usefulness of Technology to the rural people. Taking cue from Davis's (1989) Technology Acceptance Model (TAM), the parameter 'Perceived Usefulness' has been considered to reflect the socio-economic benefits rendered by technology. Here the word 'Technology' represents Information Communication Technology (ICT) services especially the e-Government services offered at *TARAkendras*.

In the process the several research questions have been addressed to gauge the factors that have led to easy acceptance of technology and the impeding factors that have curtailed the benefits of ICT and the other related issues encountered during the research. The research questions are broadly categorised, as following, as per the three parameters to be studied.

Research Questions related to Access to Technology

- Has the presence of *TARAkendra* improved the access of technology to the socially disadvantaged groups like women, old people, handicapped, schedule Castee and villagers below poverty line?
- Is the *Tarakendra* easily accessible through convenient modes of public transport?
- *Research Questions related to Issues and Concerns at the Acceptance of Technology*
- Have the local community accepted the presence of *TARAkendra* in their region?
- If *TARAkendra* has been accepted, what are the reasons of the Success and Acceptance of *TARAkendra* in the rural locality?
- If *TARAkendra* is not very popular in a region, what are the reasons given by the villagers for the same?
- What issues are leading to the success or rejection of an ICT initiative in the villages?
- *Research Questions related to Perceived Usefulness (Benefits perceived by villagers) of Technology*
- Has the *TARAkendra* been able to provide better livelihood options to the villagers especially women?
- Has the e-Government initiative at *TARAkendras* lead to an easier access to the related public services for the villagers?
- Could the e-Government initiative at *TARAkendras* provide an easier access to relevant government information in the rural areas?
- Have the services been provided at *TARAkendras* increased the general awareness about social and governance issues related to health, sanitation, agriculture, right to information, citizen charter, self-help groups, microfinance etc.

The project details have been assimilated from the extensive study about the project from the Secondary Resources like the Project web-portal, academic papers and the news-item coverage. Subsequently the ICT Impact assessment mainly involves the Primary Research methodology. The methodology for the primary research was initially based on the use of questionnaires pre-designed for the project-leader, project staff and the kiosk-visitors. These questionnaires were prepared for self-assessment of the situation and focused on general profile, preferences of the stakeholder and usage/ maintenance of the kiosk. However it is significant to mention here that barely 1 or 2 *TARAkendra* visitors out of 5 interviewed per *TARAkendra* had the inclination to reply all the questions listed in the pre-designed questionnaire despite all the persuasion and the monetary compensation offered. The main reason cited was the "*preoccupation*". Therefore from second day onwards till the end of the trip, observation, semi-structure interviews, field visits and informal discussions and focused group discussions became the chief tools of this ethnographic research.

Out of total five *TARAkendras* in the Tikkamgarh district, three *TARAkendras* in three different villages viz. Orchha, Niwari, and Taricher were visited. Main information was collated interacting with approximately five *TARAkendra* visitors, choosen randomly, at each of these *TARAkendras.* This exercise was followed by carrying out one to one meetings and informal interaction with *TARAkendra* Coordinator,

Lab Instructor, TMA (*TARAhaat* Marketing associates) and women instructors for other vocational training programmes such as Arts and Crafts Teacher at *Niwari*, the lady heading Tailoring Unit and the primary school teacher of *TARAakshar* at Orchha centre. Detailed discussions were undertaken with the company officials and project leaders at Orchha *TARAgram*, and Pahuch *TARAgram* to understand the detail implementation strategies and diversity of the organization pioneering the *TARAhaat* initiative. Informal meetings were also conducted with approximately 8 to10 villagers per village in all these three villages. The villagers were also randomly chosen, to access the acceptability of the *Tarakendra* in the region. Total 32 villagers were interviewed in all the three villages regarding *TARAkendra.*

Since this is a socio-cultural study of impact of technology therefore emphasis was also placed to record the existing social set up and the regional culture, if any to the changing conditions in the modern world. Information was gathered about the geographical environment of villages adjoining *Orchha* to study the prevailing customs, traditional practices related to community issues such as disaster management, agriculture practices, water-management and traditional methods of cure in context of its acceptance with emerging ICT trends. Impact Assessment has been done based on the findings of these observational visits, discussions and to some extend the questionnaires covering the three components of the research – Acceptance of Technology, Access to Technology and Perceived Usefulness of Technology to the rural people especially for the e-Government services.

