

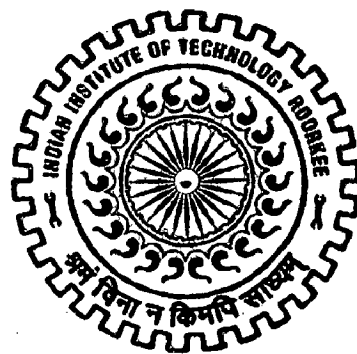
PLANNING FOR eGOVERNANCE IN LOCAL AND REGIONAL ADMINISTRATION OF UTTARANCHAL STATE

A DISSERTATION

*Submitted in partial fulfillment of the
requirements for the award of the degree
of*
MASTER OF URBAN AND RURAL PLANNING

By

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JUNE, 2006

CANDIDATE'S DECLARATION

I hereby certify that the work, which is being presented in the dissertation, entitled **“PLANNING FOR eGOVERNANCE IN LOCAL AND REGIONAL ADMINISTRATION OF UTTARANCHAL STATE”**, in partial fulfillment of the requirement for the award of the degree of **Master Of Urban And Rural Planning**, submitted to the Department of Architecture and Planning, Indian Institute of Technology Roorkee, Roorkee is an authentic record of my own work carried out during the period from July 2005 to June 2006 under the supervision of **Prof. R.Shankar**, Department of Architecture and Planning, Indian Institute of Technology Roorkee, Roorkee.

The matter embodied in this dissertation has not been submitted by me for the award of any other degree.

Dated: 15 June 2006

Place: Roorkee

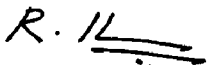

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This is to certify that the above statement made by the candidate **Mr. Surya Prakash.V** is correct to the best of my knowledge.

Dated: 16 June 2006

Place: Roorkee


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SURYAPRAKASH.V

Dated: 16 June 2006

Foreword

There is a myth under circulation that the Information Technology solution is anti poor and is an unaffordable luxury to nations like India. One has to only realize that **Information Technology** is '*only a tool*' that influences the objective and if the objective is to make the system more transparent, open and accountable, there is no way it can be anti poor. *Most of the rural areas suffer on account of lack of right information regarding the markets, products, agriculture, health, weather, education etc and if all this can be addressed through connectivity and Information Technology, a sea change can be brought in the conditions of the rural communities with the efficient and effective use of existing (physical) infrastructure. This is how creation of a knowledge and information economy can bring in more opportunities and thereby prosperity to the impoverished areas than any other rhetoric.*

This project makes an attempt to prioritise and connect the hilly and remote areas of Uttarakhand, so that these villages can become knowledge hubs to gain symbiotically from each other and derive benefits from the global networks.

Dedicated to the people of Uttarakhand

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Acronyms

AP	Andhra Pradesh
B2B	Business to Business (Services)
B2C	Business to Citizen (Services)
C2C	Citizen to Citizen (Services)
CBO	Community Based Organisation
CSCs	Common Services Centres
G2B	Government to Business (Services)
G2C	Government to Citizen (Services)
Gbps	Gigabits per second
ICTs	Information and Communication Technologies
IIT	Indian Institute of Technology
ISDN	Integrated Services Digital Network
ISP	Internet Service Provider
IT	Information Technology
ITC	Indian Tobacco Company
IT&C	Information Technology & Communication (department)
IVR(S)	Interactive Voice Response (System)
LAN	Local Area Network
LIS	Land Information System
Mbps	Megabits per second
MPHS	Multi Purpose Household Survey
NeGP	National eGovernance Plan
NIC	National Informatics Centre
OFC	Optical Fibre Cable
PPP	Public Private Partnership
PRA	Participatory Rural Appraisal
RRA	Rapid Rural Appraisal
RUA	Rapid Urban Appraisal
RAJiv	Rajiv Internet Village (Rural electronic service delivery centres)
RDBMS	Relational Database Management System
SHG	Self Help Group
STPI	Software Technology Park of India
SWAN	State Wide Area Network (telecommunication network)
UNDP	United Nations Development Program
URL	Uniform Resource Locator
WAN	Wide Area Network
WWW	World Wide Web

Executive Summary

Just as telephone, railroads, aviation, energy have changed the past century, it is expected that ICT-based information revolution will create fundamental 'paradigm shift' in the 21st century. The spread of information and communication technologies (ICT's) bring hope that government can transform. And, indeed, forward-looking officials everywhere are using these technologies to bring in **e-governance** system which is much more efficient and effective. These are enablers of developmental goals in a pervasive and cross cutting manner. For reaping the benefits of these technologies at the grass root level an attempt is made at graduate level from physical planner's perspective.

A comprehensive literature survey has been done on the management of change related issues and their impact, various technologies – their stages and frame work for the e-governance, worldwide initiatives and the e-readiness of all the parts of the globe have been touched in the second chapter along with the digital divide and the use of these technologies in specific to rural areas.

Initiatives by state and central governments in India and their future ambitious plans like connecting every village of India by 2007 under national e-governance plan have been touched upon - how far it is going to be achievable..., better to be waited and watched. On the other hand some of the regional and local initiatives are creating success stories. Best practices from across the country have been discussed in detail which showcase the use of ICTs in developmental activities. After careful analysis useful findings are drawn up at the end of the third chapter.

In the fourth chapter some of the above case examples and along with other regional initiatives have been studied and analysed in depth with sufficient number of site visits, interactions and discussions with both users as well the providers. Detailed discusses were also held with officials concerned. Later the "LEADER" states' departments and their web portals are analysed for the level of information they have provided for the public. Even individual departmental services are touched upon, so that these services and information can be readily given in other states with minimum efforts.

Uttaranchal though one of the newest states, has taken some of the initiatives like IT for administration, Aarohi for school education, etc. Its vision of IT policy was studied and the objectives were drawn up. One of the UNDP funded pilot project which was analysed in detail with sufficient number of site visits and interactions with users and service providers revealed that this project was started without sufficient backend mechanism i.e., preparations at departmental level were not proper and sufficient to carry out many of the application services. All these were discussed in detail in the fifth chapter.

e-readiness of districts in Uttaranchal was done considering both the demographic and infrastructural facilities. Sub indices considered were given in the Sixth Chapter. Based on the noted trends and figures, it is easy and economical to start the projects from tarai region and go phase wise to the higher altitudes. Sub district level entities – Tehsils were also prioritised for the district of Tehri. Villages and towns of the state were also grouped in to various categories for starting the e-governance projects.

Based on the local needs of the Uttaranchal people and the trends observed elsewhere around the globe – a road map for the entire state was put forward along with the village level initiatives to be taken and the policies to achieve them. Some of the hurdles noted are the very small size of the settlements; the challenging terrain and geography also add to the last mile connectivity. These could be addressed through high-tech solutions like “WiMAX” or low-tech indigenous methods like mobile kiosks.

Chapter - 1

Introduction

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1.1 Background and Need

The final decade of the twentieth century was a period of reorientation for international economic and political systems towards a more global approach. Expansion of inter regional production, deregulation of commerce, and increased interdependence between states and economies all have engendered an urgent need for rethinking and reconfiguring political, economic, institutional and legal systems from a national to international level. Governments around the world are embracing e-governance. *Just as telephone, railroads, aviation, energy have changed the past century, it is expected that ICT-based information revolution will create fundamental 'paradigm shift' in the 21st century.* In every region of the globe from developing countries to industrialized ones, national and local governments are putting critical information online, automating once cumbersome processes and interacting electronically with their citizens. The spread of information and communication technologies (ICTs) bring hope that government can transform. And, indeed, forward-looking officials everywhere are using these technologies to bring in **e-governance** system which is much more efficient and effective.

The extensive use of advanced telecommunication networks for the communication of vast amounts of information will enable significant improvements in economic productivity, and provides a wave of opportunities for economic, social and individual growth. Combination with broadcasting media may bring a new intrigue and possibly additional impetus to advance information society even further. But it is also important to note that e-governance is not a shortcut to economic development, budget savings or clean, efficient government.

eGovernance is not the “Big Bang,” a single event that immediately and forever alters the universe of government. eGovernance is a process call it ‘e-volution’- **e-governance is about transforming government to be more citizen-centric.** Technology is a tool in this effort. *eGovernance success requires changing how government works, how it deals with information, how officials view their jobs and interact with the public.* Achieving e-governance success also requires active partnerships between government, citizens and the private sector. The e-governance process needs continuous input and feedback from the ‘customers’- the public, businesses and officials who use e-governance services. Their voices and ideas are essential to making e-governance work. eGovernance, when implemented well, is a participatory process.

Treating e-governance as a reform process, and not merely the computerization of government operations, will contribute to building an “information society” in which the lives of citizens are empowered and enriched by access to information and the social, economic and political opportunities that it offers. This is rapidly becoming a key national priority for all countries, rich or poor. Ever since the Indian government following the paths of other developed countries, realized the potential of fast developing ICTs to deliver governance services, e-governance has been one of the thrust areas of central and state governments for providing an ever increasing range of services and facilities including those related to the government activities like education, economic opportunities, market, environment, infrastructure, entertainment, etc. to all the citizens of India in an effective manner. The Government of India has declared the year, 2001, as the year of e-governance. The central government as well as many state governments are taking initiatives to introduce e-governance in their respective areas.

The central government has shown commitment to improve the infrastructure especially of villages, through its National eGovernance Plan (NeGP). The plan envisages Common Service Centres (CSCs) as one of the integrated projects to provide a primary mode of service delivery channel to bring the benefits of ICTs to the citizens throughout the country, especially those in the rural and remote areas. This initiative is based upon the fact that common service centres set up in rural areas, would need special financial assistance and other support from government as compared to their urban counterparts. Another similar initiative to CSCs of Government of India is ‘**Mission 2007: Every Village a Knowledge Centre**’. Mission 2007 was initiated in July 2004. Its goal is to take the benefits of ICT - led development to every village by creating village knowledge centres in over 600,000 villages in India by August 15, 2007, which marks the 60th year of Indian Independence.

Andhra Pradesh state government became the pioneer in 1999 by deploying eSeva centres in the twin cities of Hyderabad and Secunderabad with a similar objective. On the footsteps of Andhra Pradesh, parallel initiatives are now being taken by many other state governments like Maharashtra, Karnataka, Tamilnadu, Gujarat, etc. *Uttaranchal, a newly formed state in the year 2000 has also launched its e-governance service, which is now in its infancy.* This context provides an appropriate rationale for taking up this topic.

1.2 (a) Aim

To study the prospects of e-governance through the effective deployment of Information and Communication Technologies (ICTs) in local and regional administration in the state of Uttarakhand and plan for it.

1.2 (b) Objectives:

1. To study the various aspects of e-governance and review its implementation in various states at different levels.
2. To prepare an inventory of necessary infrastructure requirements of the present and emerging ICTs and application areas in different sectors at regional and local levels.
3. To study and assess the scope and potential of e-governance in the state of Uttarakhand.
4. To prepare a plan strategy for incorporating e-governance in local and regional administration of Uttarakhand.

1.3 Scope and Limitation:

The scope of the study is limited to the information services related to the government activities like education, economic opportunities, market, environment, infrastructure, etc. for which data, software and hardware are accessible.

1.4 Methodology:

Steps followed for the dissertation work are

1. Extensive literature survey for gathering information on all relevant aspects of e-governance and its constituent ICTs.
2. Collection of secondary data from various government and institutional agencies on the implementation of various e-governance programmes and government missions at national and state levels.
3. Compilation and processing of information on the details of prevailing and emerging ICT's from latest secondary sources through interviews with experts in the field.
4. Field Visits for primary survey in urban areas which are considered best practices and are programmed to be replicated in rural areas.
5. Feedback from users of some of the best practices for their performance.
6. Discussion with government officials as well as meeting with administrators at state and district levels and executive officials at local level regarding potentials of application of e-governance, in Uttarakhand state.
7. Attending the UNDP lecture series on e-governance initiatives in Uttarakhand and field visits to pilot project areas. Feedback from the rural kiosk entrepreneurs and villagers.

8. Creation of database and use of relevant computer software for preparation of statistical analysis, texts and maps for analysis.
9. Drawing inferences and guidelines from case studies and feed back surveys.
10. Analysis of preparedness for e-governance implementation in Uttaranchal..
11. Preparation of plan for introduction and implementation of e-governance in Uttaranchal
12. Policy recommendations based on studies.

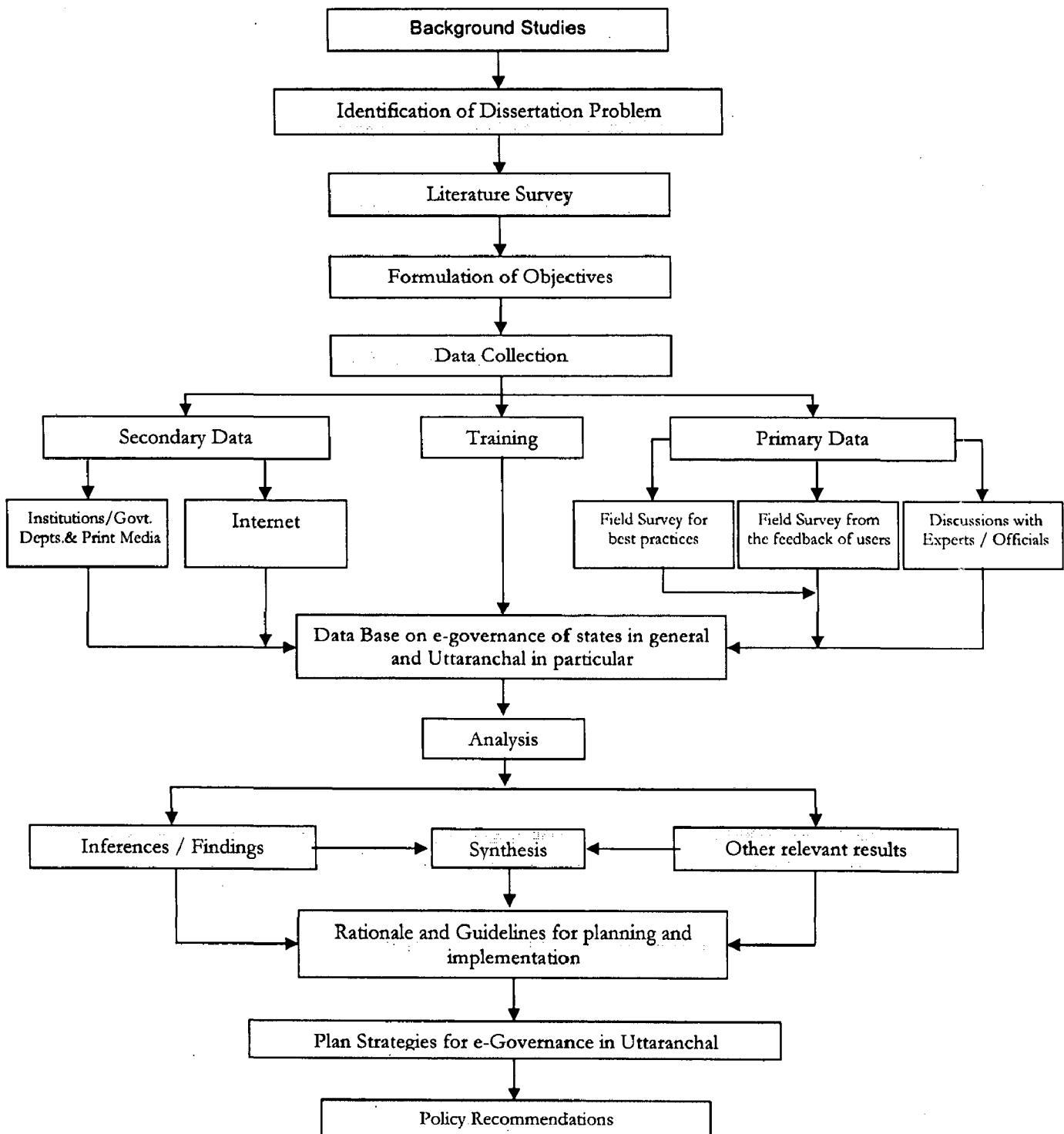


Figure 1.1: Chart showing the steps followed for the dissertation work (Methodology)

Chapter - 2

e-Governance & ICT's

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2.1 Defining e-governance:

eGovernance means different things for different people. Some simply define it as digital government information or a way of engaging in digital transactions with customers. For others e-governance simply consists of the creation of a web site where information about political and government issues is presented. These narrow ways of defining and conceptualizing e-governance restrict the range of opportunities it offers. One of the reasons why many e-governance initiatives fail is related to the narrow definition and poor understanding of the e-governance concept, processes and functions. eGovernance is a multidimensional and complex concept, which requires a broad definition and understanding, in order to be able to design and implement a successful strategy.

As per World Bank (2001), *e-governance is the government owned or operated systems of information and communication technologies that transform relations with citizens, the private sector and/or other government agencies so as to promote citizens' empowerment, improve service delivery, strengthen accountability, increase transparency, or improve government efficiency.* [1]

As per United Nations (2003), *e-government is a government that applies ICT to transform its internal and external relationships. Through the application of ICT to its operations, a government does not alter its functions or its obligation to remain useful, legitimate, transparent and accountable. If anything, this application raises society's expectations about the performance of government, in all respects, to a much higher level.* [2]

As per United Nations (2005), *e-government is defined as the use of ICT and its application by the government for the provision of information and public services to the people. The aim of e-government therefore is to provide efficient government management of information to the citizen; better service delivery to citizens; and empowerment of the people through access to information and participation in public policy decision making.*

'Government' comprises the executive, legislative and judiciary organs of the government while the 'consumer/citizen' includes any member of the civil society (individuals as well as organizations). eGovernance includes electronic interactions of three types: government-to-government (G2G); government-to-business (G2B) and its reverse; and government-to-consumer/citizen (G2C), and its reverse. [3]

As per Subhash Bhatnagar, Professor at IIM, Ahmedabad, *e-governance is a process of reform in the way Governments work, share information, engage citizens and deliver services to external and internal clients for the benefit of both government and the clients that they serve. Governments harnesses information technologies such as Wide Area Networks (WAN), Internet , World Wide Web, and mobile computing reach out to citizens, business, and other arms of the government to: Improve delivery of services to citizens, businesses and employees Engage citizens in the process of governance through interaction Empower citizens through access to knowledge and information and Make the working of the government more efficient and effective Results in enhanced transparency, convenience and empowerment; less corruption; revenue growth; and cost reduction. [4]*

2.11 Difference between e-governance and e-government

There is a difference between e-governance and e-government. Many a times we inter use these words and often confuse. Difference between these two words is given briefly below.

Table No. 2.1: Difference between e-governance and e-government	
eGovernment:	eGovernance:
eGovernment is the use of ICTs to promote efficient government by allowing better delivery of public services, improved access to information and increased accountability of government to its citizens.	eGovernance is not only the delivery of government services and information to public using electronic means but it allows direct participation of constituents in the government activities.
NOTE: Many books published prior to 2005 use 'e-government' word even in the context of 'e-governance'.	

2.12 Need for e-Governance

IT is an effective tool in catalyzing the economic activity, efficient governance and developing human resource. In India also these developments have impacted the industrial, education, service and Government sectors and their influence on various applications is increasingly being felt of late.

As the era of digital economy is evolving, the concept of governance has assumed significant importance. The questions often asked in this context are:

- How government can become more responsive and accessible?
- How can the government enhance its role as a catalyst of economic growth
- How can one provide better Government services and,

- How can the government use advanced technologies for transferring benefits, improving health care and education, re-engineering the processes.

These questions are now adequately answered through the adoption of e-governance. The e-governance has consequently become an accepted methodology involving the use of IT in:

- Improving transparency and reinforcing political credibility & accountability.
- Providing information and service delivery to all citizens round the clock (24x7x365)
- Improving administration efficiency and internal organisational processes of government.
- Improving public services such as transportation, power, health, water, security and municipal services.
- Promote democratic practices through public participation and consultation

These also form the **basic goals of e-governance** and helps in transforming government to be more citizen-centered and alleviating poverty but e-governance is neither easy nor cheap. Before committing the time and resources, political will is necessary to successfully implement an e-governance initiative. Understand the basic reasons for pursuing e-governance. *eGovernance* is not a shortcut to economic development, budget savings or clean, efficient government; *it is a tool for achieving these goals*. Especially in developing countries where resources are scarce, rushing forward with ill-conceived e-governance plans can be a costly mistake, financially and politically.

2.13 Management of Change related Issues

This issue of Management of Change, which would have to be quite rapid at times, is the most fundamental challenge to be addressed by the practice of Electronic Governance. This would involve:

- Delivery of public services like Utilities, Rural and Urban development schemes through interactive TV, Kiosks, Internet and other IT based technologies would necessitate procedural and legal changes in the decision and delivery making processes as well as institutions.
- Fundamental changes in Government decision management.

- Changes in the decision-making procedures in terms of decision making levels and delegation of authority. This would mean de-layering of the decision-making levels leading to re-engineering and appropriate sizing of the decision-making machinery.
- Mandatory changes in legal provisions to give effect to the technology objectives. IT Bill formulation is one such step taken by the government in this direction.
- Training and acclimatization of the personnel at all levels more so at the lower rung of Government management organizations
- Loss of vested interests and assumed power as well as authority both amongst the legislature and the executive
- Amendment in State laws through study and consultation.
- For a good self-service strategy, government has to initiate good support programs to help the public to effectively use new channels.

2.14 PPP and user charges concept:

A variety of solutions in the generic name of Public Private Partnerships (PPP) are being employed today to bridge the gap between the expected levels of speed, efficiency and spread of public projects especially in the areas of creation of infrastructure and provision of services. For this extra convenience the citizen could be prepared to pay an additional cost over and above the normal statutory fee or charge. Three sets of stakeholders benefit from the PPP model applied to e Governance.

Benefits to Government:

1. Minimizing financial outgo
2. Better liquidity
3. Protection against technology obsolescence
4. Speedier implementation of e-governance projects
5. Efficiencies in management
6. Better image

Benefits to Citizen/Business:

1. Easy access to services
2. Single window/one-stop shop
3. 24x7 convenience
4. Flexibility in the choice of access methods and devices
5. Saving of indirect cost and hardship

Benefits to private sector partners:

1. Reliable streams of revenue
2. Low risk
3. Creation of employment in the development, implementation and delivery
4. Capturing business from related sectors (wider market initiatives)

2.2 Technologies & Stages:

The arrival of new ICTs, in particular the Internet, has dramatically increased our capabilities to gather, process, and share information. The bursting of the ICT investment bubble notwithstanding, the accomplishments are very significant. *For instance, transmitting a 40-page document from Chile to Kenya by e-mail costs less than 10 cents, faxing it about \$10, sending it by courier more than \$50.* Or, equally impressive, in 2001 more information could be sent over a single cable in a second, than what was sent over the entire Internet in one month in 1997. This technological quantum leap can be channeled to support the goals of sustainable and equitable human development. The right mix of technologies can add flexibility, foster local adaptation and ensure competition and choice in the market for e-Governance solutions.

2.21 Web measure mode: stages of e-governance evolution and service delivery

eGovernance stage depends on the interaction with web and its evolution. This can be broadly divided into five stages as stated below.

Stage I:	Emerging Presence
Stage II	Enhanced Presence
Stage III	Interactive Presence
Stage IV	Transactional Presence
Stage V	Networked Presence

Table No.2.2: Web measure mode: stages of e-governance evolution and service delivery

Stage I: Emerging Presence	Emerging Presence is Stage I representing information, which is limited and basic. The e-governance online presence comprises a web page and /or an official website; links to ministries/departments of education, health, social welfare, labor and finance may/may not exist; links to regional/local government may/may not exist; some archived information such as the head of states' message or a document such as the constitution may be available on line, most information remains static with the fewest options for citizens.
Stage II: Enhanced presence	Enhanced presence is Stage II in which the government provides greater public policy and governance sources of current and archived information, such as policies, laws and regulation, reports, newsletters, and downloadable databases. The user can search for a document and there is a help feature and a site map provided. A larger selection of public policy documents such as an e-governance strategy, policy briefs on specific education or health issues. Though more sophisticated, the interaction is still primarily unidirectional with information flowing essentially from government to the citizen
Stage III: Interactive presence	Interactive presence is Stage III in which the online services of the government enter the interactive mode with services to enhance convenience of the consumer such as downloadable forms for tax payment, application for license renewal. Audio and video capability is provided for relevant public information. The government officials can be contacted via email, fax, telephone and post. The site is updated with greater regularity to keep the information current and up to date for the public.
Stage IV: Transactional presence	Transactional presence is Stage IV that allows two-way interaction between the citizen and his/her government. It includes options for paying taxes; applying for ID cards, birth certificates/passports, license renewals and other similar C2G interactions by allowing him/her to submit these online 24/7. The citizens are able to pay for relevant public services, such as motor vehicle violation, taxes, fees for postal services through their credit, bank or debit card. Providers of goods and services are able to bid online for public contracts via secure links.
Stage V: Networked presence	Networked presence is Stage V which represents the most sophisticated level in the online e-governance initiatives. It can be characterized by an integration of G2G, G2C and C2G (and reverse) interactions. The government encourages participatory deliberative decision-making and is willing and able to involve the society in a two way open dialogue. Through interactive features such as the web comment form, and innovative online consultation mechanisms, the government actively solicits citizens' views on public policy, law making, and democratic participatory decision making. Implicit in this stage of the model is the integration of the public sector agencies with full cooperation and understanding of the concept of collective decision-making, participatory democracy and citizen empowerment as a democratic right.
Source: UN Global E-Government Readiness Report 2005, "From E-Government to E-inclusions" published by Department of Economic and Social Affairs, United Nations.	

2.22 Technology Framework for e-governance

IT Architecture:

Given the large number and variety of applications to be developed across government departments, it is essential to have the whole picture conceptualized and to lay down a common framework and ground rules for the guidance of the departments. Otherwise, there is the danger of creating islands in different departments that cannot communicate or be interoperable. The concept of providing integrated services would remain a mirage.

Intellectual Property Rights (IPR) sharing :

Implementation of e-governance projects under the PPP model raises several issues relating to IPR over the products, technologies and models developed during the course of the implementation. It is necessary to adopt a suitable IPR sharing mechanism, which would also bring in the advantage of lowering the upfront costs to the Government or to the end user through the process of productisation. The products can be sold in other States and countries by the developer to recover part of the cost of development. A share of 20 to 30 % for the Government depending on the extent of involvement of Government in the development process would be a good incentive for the private sector to implement the projects.

Privacy issues:

With rapid computerization and provision of networked services, we run the risk of invading the privacy of individuals. It is necessary to look at the degree of assurance that need to be given to the citizens and businesses on the privacy of the data at the individual or aggregated level and transaction data. This is one area, which could seriously hamper the transaction volumes, if proper answers are not found to the apprehensions of the users.

Table No. 2.3: Paradigm shift in Public Service delivery

	Bureaucratic Paradigm	eGovernance Paradigm
Orientation	Production cost-efficiency	User satisfaction and control flexibility
Process organization	Functional rationality, departmentalization, vertical hierarchy of control	Horizontal hierarchy, network organization, information sharing.
Management principle	Management by rule and mandate	Flexible management interdepartmental team work with central coordination
Leadership style	Command and control	Facilitation and coordination, innovative entrepreneurship.
Internal communication	Top down, hierarchical	Multidimensional network with central coordination, direct communication.
External communication	Centralized, formal, limited channels	Formal and informal direct and fast feedback, multiple channels
Mode of service delivery	Documentation mode and interpersonal interaction	Electronic exchange, non face to face interaction
Principles of service delivery	Standardisation, impartiality, equity	User customisation, personalisation

Source: www.worldbank.org

2.3 World e-readiness rankings : 2005 (UN Global Government Readiness Report)

The UN Global e-governance Readiness Survey 2005 presents a systemic assessment of how the governments use the ICTs to provide access and inclusion for all. The Survey gives insights into the different strategies and common themes in e-governance development among regions and across them which helps in further improvement of the system. E-Readiness rankings of all UN member countries are given in Annexure-I

2.31 Regional e-governance readiness

Steady progress in ICT diffusion, human capital development and Member States' e-governance websites in the last three years led to an improvement in the e-governance readiness world average to **0.4267** in 2005 compared to **0.4130** in 2004. The regions of Northern America and Europe show the highest e-readiness followed by South and Eastern Asia. e-Readiness in Africa, though marginally higher than in 2004, was the lowest in the world.

Region	2005	2004	2003
North America	0.8744	0.8751	0.8670
Europe	0.6012	0.5866	0.5580
South & Eastern Asia	0.4922	0.4603	0.4370
South & Central America	0.4643	0.4558	0.4420
Western Asia	0.4384	0.4093	0.4100
Caribbean	0.4282	0.4106	0.4010
South & Central Asia	0.3448	0.3213	0.2920
Oceania	0.2888	0.3006	0.3510
Africa	0.2642	0.2528	0.2460
World Average	0.4267	0.4130	0.4020

Source: United Nations, Department of Economic and Social Welfare, "UN Global E-governance Readiness Report – 2005"

2.32 South and Central Asia

Many of the countries belonging to South & Central Asia continued to progress well in their e-governance programs. **Kazakhstan** (0.4813) bypassed Kyrgyzstan to arrive at the top and adding 4 points to its global ranking. It was followed by **Kyrgyzstan** (0.4417); **Maldives** (0.4321) and **Uzbekistan** (0.4114) (Table 2.4). Consolidation of their past investments led to around half of the countries increasing their relative rankings in the global e-governance readiness index in 2005. Most notable among these are the countries of South Asia such as the **Islamic Republic of Iran** (0.3813), **Nepal** (0.3012) and **Bhutan** (0.2941).

The region as a whole, though, remained below the world average e-readiness with some of the countries among the least e-ready countries in the world. Part of the reason is that though Asia is one of the largest regional Internet market with estimated potential users

2.41 Cost Reduction and Efficiency Gains

Researchers agree that ICT has considerable potential to contribute to efficiency gains and cost reductions for both public and private organizations. Furthermore, these benefits constitute a major aspect of eE-governance initiatives. Putting services on-line substantially decreases the processing costs of many activities compared with the manual way of handling operations. *For example, it costs the US Inland Revenue Service \$1.60 to process a paper tax form, but only \$0.40 to process an electronic form.* The appropriate application of ICT may possibly reduce the number of inefficiencies in processes by allowing file and data sharing across government departments, thereby contributing to the elimination of mistakes from manual procedures, reducing the required time for transactions. Efficiency is also attained by streamlining internal processes, by enabling faster and more informed decision making, and by speeding up transaction processing.

Example: In Beijing's Business e-Park, there is a new system (www.zhongguancun.com.cn) that applies the latest computer and Internet technologies to improve the efficiency and responsiveness of government. If businesses choose to use this system, they can reduce the time required for gaining approval for specific applications from 2-3 months to few days. Moreover, data can now be submitted on line, greatly increasing the quality of service for customers.

2.42 Quality of Service Delivery to Businesses and Customers

In the traditional model of public service delivery, the procedures are long, time consuming and lack transparency. A business that wishes to obtain a license or a permit has to fill out a number of application forms, has to visit a number of different offices and spend a considerable amount of time. If a citizen wishes to be issued with a certificate or any other official document, he or she will have to travel to the central government office, go to different offices and spend a lot of time for a simple service. The consequences are high costs and citizen and business dissatisfaction. An e-governance initiative, on the other hand, which puts government services online, thereby reducing the bureaucracy, offers round the clock accessibility, fast and convenient transactions, and obviously enhances the quality of services, in terms of time, content and accessibility.

Example:

In Bahia, Brazil, *Citizen Assistance Service Centres have been created offering over 500 separate services. These centres are placed in shopping malls or other public places, and people going to shop can simultaneously apply for different public services such as getting an identification card, looking for a new job, getting a passport, and checking on their retirement eligibility. Customer satisfaction studies revealed that over 89% of citizens evaluated the service centers as excellent (Rinne et al., 2001a). Thus, the quality of services is ensured by the reduced time that users spend on getting official documents, waiting and queuing to get documents, traveling, as well as more customized products and services, error free documents, and 24 x 7 x 365 accessibility.*

2.43 Transparency, Anticorruption and Accountability

eGovernance helps to increase the transparency of decision-making processes. In many cases e-governance offers opportunities for citizens to directly participate in decision-making, by allowing them to provide their own ideas and suggestions in forums and on-line communities. If web sites are designed carefully and openly, they can be valuable resources for transparency as citizens, businesses and other stakeholders should be able to see political and governmental information, rules and policies. Previously it was often necessary to go directly to government offices to obtain information, but now this information should be available on the web. The availability of a diversity of publications regarding the activities of the public administration, as well as economic and legislative aspects, increases the transparency too.

Example:

The Central Vigilance Commission (CVC) in India started an initiative to create a website with the objective of reducing corruption and increasing transparency by sharing a large amount of information related to corruption with citizens. The CVC website communicates directly with the public through messages and speeches to bolster confidence in the institution, informs the public about its efforts in fighting corruption, and makes public the names of officers from the elite administrative and revenue services against whom investigations have been ordered or penalties imposed for corruption. Members of the public are highly encouraged (mainly by rewards) to make their complaints and to provide information against a public servant about taking of bribes in order for the commission to undertake the necessary anticorruption actions to eliminate bribery and to increase the transparency of rules, procedures and service delivery

2.44 Increase the Capacity of Government

The use of ICT for the reorganization of internal administration transactions, communications, interrelationships and for easy information flow and transfer offers considerable opportunity to increase government capacity. Intranets allow different departments to share databases of common customers and to pool skills and capacities of their members for problem solving. These facilities in turn will pledge faster information flow and transfer, quicker and cheaper provision of goods and services, faster and better decision making processes, and unplugged paper bottlenecks. Knowledge based or expert systems help to create a more responsive and guideline based process. This approach assures benefits for businesses, which become both consumers of government services and providers of goods and services to the government. It also assures benefits to the government itself through reduced costs and spending, which could require lower taxes to finance.

Example:

The Time Saver Centre in Sao Paulo, Brazil, brings together multiple services in a single location. Its objective is to deliver services more quickly and to increase the satisfaction level of its citizens. A person requiring a service, on reaching the appropriate agency, can register in the computerized tracking system and receive an electronic ticket, which indicates the services desired and the estimated waiting time. They can receive at the same time different services that traditionally were separated such as vehicle registration, driver's license, identification card, unemployment insurance etc. A customer satisfaction survey conducted in 2000 for five centres reveals that 94% of respondents evaluate services as "excellent" or "good". This case demonstrates the remarkable improvements that can be realized in service delivery.

2.45 Network and Community Creation

ICT creates both pressures and opportunities for network creation and community building. As argued before, an e-governance initiative requires a complex web of interrelationship among government, customers, businesses, employees and other governmental agencies. Moreover, the very nature and function of e-governance require a network approach to put together skills, technologies, information and knowledge that span the boundaries of different governmental agencies. It is generally impossible to find all of them in one single governmental agency. The need for learning and training, for example, requires partnership between government agencies/departments and universities or research

institutions. The provision of integrated services at one contact point requires the cooperation and collaboration of different departments and agencies, horizontal and vertical integration, and therefore the creation of a large and diversified network of relationships. The successful use and diffusion of ICTs in the public sector involves a collective, multidisciplinary and dynamic learning process. Moreover, the realization of electronic transactions triggers network creation among private companies, financial institutions, telecommunication and ISPs. On the other hand, an e-governance initiative enables community creation, giving citizens and businesses the possibility to participate in forums, and in decision making processes, contributing actively to different political and governmental discussions.

Example:

Columbia's government portal is the entry point to every government agency website in the country, allowing citizens to search for and consult government information and to e-mail government representatives either to complain about problems or to make suggestions. A specific unit, the government online network, composed of eight people trained in the technology of government portals, was created for realizing Columbia's website and for advising, supporting, training and monitoring the remainder federal government. Financial support was provided by the UNDP, while the technology and experience were provided primarily by a partnership with two private companies: GovWorks Latin America/Taillon and Arthur Andersen.

2.46 Improve the Quality of Decision Making

Community creation, forums, continuous interaction and communication between government and its citizens contribute further to the decision making process. By means of active participation in political and government discussions, citizens can contribute their own ideas, and share their knowledge and information. This will in turn lead to building trust in government and improving the relationships between the government and the governed. The Organisation for Economic Co-operation and Development (OECD) argues that the strengthening relationship between government and citizens could improve the quality of services by allowing government to tap wider sources of information, perspectives and solutions to meet the challenges of policy making under conditions of increased complexity (OECD, 2001). Considering citizens as governmental customers, listening and understanding to their needs and requirements, is essential for a better decision

making process. *The appropriate use of shared data and information by all governmental agencies and departments offers the possibility to make quick decisions thus to serve the community better.* However improvements in the speed and quality of decision making depend greatly on the willingness of governments to be empowered with new information, the capability of staff to process the large amount of information, the prevailing cultural values as well as the motivation of governments to shift from a hierarchical public administration model to a flexible, less centralized model.

Example:

An initiative of Argentina's government was launched in order to disseminate information regarding the use of public funds, including information about the amounts of money for different programs, financial and employment data, public debt account including terms, guarantees, interest costs, and the outstanding tax and customs obligations of private companies. Its primary goal is to inform customers/citizens, to disseminate content and information, empowering customers to exercise more control over their political representatives. In their web site they also provided a specific section where users can send their questions, comments and suggestions for further improvements. Their feedback allows the government to adjust the content and information, to customize the information and to reorganize itself around customers' needs and requirements.

2.47 Promote Use of ICT in Other Sectors of the Society

Continuous interaction and communication between government and its stakeholders contributes to the creation of awareness about the potential contribution of ICT to local community activities. In this way, e-governance plays a vital role, not only in facilitating market-led initiatives but also in initiating the process of capability building and in coordinating the actions of a large number of interested stakeholders. In fact, one of the main benefits of an e-governance initiative consists of the promotion of ICT use in other sectors. In order for e-governance staff to interact, transact and communicate electronically with businesses, citizens and other stakeholders, it is necessary to mandate the use of ICT tools and applications. For a government-to-business electronic transaction to occur, the business itself needs to make use of electronic equipment. On the other hand, financial institutions have to create secure and reliable methods for electronic transactions. The development of new technological and management capacities required for e-governance functionality encourage the development in turn of new training courses and modules in schools and universities trying to supply the required skills and capabilities to the market.

Example:

In India, the Gyandoot project is a government-to-citizen intranet project which offers numerous benefits to the region, to citizens and to the community in general. The goal of the project has been to establish community owned technologically innovative and sustainable information kiosks in a poverty-stricken rural area of Madhya Pradesh. The benefits assured by this intranet system have increased the awareness of ICT importance and have spun off other IT initiatives and programs, such as the creation of new private ICT training institutions; a high level of student enrolment – about 60%, parliament has allocated resources to set up training centres in order to develop new models for e-education; Indira Gandhi National Open University has opened a study center for undergraduate and postgraduate courses on computer applications; the government has instituted a cash award to motivate ICT projects.

2.5 Digital divide

There is wide disparity in accessibility and usage of ICTs worldwide between the rich and the poor, developed and underdeveloped, urban and rural, men and women and even within a country between one region and the other. Brief on these sub-indices are given below.

2.51 Income access-divide

The pattern of diffusion of information technology across countries is closely related to levels of income. Rich countries enjoy higher technological progress. Income per capita appears to be related to the maturity and sophistication of the web services offered by governments.

2.52 Internet

Eighty one per cent of the around 1 billion Internet users in the world reside in only 20 countries. The inequality in technology is significant in the case of developing countries, where an inadequate telecommunication infrastructure and low Internet penetration has given rise to a huge telecommunication access-divide. Taken together low-income countries account for 40 per cent of the world's population and 11 per cent of the world's gross national income, yet comprise only 2 per cent of the world's Internet users.

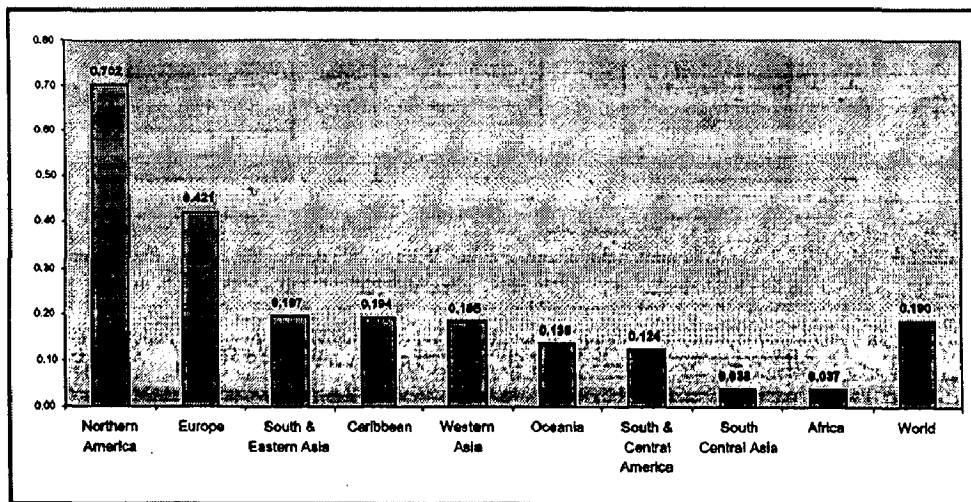
Table No. 2.6: Regional disparity in Internet Usage

		World Population	World users	% of national Population as Internet users
1	Africa	14.0	1.7	1.8
2	Asia	56.4	34.5	8.9
3	Europe	11.4	28.7	36.8
4	Middle East	4.1	2.3	8.3
5	North America	5.1	23.8	68.0
6	Latin America	8.5	7.3	12.5
7	Oceania	0.5	1.8	49.2

Source: Internet World Statistics, <http://www.internetworldstats.com/stats.htm>

2.53 Telecommunications

There is a large telecommunication access divide between the developed and the developing countries. Only two regions of the world, Northern America and Europe, are above the world average in terms of availability of telecommunication, as a whole. The regions of the world appear to fall into three categories. The first category is the two developed regions of Northern America and Europe with high telecommunication services. Regions of South & Eastern Asia, the Caribbean, Western Asia, Oceania and South & Central America, together, comprise the second category where ICT infrastructure level, though far below Northern America and Europe, will allow for some effective utilization of the ICTs. This group has telecommunication levels at 20-28% of Northern America. The third category comprising South Central Asia and Africa, are the least e-ready regions. They have a gaping deficit in telecommunication infrastructure compared to the developed regions of the world. Both regions have a telecommunication infrastructure level of 5% of Northern America.

Figure No.2.1:Regional Telecommunication Indices – 2005

Source: United Nations, Department of Economic and Social Welfare, "UN Global E-governance Readiness Report - 2005"

2.54 Gender

At present there is a gender divide in the access and use of ICTs around the world. For example, of the Internet users with a computer in Latin America only 38% are women. In Africa women users make up an even lesser proportion of the total Internet users population. In Zambia 36% of the users are female while in Senegal and Ethiopia women comprise 17% and 14% of the users, respectively.

The Republic of Korea's Ministry of Gender Equality assessed the extent of gender digital divide, between men and women. The Index of Women's Informatization, which was defined as the process by which information technologies have transformed economy and society, measured the impact of ICTs in terms of *awareness, access, utilization, skill* and *effects* on both men and women. Although women scored high on awareness, skills and effect, in terms of access and usage, the situation of women was particularly deficient, with women having a gap of 22.9 percent in 'access' and 28.2 percent in the 'use' of ICTs as compared to men. Women form 50% or more of the world population. However, benefits and opportunities accorded to women remain at less than their full share. In many developing countries, such as in Brazil and Mexico, first only 12.3% and 14.3% of the population uses the Internet: of this small minority, women make up less than half. In Jordan, 1.8% of the total population uses the Internet of which a mere 6% are women.

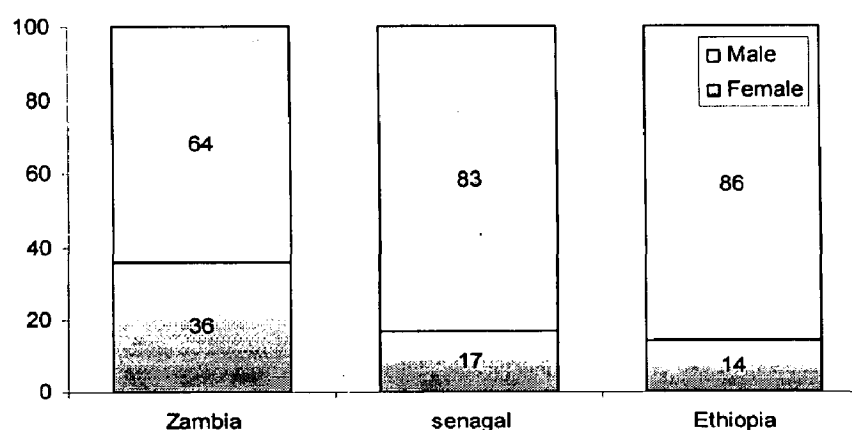


Figure No. 2.2 : Gender Gap in accessing Internet

		Awareness	Access	Use	Capacity	Effects
1	Men	100	100	100	100	100
2	Women	95.8	77.1	71.8	97.3	95.9

Source: United Nations Division for the Advancement of Women (DAW)

2.55 Rural urban access-divide

There are no comparable data for the number of villages across the world. Part of the problem is the variation in the definition of what constitutes rural areas. According to one estimate, the top ten developing countries with the largest rural populations have as many as 2.7 million villages. Though rural areas in most developing countries are already connected with electricity and fixed telephone lines, extensive access of all to telephones remains mostly limited. Although with mobile telephony, the access and coverage has theoretically expanded, prohibitively high costs in many countries do not allow its pervasive use. Furthermore, access of newer technologies such as computers and Internet is scant. For example, only 0.11% of the homes in the rural areas in Nepal had private phone access compared to 10.4 % in the urban areas making the urban areas 100 times richer in private telephones than the rural areas. The ratio of urban to rural on the other side of the world, in Panama, was slightly better at 6 to 1. The rural-urban access divides are significant since more than 50 percent of the population in poorest countries, live in rural areas.

The urban-rural access divide should be viewed in light of the economic and social costs of the opportunities lost due to the lack of access of ICTs to the millions who live in the rural areas.

2.6 ICTs for Rural Areas

The rural ICT applications attempt to offer the services of central agencies (like district administration, cooperative union, and state and central government departments) to the citizens at their village door steps. These applications utilize the ICT in offering improved and affordable connectivity and processing solutions. Several G2C e-governance pilot projects have attempted to adopt these technologies *to improve the reach, enhance the base, minimize the processing costs, increase transparency, and reduce the cycle times.*

The rural ICT solutions are normally offered through internet portals hosted on a delivery web server to provide access to the citizens through inexpensive internet medium. The information flow between the delivery server and the other departments is accomplished through Intranet / LAN connectivity with servers of those departments (if exist). Often, due to *non-computerization of back-end systems, the transactions are manually exchanged* and response data is keyed in manually through the nodes on the delivery server. It may be

noticed that the end-to-end connectivity between the central service providers (district administrations, cooperative unions etc.) and the citizens is accomplished through a number of stages involving several agencies. These stages, the technologies and agencies involved in offering the services are presented in the Table below.