The limitation of the research design is the absence of application of quantitative tools in analyzing the data. Time constraint, hot weather and prevalent eye-flu epidemic also impeded field visits to deep interiors of the villages several times. The choice of *TARAkendras* for research could not be done systematically and therefore might not be a true representation of *TARAhaat* initiative or the region.

5. Research Findings

5.1 Factors Contributing to Popularity of ICT Initiative

Orchha *TARAkendra,* which is a Company Operated and Company Owned *TARAkendra* has been observed to be the most popular one for not just e-Government services but for all other services and vocational training programmes in the rural areas. Some of the reasons attributed for the success of this *TARAkendra* have been cited by its visitors as: "*Central Location easily accessible through public transport*" "*Availability of all Facilities including Internet and e-mail*", "*Good services provided by the staff*" and "*Availability of the IT training course-material in Hindi*". Project officials also applauded these strengths of their *TARAkendra* but in the same breath expressed their concern for their one of the franchisee based *TARAkendras* at Prathvipur village where they found its village entrepreneur lacking in "*drive and initiative*" to manage it.

5.2 Factors Impeding Manual Availability of Government Services at the District Office

20 villagers out of the total of 32 villagers including the *TARAkendra* visitors (about 63% of the total interviewed) revealed that prior to the availability of government services at the village *TARAkendras*, they would "*rarely*" approach the *tehsil* or the district/*zila* administration (as the case might be) directly for any services primarily due to two impeding factors *viz.* "*distance*" and "*complications*". Though some application forms for availing some of the Government services are available at the Block level but since all the government officers are available only at *tehsil* or the district level (as the case may be) so 23 of the total 32 villagers (approximately 72%) complained of the "d*istance problem"* as the main hurdle of the prevailing manual system. About 60% of them commented that "t*he government forms are complicated and require lots of information to be filled* in" whilst about 88% of them complained about "*several attested documents are to be attached for getting any certificate*". Some of them (About 53% of the total of 32 villagers who were interviewed) complained about various other problems encountered at the government office including factors like the inordinate '*bureaucratic delays"*, *"inappropriate response of authorities", "negligible feedback", "lack of accountability"* of the dealing-officials and *"absence of adequate customer-care support systems"* to explain the entire processes to them. 40% of the villager (13

villagers) also complained about the "*bad experience*" of making more than one visit for the same work to the district office without guaranteed success. About 81% of them found the manual procedures of getting any Government Services quite complicated and repetitive.

5.3 Factors Impeding/ Accelerating e- Government Services at TARAkendras

Success Factor 1: Accessible Location and Well-Equipped TARAkendras

All the three *TARAkendras* (Village Information Centres in the villages) and *TARAgram* colony (a colony setup by Development Alternatives housing the main administrative offices and some project sites) are at locations that are either in the main market (Niwari and Taricher *TARAkendras*) or are easily accessible by public transport (Orchaa *TARAkendra* and *TARAgram*). Project officials mentioned that this is considered to be a very important factor especially for the female visitors. The number of visitors, especially of young kids and women has been reported to increase considerably after Orchha *TARAkendra* was located closer to the village. All the three *TARAkendras* were also found to be well lit; with adequate furniture. There were five to six functional computers along with off-line UPS, one printer and videoconferencing facilities. All the computers had Windows Operating System, office-automation suite and provision of Internet connectivity. Customized training manuals, some of them in Hindi were also available in each of these setups. Some coonectivity problems were observed, that are mentioned later