Stage	Connectivity	Technology	Agency
1.	Related Departments to Central Servicing Agency	Manual or WAN / Intranet / LAN of individual departments	Individual departments of central, state and district administration
2.	Central Servicing Agency to Delivery Server (web server)	LAN with or without Intranet	Coordination committee offering the service
3.	Deliver Server (web server) to Internet Service Provider (ISP)	Leased or Dedicated line / VSAT	Service deployment agency
4.	Central Servicing Agency's ISP to Rural -ISP	ISP dedicated lines / BSNL / VSNL / Private Telecom	Internet Service Provider(s)
5.	Rural - ISP to Rural Kiosks*	Dial up line / Wireless (WiLL)	Service Delivery Agents (Village Panchayats, Private Entrepreneurs)
* In some applications, rural-connectivity is accomplished directly from Intranet server without involving an ISP eliminating stages 3 and 4.			
Source: 'ICT and eGovernance for Rural Development' paper by Prof.T.P.Rama Rao, IIM Ahmedabad. [5]			

From the above table it can be seen that success of any rural ICT solution depends on how well these stages are coordinated and managed. There are several weak links in this chain. First of all, the existing voice based telecom infrastructure is too inadequate to be used for data communication applications. Similarly, the power supply required to run the kiosks in the rural areas is unstable and often interrupted by load-shedding. Although, most of the exchanges are being converted to digital, they have not reached most of the rural locations. That is why connectivity problems plagued most of the rural ICT applications.

The need for improved computer connectivity up to village level was recognized by the central government in 1998 and drafted a National IT Policy recommending the states to create infrastructure to facilitate improved data communications. Adhering to national IT policy, several state governments have set up or in the process of setting up the SWANs to support the rural connectivity applications. While southern states are quite ahead in building SWANs and utilizing them for e-governance applications, many states are still in the process of developing such infrastructure.

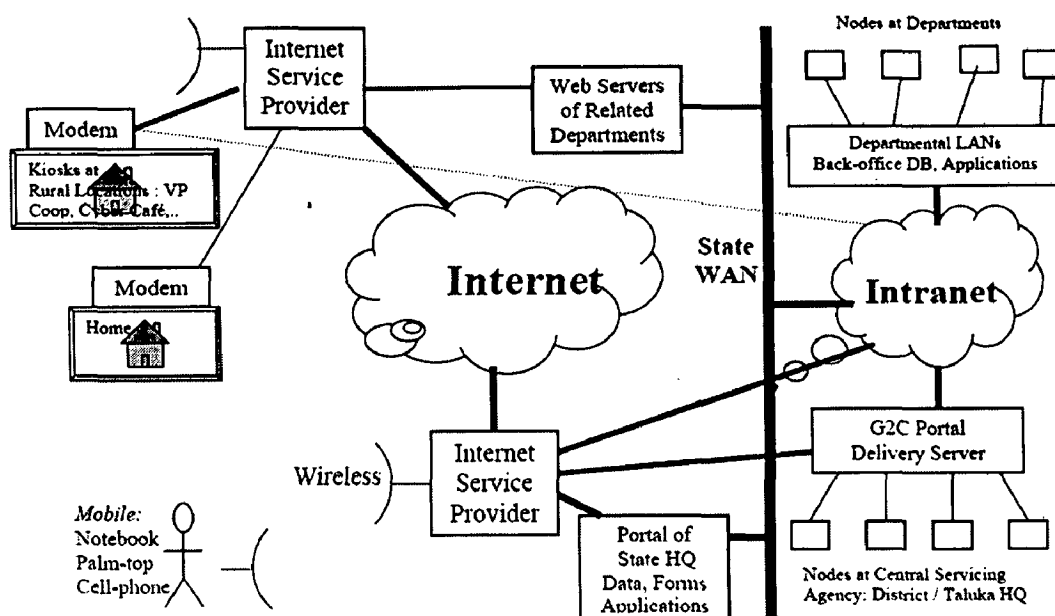


Figure No.2.3: Typical ICT Infrastructure for Rural Application

2.7 Summary and Findings

2.71 Summary

No doubt ICTs provide a unique opportunity for leapfrogging traditional development patterns in developing countries, *to improve the reach, enhance the base, minimize the process cost, increase transparency, and reduce the cycle times* for the common man. Hope for achieving higher standards of living and greater economic and social empowerment of the millions around the world. Many developing countries around the world are promoting e-governance initiatives. Despite steady progress in e-governance development, lack of access to ICTs remains a major challenge for the world. One of the central obstacles in the march towards information society is the huge disparity in both access and use of ICTs. Lack of telecommunication infrastructure and education are the key factors limiting both access and inclusion of societies.

“Despite much progress in ICT, the lack of infrastructure and education has limited the enabling environment in India and the reach of e-governance to include all”.

2.72 Findings

- ICTs have the potential to achieve the social and economic benefits along with a host of other benefits to government, business and citizen.
- They help in making quicker decisions and serving the community in better ways.
- Large differences in digital divide among the developed and developing countries, urban and rural areas, men and women, literates and illiterates are all due to deficit in (telecom) infrastructure and education.

Chapter - 3

e-Governance in India

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3.1 eGovernance Scenario at Central Level:

3.11 Central Government Strategy and Approach

Computerization of the Central government began on a modest note in 1975 with the setting up of the National Informatics Centre (NIC). Since then, the initiative has grown to incorporate a new Ministry of Information Technology (MoIT) and a Center for e-governance and initiatives for computerization have been taken by every department and ministry at the Center. eGovernance initiatives at the Center got a big boost when a high powered committee constituted under the chairmanship of the Cabinet secretary, took a decision in February 2000 to direct all ministries / departments of the Central government to appoint a senior officer, who would be called the IT manager and would be primarily responsible for the promotion of IT in the country. A 12-point 'minimum agenda of e-governance' was drawn up, which was to provide basic infrastructure and train personnel in the use of IT for certain G2G operations and G2C transactions. It was also stipulated that a 5-year IT Vision and Annual Action Plans be prepared by every ministry / department. And the total Tenth Plan outlay is pegged at about Rs.26.8 billion for NIC, out of which Rs.18.3 billion is for telecommunications and Rs.8.5 billion is for e-governance.

Several projects in computerization and networking of government departments have been completed and several other are in the process of development, along with local language application projects.

Sl.No	Department	Initiative
1	Agriculture	Land/Property Registration Check Agricultural Market Prices Online
2	Central Excise	Lodge Investor Complaint Online Registration for Service Tax Payers Registration for Central Excise Assesseees Know your Service Tax Tariff Know your Service Tax Location Code efiling of Central Excise Returns
3	Company Affairs	Online Company Directory
4	Custom	Import and export clearance
5	ECourts	Causelist of Indian Courts Court Judgements (JUDIS) Daily Court Orders/Case Status IVR system at the Supreme Court
6	Education	Online declaration of examination results Online information on schools and colleges
7	Employment	Register with State Employment Exchanges as a candidate

Scenario in India & Best Practices

	Exchange	Register with State Employment Exchanges as an Employer
8	Gram Panchayats	Online Collection and Sale of Handicrafts by Rural Artisans
9	Income Tax	eFiling of Income Tax Returns Online Registration of EReturn Intermediary Online Application for Permanent Account Number (PAN) Check Status of PAN Application Online
10	Land Records	Check your Land Registration Records
11	Municipalities	Obtain Birth Certificate Obtain Death Certificate
12	Parliament	Website of the Indian Parliament - details about deliberations, etc.
13	Passport/VISA	Online Status Enquiry of Passport Application
14	Pensions	eFiling of Service Tax Returns Online Pension Payment Order (PPO) Status Enquiry
15	Posts	Computerization of single counter services & VSAT for money transfer
16	Police	Online Status of Stolen Vehicles
17	Railways	Online enquiry, status and reservations of tickets
18	Road Transport	Obtain Driving Licence Vehicle Registration
19	Vigilance	CVC website to disseminate information on its initiatives, list of tainted officers
20	Language applications	An integrated Devanagari terminal has been developed. This can be used along with Unix computers and a GIST card and it facilitates Indian language processing on IBM-compatible PCs
Source: www.india.gov.in		

A number of G2G and G2C projects, ranging from providing permanent account number (PAN) online to developing language interfaces and a host of 25, mission mode projects under National eGovernance Plan (NeGP) are in progress. As part of the 'minimum agenda for e-governance,' NIC is setting up internet / intranet infrastructure up to the section officers' level. The NICNet is being expanded to cover all of the 6,500 developmental blocks in the country. Moreover, a host of G2G projects in local language applications are currently in the implementation phase.

Sl.No	Initiative	Brief
1	Computerization of the ministry of transport	The ministry of transport has decided to evolve standards for countrywide computerization of all aspects related to the RTOs
2	Localization of Linux	Localization of certain core elements of the Linux OS to enable applications to create, edit and display content in Hindi (phase I) and in other Indian languages (phase II) is underway
3	Language applications	The following projects are under implementation in the area of Language applications: <ul style="list-style-type: none"> ▪ Hindi speech synthesis system

		<ul style="list-style-type: none"> ▪ Multi-lingual dictionaries ▪ Bilingual terminology for IT ▪ Web-based learning systems in Indian languages ▪ Human-aided machine translation systems for translation of news summaries from English to Hindi ▪ Online Hindi encyclopedia ▪ Technology development in Indian language Web server
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The government has developed the '**India Portal**' (www.india.gov.in) to provide government services. This portal is developed through a partnership with an industry member and an educational institution.

3.12 National e-governance Plan (NeGP)

The Government of India has approved the National eGovernance Action Plan for implementation during the year 2003-2007. The Plan seeks to lay the foundation and provide the impetus for long-term growth of e-governance within the country. The plan seeks to create the right governance and institutional mechanisms, to set up the core infrastructure and policies and implement a number of Mission Mode Projects at the center, state and integrated service levels to create a citizen-centric and business-centric environment for governance. Mission mode projects are selected based on below mentioned criteria and the detailed list of projects are given in Annexure - II

- Impact in terms of number of people likely to be affected by project
- Impact in terms of likely improvement of the quality of service
- Impact on the economy or economic environment in the country
- Impact in terms of the likely cost-benefit of investments in the project
- Readiness and willingness of ministry/ department to position a National Mission Project
- Feasibility of implementing the project from a financial, administrative and political perspective within a reasonable time frame

3.13 Future Plans

The Central government has taken a number of initiatives to further e-governance at the Center. These and a couple of other projects, which are to provide a host of business opportunities for IT vendors, are currently under implementation. Department of IT has set up a Center for e-governance to showcase existing tools and applications in e-governance. This center will also serve as a forum for government officials, legislators, members of the industry and various other key players. The center will also help identify and develop applications of interest to Central ministries and departments and to state governments. The ministry of IT (MoIT) has decided to set up a committee under the chairmanship of the

secretary of MoIT to analyze the issue of multi-application smart cards and to develop interoperability standards. It will also see how international best practices in this area can be suited to India's requirements. The committee is also to identify areas where local industry can be involved in the projects.

3.2 eGovernance Scenario at State Level:

3.2.1 Citizen centric Services:

State governments also realized the potential of ICTs and taking several initiatives to further e-governance in their states for making quicker decisions and serving the citizen in a better way. Southern states are way ahead and set an example for healthy competition in this area. Below mentioned tables give a quick glance of some of the initiatives taken by state governments in setting-up citizen service centres for providing all possible services at one point. Private players also playing a vital role in developing infrastructure and setting up service centres at village level. Some of these initiatives by private players in various states is given in table no.: 3.4

Table No.3.3: Citizen Centric Service Initiatives by States

Sl.No	State	Project	Year	URL (website)
1	Andhra Pradesh	eSeva	1999	www.e sevaonline.com
2		VOICE	1999	www.aponline.gov.in
3		RAJiv (village internet)	2004	
4	Chandigarh	Sampark	2004	www.sampark.chd.nic.in
5	Kerala	FRIENDS	2001	www.keralaitmission.org
6		Akshaya	2003	
7	Tamil Nadu	STAR	2001	www.tnreginet.net
8		RASI	2003	www.dowire.org/library/rasi-
9	Punjab	Sukhmani	2004	www.sukhmani.gov.in
10	Delhi	Citizen Service Bureau	2004	www.cdonline.gov.in
11	Himachal Pradesh	Lok Mitra	2001	www.himachal.nic.in/lokmitra.htm
12	Rajasthan	Lok Mitra (Urban)	2002	www.rajasthan.gov.in/it/it.asp
13		Lok Mitra (Rural)	2002	
14	Maharashtra	SETU	2001	www.setu.maharashtra.gov.in
15		Warana Wired Villages	2001	www.mah.nic.in/warana
16	Karnataka	Bangalore one	2005	www.bangaloreone.gov.in
17		Bhoomi	1998	www.revdept-01.kar.nic.in
18	Gujarat	Mahiti Shakti	2001	www.mahitishakti.net
19		eCity	2001	www.gujaratinformayics.com
20		Gyan Ganga	2001	
21	Madhya Pradesh	Gyandoot	2000	www.gyandoot.nic.in
22	Arunachal, Assam.	Citizen Information	2002	www.cic.nic.in
23	Uttar Pradesh	Sitapur Lokwani	2004	www.sitapur.nic.in/Lokwani

Source: "e-gov", monthly magazine (Volume 1, Issue 5, August, 2005) from Centre for Science and Development of Media Studies, www.egov.csdms.in

Table No.3.4: Initiatives in Rural Areas by Private Organisation

Sl. No	Organisation	States	Year	URL (website)
1	Drishtee	Haryana, Rajasthan, Bihar, Assam, Madhya Pradesh (MP), Tamil Nadu	1999	www.drishtee.com
2	n-Louge	Tamil Nadu, Andhra Pradesh, Karnataka, Maharashtar, MP, Gujarat	2001	www.n-Louge.com
3	Jagriti eSeva	Punjab, Bihar, MP, Uttaranchal, Jarkhand, Rajasthan, Himachal Pradesh		www.jagriti.com
4	Swaminathan Research Foundation	Pondicherry	1998	www.mssrf.org
5	ITC eChopal	MP, UP, Rajasthan, Karnataka, AP, Maharashtra	2000	www.echoupal.com

Source: "e-gov", monthly magazine (Volume 1, Issue 5, August, 2005) from Centre for Science and Development of Media Studies, www.egov.csdms.in

3.21 e-Readiness of States:

The value of the e-Readiness index at the state level reflects the capacity of a state to participate in the networked economy. The state level assessment, the e-Readiness or Network Index framework, 2004

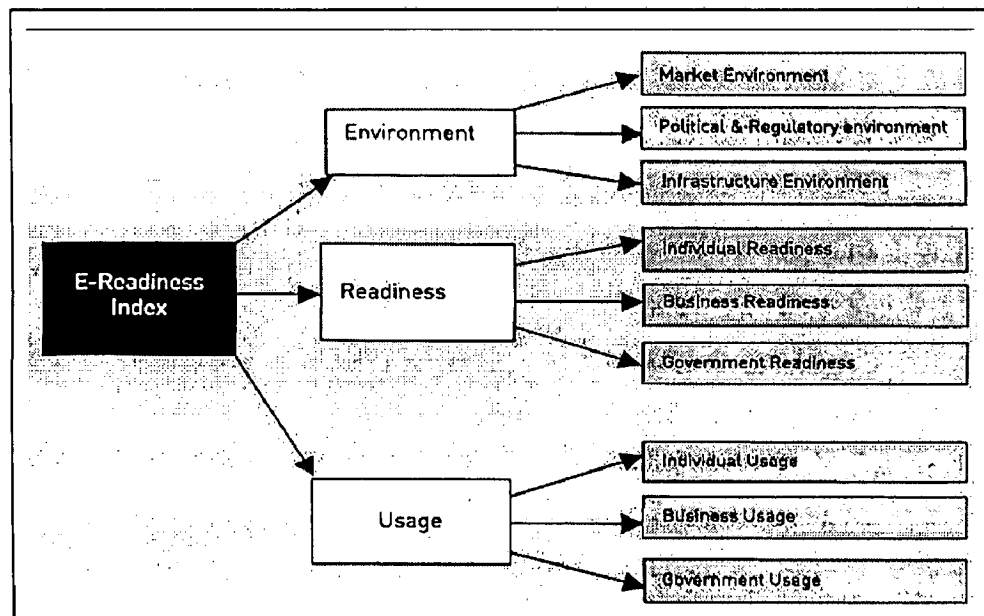


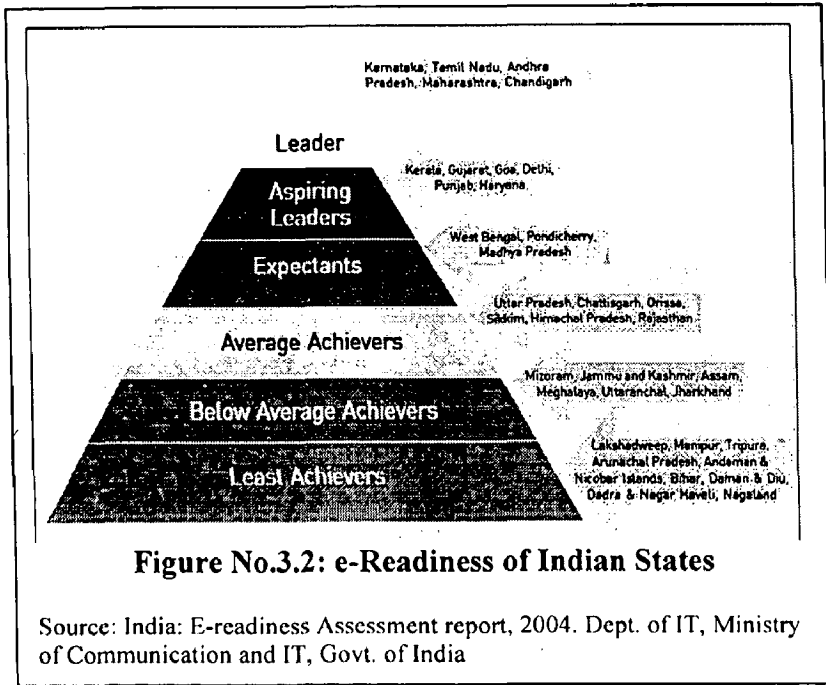
Figure No.3.1: Network Readiness Index Framework

Source: India: E-readiness Assessment report, 2004. Dept. of IT, Ministry of Communication and IT, Govt. of India

for the states and Union territories was developed based on three broad categories

‘Environment’, ‘Readiness’ and ‘Usage’ as shown in Figure No:3.1. They are further divided into market, political/regulatory, infrastructure for *Environment* category, for *Usage* - individual usage, business usage and government usage and for *Readiness* – individual readiness, business readiness and government readiness are considered. On the basis of e-Readiness composite index calculated, the states have been classified as shown in Figure

No:3.2 as per the India: E Readiness Assessment Report 2004 for States and Union Territories prepared by National Council of Applied Economic Research (NCAER) for Ministry of Communications and Information Technology, Government of India. List of e-ready states as per category is given in below table (Table No:3.15).



Categories	States	No. of States
Leader	Karnakata, Tamil Nadu, Andhar Pradesh, Maharashtra, Chandigarh	5
Aspiring leader	Kerala, Gujarat, Goa, Delhi, Punjab, Haryana	6
Expectants	West Bengal, Pondicherry, Madhya Pradesh	3
Average Achievers	Uttar Pradesh, Chattisgarh, Orissa, Sikkim, Himachal, Rajasthan	6
Below Average Achievers	Mizoram, Jammu & Kashmir, Assam, Meghalaya, Uttaranchal, Jharkhand	6
Least achievers	Lakshadweep, Manipur, Tripura, Arunachal Pradesh, Andaman & Nicobar, Bihar, Daman & Diu, Dadra & Nagar Haveli, Nagaland	9

Source: India: E-readiness Assessment report, 2004. Dept. of IT, Ministry of Communication and IT, Govt. of India

3.3 Best Practices:

Today hundreds of projects are running throughout the length and breadth of the country. Few of them are very success, few are partially success, few others a complete failure and others are yet to be evaluated. Lessons from the successful projects guides in the direction and help to create yet another success story. Best of the best practices are carefully picked up from of this country and findings are noted down.

3.31 E-Choupal [10]

3.31(a) Introduction

Sustainable commercial engagement in rural India is a channel that can serve as a foundation for the greater social agenda. It can bring global resources, practices and opportunities to the Indian villages while better compensating the farmer and helping alleviate him from his subsistent myopia. Pioneering engagements can also create a commercial environment conducive to private sector participation. It was in this context that the concept of e-Choupal was launched. E- Choupal is an ICT initiative started by one of India's leading private companies – ITC.

Aiming to integrate more closely with its rural suppliers, while also developing new markets for its own and third-party goods, ITC began deploying its e-Choupal network in early 2000 through its International Business Division. Today, there are 3300 Choupals in 5 states of India covering 20,000 villages servicing 1.8 million farmers. In the year 2003-04, the total transactions were valued at US\$ 100 million. The vision for the project is to make 20,000 choupals in 15 states covering 100,000 villages and servicing 25 million farmers (by 2010). The projected transactions by the year 2010 are valued at US\$ 2.5 billion.

3.31(b) Sources of Inefficiency in the Old Model

The inefficiencies of the traditional system adversely impacted the farmer. The farmers thus did not have any information on local pricing levels and trends. The timing of the sale was more often than not sub-optimal. There is no formal method of grading the produce and inspection is done by sight only, the evaluation tends to favour the informed and wealthy buyer and not the poor farmer. The farmer's produce was auctioned off at variable price though the margins of commission agents were ensured irrespective of the price that the farmer got. Also, at the time of weighing and bagging the product, the farmer's produce was

consistently under weighed. Since the farmer could not refuse the sale at the auctioned price, he ended up losing as much as 60 per cent to 70 per cent of the potential value of the crop. At the time of the auction, the farmer was never paid in full at once for his produce and his payments were stretched over time. Repeating the trips to the mandis cost him time and money.

3.31(c) ITCs initiative

ITC took the initiative to re-engineer the entire existing value chain. The mandi was not an optimal procurement channel and the market was created, manipulated and managed by the agents. The e-Choupal is an ideal vehicle to communicate directly with the farmer and thereby bypass the inefficiencies arising out of the agent's intermediation and collusion. The e-Choupal network was thus conceived to achieve 'virtual vertical integration' by extending ITC's engagement all the way to the farmer in the field.

3.31(d) The New Model of e-Choupal

The model is centered on a network of 'e-Choupals' which are information centers armed with a computer connected to the Internet. It is not subsidized, ITC shareholder looks for a competitive return, like all shareholders do and there is no government money involved.

The name is derived from the Hindi word 'choupal' meaning a 'traditional village gathering place'. The e-Choupals are meant to act as an e-commerce hub as well as a social gathering place. ITC's goal is to set up enough number of e-Choupals such that a farmer has to travel no more than five kilometers to get to an e-Choupal. ITC expects each e-Choupal to serve five to seven villages in this 5-km radius. It reaches out to more than a million farmers in nearly 11,000 villages through 2,000 kiosks across 4 states (Madhya Pradesh, Karnataka, Andhra Pradesh and Uttar Pradesh). The average number of farmers with access to a single e-Choupal is approximately 1,000.

The e-Choupal is managed entirely by the sanchalak who is trained on basic business skills, quality inspection and pricing. The Sanchalaks are useful in that they help overcome the literacy barrier, keep the costs low (since no additional infrastructure is required) and help manage the relationships in the villages (since they have the most information about

villagers). Virtual vertical integration can only work if there is a continuous flow of information between the e-Choupal and ITC.

3.31(e) Selective Disintermediation – The Commission Agents

ITC recognized the fact that complete disintermediation would result in the loss of an essential service especially in the rural context. The goal was selective disintermediation so that agent would participate, but only as providers of essential services, not as principals in a trading transaction. Another of the important reasons for keeping the commission agents as part of the new value chain was that these agents knew village dynamics. They knew who grew what product, what their financial situation was etc.

3.31(f) Re-engineered Value Chain

The re-engineered value chain is different from the traditional value chain in the following aspects:

- Price Setting: The benchmark price is static for a given day. Information on prices is communicated to the Sanchalaks through the e-Choupal portal. The commission agents are responsible for feeding daily mandi prices to e-Choupal. Also, the price quoted to the farmer is conditional and the farmer has the option to refuse the sale.
- Quality tests: These are performed right in front of the farmer and any deductions are rationalized to the farmer. Also, the entire process is more scientific for instance, weighing is done by means of electronic machines and instruments like moisture meters are used to measure moisture content.

Transaction Costs in the Mandi Chain	Rs / Metric Ton	Rs / Metric Ton
Farmer Incurs:		
Trolley freight to Mandi	120	(reimbursed) 120
Labour	50	-
Kachcha Adat	150	-
Handling Losses	50	-
Processor Incurs:		
Commission to the agent	100	50
Cost of gunny bags	75	75
Freight to factory	120	-
Handling at Mandi / Hub	40	40
Total incurred	335	
Total cost incurred in the whole process	705	335
Source: India: E-readiness Assessment report, 2004. Dept. of IT, Ministry of Communication and IT, Govt. of India		

3.31(g) Sources of Efficiency in the New Model

1. **Pull based Marketing:** This channel is different from the traditional channel in that where agricultural inputs were sold mainly by pushing it to the end customer through dealers, now farmers educated in best practices understand exactly what inputs they need and why they need it. This eliminates the need to spend time and money in advertising.
2. **Demand Aggregation leading to Scale Economies:** In the rural environment, physical infrastructure is inadequate. The scale economies allowed by aggregation are crucial for keeping down logistics costs.

3.31(h) Gain to the Farmer

1. *Better Information Content:* Prior to the e-Choupal the farmer's information was incomplete or inaccurate. Now the e-Choupal allows farmers access to prices at several nearby outlets. Infact, now the farmers can even access external pricing indicators such as prices on the Chicago Board of Trade website to track global trends and determine the optimum timing of their sale. This gives the farmer the empowered choice to sell or not sell his product.
2. *Transaction Losses:* Most farmers have to travel long distances to come to the mandi and incur costs of overnight stays or multiple trips. The sale to ITC takes no more than a few hours. This means lower logistic costs for the farmer. ITC's electronic weighing scales are accurate and impartial as compared to the mandi's manual scales. This helps eliminate pilfering and loss of produce.
3. *Professionalism:* The ITC procurement center is a well maintained professionally run operation where the farmer is treated with respect and actually serviced as a customer.

These factors work to provide a better price for his crop, reduce transaction losses and give the farmers a sense of dignity. Also, there is an increased bottom line for the farmer in way of increased yields, improved quality of produce and reduced transaction costs.

3.31(i) Gain to ITC

1. **Disintermediation Savings:** The commission paid to the agents were not excessive but the true cost of intermediation, including the rent seeking was between 2.5 per cent and 3 per cent of procurement cost. A 0.5 per cent commission to the Sanchalak has replaced this.
2. **Freight Costs:** Direct reimbursement of transport costs to the farmer is estimated to be half of what ITC used to pay the commission agents for transport to their factory.
3. **Control on Quality:** Removal of intermediary manipulation of quality and the ability to directly educate and reward quality in the customer base results in higher levels of quality in e-Choupal procurement.
4. **Risk Management:** The e-Choupal allows ITC to develop long term supplier relationships with its farmers and attain some modicum of social security over time. Risk is also managed in the e-Choupal by far stronger information infrastructure.

3.31(j) Social Impact of e-Choupal

The e-Choupal model profitably provides an inaccessible village with a window to the world. E-Choupal brings with it higher remuneration and appreciation of the professional transaction, which is causing several shifts in the social fabric. Bridging the information gap, cheaper and smarter agricultural inputs and farmer as a source of innovation – all these factors together contribute to better agriculture, higher quality of produce and consequently better lifestyles. E-Choupal leverages technology to reach out to a wide base of farmers wherein the sanchalak ensures that the practices actually make their way from the website to the field. The services offered by the e-Choupal include:

- Weather - This is a very popular section on the Web site because it provides localized weather information at the district level. E-Choupal's weather information is intelligently coupled with advice on the activities in the agricultural lifecycle. The availability of accurate rain information has cut losses due to weather by more than half.
- Agricultural Best Practices - Scientific practices organized by crop type are available on the Website. Additional questions are answered through FAQs (frequently asked questions) and access to experts who respond to emails from the villages.
- Customized Quality Solutions - After sale of a crop is completed ITC performs laboratory testing of the sample collected. Based on these results, farmers are given customized feedback on how they can improve crop quality and yield.

- *Intelligent Product Deployment* - Inputs such as fertilizers and pesticides are not generic in their application and are relative to the soil type and crop. Determining these parameters requires services such as soil testing. ITC's 'full-service' approach provides this advice by coupling the input sale to the information on the Web site and services such as soil testing.

3.31(k) Intangible Benefits brought in by e-Choupal

E-Choupal has greatly helped in expanding people's freedom of choice and action and enhancing their capabilities to shape their own lives.

Economic Empowerment

- Connecting people to markets
- Policy for investment climate
- Property rights
- Quality Infrastructure

Social Empowerment

- Access to assets and basic services (health, education)
- Downward accountability

Political Empowerment

- Access to Government
- Regulation with minimum corruption

3.31(l) Drawbacks

- The revenues of commission agents are lesser than they were before the system of e-Choupal.
- The workers in the mandis who were employed to bag and weigh products have lost their jobs because of use of machines for these purposes
- Mandis have lost taxes that contribute to maintaining their infrastructure since there has been a diversion of tax revenues to the mandis located near the procurement hubs
- Villages are stratified and not everyone can access the e-Choupal at the Sanchalak's home. Income level differentials are large and the female population does not have access to the computer. The gender barrier has thus not yet been impacted. Engagement with the female population may be possible through the active distribution through e-Choupal, of products tailored especially for them.

3.32(c) Private Partnership

This is achieved through public private partnership marrying the strengths of public and private domains. The project is being implemented on a turnkey basis by the Andhra Pradesh government and its private partner Ram Informatics. In total there are 132 G2C services and 15 B2C service.

3.32(d) The Challenge

The eSeva concept could be novel even in the context of a developed country because integration of federal, provincial and local services and their delivery through a single counter has not been attempted anywhere. Departments have for long been working independently to meet their own goals instead of together to co ordinate citizen interfaces and services. The project attempts to breach this “silo” thinking. The transactions being on-line and real time cause the administrative departments to computerize their work and quite often reengineer processes. In the process the government hopes to reward its citizens with better service and itself with lower costs by becoming more demand-driven and citizen-centric.

Getting all the relevant data matched within and between agencies and eSeva is paramount. It's essential to get agencies setting standards, integrating their systems, sharing information, and giving access to eSeva to the latest information. The information must be consistent, accurate, and up-to-date. One of the most common problems identified by both the users and the eSeva center heads was the delay in updating the information by the various client departments. The single biggest hurdle faced by eSeva is coordinating all the information sources ensuring consistency of data, information, decisions and service. Excellent information management is required – input, retrieval, documentation – to ensure consistency. Though there is a sophisticated network system in place, there is an urgent need to integrate the legacy systems of the various government departments with the latest technology.

3.32(e) Features

The goal of e-Seva is to establish a SMART (Simple, Moral, Accountable, Responsive and Transparent) government. Therefore the e-Seva centres are located within reasonable proximity of all citizens and act as a one-stop-shop which provides to the citizens services and information of departments and agencies of State and Central Governments and local bodies in an efficient, reliable, transparent and integrated manner with a view to ultimately eliminate face-to-face interaction between the government and the citizen which has many drawbacks. There are no jurisdiction limits – any citizen in the twin cities can avail the services at any of the eSeva centers. Services can be availed on holidays also. eSeva accepts all forms of money and payments can be made through cheque, Demand Draft, cash or Credit Card at all eSeva counters. Payments can be made over the Internet also. The online services include e-forms, e-filing of property tax and e-payments. Citizens are not charged for any utility payments.

Since eSeva data centers communicate with the servers of the client departments, on an online, realtime mode, payment particulars get updated on the department servers spontaneously in real time. Hence bills paid at eSeva for utilities will ensure that the utility services are not disconnected. Moreover, payment receipt issued by eSeva will be treated as conclusive proof of payment.

The uniqueness of eSeva has also been acknowledged by the World Bank and has cited eSeva as one of the best eGovernance practices in the “Government World”. The project is cited as a best practice by agencies, corporates and leaders worldwide. The Project is the recipient of the prestigious CAPAM Certificate of Achievement, Computer World Honors Medallion and has received the ISO 9001: 2000 Accreditation.

3.32(f) The Technology

The provision of integrated services is being achieved through the use of three-tier technology with an Application Server acting as a bridge between :

- The databases of the departments located in different parts of twin cities, and
- The clients at the counters in the ICSCs are thin clients with only a browser loaded.

Hardware & Software

- 2 'Sun' make, E250 model Servers with 100 per cent redundancy and 2 Compaq make, ML 530 model database servers with 100 per cent redundancy.
- Oracle 9iAS – Application Server running on Sun Solaris 8 Operating System.
- Oracle 8i Release 3 Database Server running on MS Windows 2000 Operating System.
- One Firewall Server
- One Web Application Server for Portal
- One Network Monitoring System (NMS) running Cisco works on MS Windows 2000 Operating System.
- Java based front-ends
- Oracle database backend at all Departmental Servers.
- 10 KVA UPS for all the clients in Khairatabad center with one-hour backup & 5 KVA UPS for all the Servers in the data center with 45-minute backup.
- 5 KVA UPS in all centers with 30-minute backup.
- About 10 clients and 10 printers, including a Laser printer and PVC card printer for printing driving licenses at each ICSC.

3.32(g) Connectivity

A combination of Leased Lines, ISDN lines and Asynchronous lines has been established to connect the e-Seva data center to all the departmental servers and to all the eSeva service centers.

Framework of evaluation for e-Seva

Approach	Criteria of Evaluation
Sen's Capability Approach	<p>Indirect measures</p> <ul style="list-style-type: none"> Increased productivity-through reduced corruption/unproductive rent-seeking, reduction in transaction processing time. Increased Growth-through possible benefit to traders with linkage of eSeva services with authorities responsible for granting trade licenses. <p>Direct measures</p> <ul style="list-style-type: none"> Human development-improved medical and health facilities through this programme. May have impact on life expectancy in the long run.
Brown's Information Based Evaluation Methodology	<ul style="list-style-type: none"> Measures of coverage-Improved information access and storage through use of ICT Measures of linkage-No feedback mechanism yet incorporated. Measure of direction-increased transparency in government has improved its image while at the same time effecting government procedures.
Sustainability/Scalability/Profitability	<p>This is an excellent example of an initiative where the government provides utility services levying attractive user charges while at the same time being scalable. Such efforts would in the long run lead to a reduction in the fiscal deficit reducing infructuous expenditure by the state. An attempt has been made to sustain the eSeva project by marrying the strengths of public and private domains. The project is being implemented on a turnkey basis by the Andhra Pradesh government and its private partner Ram Informatics. The initial business plan was to earn revenue for the project from three sources, viz., transaction-based service charges on citizen-to-government transactions, similar service charges on transactions for other businesses and revenue from advertisements on receipts and on the Internet transaction portal. Of these only the first is currently operational but when other options become operational the project will also become sustainable and scalable.</p>

Source: India: E-readiness Assessment report, 2004. Dept. of IT, Ministry of Communication and IT, Govt. of India

Further supported Studies done at eSeva, Hyderabad, Andhra Pradesh

3.32(h)eSeva centres, Andhra Pradesh

Presently there are 245 centres functioning through the state, covering all the 117 municipalities and other major villages. 45 centres are rendering services to the people of Hyderabad urban area alone, out of which 20 centres are functioning within the municipal limits. Total number of centres present district wise are given in side Figure No.3.3

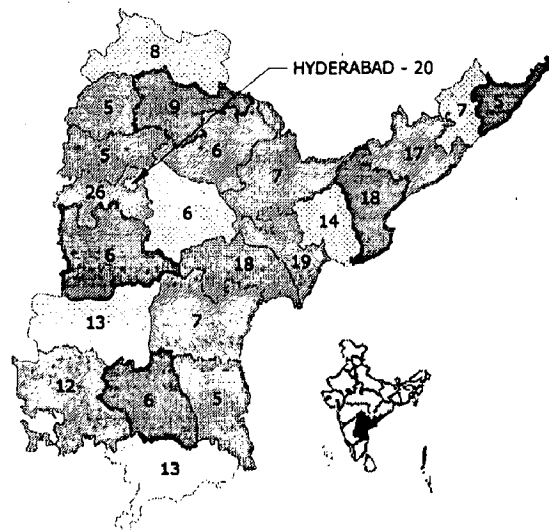


Figure No.3.3: District wise eSeva centres in Andhra Pradesh

First pilot project was started in 1999 in Hyderabad. Source: www.e sevaonline.com

Handwritten stamp: 612553, 22-8-06

Hyderabad and later scaled up in 2001. Presently these centres together collect more than 1.5 billion rupees per month from their transactions.

3.32(i) New initiatives and services provided: [11]

e-Seva centres are located within a radius of about 4 kilometers to the reach of all citizens and act as a one-stop-shop which provides to the citizens services and information of departments. eSeva accepts all forms of money and payments can be made through cheque, Demand Draft, cash or Credit Card at all eSeva counters. Payments can be made over the Internet also. The online services include e-forms, e-filing of property tax and e-payments. Citizens are not charged for any utility payments. Citizens of Hyderabad can avail more than 150 services at present. Detailed list is given in Annexure - III

3.32(j) Pictorial Comparison between the traditional model and eSeva model: [12]

Figure No.3.4: Conventional System: Customer goes to different departments for different services

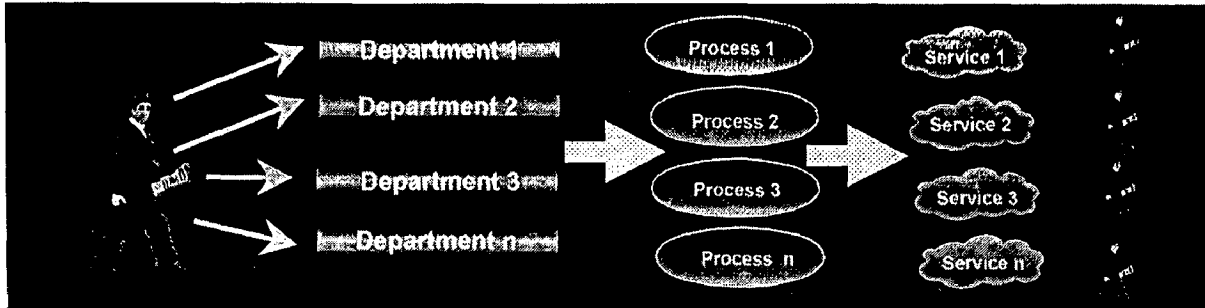


Figure No.3.5: eSeva System: Customer goes to any counter in any centre for any service

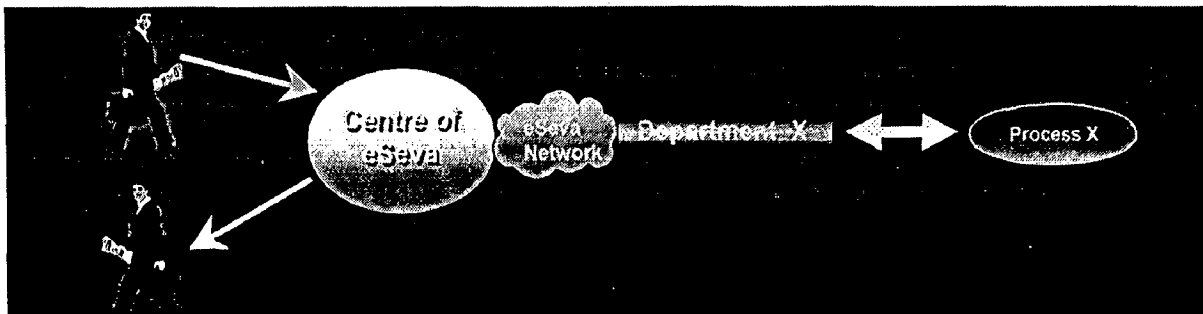


Figure No.:3.6: Before eSeva Model



Figure No.3.7: After the eSeva Model

Table No.3.7: Comparison between Conventional System and eSeva system

Conventional System	eSeva System
<ul style="list-style-type: none"> ▪ Citizen goes to each and every department for any service. ▪ Jurisdiction limits. ▪ Stands outside counter without shelter. ▪ A manual receipt will be issued. ▪ No online verification of payments. ▪ Works only on working days in office hours. 	<ul style="list-style-type: none"> ▪ Citizen goes to any counter in any center for any service. ▪ No jurisdiction limit. ▪ Good shelter and nice ambience. ▪ Computer generated receipt will be issued. ▪ Online verification of payments. ▪ Works outside office hours and on holidays too.

Source: Author, Data from above text on eSeva

3.32(k) eSeva centre, Khairtabad, Hyderabad



Figure Nos. 3.8, 3.9 & 3.10 : eSeva Centre (in RTA complex) at Khairatabad, Hyderabad

Table No. 3.8: Some Facts about the centre:

Started	August, 2001
Peaks Hours:	Morning 10am to 12pm and Evening 4pm to 8pm
Working Hours:	8am to 8pm (on working days); 9am to 3pm (on Sundays & holidays)
No. of services offered	137 G2C and 15 B2C
Total Number of Counters:	8 nos.
Ave. No. of daily visitors:	1100
Popular Service	Electricity bill payment (70% of average daily transactions)

Source: Author, from Field Visit and interaction with officials.

Table No.3.9 :Transactions in Hyderabad city per month:

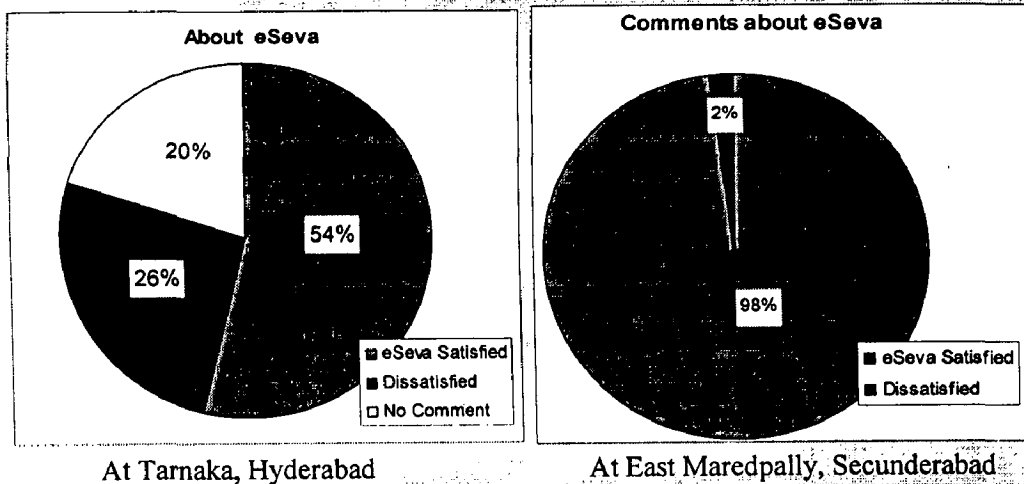
Client	Consumer Base	Payments made @ eSeva
Electricity	12.0 lakhs	60%
BSNL	3.5 lakhs	30%
Water	2.0 lakhs	72%
Tata Tele Services	1.0 lakhs	70%

Source: www.esevaonline.com

3.32(I) Public response on eSeva:

Most of the people are happy about the new initiative. It relieves them from lengthy queues waiting in the hot sun, from experiencing vexation, facing harassment and running from one office to other on the traffic jammed roads. A new and fresh experience of corporate office ambience with quicker service and helping officials has changed the image of the government.

Figure No.3.11: Public responses on eSeva^{13]}



Source: Administrative Staff College of India (ASCI), Hyderabad^{13]}

Reasons for Satisfaction:

1. All services can be paid at single centre and in single visit (in a month)
2. No queues, no waiting outside (exposed to sun, rain and dust of passing by vehicles)
3. Convenient timings – 8am to 8pm (working hours on holidays also)
4. Good ambience and quick service

Reasons for Dissatisfaction:

1. Away from home / conventional centres are nearby
2. Transactions are carried out in English
3. No proper parking facility at the eSeva centre

Reasons for No Comment:

- Not used or not visited the centre (either because of non availability or non usage of service).

3.32(m) Success Factors:

There are three main factors for the success of the project:

1. one stop shop – provision of most of the government services – which saves time, money and efforts of the public.
2. Sustainable model – Transaction charges from three different sources (services on G2C transactions, advertisements on receipt and internet transactions) makes it self sustainable.
3. Interest shown by public and private players for delivering their services through these centres, after seeing the tremendous response from public.

3.32(n) Conclusion:

eSeva (centres) ensures government services to the common man in his/her locality, throughout his/her life through a one-stop-shop, ensuring efficiency, transparency & reliability services at affordable costs. It can still move closer to common man by:

- Incorporating the transactions in the local language.
- Opening up the centres in rural areas.
- Increasing awareness.
- Providing other amenities like parking, drinking water and toilet.
- Incorporating other departmental services and local public priorities.
- Making attractive for private players in participation and establishment of the (PPP) centres.

One can replicate or start the similar service in other parts of the country with payment of utility bills especially starting with electricity (on an average 60% transactions made in eSeva belong to electricity department).

3.33 RASI [10]

3.33(a) Introduction

To bridge the Digital divide, the Tamil Nadu Government has taken an initiative called Sustainable Access in Rural India (SARI) and a pilot project was launched in Melur, Madurai District to build up the necessary rural infrastructure. Aimed at building connectivity infrastructure for the benefit of rural citizens, it started as a new concept, as a research and development initiative to test a locally developed wireless technology by the Telecommunication & Networking (TeNet) Group, Indian Institute of Technology Madras, with assistance from MIT Media Lab Asia and the Center for International Development (CID), Harvard University.

After the successful implementation of this pilot project, the Government scaled up the project as e-Governance delivery centers throughout Tamil Nadu through the Rural Access to Services through Internet (RASI) project. Why connect so many villages?

The RASI Project is dedicated to demonstrating that the creation, deployment, and delivery of information and communication services and technologies in poor rural areas leads to improvements in health, empowerment, learning, and economic development in these communities - and very importantly - that such services can be realized in an economically sustainable fashion.

3.33(b) Focus Areas of the RASI Project

1. Inventing and deploying innovative and context-appropriate technologies, applications, and highly localized content that lead to economic and social development;
2. Conducting social and economic impact assessment research of these technologies;
3. Testing and generating business models that lead to profit generation and allow the services and technologies to be self sustaining;
4. Benefiting from the Network Effect that comes from connecting up a large number of communities and users, aggregating demand and integrating markets.

3.33(c) RASI Services

1. Information - A Kiosk will be connected to the website containing information relating to details of all schemes, copies of application forms for all certificates that can be downloaded, both in English and Tamil, as well as details about how to use each form.
2. Forms - Online applications and registration.
3. Data - Data relating to rural development available online. The Kiosks have come in handy for compiling databases of villages, for specific uses, and for dissemination of information on health and government announcements using local radio.
4. Education - Online educational content for schools is provided - test papers for Class 10 and 12 Board examinations, tutorials for English, Mathematics and Science, special tutorials in lessons that are particularly difficult for students and application forms of all educational institutions and entrance examination forms for all State-run competitive examinations.
5. Healthcare - Online consultancy such as getting an Out Patient Department (OPD) registration number or scheduling tests at laboratories is provided by connecting block and district level hospitals. In fact, the audio and video streaming services at Kiosks are used to send out important healthcare messages.
6. Agriculture - The Agriculture Department's online extension services include connectivity to the Tamil Nadu Agricultural University and Agricultural Extension Officers in each block, availability of market prices, training programmes for

farmers and even providing soil test reports by connecting the Soil Sciences Lab via the Internet. The Animal Husbandry Department provides similar facilities as well.