Success Factor 2: Complete Documention Available at TARAkendra

The researchers observed that each of the visited *TARAkendras* had complete set of documents available including the list of government services available at the respective *TARAkendras*, copy of an authority letter issued by the District Collector stating that *TARAkendra* is an authorized service centre for e-government services and a process-sheet provided by DA staff which states the workflow for each of the e-Government services being provided by the *TARAkendra*. The list of government services along with the *TARAkendra* charges and the duration in days (i.e. the committed time of accomplishment of the respective services), are elaborated in Table-1 (Details of Government Services Available at *Tarakendra)*. Table-1 has been adapted from the initial table obtained from the *TARAkendra* at Orchha village where the list of services has been enhanced as per the discussions with other two *TARAkendra* coordinators. Also for the sake of clarity to the readers, the last column, titled as 'Explanation' column, has been added in Table-1 by the researchers after understanding the details from the concerned officers and *TARAkendra* staff.

Table 1: Details of Government Services Available at *Tarakendra*

S.No	Purpose		Duration of completion (days)	Price (Rs)	Explanation
1.	Complaints / Public Grievances		5	10.00	Any public complaint related to Cleanliness, Public Delivery Systems (PDS), Hospitals, Animal Husbandry and so on.
2.	Certificates	Domicile	21	15.00	The Caste Certificates for the literate villagers (5th class or onwards) is given by the Sub Divisional Officer at the respective *Tehsil* and for the illiterate ones, is issued by the District officer at *Tikamgarh*. 'Income certificates' for the farmers are issued from district offices at *Tikamgarh.*
		Caste			
		Income			

3.	Lifeline India Project / *Soochna* Se *Samadhaan Sewa*[8]	7	10.00	A farmer, using a mobile handset, with the help of volunteer (called as EK *Duniya*[9] Volunteer) calls up phone number to vocalize his agriculture query on a voice response system. This system searches a voice tagged knowledge database and provides an answer in case a similar question has been asked earlier. In case the database does not have an answer, the problem is referred to a subject matter expert and a registration number is generated and informed to the farmer. The query is recorded and stored in a computer. The farmer gets a reference number for his/her query. The subject matter expert is required to respond within 24 working hours and the answer is given via the mobile handset to the farmer. Knowledge workers from agri-business organizations analyze these calls and collate appropriate answers. These answers are stored in the computer against the reference number for retrieval by the farmer when he/she calls back again for the answer. The answers are to be given within 24 hours.
4.	Land records a. copy of *Khasra*	4	30.00	*TARAkendra* would provide the usual application form published by the government to obtain the duplicate copy of the land records (*Khasra*) through *Tehsil*
	b. Transfer of Property	2-3	15.00	Transfer of Property B1 certificate is obtained through *Gram Panchayat* or *Patwaari* (local administration) by filling application on a plain paper, whose soft copy is maintained on the local computer of the *TARAkendra*.
5.	Driving license	One month	40.00+ 25.00 for two-wheelers 70.00+25.00 for cars	The villagers would be able to get their learning licenses issued through *Tikamgarh*, after being aided to get, fill and submit the form along with the necessary documents at *TARAkendra*. Training for the Driving test would also be given at *TARAkendra*.
6.	Right to Information/ Printouts of Schemes, application forms etc.	5	10.00-15.00	The Villager would be able to get information about any scheme or work undertaken by the government. For queries related to administration, it has been agreed by the *Tikamgarh* District authorities that the replies would be sent within seven days to the respective *TARAkendras.*

[8] Hindi expression meaning 'Service providing Solutions through Information'
[9] *Ek Duniya* is a hindi word meaning ' One World'

7	Employment news	5	15.00	The employment department would provide information about the employment opportunities available in and around the vicinity of *Tikamgarh* District.
8.	PAN Card	2 to 3 months	35.00	The villager applies for the PAN card on a plain paper but a softcopy of the application form is filled and maintained in the local computer at *TARAkendra*. The hand-written application along with the necessary documents is deposited and then collected from the Income Tax office that is approximately 60 kms away in the town of *Chatarpur.*
9.	*Ration* Card (for Below Poverty Line villagers to avail Public Delivery Systems)	20	30.00+10.00	Application form for the *Ration* Card is available here. It is filled and submitted to the *Tehsil* office, where if approved, the raashan card is available from the local *Panchayat* office.
10.	'*Adhikaar/ Rin Pustikaas'*	7	15.00	Request for the Loan-Books could be made on the plain paper (copy of which is maintained as a softcopy on the local computer) and submitted manually to the respective *Patwaari* along with the necessary documents obtained from the Bank.
11.	Procurement of Farm-Equipments	15	15.00-20.00	Application is submitted on a plain paper (whose softcopy is maintained at *TARAkendra* for office records) to the respective Block along with the desired documents. If approved, this is forwarded to Agriculture Department at the District Headquaters which then grants 25% discount
12.	New Landline Connection for Telephones	30	10.00	Manual Application form is available at *TARAkendra* (whose softcopy is maintained at *TARAkendra* for office records). It is filled and submitted manually at the District office along with the necessary documents. The applicant gets 'Waiting list number' from the department that is informed through *TARAkendra*.
13.	Videoconferencing Facility through VRC (Village Resource Centre)- ISRO setup	Online	Free	Under this service, the villager gets expert advice on various issues related to veterinary, health, administration and agriculture. The Videoconferencing infrastructure is available at *TARAkendras* through a partnership between Indian Space Research Organisation (ISRO) and DA, using which the villagers are connected to experts at Delhi office of Development Alternatives on pre-designated hours. Even some special on-line classes are also conducted for the villagers through this facility.

14.	Ask the Expert	Queries Answered	Free	In this service, the villager can take help of *TARAkendra* volunteer to understand the details of the processes and the necessary documents etc. required for applying for any government services, forms or certificates.

Success Factor 3 : Trained and Motivated TARAkendra Staff

When asked to explain the process details, all the *TARAhaat* coordinators including a TMA (*TARAhaat* Marketing associates) at Niwari *tehsil* could well explain the process flow for some of the important documents like Issue of Certificates, Land Records. The researchers presume that the staff is equally motivated while aiding the villagers to carry out the desired process. 75% of the *TARAkendra* visitors expressed their need-based preference for obtaining 'Driving License', Certificates related to Income and Caste' and for land record documents viz. '*Khasra Kaotni'* through *TARAkendra.* Even the project officials admitted that though all the five *TARAkendras* are fully functional, yet on average only 4 to 5 visitors per week come to make any query regarding 'e- Government services', the impeding factors for which are listed below.

Impeding Factor 1: Presence of Middlemen and Obliging Officers

A general feeling vocalized by some elders in the village was not in favour of '*clean image of TARA*'. One of them said, "*Private companies have no acceptance at 'sarkaari' offices whereas 'these' people have a clout at the right places*". 50% of the villagers revealed that '*these'* people are their "*friends"* or "*educated relatives"* who help them to get the necessary job done from the government offices. About 34% of them accepted the fact that they do not have the requisite *"expertise*" or the "*complete set of documents"* which are required to be submitted for getting the necessary certificate or information from the Government offices. Several studies, for instance Bhatnagar (2000), point out that it is this kind of complexity in public service delivery mechanisms that inevitably leads villagers to the middlemen, who command disproportionate compensations for rendering assistance especially if their related documents are missing, incomplete or too cumbersome. However on the repeated assurances of anonymity 88% of the interviewed villagers obliquely suggested the presence of the '*dalaal* or middleman', who "help them to get the jobs done faster". Similarly none of the project staff completely denied the "*monopoly of dalals*". In a similar vein all the *TARAkendra* Coordinators conveyed their "*unhappiness over unnecessary delays*" when e-Government coordinator, as per them, is "*sidelined by majority of officers to give preference to dalals";* they simultaneously asserted *"but there is no problem if the District Collector is strict"*. One young villager asserted that the government officers themselves prefer 'comman man' over '*TARA* officers' as "*If officers can earn some extra money from people who are coming directly to the tehsil for the services, then they definitely do work of such people faster*".

Proposed Solution: Such unwarranted situations could be averted if at regular intervals, say at the end of every month, a District Level meeting is conducted by the District Collector for resolving problems encountered by villagers in various departments. Such face-to-face interactions would bring in more Transparency in the entire process.