3.33(d) The Business Model

Revenue Model

The revenue model for a project like RASI would typically look like the one given below:

Table No.3.10 Revenue Model for RASI project

Capital Costs	Current Revenues (Income producing applications)
<ul style="list-style-type: none"> • Wiring, furniture Rs 15,000 • Kiosk equipment 50,000 • Other 15,000 	<ul style="list-style-type: none"> • Training (Windows, Office) • Cybercafe applications (e-mail, surfing) • E-government services (caste, income, birth death certification, pension schemes) • Entertainment applications (Tamil movies, astrology, video games) • VoIP
Recurring Costs (monthly)	Break Even Revenue
<ul style="list-style-type: none"> • Rent, electricity, maintenance 1,316 • Internet 700 • Interest and depreciation 1,600 	<ul style="list-style-type: none"> • Break-even revenue 3,500 (per month) 120 (per day) • If equipment costs double 170 (per day)

Source: India: E-readiness Assessment report, 2004. Dept. of IT, Ministry of Communication and IT, Govt. of India

NOTE: Today all but one village kiosk reports over Rs. 100 per day income (roughly breaking even).

3.33(e) Technology

Current network technology is based on the corDECT system that was jointly developed by the TeNet group at IIT Madras, Analog Devices Inc, and Midas Communication Technologies Pvt. Ltd., Chennai, India. corDECT provides cost-effective, simultaneous high-quality voice and data connectivity in both urban and rural areas. A corDECT access center is located roughly 25 kilometers from the kiosks. Optional relay base stations are located approximately 10 kilometers from kiosk village information centers or 15km from the Access Center.

The village information centers (TeleKiosks) are fixed wireless stations. For terrestrial systems, economies of scale are enjoyed as the number of subscribers increase per radio access tower erected, or copper or fiber cable laid. The corDECT system, a Wireless Local Loop (WLL) technology manufactured by the Midas Corporation, is an example that demonstrates these scale economies.

For all this, implementation of a massive project such as RASI has not been easy. There were various technical and financial considerations that had to be weighed before its commencement. The wireless technology (CorDECT) adopted for providing rural connectivity was specifically chosen to match the best available in urban infrastructure, as well as for its sustainability and capacity to keep abreast of constant changes in such technology. It was not adopted merely as a short-term research project but as a long-term solution.

3.33(f) Impacts

1. **Enhanced Economic Opportunities** - Through the development and introduction of appropriate and enabling technologies and applications, SARI will foster economic development and improve health and learning. It will do so in a financially sustainable way, even as it reaches into the poorest and most disadvantaged communities. With RASI's efforts, it was found that the economic lives of people in rural areas became better. Market information such as demand and supply of local products helped villagers identify local skills and nurture them for pursuing better prospects in education and employment. This slowly led to a marked improvement in their lifestyles and standards of living. The wide range of services provided to the rural community enhances the opportunities to increase the trade activities of the small and medium enterprises operating the region through faster and cheaper communication.
2. **Reduced Time and Cost** - ICT services can substantially reduce the costs of distance and isolation borne by poor, especially rural, households, whose members must often travel long distances to communicate, and obtain vital information. Their isolation causes them to miss out on employment and other economic opportunities. Now empowered to access information and services, the rural folk are undergoing a process of social transformation. Since the villagers are now able to submit their petitions directly to the authorities concerned, remedies come faster. In fact, they are now able to submit their grievances even to the Chief Minister by e-mail and receive acknowledgement for the same, the best case really of rural

empowerment. Indeed, empowerment has reduced gender inequality and brought women to the forefront in a way.

3. **Improved e-governance** - ICT offer powerful tools to improve the efficiency, quality, and reach of public services that are important for poverty alleviation, such as education and health. ICT can also broaden political participation and increase the transparency of government. The e-governance services offered by these Information Kiosks that is one of the major benefits of this project.
4. **Promoting Entrepreneurship** - Based on the franchisee model this ICT project is promoting entrepreneurship. It provides ambitious members of the rural community, opportunity to take up Information Kiosk operation business moving away from old and traditional businesses and to prosper. This requires only a modest amount of capital investment. All technology and training is provided by the project. The project values local champions and entrepreneurs and encourages their leadership; cooperate with residents and existing organizations.
5. **Connecting People** - The RASI project has transformed the rural population of India and this has made their linkage with their relatives and friends outside the place stronger as they can now communicate quickly, cheaply and more often. This helps markets to work by wiring regions densely and creating a local Network Effect. Putting at least one connection in each village has promoted local/regional communication and information flows, while aggregating rural markets and attracting private sector interest.
6. **Skill Development** - From the very beginning of this ICT project, importance of personnel training and skill development was realized and a formal training program was scheduled for the Information Kiosk Operators. The local people with a minimum high school education and 3 - 12 months of computer education from ITI or a private institute were selected for being kiosk operators. They undertook an intensive training program preparing them for the task ahead.

3.33(g) Lessons from RASI project

Indeed, several lessons relating to integrated rural development, the nodal role of the IT department, cooperation and coordination between departments has been learnt from the RASI exercise. Inputs from similar projects in other States have also proved useful. The RASI Project, it was felt, would work much better with the Central Government's support

in favour of bringing IT to the masses. The service providers in rural connectivity like BSNL are also improving their infrastructure, wherever the throughput of data were minimal. Private initiative or a public-private partnership in this regard was found wanting; if the government supported private initiatives, infrastructure could be developed faster, it was learnt.

3.33(h) Evaluation Of RASI Project

Sustainability/ Scalability/ Profitability of the project:

Today all but one village kiosk reports over Rs.100 per day income (roughly breaking even). Given that the technology components and public access business model is essentially a platform capable of facilitating a wide range of activities, more applications and content will allow revenue generation from a greater variety of sources. However, this project is not at par with e-seva in terms of scalability, Boomi in terms of utility and e-choupal in terms of business model.

3.34 Akshaya [10]

Akshaya - An IT Dissemination Project

The Akshaya project leverages the comparative advantages of the state of Kerala – its high rate of literacy and progressive social framework along with an already existing advanced telecom infrastructure. It thus hopes to create a network society of computer literates in order to leverage the social power of the state in a more meaningful way. At the same time one questions the long-term sustainability of this project and whether involvement of the Panchayats can really be considered private participation for achieving developmental goals.

3.34(a) Introduction

Akshaya project was started in 2003. The motivation of the project is that every household in the country should be exposed to the various possibilities thrown up by Information Technology. One person each from every family in the State will be given training in the basic use of computers and they would be empowered to access relevant e-content in the regional language.

The Akshaya project, a project implemented by IT Department, Government of Kerala with Private Sector Participation has been undertaken with the view to bridge the *digital divide* by the successful dissemination of benefits of Information Technology among people. It is expected to be the country's largest rural wireless network. It aims to improve public delivery of services by bringing the benefits of e-governance and utility services like basic connectivity to individual households in Kerala. As of now, there are 620 ICT centers, with each center servicing about 1000 families.

The factors that make Akshaya different from other projects of its kind are:

1. Unique partnership between the public and private community
2. Mass community mobilization based on earlier literacy campaign
3. Development of an organic relationship between the Akshaya center and its user
4. The scale of operations with spatial distribution as a key differentiating element

3.34(b) The Strategy

Akshaya follows a multi-pronged strategy that aims to:

1. Build an information highway
2. Create a user community
3. Offer IT based services

By leveraging Kerala's unique strengths

1. Active community organizations
2. Progressive social framework
3. Advanced telecom infrastructure
4. Wide- spread media penetration.

In order to create a new social and economic network for:

1. e-governance
2. Education
3. Employment

4. Empowerment

The Akshaya project has three focus areas.

1. **Access:** Bringing the benefits of technology to the households in all sections and regions of the state
2. **Contents:** Provide ample Information base in local language relevant to citizens' lives.
3. **Skillsets:** Facilitate the development of competence and skillsets and enable sufficient understanding of the world of Information Technology and how it can touch their lives

3.34(c) Access

Akshaya aims to provide a center within 2 km of every household with a total of 9000 centers. Each center would cater to an average of 1000 families and all centers would be networked over the Internet. They would be created and run by entrepreneurs chosen from within the society who have been trained for the task. The centers would also offer support facilities like web-cams, scanners, printers and fax machines.

3.34(d) Contents

In addition to opening up a wealth of data, Akshaya will also offer tailor made information for the citizens. Developed by industry experts, the content will cover every industry in Kerala- both traditional and new. The content is aimed at helping the user glean practical information with ease. Tools including customized software and CDs accessible at every Akshaya center will also be made available. A wide range of subjects including education, career development, agriculture, health, Information Technology, law and justice will be accessible over the Internet. Self-development and entrepreneurial modules covering spoken English, vocational training, personality development and career planning would be online. Since all the information would be available in the local language, the acceptability and utility of such an initiative would be high.

3.34(e) Skillsets

One person each from every family in the State will be given training in the basic use of computer and they would be empowered to access relevant econtent in the regional language. The setting up of the centers itself is aimed at encouraging private entrepreneurs. Each center needs three to four trainers. Thus, the 552 centers would generate about 3,000 jobs for the citizens who would be trained and an investment worth Rs. 30 crores.

Malappuram was the first district in the state to embark on the project, in May 2003. Out of the 100 panchayats in the district, six have already become computer-literate; many more are in the process of doing so. Besides computer literacy, the programme also aims to encourage entrepreneurship in the IT sector and increase associated job opportunities.

As of now a total of 6.5 lakh citizens have been trained to work with PCs in these centers and about 8 million more will be trained in Software. These figures include as many as 68 per cent women.

3.34(f) Sustainability

One of the primary concerns of launching this project is that the business that was being set up continued to be profitable after the three month long Akshaya initiative. Continuity and continued sustainability have to be ensured if any programme of such scale has to succeed. Thus, it is not merely service delivery but also capacity building which is given paramount importance. The State is doing something very interesting in this respect by committing itself to providing content in Malayalam. Teams of programmers and advisers are working to create useful content dealing with agriculture, health, education etc based on which a credible business model has been developed for the Akshaya centres to thrive.

3.34 (g) Akshaya Project Objectives

One of the primary differences between Akshaya and other projects is its scale of operations. It covers the 33 million population in Kerela, and aims at a making 6.5 million e-literate by the year 2005.

- To develop over 7500 numbers of networked Multi-purpose Community Information Centers (Akshaya Centers) to provide ICT access to the entire population of the state
- To make at least one person in each of 65 Lakh families in the state IT literate
- To enhance the quality of available IT infrastructure in the state
- To extend the IT infrastructure to the rural parts of the state
- To accelerate the development of local content relevant to the population

Expected/Anticipated Benefits

- Create and expand economic opportunities in the knowledge economy
- Empower individuals and communities through enhanced access to information
- Modernize and upgrade skill sets
- Integrate communities through creation of e-networks
- Create awareness of ICT tools and usage
- Generate content relevant and useful to the common man
- Generate content in local language
- Generate over 50,000 employment opportunities in 3 years
- Generate direct investment of over Rs. 500 crores in 3 years

The ultimate aim is to set up 9,000 Akshaya e-centers networking 300 lakh people across 60 lakh households. It is expected to create over 50,000 job opportunities and attract investments worth Rs. 5 crores.

3.34(h) Public-Private-Partnership

The Akshaya project is conceived as a public-private partnership (PPP). But the local bodies (Panchayati Raj Institutions) will be extensively involved in the implementation of the project.

Currently, there are 630 Centers and approximately 1,000 -1,500 households access each of these centers. Each center has about 5-10 PCs in addition to a scanner and a webcam for video conferencing. The total investment in the project is at Rs.2-3.5 Lakhs per center by a private entrepreneur. The capital required for setting up the facilities provided by each of the centers will be borne by the private entrepreneurs. The initial cost of setting up the wireless infrastructure (broadband connectivity) would be shared by the entrepreneurs and the state in a 50:50 ratio. In addition, each entrepreneur would pay a monthly rent of around Rs.1000 for using the infrastructure. These centers will also be run by private entrepreneurs selected by the project managers.

(i) Involvement of Local Self-government Institutions

In Kerala, Local Self-Government Institutions have been meaningfully empowered through massive transfer of resources as well as administrative powers. Coupled with a grassroot level approach of Participatory Planning whereby developmental programmes are identified and implemented through Gram Sabhas, the LSGIs have emerged as effective agencies for the implementation of developmental programmes. The Gram Panchayats have ensured the active participation of all sections of the society irrespective of social, cultural or income groupings in the overall development of the state.

The Akshaya team took the needs of the people into consideration while designing the e-literacy programme. Malappuram has a population of around 350,000 most of them men who work abroad. The people behind the Akshaya programme realized that the Internet would offer people a cheaper, more accessible means of communicating with their family members working abroad.

(ii) Selection of Locations

Easy access to the center is a major consideration, with a broad guideline that a center should be available to any family within a maximum distance of 2 Kilometers. While identifying new locations, existing computer centres too may be considered for conversion to Akshaya centres based on suitability of location.

The selection of location also involves checking the availability of power and telephone connections. As power costs are likely to vary depending on voltage levels and the need for using uninterrupted power supply systems, it is important that adequate data is available for

the entrepreneur for making the selection of center location. In addition to the need for checking voltage levels over the day, the types of telephone exchanges serving each location and whether they are digital in nature is also studied.

(iii) Selection of Entrepreneurs

Prior entrepreneurial and IT experience and familiarity with the local region are the main considerations for selection of entrepreneurs to run the Akshaya project. The aptitude of the person to provide quality service and the ability to form a bonding with the local community are other considerations. Also, the ability to invest the requisite capital for the venture is also ascertained. In addition to financial strength, the entrepreneur's commitment to the project including his/her ability to be involved full-time in the project is another criterion.

Selection of entrepreneurs is done by the local bodies based on a rating scale by conducting interviews. The selected candidates undergo a training programme that acquaints them with the objectives and methodologies of running the center.

Entrepreneurship development programme is also planned for the entrepreneurs to motivate the entrepreneurs and to sensitize them to the dynamic market environment so that their chance of business success improves. The business model of the center is explained and the entrepreneurs have to run a commercially viable center. For such training, each Akshaya center was to get Rs.140 per trainee. The trainee is to pay Rs.20 to the Akshaya center. The rest of the money (Rs.120) came from gram panchayat, block panchayat and district panchayat.

Over 50 per cent of the entrepreneurs are graduates or trained in computers or having engineering education or are postgraduates. Over 80 per cent of the Akshaya centers have been established by new entrepreneurs themselves. The project thus aims to build entrepreneurial capacity and train the students on these lines. 11.7 per cent of the entrepreneurs are woman. Akshaya thus overcomes the gender barrier.

3.34(i) Nature of technology used

Minimum Internet bandwidth requirement of each of the Akshaya centers was fixed at Maximum Information rate (MIR) of 64kbps and Committed Information Rate (CIR) of 16kbps with Free download limit per month: Minimum of 500 MB per Akshaya center. Provisions for Enhancement of bandwidth and/ or download limit on request were also

fixed. The Technology solutions needed to be proven in environments similar to Malappuram district, in scales similar to Akshaya project such that they are scalable to higher bandwidth (backbone as well as access) and larger number of locations on a larger area which is supported by obsolescence management plan.

3.34(j) Services

Akshaya centers have been set up to help citizens guide and support e-governance initiatives, intervene in community development, buy and sell online and to get relevant information.

The Akshaya project allows the state government to provide a range of e-governance and utility services to citizens. The project also allows citizens to use a service called 'Friends'. This is a single window distribution point for 35 services like payment of electricity bills, tax bills, and university fees. It is expected that around one million Keralites will access these services. Further, the state plans to use this wireless infrastructure for connecting all police stations, land records, the state forest department and the health centers. Over time Akshaya also hopes to provide services like online rural banking, online technology resource centers, e-enabled education centers, call centers, assisted health care and e-post.

In effect Akshaya hopes to be the precursor for a potential information highway.

3.34(k) Connectivity

Internet connectivity is very fundamental to the success of the Akshaya Project in delivering the planned services and administering interventions in various sectors. The proposed rural Internet connectivity to be implemented through the Akshaya Project is expected about significant socio-economic

For Akshaya Centres, it is thus of vital important that it fully meets the Internet connectivity needs of the citizens, communities as well as of small enterprises such that it is accepted and used by the community as a valuable community resource.

It still remains to be seen if the pilot would be sustainable in the long term, and if so how. Also, is involvement of the Panchayats equivalent to private participation? Also since the project is just out of its pilot phase, the actual impact of the project is still to be seen.

3.35 Bhoomi [10]

Bhoomi - Improved Public Delivery

BHOO MI is an e-governance project for the computerised delivery of 20 million rural land records to 6.7 million farmers through 177 Government owned kiosks in the Indian state of Karnataka which has eliminated red tape and corruption in the issue of land title records, and is fast becoming the backbone for credible IT-enabled Government services for the rural population, thus, bringing relief for the marginalized sections.

3.35(a) Background:

Sixty six per cent of the population of the Karnataka State resides in rural villages where agriculture is the main occupation. About 6.7 million farmers own 20 million land holdings. The crucial document, which records various parameters and information pertaining to the land holding, is the Record of Right Tenancy and Cultivation (RTC). The RTC is required for land transaction, for obtaining crop loans, other loans and concessions linked to the size of the land holding. In the earlier manual system, these records were maintained by 9000 Village Accountants (Vas) who serviced farmers in about 27,000 villages. The manual system of maintaining RTCs was exploitative.

Requests to alter land records (upon sale or inheritance of a land parcel) had to be filed with the Village Accountant. However, for various reasons the Village Accountant could afford to ignore these "mutation" requests. Upon receiving a request, the Village Accountant is required to issue notices to the interested parties and also paste the notice at the village office. Often neither of these actions was carried out, and no record of the notices was maintained. Notices were rarely sent through post.

An update to the land records was to be carried out by a Revenue Inspector, if no objections were received within a 30-day period. In practice, however, it could *take 1-2 years for the records to be updated.*

Land owners find it *difficult to access the Village Accountant*, as his duties entail traveling. The time taken by Village Accountants to provide RTCs has ranged from 3 to 30 days depending upon the importance of the record for the farmer and the size of the bribe.

Over time, several inaccuracies crept into the old system through *improper manipulation by the Village Accountant*, particularly with respect to government land. Even where accountants were law-abiding, village maps could not remain accurate as land was parceled into very small lots over generations. The system of physical verification of records by deputy tehsildars (supervisors of Village Accountants) became weak as the number of records multiplied and these functionaries were burdened with a host of other regulatory and developmental work.

The Central and State Governments have been acutely aware of the need to reform the land record system with the following objectives.

- Facilitating easy maintenance and prompt updation of land records.
- Making land records tamper proof.
- Allowing farmers easy access to their records.
- Collating the information to construct database regarding land revenue, cropping pattern, land use etc.
- Utilising the data for planning and for formulating development programs.
- Enabling usage of this database by courts, banks, private organisations and ISPs.

Computerisation of land records in Karnataka was started in 1991 when a pilot project was initiated by the Government of India. By 1996, projects for computerisation of land records were sanctioned for all districts in the State aimed at creating computer records from manual data. However, since no provision was made to install computers at subdistrict level, where online updating was to be done, these projects failed without achieving the above objectives.

Bhoomi - A New Approach

The first e-governance project of the Govt. of Karnataka was the Land Records Computerization System "BHOOMI". This project has been sponsored by the Ministry of Rural Development, Government of India and implemented by Revenue Department, Government of Karnataka. It permits online updating of land records making it radically different from land records systems attempted elsewhere in India, which update databases in offline model making it less current and therefore of not much use. The required software has been designed and developed in-house by the National Information Centre, Karnataka State Unit Bangalore.

Under the scheme, computerized land record kiosks have been set up in 140 sub-district offices from where farmers can obtain RTC copies on-line. At these kiosks a second computer screen connected to the kiosk computer faces the clients so that they can see the transaction being performed. Any number of copies can be collected for any land parcel belonging to anybody by providing the name of the owner or the plot number.

When a change of ownership takes place through sale or inheritance, farmers can file online requests at these kiosks for initiating the mandatory process known as mutation for effecting necessary changes in the RTC. Each request is assigned a number by the computer, Notices are then generated from Bhoomi, which are served by Village Accountant on interested parties. After waiting for a statutory period of 30 days from the day of serving of notices, the Revenue Inspector (RI) passes the mutation order in a register maintained for this purpose. The mutation order passed by the RI is processed on Bhoomi and a new RTC is generated duly incorporating the details of the new owner. As a part of the process, the mutation order is also scanned to take care of non-repudiation. While the mutation records are pending for orders of the RI, farmers can trace the status of the application, using the computer number provided to them, on the Touch Screen Kiosks provided on a pilot basis in three of the computerized kiosks.

Technology

Bhoomi is unique in the manner that it utilizes the Bio-logon metrics system from Compaq, which authenticates all users of the software on the basis of their finger prints and, therefore, makes officers accountable for their decisions and actions. This is not prone to

hacking as is the case with traditional password based authentication. A log is maintained of all the transactions carried out by the officers.

As an implementation strategy, manually written RTCs were declared invalid from the day on which the computerised system became operational in a subdistrict. This has forced the department to completely rely on the new system.

Another unique aspect of the project has been the imposition of user charges for all transaction. Rs.15/- per copy is charged for land records and mutation extracts. By November 2001, Rs. 5 million has been collected as user fee from the distribution of 3 million RTCs from kiosks, which have been operational for periods varying from 3 – 12 months. It is estimated that every year Rs.30 – 35 million would be collected as user charge, which would be ploughed back to maintain and improve the Bhoomi programme.

Beneficiaries of the Bhoomi project are not only the farmers but also the administrators and others.

Farmers

- Farmers can now get a copy of the RTC from the information kiosk at the sub-district headquarters without harassment.
- The farmer can file an application for effecting a mutation in the RTC and trace the status of the mutation application.
- Use of biometrics authentication system for updation of records have freed the farmers from the worry of probable manipulation of their records by unscrupulous officials.
- Before Bhoomi, the process of obtaining land use documents took weeks and required farmers to pay between Rs.100 and Rs.2,000 in bribes to officials. Now, the farmers get their record in less than 2 minutes by paying a charge of Rs 15.
- Access to farm credit would now be less cumbersome. Online connectivity to banks would ensure farm credit to farmers in less than 5 days as against 25-30 days in manual system.
- It would be easier for farmers to pursue land related litigation in the court.

Administrators

- A comprehensive database is now available which can be used for planning for agriculture and development programs. For example – it is now possible to identify what percentage of the land holdings are held in the name of women.
- Accurate and timely preparation of annual records like land revenue etc.
- Monitoring of government lands and prevention of their encroachments. Lack of monitoring had costed a reported loss of Rs. 25 billion to state government by way of officials tampering with records.

Judicial Administration

- Courts would be able to make use of land record database for adjudicating various civil disputes related to ownership, possession and cultivation in various courts.

Financial institutions

- Online connectivity to financial institutions would help banks in planning for their farm credit related activities. In manual system they worked on 2 years old data or just guessed the farm sector requirement
- Online connectivity would also help banks to ensure that revenue administration is indicating bank's charge on land records of such farmers who have availed crop loans.
- Facilitates creating change on land of those farmers who take crop loans

Challenges

Rolling out the application to 177 locations was a real challenge. In the first phase, the project was implemented on a pilot basis in a controlled environment in four sub-districts. After gaining experience in data entry operations and implementation of the software, the scheme was extended to one pilot sub district in each of the 27 districts. In the third phase, the project was rolled out to all the 177 sub districts simultaneously.

Records in the field were not up-to-date due to poor work culture and lack of training amongst the Revenue Staff. In addition, farmers often do not report transactions within the family, either because they are discouraged by the attitude of the Revenue staff or due to internal family problems. The maintenance of land records is not uniform across districts.