Impeding Factor 2: Lack of Publicity and Popularity

While conducting interviews it was found that about 50% of the villagers who were situated at the outer perifry of the village were though aware of '*TARA*' as a brand name but were completely unaware about various services provided at *TARAkendra* of the village. The researcher, in one extreme case noticed that the shopkeeper next to the Niwari *TARAkendra* centre did not know that *TARAkendra* situated right above him could help him to procure his raashan card. He presumed that *TARAkendra* is just a "*sitching* centre and an IT training centre". This is despite the fact that the TMA at Niwari *TARAkendra* had been found to a young, motivated boy who preferred doing a door-to-door marketing to all nearby villages about various

services being offered by his *TARAkendra*. At present there is complete absence of adequate extension activities to popularize the schemes and *TARAkendra* activities among the villagers. In another discussion, one of the visitors to the *TARAkendra* who had come to check the status of his learning-licence completely rejected the option of "*coming again to TARAkendra for any service as it takes very long*". The matter of the fact is that the bureaucratic procedures for issue of his learning licence follows a pre-decided course, where it is issued on 11th of each month, about which he is quite unaware. It was observed that general awareness of the government processes is generally unknown to several villagers, leading to a general mistrust about quality of services being rendered by *TARAkendras*. More important is that villagers must be aware of various facilities that are now available at their doorsteps through *TARAkendras*.

Proposed Solution: Adequate funds and innovative strategies need to be provided by the Government and the related organizations to ensure proper publicity and diffusion of such Village Information Centres.

Impeding Factor 3: Lack of ICT Infrastructure and Support Services
TARAkendra coordinators, pointed out several reasons for inhibiting the efficacy of *TARAkendra* as successful e-Government service centre such as, "*Villagers do not get their certificates on time because the Internet facility is not functioning properly at majority of the times", "The 'e-Government Coordinator" does not have proper Internet connectivity available at Tikamgarh district ", and "there is no software provided at TARAkendra for e-Government services*". At the time of the visit the Internet connectivity was found working only in the *Orchha TARAkendra.* The other two *kendras* have dial-up Internet services through BSNL that were found to be functioning very slowly. One of the *TARAkendra* lab operators also rued about the "*lack of technical support*". As a result of such issues related to hardware and software infrastructure and also due to inadequate support services, the fulfillment of the services are more often than not conducted by manual modes rather than using Internet or e-mail. This means that the delivery of application forms and the collection of the desired certificates are done either by using postal services of communication or by sending/receiving these forms/applications through bus services to/from *Tikamgarh* which does not at all categories this model of delivery of Government services as 'e-Government' services.
Proposed Solution: A business model that generates sustainable flow of revenue is as important as various government subsidies in the rural sector for encouraging ICT initiatives

Impeding Factor 4: Several Manual Interventions in the Process Flow
About 44% of the villagers expressed "*lack of satisfaction*" regarding 'e-Government Services' available at *TARAkendras* due to "non-*availability of prompt services*". This discontent could be attributed to several reasons have been assimilated by the researchers, the chief one being that the majority of the processes remain manual. After the form is duly filled and submitted at the *TARAkendra*, the 'Online' forms are supposed to be 'emailed' to e-Government Coordinator of DA positioned at the district or *tehsil* offices (as the case might be). Simultaneously the filled form or its hard copy is collected and submitted by the 'e-Government Coordinator'. After the form-submission the 'e-Government Coordinator' has to regularly follow up the respective officers for the desirable '*quick'* action on the same. Once the applications have been approved and forwarded by the concerned officer, also it is collected by the 'e-Government coordinator' from the respective department at the *tehsil* or the district and dispatched back by post or by bus from where the applicant receives the certificate. This process was confirmed to be the same by all other *TARAkendra* coordinators and the project staff. TMA also conveyed that the efficiency of e-Government services is complemented only if 'e-Government coordinator' is "*good*".