The data entry work was done in an offline mode through private data entry agencies. Many problems were encountered in off-line data entry. The process was slow and error prone due to poor work quality by data entry agencies. Technical guidance from officers of the district informatics center was not easily available as they were overloaded with other work. Moreover, data entry agencies were unwilling to recruit more manpower as it required investment in training on a specialized data entry software, which would not be useful to them for other projects. Moreover, interruptions in electrical power in taluk headquarters and delay in maintenance of computers at taluk level by vendors are a problem.

Comprehensive software, which accommodated variations in manual records across districts, was developed. After the initial data entry, print outs were taken and validated by the VAs with reference to their original records. The entire software was developed in Kannada, the official language of Karnataka.

Intensive training was imparted for bringing about an attitudinal change amongst departmental staff. Twelve State level seminars were organised for 1200 senior and middle-level officers. Four divisional level workshops were organised to train 800 officials. More intensive training was imparted to the officials who handle the computers at the kiosks. To clarify various technical and administrative issues more than 150 circulars were issued and compiled into compendia. A "Bhoomi-Help Manual" was printed and distributed at the sub-district level. A computer-lab for training was set up.

The political executive was completely involved in the computerization project. The State Chief Minister and Revenue Minister highlighted the importance of the project in many public fora. The Chief Minister himself inaugurated many such kiosks and took several meetings to impress upon the team the need to commission this project in a time bound manner.

A participatory software development strategy was followed. Selected field level personnel were involved in the development of various modules of Bhoomi through a formal State Level Committee. Suggestions for improvement were elicited and where valid were incorporated in the software.

Lessons Learnt

Many reform efforts fail because they are undermined internally or have little support from current stakeholders whose buy-in is critical for success. In case of Bhoomi, minimizing resistance from staff by harnessing political support was an important contributory factor. Extensive training coupled with a participatory style also helped to diminish resistance.

In Bhoomi significant benefits are delivered in issuing RTCs, but much of the old mutation process remains unaltered. As there is no change in the role of Revenue Inspector in passing the mutation order, corruption in the mutation process may not necessarily reduce. Bhoomi has reduced the discretion of public officials by introducing provisions for recording a mutation request online. Farmers can now access the database and are empowered to follow up. Reports on overdue mutations can point to errant behavior. Still, supervisors must examine the reports and take appropriate action. In remote areas, operators may turn away citizens by telling that the system offering online service is down. *Strict field supervision is needed (through empowered citizens committees and NGOs) to curb such behavior. Ultimately, the only recourse that a citizen has against such practices is to lodge a complaint. The process for lodging a complaint should be facilitated through the Web. The backend has to be geared up to handle complaints received electronically.*

As an implementation strategy, manually written RTCs were declared illegal from the day on which the computerized system became operational in a taluka. The notification was issued on a taluk-by-taluk basis as and when the scheme became operational there. This forced the department and the farmers to completely rely on the new system. The strategy worked because the application design was robust and did not falter.

There was some concern in Karnataka about raising the user fee to Rs.15 from Rs.2 in the manual system. Often these fears about user fees are exaggerated, particularly if services have genuinely been improved. The response of the people at taluk level has been overwhelming. Queues can be seen at the kiosks in 140 taluk centers, and 330,000 people have paid the fee without grumbling.

Concluding Remarks

Bhoomi has successfully undertaken the task of computerising over 20 million land records. The existing database can generate reports on land ownership by size, type of soil, crops, and even demographic particulars. The government plans to use this information to use to develop programs for poverty alleviation, bank loan processing and for even solving legal disputes, besides providing a ready input for conducting further land reforms. *The lessons we have learnt in relation to deployment, roll out and maintenance can be used as a best practice guide that other states in the country can benefit from.* Additionally, the Department of Revenue also plans to web enable the system to truly permeate the administrative structures, and provide any time, anywhere access to the farmers.

3.4 Overall Summary and Useful guidelines from best practices

It is quite evident from the best practices that ICTs indeed are enablers of developmental goals, are persuasive and cross cutting, facilitating disintermediation and helps in the creation of an alternative development paradigm. In other words it saves time, money and efforts of the people (eSeva, Bhoomi) and also plays a vital role in the transformation (RASI, Akshaya, e-Choupal) of the society at large by bringing efficiency in the system. *For a project to be successful, it should have a powerful mission attached to it and a strong business model such that it is self sustaining and a profitable venture.*

3.41 Findings (about the success of project)

The central theme and idea for runaway success of the above best practices is identified and mentioned below in table no. 3.11

Table No.3.11: Major findings from best practices	
Project	Central Theme
e-CHOUPAL	Re-engineering the (Value) system
eSEVA	Customer centric approach
RASI	Skill and capacity building
AKSHAYA	Spreading e-Literacy (benefits) and moving closer to the customer
BHOOMI	Targetting the largest user group first
Source: Author, from the findings of best practices discussed above	

Chapter - 4

Case Studies - An Analysis

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4.1 e-Governance initiatives in Andhra Pradesh, India

Vision: "Andhra Pradesh will leverage information Technology to attain a position of leadership and excellence in the information age and to transform itself into a knowledge society". *IT sector has been identified as one of the major growth engines for AP's Economy.*

4.11 Importance accorded to IT [14]

- Departments have realized that they can respond better to citizens needs using IT
- Many departments have a full-fledged MIS wing – with nodal officer for IT initiatives in place (CIO)
- Minimum 2% of Plan budget is ear marked for e-governance
- Currently over 60 e-gov projects are under implementation
- Delivery Channels separated from Dept. Offices – citizens' convenience given priority – e-seva network, Call Centre, Aonline

4.12 e-Governance Preparedness [14]

1. Well Defined Policies in place
 - a. ICT Architecture, Standards , Security, Websites,
 - b. Policies revisited – Inputs from Think tanks
2. Core Infrastructure in place
 - a. APSWAN, Multiple Delivery Channels, APNET-KU Band, APSCAN
 - b. AP Broadband, Rajiv internet village centres across the state
3. Well laid out E-governance Blue Print
 - a. Roadmap for 50 departments – now being revised under NeGP
 - b. Focus on PPP models
4. Centralized Databases
 - a. Citizens (MPHS); Land Records; Vehicle Licenses ;
5. State wide roll out
 - a. Registration, Land Records, Revenue, Treasuries, Transport, Commercial Taxes,
 - b. Municipal Administration, PHCs, Rural Water Supply
6. Strong Political Commitment
7. Well Motivated & Trained Manpower

4.13 Initiatives: [18]

Presently 70+ projects are being implemented in the state, they can be broadly categorised as mentioned below,

- i. Citizen services
- ii. Internal efficiencies
- iii. Inter departmental
- iv. Law enforcement
- v. Human Resource Development and
- vi. Health

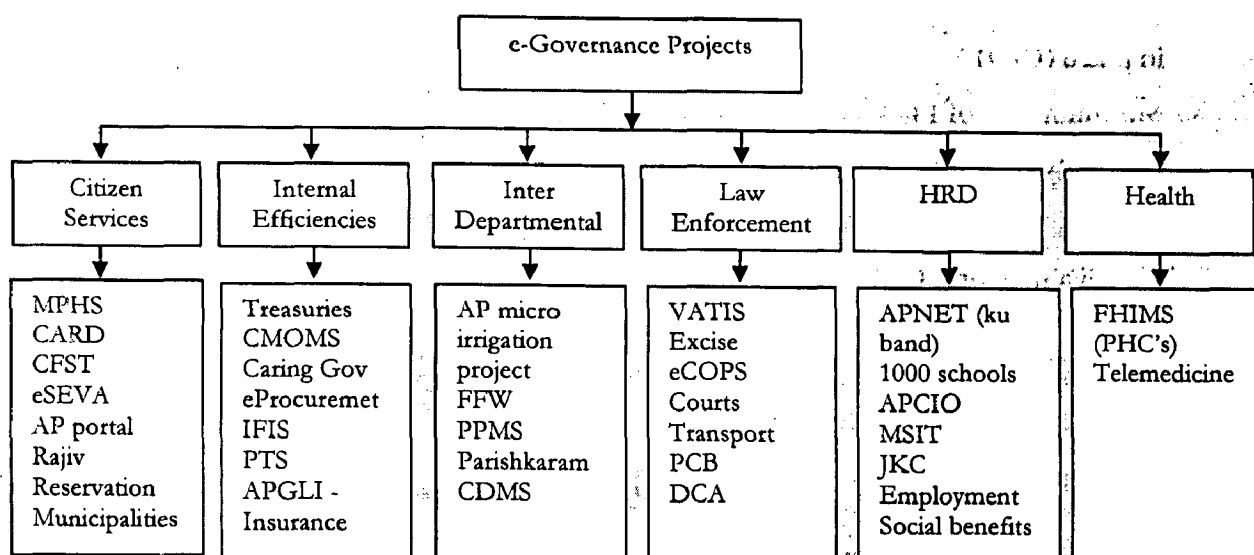


Figure No. 4.1: Broad categorisation of eGovernance Projects in Andhra Pradesh

Table No.4.1: Some of the e-Governance Projects by Andhra Pradesh State Government		
Core Applications / Projects:		
	Initiatives	Description
1	OLTP – Online Transaction Process System - focus on Citizen	Provides a single window to citizens to access the services across multiple departments
	Data Management System	
	Integrated Land Management System	Archives horizontal and vertical integration of departments at Mandal (lowest administrative unit), District and State level
	Geographical Information System	
2	e-Seva (electronic services to citizens acting as a single window)	Already implemented across the State capital & 117 municipalities of the state
3	Single window for businesses	Provide single window to business to access the services across multiple departments
4	Social Benefits Management System	Monitoring and tracking various welfare schemes
		Better targeting of beneficiaries
5	Complaints redressal - Help Desk and Call Centre	Centralized complaints receipts, distribution and tracking

Case Studies and Analysis

6	Integrated Financial Information System	Integration of applications in Finance Department and its associated departments Use of middleware product
7	e-Procurement	Applying e-Government concepts and technologies to the area of purchasing to reduce prices of goods and services 100% potential for PPP model CoTs solution preferred e-Procurement to be handled by a Govt-led private exchange (Govt >15% stake)
8	Human Resource Management System	Centralised payroll and G2E portal Self-service zone for 1 million Government employees
9	Generic Office Management System (smartgov)	Workflow automation + KM in AP Secretariat A bundle of 483 applications across 30 departments of Secretariat

Core Technology Infrastructure Initiatives

	Initiatives	Description
10	Government Portal	Common gateway for all State services, applications, and information, http://www.aponline.gov.in/ launched on 27th March, 2002
11	Secure Intranet	Communication infrastructure to connect all the locations of Government offices Connectivity available from Hyderabad to District offices
12	Data Centre	One central facility where the application and database servers are located To be implemented under a PPP model The focal point for hosting all major applications and data of Government departments
13	Kiosks in rural areas	Access points for rural location Implementation under PPP model
14	Public Key Infrastructure	Secure transactions over internet Digital Signature Implementation under PPP Model
15	Identity cards for citizens	Unique identification number (SSID) for citizens based on MPHS data using Smart Card Technology
16	Data Warehousing	To analyze the huge historic data generated in the computerized departments & agencies. Project implemented jointly by GOI and Govt. of AP

Core Policy Initiatives

	Initiatives	Description
17	Architecture	A compilation of open technology standards A set of best practices in deployment of ICT, with special reference to Government Already developed and published on the Internet at http://www.ap-it.com/ in February, 2002 Standards have been mandated through Government order for compliance by all departments / developers The Architecture developed is being updated with latest technology developments Model to be improved incorporating role for NGOs
18	PPP for e-Government	Policy for funding e-Government initiatives announced through G.O.Ms.No. 40, dtd.14.08.2001
19	Change management policy	Framework to manage the organizational change due to e-Government
20	Privacy policy	How to safe guard the information and provide confidence to stakeholders

Source: www.aponline.gov.in

4.14 Approach to e-Government

- Services designed from the point of view of the users – citizens and businesses
- Convenient single window services
- Choice of multiple delivery channels
- Increasingly integrated and seamless services
- Integrated help desk and call centre for all government services
- Shift from a novelty to an expectation ...

and from an expectation to a matter of right...'*a citizen's right to convenience and comfort*'.

4.15 IT infrastructure

- APSWAN – 2 MBPS – for voice, video & data transfer
- APSCAN - data and voice connectivity for 5000 nodes
- Wireless LAN in 2 Blocks
- All major departments have computers at (1128) 'Mandal' – BLOCK Level.
- APNET – 1800 schools/colleges/Offices covered under Ku-band – distance education, agriculture extension, telemedicine, HRD.
- 16,000 cell phones under Closed User Group (CUG) provided to employees
- 24 x 7 x 365 Call Centre – Toll Free (1100) within AP
- AP I broadband Network Project Launched – May 2005
 - a. 38,000 Government offices including panchayaths with 100 MBPS connectivity
 - b. 2,000 locations will have 1 GBPS bandwidth (Mandal headquarters and major institutions)
 - c. 25 locations will have 10 GBPS bandwidth (District Headquarters, State Secretariat)
- 8618 RAJiv Internet Village Centres to provide services to citizens at
- their doorstep – Already 1200 + set up – rest by Dec. 2006
- 13,000 more such centres to come up in next 2 years covering all major villages in the state.
- 32 JKC's already set up – 18 more to come this year – 15,000+ computers with high speed connectivity in place
- 11,000+ computers in schools – more coming up this year
- 245 e seva centres with 2000+ counters covering all Municipalities in the state – already existing and serving citizens

4.2 e-Panchayat (Electronic Knowledge Based Panchayat)

4.21 INTRODUCTION

The government of Andhra Pradesh created several panchayat raj institutions to ensure grass root level development. To enhance the efficiency and effectiveness of these institutions the state government has decided to computerize all the Panchayats in a phased manner, in the first phase 475 selected major panchayats, in the second phase all remaining major panchayats and in the third phase all remaining panchayats throughout the state. The software development and data centre tasks are handed over to National Informatics Centre, Hyderabad for this purpose. [16]

e-Panchayat is a software product conceptualized, designed and developed by National Informatics Centre (NIC), Hyderabad, Andhra Pradesh, as a part of its E-governance initiatives. ePanchayat has been designed taking into consideration all the information and knowledge management requirements in a Gram Panchayat. The 1992 Panchayathraj Act of Government of India (94th constitutional amendment) Thus e-Panchayat fits into the information systems at gram panchayat level. The software is web enabled, and citizen-centric. Therefore, even with less overheads the village level functionaries and the citizens are envisaged to benefit by e-Panchayat. [17]

4.22 Model Before:

The citizens have to make rounds around the Panchayat and Panchayat officials daily for getting any work done either it is pension or birth/death certificate. No proper response and information available about social welfare schemes and list of beneficiaries. Farmers have to sell their produce cheaply in either local markets or to village commission agents due to non availability of market rates and purchase other commodities at higher prices from the same market. Due to these and other factors, the villagers are losing an opportunity to improve their lives.

4.23 New Initiative and services Provided:

ePanchayat was introduced with the objective of introduction of Information Technology at village Panchayat level using eGovernance. It is aimed at better delivery of citizen services in the village through computerization of function of Gram Panchayat. It is being implemented in two phases as shown in figure 4.3. (For a detailed list of services see Annexure IV)

It's main objectives are:

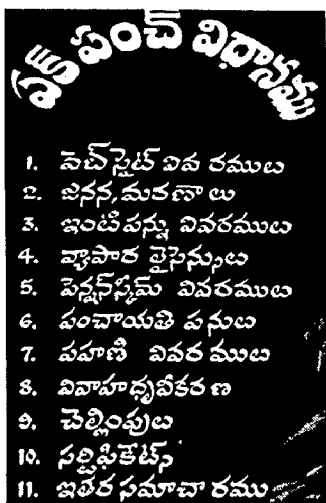


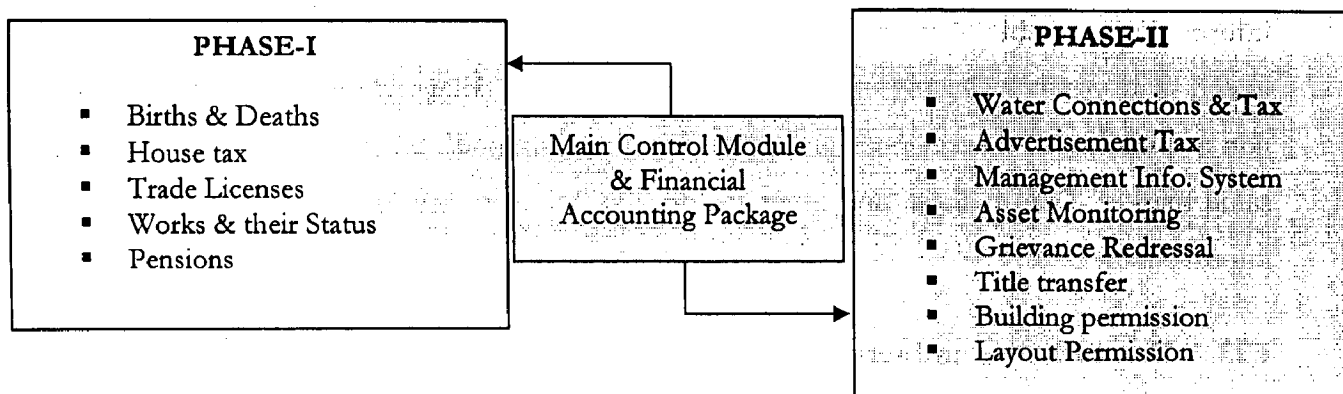
Fig. 4.2: List of services offered at ePanchayat are shown in local language

1. *Better Governance*
 - 1.1. better quality service to citizens with speed
 - 1.2. efficient & effective administration
2. *Compliance to act*
 - 2.1. Accessibility & availability of services to all
 - 2.2. Uniform & reliable services offered through various delivery channels (like citizen interface counters, internet kiosks, etc.).

It will bring

- Reduction in time between the citizen's requests and Gram Panchayat function
- Enhance revenue collections
- Ensure compliance acts, GO's and statutory rules
- Enable centralised information repository
- Provide provision for inter and intra departmental integration.

Figure: 4.3 Phase wise implementation of village level Panchayat services [17]



4.24 Business Model:

Rs.2.0 lakhs is needed for each panchayat for starting ePanchayat project. Rs. 1.75 lakhs is one time grant from Panchayat raj and rural employment department, whereas the respective panchayats have to provide required facilities like site preparation etc., which costs about Rs.25,000. A detailed breakup is mentioned in the below table.

Table 4.2: Cost of Computerization of each Panchayat

Sl.No.	Description	Amount (Rs.)
Hardware		
1	Computer (P 4 client system)	45,000
2	Modem	5,000
3	UPS	10,000
4	Dot Matrix Printer	10,000
	Total Hardware Cost	70,000
Software		
1	Purchase of RDBMS, OS for data centres	15,000
2	Data entry (1,50,000 records)	40,000
3	Training of Gram Panchayat Staff	25,000
4	Contingencies and Documentation	25,000
	Total Software Cost	1,05,000
	Total	1,75,000
NOTE: Site preparation and Table and Chairs (to be borne by respective Panchayats)		
	Grand Total	2,00,000

4.25 Technology Model:

- Architecture : Web enabled
- Concept : Central Server
- Central Server :Storage Area Network (SAN) server at National Informatics Centre –AP state Data Centre, Hyderabad

4.26 Connectivity:

ePanchayat is a web based portal. It functions on internet connectivity, using the telephone connection and modem. It is also network enabled, so that once the state wide area network (SWAN) project gets completed – it uses the fibre optical cable for data transfer.

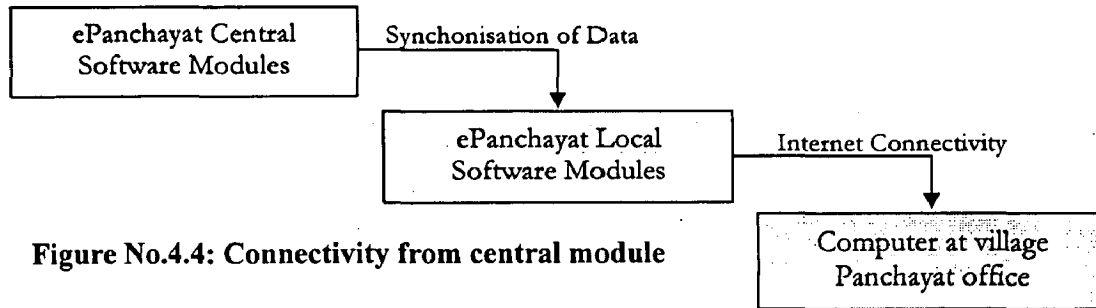


Figure No.4.4: Connectivity from central module

4.27 Selection of Panchayats: [17]

Andhra Pradesh state Government has issued orders to roll ePanchayat project in 475 selected major panchayats in the state. Starting from ‘Grade-A’ Panchayats (where population is more than 10,000) first and later spreading to all panchayats in the state in a phased manner it is going to be rolled throughout the state. Selection of gram panchayats for the first phase was made on the basis of e-Readiness in terms of:

- Availability of computer site
- Availability of good power supply
- Availability of (telecommunication) connectivity, etc.

4.28 Success Factors:

- Drastic reduction in the service operation time.
- Market rate display near Panchayat
- Display of voters list, pension beneficiaries, work progress, social welfare schemes information, etc.



Figure nos. 4.5 & 4.6 : Display of market rates, beneficiaries list etc. at ePanchayat in Choutuupal

4.29 Case Example: ePanchayat, Chotuppal, Nalgonda District, Andhra Pradesh

Chotuppal is a small village in Nalgonda district of Andhra Pradesh. Located on the national highway number nine (which connects Pune and Vijayawada via Hyderabad) about 50 kms. from the city of Hyderabad. This part of the district is fluoride and drought hit area. People migrate to Hyderabad in search of employment and the remaining farmers make a living by supplying vegetables and milk to the nearby markets.

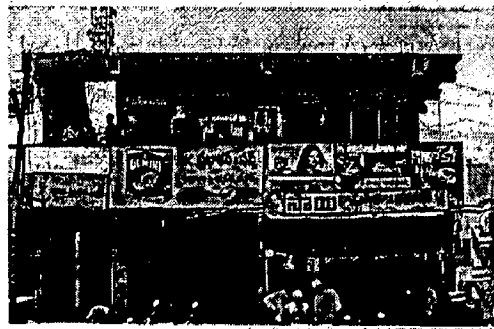


Fig. 4.7 & 4.8 : ePanchayat at Chotuppal, Nalgonda District, Andhra Pradesh

Table 4.3: Some Facts about the centre:

Started	06-10-2005
Working Hours:	10am to 5pm
Total Number of Counters:	1 only.
Ave. no. of daily visitors	20
Popular Services	Residential, Valuation, Birth and Death certificates

Source: Author from field studies

Table 4.4: Some Facts about the village

Population	14,001(Male -7012; Female-6,989)
Households	2,888
Literacy	9,041 - (64.57%)
Working	4,939 - (35.27%)
Population	
Website	www.ekpanch.ap.nic.in
Source:	www.ekpanch.ap.nic.in

Model Before:

People are the sufferers due to the age old government and the bureaucratic system full of red tape and corruption. It will take many weeks to get a trade licence for opening a small shop, one has to make rounds daily to officers and panchayat and waste money, time and efforts. Farmers sell their produce in the near by market at very low price. Students have to forego the scholarships and other assistantships due to delay in certificate submission. And many more villagers are not able to reap benefit of welfare schemes.

After Model:

Traders are now able to get the licenses the very next day itself. Youth are making use of the self-employment schemes and villagers utilising the other welfare schemes, all because of increased access to information, which has reduced the migration in search of employment. Students get the certificates like birth, nativity, income, caste & community on the very same day, for which they are feeling very happy. Markets rates are displayed everyday on the panchayat notice board which is helping farmers to know about different market rates and are able to sell their produce at higher prices than earlier.

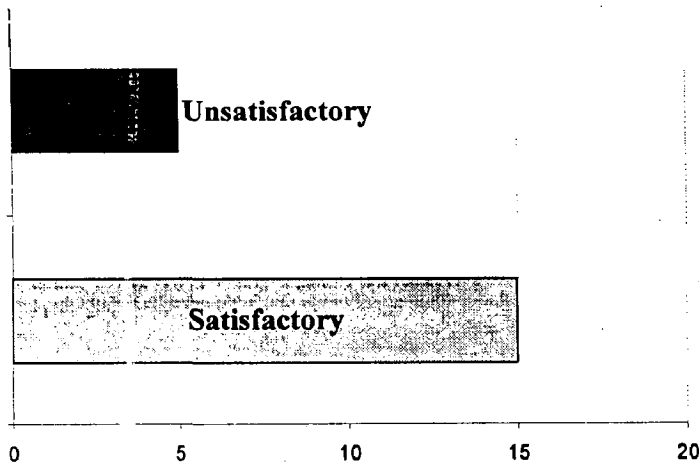


Fig No. 4.9: No. of users participated in survey

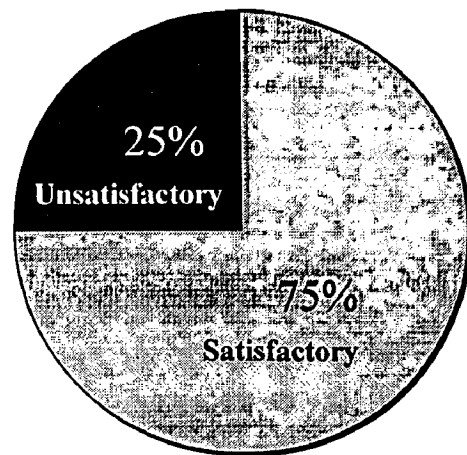


Fig No. 4.10: Responses of users

Study of feedback from the users:

A survey was conducted on twenty people to find out the responses and user satisfactory levels in the villagers. Seventy five percent of the users (shown in Figure No.4.10) are happy about the new initiative as it is reducing the operational time of getting the services or work done from the village panchayat. Now they are able to get birth certificate or death certificate on the same day. Farmers are able to sell their produce at higher returns. Students are happy for getting the community and nativity certificates on the same day on which they apply. Old age and weavers pensions are efficiently handled and the list of beneficiaries is available to everyone. Information on social welfare schemes, funds and their status is now available to all villagers. All the unemployed villagers are now registering at the village panchayat and getting benefit out of Rural employment guarantee scheme. However twenty five percent of the people expressed their dissatisfaction about the functioning of the system.

Reasons for Dissatisfaction:

1. Computer operator is not available most of the time.
2. Some of the applications like market rates are in English language, villagers want them in local language.
3. Officers demand for extra payment for work to be done.



Fig. 4.11: ePanchayat Counter in Choutuppal

Summary and Useful guidelines:

E-Panchayat aims to cover all information requirements of the Village Panchayat, both from the staff angle and the citizens angle. It ensures computerisation and eGovernance in principle and practice at grass root level. Computerisation is taking place at one hand at the departmental level and on the other hand government is ensuring to carryout the same from village level also. So that the process can be quickened and the common man in rural areas gets the services delivered at his door step. Seeing the success of the project, central government expressed to replicate the same in other states.

Findings:

- It is government initiative, people involved like computer operators are not feeling responsible to carryout the work, alternative could be PPP modes.
- Already the literacy percentage is low in this area, to ensure access to information for every literate of the village, government has to ensure before deploying all the applications of the project be made available in local languages.

4.3 RAJiv (Rajiv Internet Village) Programme

...a project empowering villagers through information technology.



4.31 INTRODUCTION

Every citizen in the State be it in the urban or rural area, should be able to avail of all Government services and benefits intended for the citizens in a quick, cost effective and hassle free manner, through a single window and avoiding middlemen, delays and rooting out corruption. Government schemes to alleviate poverty and illiteracy should reach the targeted groups, optimally. Keeping the above objectives in view, Govt. launched the Rajiv Internet Village programme to bring Govt. services/benefits closer to the people living in villages and rural areas. Under this project web enabled rural kiosks termed eSeva kendrams (they are also called RajIV Kiosks or Rural eSeva centre in some places) are being set up in 8,618 of type A, B, and C panchayat villages across the State in the first phase and covers all remaining 12,969 Gram panchayat villages in the second phase. Its objectives include (i) convenient access to information and services, (ii) to providing computer literacy to at least one person in each family and (iii) connectivity to all rural areas with high bandwidth. Already 1150 centres are functioning under the project titled Rural Service Delivery Points (RSDP), few more services are added to these centres and re-launched under the brand new name, RAJiv.

4.32 VISION:

The VISION of the RAJiv project is *“to provide to the citizens of Andhra Pradesh good governance and revitalize the rural economy for integrated and sustained growth, to empower common man and entities in the rural parts of the State to access all G2C, G2B, B2C, B2B and C2C services in an integrated manner in order to create better means of livelihood and improve the quality of life”*

4.33 Model before

Conventional system of (Indian) administration and service model was present with some cases of red tape, corrupt and time consuming personnel. People have to waste their time, money and efforts for knowing the information on the details of the welfare schemes, procuring the application forms, or even getting any job done by government departments. It used to take several days to several months depending upon the type of work. People lost faith on the government officials and desperately looking forward for the new procedures and transparency in the system.

4.34 New initiative:

Through the new initiative people can avail information on Govt. schemes, Education, Health, etc. in the village itself, without much interaction and involvement of the officials along with a host of many other services through the Rajiv Internet Village centres:

- Easy access to information on Agriculture, Education, Health etc.
- Market Prices, Cropping Pattern, Weather Forecast, Agriculture Extension
- Quality Inputs : Seeds, Fertilizers, Pesticides etc.
- Agricultural Marketing : getting better prices for produce
- Examination results, eLearning
- Health Extension, Immunization, Telemedicine etc.
- Access to all Forms, Copies of Land Records, Applications, Certificates etc.
- Collection of bills: electricity, telephone etc.
- Private Services : Insurance, e-commerce etc.
- Computer literary for one person in each family

4.35 Services offered:

Presently available services in Chiluruvu RAJiv centre are given in below (table no:4.5) and a detailed list is enclosed in Annexure V

Sl.	Type of service	Sl.	Type of service
1	Online grievances	18	Astrology
2	Auctions	19	ICICI Insurance policies
3	Certificates (Birth, death, community, nativity, etc).	20	HLL Consumer Products
4	Payments	21	Mini library (Magazines at e-seva)
5	Consumables	22	Passport Application
6	Land records	23	Employment renewal
7	Mandi rates	24	Old age pensions
8	Matrimonial service	25	Birth and death
9	Civil supplies	26	Internet and email facility
10	Tele medicine	27	Seeds requirements to farmers
11	Tele Agriculture	28	Xerox facility
12	Forms Download	29	Video conference.
13	Citizen Forum	30	Courier
14	E-education	31	i-look (Citizen can submit the views)
15	Bulletin board	32	Lamination
16	Application registration	33	Digital Photos
17	Easy access to information	34	SHG ACCOUNTS

Source : www.ieg.gov.in/chiluruvu

4.36 Business Model: [21]

Rajiv internet kiosks are being setup on Public Private Partnership model. Bharat Electronics Limited and Times group (NGO) have come forward for setting the kiosks in the identified villages in the first phase. Even government is encouraging the local individual entrepreneurs for running the kiosks. The cost of setting up the kiosk is given below in tables 4.6 & 4.7

S.No.	Name of the Product	Amount (Rs.)
1	Multimedia Computer (P4)	24,000
2	U.P.S.	5,500
3	Modem	1,850
4	Printer – Dot Matrix	8,200
5	Printer – DeskJet	9,500
6	Scanner	3,600
7	CD-Writer	3,500
8	Digital Camera & Web Cam	15,000
9	Lamination Machine	8,000
10	Fibre Chairs	225
11	Internet Connection & Telephone	3,500
12	Cabin Structure with Table Elec. Fittings, Glow Sign Board etc.	15,000
13	Computer Stationary	1,000
14	Working Capital	1,125
	TOTAL :	1,00,000

Source: eGovernance and eSeva project experiences in AP, India by NIC, West Godavari unit, AP

S.No.	Name of the Product	Amount (Rs.)
1	Multimedia Computer PIV 40 GB intel 845 GV chipset with Original motherboard with CD writer(Wipro Make)	37,000
2	U.P.S.	5,500
3	Printer – InkJet	3,200
4	HP Scanner	3,600
5	Internet Dhaba Connection from BSNL for 1500 Hours	0
6	Computer Stationary	700
	TOTAL :	50,000

Source: eGovernance and eSeva project experiences in AP, India by NIC, West Godavari unit, AP

Table 4.8: Economics of the Project:

S.No	Name of the service	Charge (Rs.)	Min. monthly services	Total (Rs.) Income
1.	Issuance of Land Records	15/-	30	450
2.	Online Auction	5/-	20	100
3.	Online Bidding	2/-	20	40
4.	Issuance of certificates	15/-	50	750
5	On line application Registration.	5/-	20	100
6	Online filing of Complaints and	5/-	50	250
7.a	Online Mandi (Market) Rates	1/-	20	20
7.b	Printing copy	5/-	10	50
8.	Payment of Dues (Electricity Bills etc.)	1/-	2000	2,000
9	Online Civil Supplies allotment	15/-	20	300
10.	Matrimonial Services	5/-	15	75
11.	Tele medicine	2/-	15	30
12.	Tele Agriculture	2/-	10	20
13.	Forms down load	2/- per page	100	200
14.	Maintenance of accounts of S.H.G.s	10/-	200	2,000
15.	Consumables download	10/-	10	100
16.	NOAP acquaintance printing			300
17.	Photos	20/- (4 Colour	30	600
18.	Lamination	10/-	30	300
19.	Internet browsing	25/- per Hour	25 Hours	525
20.	DTP & Job work	25	50	750
	TOTAL:			8,860

Source: eGovernance and eSeva project experiences in AP, India by NIC, West Godavari unit, AP

4.37 Additional Income Possible:

- Digital Camera - Photo identity Cards, Photographs of Beneficiaries and
- Assets created under Self Employment Schemes etc.
- STD / PCO
- Xerox Machine
- Govt. Programmes - Education, Food for Work.
- NET Phone (VOIP – Voice on IP)

The Project thus has the possibility of generating sufficient returns to the groups besides giving the citizens access to the large range of services.

4.38 Technology Model:

The RAJiv Kiosks would be either single or multi-terminal systems, which will provide various services in an online, offline and interactive mode for both Voice and Data and will be connected to either the District Data-centres or the State Data-centre. All the services would be managed through the Datacentres. Similarly, the Voice-based services would be provided through the RAJiv Kiosk, which will either get processed at the District Call Centres or the State Call Centre.

4.39 Connectivity:

Connectivity to all the villages is provided either with SWAN or ISP network.

4.310 Success Factors:

The new initiatives not only made the present system hassle free but also saved time, money and efforts of the people, which has contributed to the large success of the project. This project is initiated in West Godavari district in the year 2002 and till now 200 rural e-seva centres are established in the villages of the district, more than 34 services are offered through these centres along with marketing facilities for SHG products. Below mentioned data speaks itself about the success of the project (data from West Godavari district alone):

- 40 lakh transactions completed as of 31.12.2005
- Serving 2 lakh people every month.
- Rs 85 + crore collected for AP Transco.
- 5 lakh certificates are issued as on 31.12.2005
- 70,000 children are benefited through e-Enabled education
- 16,000 grievances are addressed as on 31.12.2005
- 400 men and women are getting employed through this Project and 500 by rural marketing .

4.311 Conclusion

People get a host of services and information from a single window at their convenient timings removing the hassles and relieving a little from the existing system. The design of the project is from the 'demand side' rather than the 'supply side' as far as the citizens are concerned. All the centres are being run on commercially viable lines and user charges are collected for the services rendered by the centres. Most of the services being offered in the project do not require publicity for their acceptance as the citizens were in any case availing these services before as well, with lot of hassle and harassment. That's the reason why the citizens have accepted this project with folded hands and would not settle for anything

lesser in future. The pressure from the citizens would keep the administration on their toes and would ensure its long term sustainability.

4.312 Awards & Achievements

- Project won ‘Golden Icon award’ from Government of India for the year 2004 for best Practices and Innovative operations.
- Project won the ‘CSI National IT Award’ 2002-2003.
- Winner of 2003 ICT Stories Competition - Tony Zeitoun Awards
- Finalist of the Stockholm Challenge Award

4.313 Case Example: Chiluvuru, West Godavari District, Andhra Pradesh



Figure nos. 4.12, 4.13 & 4.14: Rajiv Internet Village Project in Chiluvuru, West Godavari District, Andhra Pradesh

Table 4.9: Some Facts about the centre:

Started	2002
Working Hours:	10am to 5pm
Total Number of Counters:	1 only
Average No. of daily visitors:	60
Popular Services	Utility bills

Table 4.10: Some Facts about the village

Population	7,539 (Male -3,762; Female-3,756)
Households	1,508
Source	www.ieg.gov.in/chiluvuru/vv

4.314 Public response:

Most of the people are happy about the new initiative. It not only reduces the operational time of getting the work done but also money and efforts of the people because of which people are spending their time on other construction works and self help groups are making more money out of their products by selling in the towns and cities. They are sending their children to nearby towns or cities for higher studies. Youth are able to see employment opportunities because of increased information and knowledge on latest technologies.



Fig. 4.15: Video Conference with Chief Minister of AP

4.42 Summary and Useful guidelines:

The Project is an effort to bring government closer to the people. Most of the day to day services are being rendered directly or indirectly through these centres and the people are happy about the reduced rep tape, corruption and improved service delivery. Many of these services are still confined to urban areas in most parts of the country. The success of this project shows a perfect example for replication of these centres in other parts specially in rural and semi-urban areas. This will make us to take a step further in providing e-governance in the rural areas realising the long awaited wish of the people for the prosperity.

4.4 eGovernance initiatives of different departments of selected states:

4.41 State government Initiatives

Various state governments have started e-governance initiatives. Leader and aspiring leader states (see table no.3.5) initiatives for making a safe and hassle free environment for its citizens. Different departments of these states are compared for their online service initiatives for the people based on the existence of the portal, information on various schemes, online services, payments and other relevant parameters. Agriculture & marketing, Education, Employment & Training, Information Technology & communications, Labour welfare, Municipal Administration, Sports, Youth & Cultural Activities and Tourism are providing online information in all the states and transaction in some of the states like Delhi, Andhara Pradesh, Maharashtra, etc. A detailed and comparative list of various departments of the selected states is given below Table no: 4.11

Most of the states have started their eGovernance initiatives with departments like IT&C, Tourism, and later incorporated other departments like Municipal Administration, Agriculture, Electricity board, Higher Education, Health, etc. And yet to make entry into departments like land reforms, small savings, ware housing, etc. Table no: 4.11 mentioned below gives the matrix of the level of departmental initiatives taken by selected states. The overall analysis of the performance of various departments clearly gives an idea that:

- It is easy and convenient to start the eGovernance initiatives from the departments like IT, Tourism, Power, Higher Education, Transport, etc. wherever the necessary infrastructure is available.
- It also depends on the eReadiness of the department and
- Willingness of the workforce of the department along the strong higher authorities, who have inclination towards IT and eGovernance.

Table No. 4.11 : Matrix showing departmental initiatives taken by selected state governments											Total service s	
SI No	Departments	AP	CH	De	GJ	Goa	KZ	KL	MH	PZ		TN
1	Agriculture (and marketing)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
2	Education	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
3	Employment and Training	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
4	Information Technology and Communications	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
5	Labour (Welfare)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
6	Municipal Administration (Urban Development)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
7	Sports, Youth and Cultural Activities	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
8	Tourism (Development Corporation)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
9	Technical Education	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
10	Electricity Board / regulatory Commission	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10
11	Environment	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	9
12	Finance	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	9
13	Health (Medical) and Family Welfare	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	9
14	Higher Education	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	9
15	Home / Police	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	9
16	Industries and Commerce (Development Corporation)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	9
17	Planning	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	9
18	Animal husbandry and Fisheries	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	8
19	Food and Civil Supplies	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	8
20	Law, Justice and Legislative Reforms	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	8
21	Social Welfare	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	8
22	Transport (Development Corporation)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	7
23	Water Resource / supply & Sewerage Board	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	7
24	Forest	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	7
25	General Administration	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	7
26	Information and Public relations	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	7
27	Public Works	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	7
28	Revenue	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	7
29	Rural Development and Panchayati Raj	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	7
30	Housing	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	6
31	Science and Technology	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	6

Sources of information in table No. 4.11 (earlier page)

1	AP	Andhra Pradesh	www.aponline.gov.in
2	CH	Chandigarh	www.chandigarh.nic.in
3	Del	Delhi	www.delhigovt.nic.in
4	GJ	Gujarat	www.gujartindia.com
5	Goa	Goa	www.goagovt.nic.in
6	KN	Karnataka	www.karnataka.gov.in
7	KL	Kerala	www.kerala.gov.in
8	MH	Maharashtra	www.maharashtra.gov.in
9	PN	Punjab	www.punjabgovt.nic.in
10	TN	Tamilnadu	www.tn.gov.in

Source for table 4.12 (below)

1	www.aptranscorp.com
	www.apcentralpower.com
2	www.chandigarh.gov.in/
3	www.delhigovt.nic.in
	www.bsesdelhi.com
4	www.gseb.com
5	www.goagovt.nic.in
6	www.kptcl.com
7	www.kseboard.com
	www.friendscentre.net
8	www.mahadiscom.in
9	www.psebindia.com
10	www.tneb.in

4.42 Departmental initiatives:

The level and extent of IT and eGovernance initiatives of the departmental services reflects the preparedness of that particular department along with the seriousness of the authorities and the initiatives taken by respective state governments till now. Some of the day to day services of the electricity board are analysed below (table No reveals the known fact that it's easy to start the services like giving information about the departmental services, initiatives and new developments being taken by respective department are very easy to start with online initiatives and then extending the services like application forms for downloading, procedure for filling and filing the application, then online transactions like application filing, payments, 24 hour help line, etc. Below mentioned table shows the extent of services available online to the customers of the electricity department in selected states.

Sl No	Electricity Department	AP	CH	Del	GJ	Goa	KN	KL	MH	PN	TN
1	Information of the department	✓	✓	✓	✓	×	✓	✓	✓	✓	✓
2	General Contact address	✓	✓	✓	✓	×	×	✓	✓	✓	✓
3	Customer Information	✓	✓	✓	✓	×	✓	×	✓	×	✓
4	Tarrieff enquiry / calculator / slabs	✓	✓	✓	✓	×	×	✓	✓	×	✓
5	Application forms (for download)	✓	✓	✓	×	×	×	✓	✓	×	✓
6	Complaints & Grievances	✓	×	✓	✓	×	✓	×	✓	×	✓
7	Citizen Charter	✓	×	×	×	✓	✓	✓	×	×	✓
8	Online Application for new services	✓	✓	✓	✓	×	✓	×	×	×	×
9	Suggestions	✓	✓	✓	✓	×	×	×	×	×	×
10	Integrated bill collection centres	✓	×	✓	×	×	×	✓	✓	×	×
11	Online bill payment	✓	✓	✓	×	×	×	×	✓	×	×
12	Call centre	✓	×	✓	×	×	×	×	×	×	×
13	Online Application of transfer of services	✓	×	×	×	×	×	×	×	×	×
	Source : (see on page top)	1	2	3	4	5	6	7	8	9	10

4.5 Summary and useful guidelines:

Some of the important observations for developing proof-of-concept projects are:

1. Design of citizen-centric services and dependable service delivery mechanisms.
2. Selection of appropriate (dependable, maintainable and cost effective) technologies for rural connectivity and information processing solutions.
3. Design of cost-effective delivery stations (kiosks) to enable private entrepreneurs operate the services profitably and build new services for sustainability
4. Re-engineering of back-end processes and introduction of changes that take advantage of the storage, processing and distribution powers of the emerging ICTs.
5. Ensuring employee participation with well designed change management processes
6. Demonstration of transparency and efficiency to remove distrust and build confidence among the citizens on the functioning of service delivery mechanisms
7. Inviting private participation to reduce the burden on the central servicing agency, bring in the expertise, enhance the speed of implementation, and offer better value proposition to the citizens.

Analysis of various state government departments (table.no.4.11) reveal that it is easy and convenient to start the program with information of departments like agriculture, education, employment, rural development and panchayat raj engineering, municipal administration, Khadi and Village industries, roads & buildings, public works, consumer protection, etc in the first phase and remaining in the phase. Analysis within the department (electricity department – table no.4.12) reveal that it is easy to go ahead with information, contact addresses, application forms for download, complaints and grievances, etc.

Table No. 4.13: Findings and Useful guidelines from Analysis

Departments to start with...	Services to start with...
Agriculture	Information on department & its fuctions
Education	Projects and their status (of implementation)
Employment	Contact addresses and office locations
Rural development	Application forms for download
Public works	complaints and grievances
Khadi and Village Industries	
Consumer protection	
IT	
Labour welfare	
Source: Author after analysing tables – 4.11 & 4.12	

Chapter - 5

e-Governance in Uttaranchal

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5.1 State at a glance:

Uttaranchal - the land of gods, the home of Himalayas and truly a paradise on earth, allures everyone from everywhere. The fresh air, the pure water, the chilling snow, the adverting mountains, the scenic beauty, the small villages, the simpler people and a tougher lifesytle is what that distinguishes Uttaranchal from rest of the world.

5.11 Background:

The present state of Uttaranchal was earlier as part of the United Province of Agra and Awadh which came into existence in 1902. In 1935, the name of the state was shortened to the United Province. In January 1950, the United Province was renamed as Uttar Pradesh and Uttaranchal remained a part of Uttar Pradesh before it came into being on 9 November 2000, the 27th state of India. Extends from 28° 43' N to 31° 27' N longitude and 77° 34' East to 81° 02' E latitude. Uttaranchal is surrounding by Nepal in the East, China in the North, Himachal Pradesh in the west and U.P. in the South. It consists of 13 districts, 7 in Garhwal and 6 in Kumaon.