It is pertinent to mention here that for providing various certificates such as Caste Certificate, Income Certificate, Proof-of-Residence Certificate, it is stated everywhere in all the visited *TARAkendras* that the application form for these certificates would be filled "Online". However as already pointed out in the preceding section that the application forms for any of these services were neither available on the district government's website (http://tikamgarh.nic.in/nic.htm) nor at the *TARAhaat* website (http://tarahaat.com).

They were instead available as a soft-copy (MS-Word format) in the local hard disk of the *TARAkendra* coordinator and e-Government Coordinator of DA. The categorization of the *TARAhaat* initiative under achievement of 'Governance objectives' by delivering Government services in the academic literature (for instance, refer Singh, 2005) or on government web-site (http://www.mit.gov.in/default.aspx?id=598) that refers to the initiative as 'G2C-R' which is a standard acronym to categorise any e-Government initiative as 'Government to Citizen-Rural', seems to be a bit far-fetched. Even the mention of the word 'e-Government' in the authorization letter issued by district authorities at Tikamgarh as well as the usage of the word 'Online' in the project details including the process sheets, gave an impression to the researchers that the villagers of the region must be getting directly connected to one of the district government websites through Internet connection and that their application forms must be directly getting submitted 'online' by a mere click of 'submit' button of the computer available at the local *TARAkendra* .The reality, however was observed to be to the contrary. As already explained in the previous section, the submission of the forms is done manually by the 'e-Government Coordinator'. *TARAkendra* merely serves as a 'collection point' and 'delivery point' for these government services.

Proposed Solution: Provision of ICT Infrastructure shall not resolve issues confronting rural governance. Unique and sufficient numbers of customized software systems based on software engineering principles are required for automating government services in the villages. There is a dire need of innovation in strategies for design of such rural e-government applications for which both public and private organizations need to adopt a citizen-centric approach.
Meanwhile all the services and applications available in any Village Information Center need not be generally classified as 'e-Government' or 'e-Governance' services. One could categories these services in an alternative manner to avoid such blatant misnomer. The researchers suggest one such style of classification, christened as Alternative Classification Style (ACS) by the researchers.

6. An Alternative Classification Style (ACS) for ICT based Government Services in the Rural Areas

Total 15 services (including two kinds of Land Record services in Table-1) were understood, observed and analyzed to understand the exact nature of each of these services being provided at *TATAkendras*. As per the researchers, instead of blatantly referring to any form of ICT intervention in the public domain as 'e-Government services', it would be more appropriate to categorize these services in the rural context depending on the level of ICT intervention, as per the Alternative Classification Style (ACS) that hereby follows:

- E: Complete e- Government Service: It is an electronic public service delivery model that totally relies on ICT (including broadcast facility) to connect the citizen of a remote village through a village information centre to the desired expert/government office. This model uses Internet connectivity or community radio to get connected to the desired expert. In case of e-Government this connection is with the department or website of the government/ organisation wherein the application forms/queries are submitted electronically by the villagers or the staff/volunteers associated with Village Information Centre. None of the services being provided at *TARAkendras* could be categorized as 'E' i.e. none of the listed 15 services are Complete e-Government Service.
- S: Simple e–Government Services: Any public service initiative application forms are downloaded or saved as a soft-copy, which are filled electronically using a word-processor and then submitted manually. The soft copy of the specified government services could be either downloaded online from the authorized website/portal or are available off-line on the local hard disk of the village information centre. The form is filled off-line using the word-processing software, its copy retained of the local hard-disk of the village information centres but are printed and submitted manually to the desired government departments by the concerned 'coordinators'. The process of obtaining a government certificate (Caste/Domicile or Income) through *TARAkendras* could be

classified in this category (Refer Sno. 2. in Table-1 and Table-2)

- W: Word-Processing Government Services: In this model, all the application forms or the desired information related to the public sector services are available as soft-copy or saved as soft-copy on the local hard-disk of the village information centre. In case of application forms, they are printed, **filled by hand** and submitted manually through the village information cente, *TARAkendra* in this case, which serves as a delivery centre for providing the soft copy of the application forms/information to the villager. But after this the process of form filing is done manually through its trained staff and finally serves as a collection centre for the villagers to receive the requested certificate etc. Most of the services (7 services out of 15 listed ones in Table-1 and Table-2) provided by *TARAkendras* belong to this category.
- F: Facilitator Center for Government Services: In this model the village information centre only facilitates the process of collecting the requests Manually or Electronically. The villagers either get the usual published application form that has been issued by the respective government offices or they submit the necessary request on a plain paper to these village information centres. Entire details of the process (how to fill the form, which documents are required, which department is concerned etc.) are available to the villager through the trained staff of the centre or the experts facilitated by Development Alternatives. The Village Information Center *(TARAkendra* in this case) serves as a collection centre for receiving these applications along with the desired documents etc. The village information centre therefore facilitates the process of collection and submission of these requests to the respective government departments. In certain cases, the delivery of the desired certificate from the respective departmental offices situated in block, *tehsil* or district might also have to be done by the villager himself/ herself. This facilitation could also be electronic, to be termed as e-Facilitation, where the villager gets the response to his queries electronically (using Internet, e-mail, Broadcast, mobile telephone or Videoconferencing facilities). 7 services out the listed 15 services (refer Table-1 and Table-2) provided at *TARAkendra* belong to this category out of which 2 of them, *viz*. Lifeline India Project and Videoconferencing Facility could be categorized as 'Electronic-Facilitation Services'.

Table 2: Alternative Classification Style (ACS) applied to various Government Services provided at *TARAkendras*

S.No	Purpose		Mode of Accomplishment
1.	Complaints / Public Grievances		F: (Manual) Facilitation Service. The villagers sign and submit their grievances on a plain paper to *TARAkendra* who facilitate the process of forwarding and receiving a reply back from the respective departments.
2.	Certificates	Domicile	S: Simple e-Government; The application forms for all the certificates are available in softcopy, filled electronically but submitted and received manually from the government office through the 'e-Government Coordinator' deputed by DA to assist *TARAkendras* in delivering this service to the villagers.
		Caste	
		Income	
3.	Lifeline India Project:		F: (Electronic) Facilitation Service: The villager with a query, using a mobile handset of 'Ek *Duniya* Volunter' (EDV), is connected to a voice response system. Since this interaction is not directly with government, therefore it is an e-facilitation service but still not an e-Government service.

4.	Land records a. Copy of *Khasra*	F: (Manual) Facilitation Service. This is so as the whole process is manual and the villager is only facilitated by *TARAkendra* to fill and submit and later receive the copy of *Khasra*.
	b. Transfer of Land	W: Wordprocessing Government Services. Though the villager applies for Transfer of Land on a plain paper but a softcopy of the application form is simultaneously maintained on the local hard-disk for record purposes
5.	Driving license	F: (Manual) Facilitation Service The manual application forms for driving licence are available, filled and submitted manually at *TARAkendra* that facilitates the process of form submission and for the desired test-drives.
6.	Right to Information/ Printouts of Schemes, application forms etc.	W: Word Processing Government Services On payment nominal charges, after the stipulated duration, the printed copy of the desired information related to the government services, schemes etc. pertaining to the *Tikamgarh* region could be obtained by any villager.
7.	Employment news	W: Word Processing Government Services (Reasons are Same as 'Right to Information')
8.	PAN Card	W: Wordprocessing Government Services. Though the villager applies for the PAN card on a plain paper but a softcopy of the form is maintained on the local hard disk for record purposes. Rest of the process is entirely manual.
9	*Ration* Card (for Below Poverty Line villagers to avail Public Delivery Systems)	F: (Manual) Facilitation. Application form for the *Raashan* Card is available here. It is filled manually and submitted to the *Tehsil* office, where if approved, the *ration* card is available from the local *Panchayat* office.
10.	'*Adhikaar/ Rin Pustikaas'*	W: Wordprocessing Government Services (Reasons same as PAN Card)
11.	Procurement of Farm-Equipments	W: Wordprocessing Government Services (Reasons same as PAN Card)
12.	New Landline Connection for the Telephone	W: Wordprocessing Government Services (Reasons same as PAN Card)
13.	Videoconferencing Facility through VRC (Village Resource Centre)- ISRO setup.	F: (Electronic) Facilitation. The Videoconferencing technique available at *TARAkendras* for resolving queries can be termed as 'Electronic-Facilitation' service, wherein villagers are connected to experts at Delhi office of Development Alternatives on pre-designated hours, for resolving any kind of queries.
14.	Ask the Expert	F: (Manual) Facilitation Service

7. Research Findings

Notwithstanding the complete absence of 'Complete e-Government Services' (as per proposed Alternative Style of Classification), the research reveals that the establishment of *TARAkendras* in the rural regions of

Tikamgarh district of Madhya Pradesh has ushered in a wave of digital awareness in the villagers. The facilitation services provided at *TARAkendras* are a step in the right direction to bring 'governance-at-the-doorsteps' by providing 'Single-Window clearance' facilities to the villagers. The easy accessibility of the *TARAkendras* has helped the villagers to easily accept and use *TARAkendras* meaningfully. Moreover the brand equity of '*TARA'*, established through its other development initiatives in the region has also aided the process of technology diffusion in the region. The presence of *TARAgram* colony in Orchha region seems to be a compelling example of economic development and empowerment ushered in by provision of sustainable employment opportunities to the villagers.

The existence of *TARAkendra* in their locality is being viewed as a lucrative option of livelihood by the educated youth of the area especially the young girls who have already undertaken training at *TARAkendra* and are now employed as teachers/trainers at *TARAkendras*. Internet and e-mail have empowered the villagers to explore the employment opportunities in nearby cities like Jhansi and Chatarpur beyond the scope of their own village. Little children and reticent, illiterate women who would otherwise not prefer to be regular students in a conventional school were found to be inquisitive students of multimedia based*TARAakshar* training module at two of the *TARAkendras*. But there is still a need to involve the marginalised communities, like people living below poverty line, schedule castes, handicapped and elderly population of the area. If this is not done ICT might create more of 'digital divide' than 'digital unite'. *TARAkendras* have been found as an acceptable by majority of the villagers for its ICT and other vocational inputs but its e-Government initiative has not been found to be very effective due to various social and infrastructural limitations which can be overcome only by suitable support from Government

There is also an urgent need for public campaigns to build social awareness about various Government services and informations accessible through *TARAkendras*.The usage of ICT for ameliorating public awareness about social and governance concerns related to health, sanitation, gender, right to information, citizen charter, microfinance etc. is yet not very palpable in the area. A local online Newsletter or/and a Community Radio project would help them to relate better to the local problem and opportunities. Similarly projects like 'Lifeline India Project', 'Ask the Expert' and ISRO aided Videoconferencing facility as Village Resource Center (VRC) have definitely ushered in digital revolution in the villages and have also helped the villagers to resolve their local governance issues. However the impact of these initiatives would be more tangible if these advice are based on solutions and resources that are indigenously available, and are meticulously supplemented by actual expert visits.

8. Concluding Remarks

It is important to effectively manage such opportunities at grassroots so that the intended benefits can be reaped by the rural society in particular and sustainable rural development is assured. Merridy Wilson (2003), warns against exaggerated expectations of ICT led development when she says "…. *This (new) model of development is grounded in assumption of technological determinism assumptions that ICT constitute a magic development solution – and this allows the complex political factors influencing poverty and inequality at local, national and international level to be hidden, or at least go largely unquestioned*." To balance social development vis-a-vis unwarranted repercussions, the stakeholders of ICT based rural initiative must foster a citizen-centric approach and design ICT based systems that integrate well with the rural society, both vertically and horizontally. Such ICT systems must be able accept inputs from the prevailing community rural approaches that are already being used by the villagers to respond to their local issues, rather than designing any run-of-the-mill, off-the-self solutions that would redeem no concrete social development for the villagers. This also calls for new governance strategies and innovative ICT policies that are responsive to rural citizens' participation. In general " … *the culture of the governance needs to be changed from bureaucratic to participatory*" (Global e-Government Readiness report, 2005-06) for ICTs to tangibly improve overall quality of life of rural societies.

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