Table No. 5.1:
Uttaranchal Quick Statistics

Total Area	53,484 sq kms
Forest Cover	63%
Population	84,79,562 (2001 census)
Rural Population	74.41%
Urban Population	25.59%
Density	159 persons/sq km
Sex Ratio	964 F per 1000 M
Literacy	72.28%
Male Literacy	84.01%
Female Literacy	60.26%
Total Villages	15,651
Electrified Villages	78.6%
Lok Sabha Seats	5
Rajya Sabha Seats	3
Assembly Seats	70

Source: www.ua.nic.in

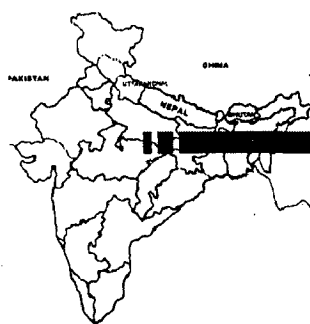


Figure No. 5.1
Location of Uttaranchal

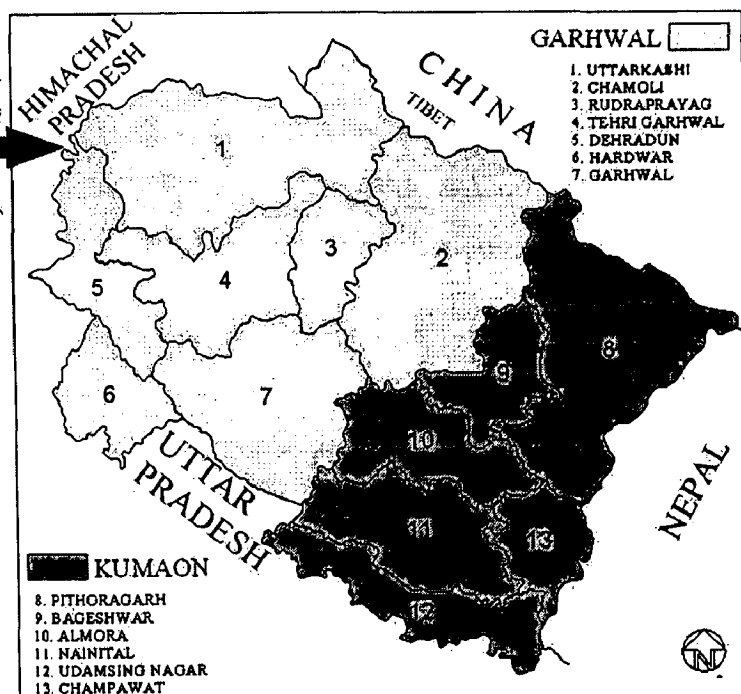


Figure No. 5.2
Regions of Uttaranchal

5.12 Demographic profile:

The population of Uttaranchal at the 2001 census comes to 8,489,349 comprising 43,25,924 males and 41,63,425 females, Thus, newly created state contributes 0.82 percent to the total population of the country. Uttaranchal stands at 20th place among States and Union territories in terms of population. The state, with a total area of 53,483 sq. kms. ranked at 18th place and its share is 1.69 percent of the area of the country. The density of population (number of persons per sq. km.) in the state is 159, which means the state is 11 th most sparsely populous state in the country.

5.2 I.T. initiatives by the State:

Since the creation of the state on 9th November, 2000, the Government of Uttaranchal (GoU) has been consistently giving top priority to the development of this small and dominantly-hill state. Over these few years, GoU has taken several development initiatives, starting from a virtually zero base line. A major emphasis has been in the area of Information Technology, be it IT Education and Training, inculcating e-Learning, introduction of e-Governance, or creation of IT Infrastructure in the state. It also started to encourage the use of IT in the Government not only as a tool for management and decision support systems but also re-engineer the processes of the government to provide a more efficient, transparent, accountable and responsive government to its citizens. It has brought forward IT policy to addresses all the concern issues.

5.21 Vision of IT policy: [R-5.1]

“To deploy, use, exploit and leverage the information technology as an effective tool for catalyzing accelerated economic growth, efficient and transparent governance which is accountable to the people and to this end create the knowledge rich society.”

5.22 Objectives:

- To upgrade the quality of life of citizens of the State by facilitating easy access to consumer applications of IT.
- To encourage private sector initiatives for the development of world class IT infrastructure adequate for the needs of the citizens, the industry and the government.

- To upgrade and develop manpower skills required for the IT industry and to accelerate the use of IT in schools, colleges and other educational institution with a view to providing skills and knowledge to the youth so as to render them fit for employment in this industry.
- To use IT as GDP driver by promoting IT industry in the State, developing the State as an attractive IT destination with a view to generate employment for youth in this sector thereby raising their earning capacity and simultaneously realizing the export as well as domestic revenue potential in this sector.

IT policy addresses the issues of:

- a) IT Infrastructure
- b) Human Resource Development [HRD]
- c) IT Industry, **both** hardware and software as well as IT enabled services,
- d) IT in Governance:

Several projects have been initiated and started in this direction. They can be broadly divided into three groups as given in Table No: 5.2.

Table No. 5.2: I.T. based Initiatives of Uttaranchal state government			
SI No	Education & Training	Infrastructure	eGovernance
1	Project Aarohi	WiMAX state wide area network (SWAN)	Pro-Poor e-Governance Initiatives
2	Project Shikhar	Uttaranchal Data Centre	Uttara Portal
3	Project Saksham		Govt. Process Re-engineering
4	Project CISCO Academy		IT Standards for e-Governance Applications
5	Project IBM Academy		Agriculture Portal
6	Project HP Academy		Urban e-Governance
7	Project Microsoft Centre for Excellence		Badrinath- Kedarnath- Gangotri- Yamunotri- Hemkund Sahib Portal
www.uttara.nic.in			

5.23 Projects – Education and Training

Out all the projects started under this category Aarohi and Shikhar are very important, other projects are either directly or indirectly related to these two.

a) Aarohi:

It has a simple mission Statement; '*Computer Literacy for All*'. The Students who pass out of the government schools (From class VI to XII) as well as the aided institutions shall be computer literate, 50 percent of the intermediate colleges have already been covered under this program till date. Government has tied up with "MICRPSOFT " for this project.

b) Shikhar

This project, in a PPP mode, started in July 2003, which enables the undergraduate and postgraduate students of the degree colleges including aided colleges, to acquire skills equivalent to MCA levels at an extremely affordable cost. Reputed Education Providers are providing this training, which would be of the same level as being provided in any metros. Government has tied up with "CISCO" for this project.

5.24 Projects – Infrastructure

a) SWAN – State Wide Area network

Reaching out to the citizens, is envisioned in Uttaranchal Infoway - SWAN project. It is a seamless hybrid of Optical Fiber Cables, WLL, Radio, VSATs and 802.11B. To create a world-class infrastructure it has joined hands with STPI. A State of art Earth Station with an international gateway has been established at Dehradun. More such other stations are planned at Pantnagar, Roorkee and other places. Bharat Sanchar Nigam Ltd. (BSNL) has already laid over 3000 kilometers of optical fiber cables [OFC] in the State. Uttaranchal SWAN has already reached to all the district head quarters. Reliance industries has commenced laying of its optical fiber network keeping in mind the industrial areas.

b) Data Centre

A data centre is established at IIT Roorkee at present and soon going to be transferred to Dehradun, which is looking after the "*Uttara*" (state) portal hosting, content management and provide high level of security and privacy of data related to all the government departments.

5.3 Projects – eGovernance

Pro Poor eGovernance initiatives is an UNDP funded project aimed “*to deliver information of public interest and provide services related to govt. departments at the doorstep of every citizen of Uttaranchal using IT as vehicle*”. Other projects in eGovernance category like Uttara Portal, Government Process re-engineering, IT standards are related to this project and later to be continued by state government as separate projects.

5.31 Pro poor IT initiatives in Uttaranchal state: [43]

This is an UNDP funded project of Uttaranchal state government started in 2003. It started with an aim to provides all the government related services and information to its citizens on any where, any time basis, in other words government at the door step of its people. IIT Roorkee rendered its services as the consultancy for this project. It took the help of NGO’s and CBO’s for conducting Participatory Rural Appraisal (PRA), Rural Rapid Appraisal (RRA) and Urban Rapid Appraisal (URA) for selecting the list of services to be provided.

5.32 Public Participation in eGovernance initiative

Assessment of needs, aspirations and priorities of a common citizen of Uttaranchal through PRA, RRA and URA

5.33 Participatory Rural Appraisal

A set of communication tools based on key concepts and principles for a process of joint learning of local people and facilitator. The role of a facilitator is to enable local people to do their own investigations, analysis, presentations, planning and action so as to find out about the needs, priorities and aspirations of the (rural) people. A commitment to equity, empowering those who are □arginalized, excluded and deprived often, especially women.

5.34 Selection of Locations for Participatory Rural Appraisal [43]

The places for PRA were carefully selected on based on the fallowing four criteria,

1. Rural, Semi urban and Urban Areas
2. Economic Diversity
3. Cultural Diversity
4. Altitudes : Plains
: Lower Himalays (upto 1,500 mts.)
: Higher Himalayas (above 1,500 mts.)

Seven locations were chosen for PRA, RRA, URA exercises during February 2003 to August 2003. These include three locations in Kumaon and four in Garhwal Region.

5.35 Participatory Rural Appraisal At Raithal, Bhatwari Block, District Uttarkashi

Three groups were formed as per their interest and started doing the exercises



5.3: (Group-1) Older people opted to prepare Time Line/ Historical Transact



5.4: (Group-2) worked on Village Mapping sat just adjacent to older people to consult if they stuck

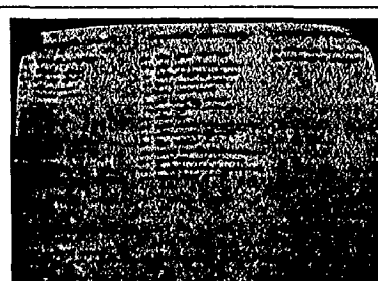


5.5: Group-3 mostly youngsters worked on Preference Ranking of services

Some snaps from other locations during the exercise: [43]



5.6: P.R.A at Chandpur, Vikas Nagar block, Dehradun District



5.7: Identification of services in P.R.A at Chandpur, Vikas Nagar block, Dehradun District



5.8: PRA at Kali Temple, Jaiculi, Naparath, Someshwar Valley



5.9: "Women force in planning" at P.R.A at Jaunsar, Chakrata block, Dehradun District



5.10: R.U.A at Dehradun city looking into the needs of the city dwellers



5.11: R.U.A at Dehradun city looking into the needs of the city dwellers

5.36 Priorities Derived from PRA Exercise related to Information in Rural Areas

The special requirements and priorities of information needed to the rural and Urban people is summed up in Table No: 5.3 and the priorities of services in Urban and Rural areas is summed up in Table No: 5.4.

Table No. 5.3: Priorities derived from PRA exercise in Rural and Urban Areas related to Information

Sl No	Priorities of Rural Areas
1	Information related to Education
2	Information related to Agriculture (i) Mandi Rates (ii) Change in Crop Pattern
3	BPL Beneficiaries List
4	Examination Results
5	Government Tenders and welfare schemes information
6	Property Rates (Achal Sampati Daren)
7	Sports news
8	Special needs of selected groups
	i Employment opportunities for youth.
	ii Various government schemes for Elderly
	iii Development and Social Welfare Schemes for backward classes
	iv Medical information for Women

Source: Presentation by Prof. H.K Sinvhal on Pro Poor IT initiatives in Uttaranchal

Table No.5.4: Priorities derived from PRA exercise in Rural & Urban Areas of Uttaranchal

Sl No	Priorities of Rural Areas	Priorities Urban Areas
1	Various Government Application Forms	Utility bill payments like Electricity, Water, Telephone, etc.
2	Status of Application Forms	Status of Application Forms
3	Grievance Redressal	Grievance Redressal
4	Suggestions to Government	Suggestions to Government
5	Sale and Purchase of land, house and other properties.	Sale and Purchase of house, shops and other properties.
6	Email to family members in Defense.	Email to family members in Defense.
7	Chat groups of different interest groups	Chat groups of different interest groups
8	Medical information and services related to health issues (mainly women).	Medical information and services related to health issues.

Source: Presentation by Prof. H.K Sinvhal on Pro Poor IT initiatives in Uttaranchal

5.37 Creation of UTTARA portal (www.uttara.nic.in):

Based on priorities of people and the demands of the governments a state governmental portal named “Uttara” has been designed which will act as the official website of the Uttaranchal state government and meets the demands and aspirations of the people. Presently 108 departments of the state government are included in the site for providing services.

5.38 Other useful Findings:

- People are ready to pay for the services rendered at the “Soochna Kutirs”
- Local entrepreneurs should run the “Soochna Kutirs”
- Entrepreneur should be
 - a) Local, completed at least 10+2 and computer literate
 - b) Team of male and female (as far as possible) should operate the kiosk
 - c) Persons should enjoy good reputation in the area
- Location should be at easily accessible places like Chow Rasta, shop in market or public place (but not government office)

Under this project internet kiosks (*locally called Soochna Kutirs*) are setup on a pilot basis in Nainital district. A supplementary site study has been done to get the feedback from the kiosk operators and users.

5.39 Supplementary study from the field:

Site studies were done for evaluation of the pilot project. Four kiosks were chosen in the Nainital District at different locations.

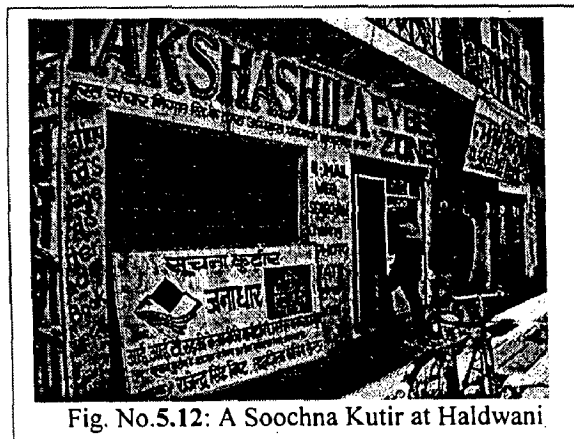


Fig. No.5.12: A Soochna Kutir at Haldwani

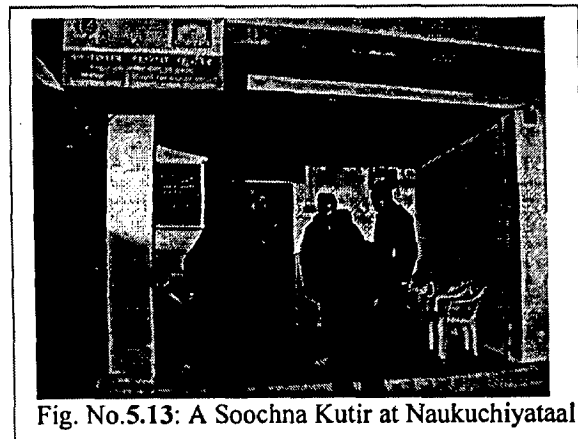


Fig. No.5.13: A Soochna Kutir at Naukuchiyataal



Fig. No.5.14: A Soochna Kutir at Bhimtaal

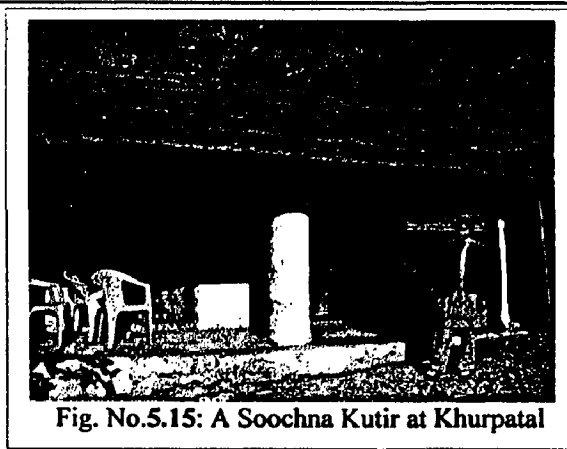


Fig. No.5.15: A Soochna Kutir at Khurpatal

Responses were collected from four kiosk operators and five users from each of the kiosk (20 users in total) on the usefulness and suggestions for improvements.

Kiosk operators' complaint about,

- a) Connectivity interruptions
- b) Poor response from customers
- c) No proper up dation of the portal
- d) Power breakdows
- e) Needs help or subsidy from government

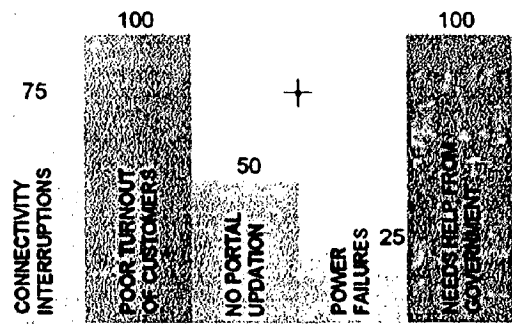


Fig. No.5.16: Feed back from kiosk operators

Customers or users response:

- a) No proper response or reaction from concerned officials.
- b) No useful information on the portal
- c) No proper updation of the portal
- d) They don't find any difference from the existing system except for getting the application forms readily.

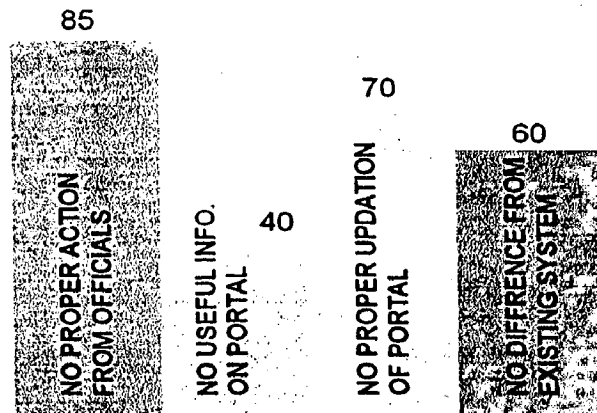


Fig. No.5.17: Feed back from kiosk users

Chapter - 6

Prioritisation in Uttaranchal

6.1	Prioritisation of Districts	115
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6.3	Prioritisation of Villages	131

6.1 Priotitisation of Districts:

Priortitisation of distrits for starting eGovernance plan for the state of uttaranchal is needed as in other states they have chosen the sites for implementation based the population, telecom connectivity, willingness of the concerned authorities and other local factors. For kick starting the e-governance projects here, we should prioritise the places for their e-readiness. This is done based on two broad categories namely demographic and infrastructure. Sub-factors considered under each of these categories are stated below. These factors are considered based on some the factors that are considered to calculate the *e-Readiness of Indian states -2004*.

Districts are given index number based on the '*range*' (difference between the best performing district value and the least performing district value) for each of the factor considered and later proper weightage is assigned to these factors and overall ranking is done. For prioritisation a '**3 x 3 matrix**' method is used.

Table No.6.1 : Factors considered for matrix preparation for prioritisation			
	Demographic Factors		Infrastructure Factors
1	Population	1	Eletrification of villages
2	Density of Population	2	No. of Telephone connections
3	Urban Population	3	Length of Roads
4	Number of House Holds and	4	No. of Higher Secondary schools
5	Literacy rate	5	No. of Scheduled banks
		6	No. of markets within 5 Kms.
Source: Author, from the findings of best practices (Section – 3.3) and Case Models (Section – 4.2 & 4.3)			
NOTE: House holds are considered, as they form the basic units for utility bill transactions (which is a prime factor for sustainability calculation of the model)			

6.11 Indexing:

The data on demographic and infrastructure facilities for all the states are collected and compiled in tables and indexing is done based on the range for each of the factor considered (detailed procedure for indexing on population is shown on the next page). For each of the factor considered a thematic map is also prepared. Population data for each of the district, its range calculation and indexing along with the thematic map are all given on the same (next) page.

- For each of the indicators find out the lowest and the highest values
- Establish the range i.e. difference between the highest and lowest value.

- Divide the range by 3 to get one third of the range
- Establish the range of scores for each of the indicators in the high, moderate and low and assign scores to each district.
- The poorly equipped districts will be in 3/3 matrix and well equipped districts will be in 1/1 matrix, the order prioritization will be 1/1, 1/2, 2/1, 1/3, 2/2, 3/1, 2/3, 3/2, 3/3.

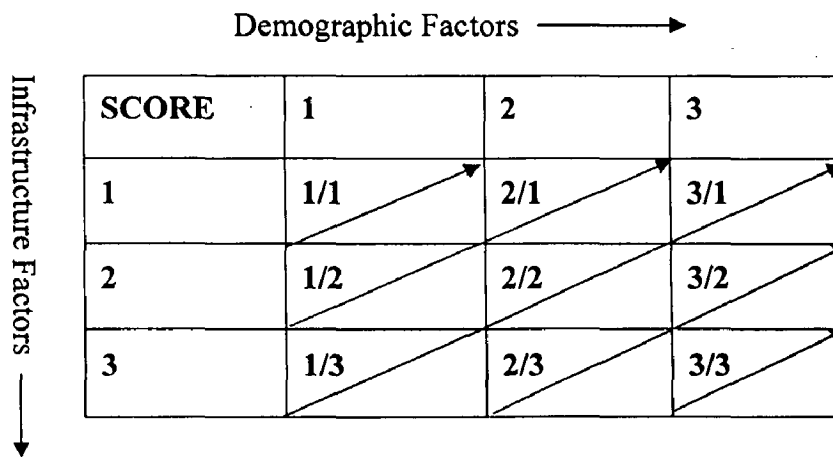


Table No. 6.2: District wise Demographic Indicators and their indices for Population

Sl No	District	Population			Total Population	
		Urban	Rural	Total	% to Total	Index
1	Almora	54,505	5,76,062	6,30,567	7.43	3.00
2	Bageshwar	7,803	2,41,659	2,49,462	2.94	3.00
3	Chamoli	50,703	3,19,656	3,70,359	4.36	3.00
4	Champawat	33,778	1,90,764	2,24,542	2.64	3.00
5	Dehradun	6,78,742	6,03,401	12,82,143	15.10	1.00
6	Garhwal	89,875	6,07,203	6,97,078	8.21	2.00
7	Hardwar	4,46,275	10,00,912	14,47,187	17.05	1.00
8	Nainital	2,69,050	4,93,859	7,62,909	8.99	2.00
9	Pithoragarh	59,833	4,02,456	4,62,289	5.45	3.00
10	Rudraprayag	2,732	2,24,439	2,27,439	2.68	3.00
11	Tehri garhwal	59,846	5,44,901	6,04,747	7.12	3.00
12	Udam Singh Nagar	4,03,014	8,32,600	12,35,614	14.55	1.00
13	Uttarkashi	22,918	2,72,095	2,95,013	3.48	3.00
TOTAL		21,79,074	63,10,007	84,89,349	100.00	2.38

Source: Census India 2001 (www.censusindiamaps.net)

Table No.6.3: District wise Selected Demographic Indicators and their indices for Population

SI No	District	Urban Population		Density		House Holds					
		Ur.Popln (%)	Index	Area (Sq.Kms)	Persons (Per Sq.km)	Index	Total No.	HH's (%)	Index	Literacy (%)	Index
1	Almora	8.64	3	3,082.8	204.54	3	1,31,052	8.17	2	73.60	2
2	Bageshwar	3.13	3	2,302.5	108.34	3	51,949	3.24	3	71.30	2
3	Chamoli	13.69	3	7,613.8	48.64	3	76,121	4.75	3	75.40	1
4	Champawat	15.04	3	1781	126.08	3	43,902	2.74	3	70.40	2
5	Dehradun	52.94	1	3088	415.20	2	2,39,975	14.97	1	79.00	1
6	Garhwal	12.89	3	5,399.6	129.10	3	1,49,987	9.36	2	77.50	1
7	Hardwar	30.84	2	2360	613.21	1	2,40,702	15.01	1	63.70	3
8	Nainital	35.27	2	3860	197.64	3	1,42,113	8.86	2	78.40	1
9	Pithoragarh	12.94	3	7100	65.11	3	98,514	6.14	3	75.90	1
10	Rudraprayag	1.20	3	1,890.6	120.30	3	47,539	2.97	3	73.60	2
11	Tehri garhwal	9.90	3	4080	148.22	3	1,17,754	7.34	2	66.70	3
12	Udam Singh Nagar	32.62	2	2,908.4	424.84	1	2,08,076	12.98	1	64.90	3
13	Uttarkashi	7.77	3	8016	36.80	3	55,558	3.47	3	65.90	3
			34			34					25
	TOTAL	25.67	3	53,482.7	158.73	3	16,03,242	100.00	2	71.60	2

Source: Author, Data Source: Census India 2001, GIS interactive maps (www.censusindiamaps.net)

Table No. 6.4: District wise Selected Infrastructure Indicating Factors and their indices

Sl No	District	Electrification		Telephones		Road Length		Higher Schools		Secondary Schools		Scheduled Banks		Market Places			
		Electrified Villages (%)	Index	Phones per 10,000	Index	Total Length (Kms)	Legth (per sq.km)	Index	Total (Nos)	Schools (per 10,000 people)	Index	Banks (per 10,000)	Nos.	Nos. (10,000 people)	Index		
1	Almora	80.00	3	229.50	3	1852	0.60	2	115	1.82376	1	72	1.142	2	673	10.67	2
2	Bageshwar	75.00	3	207.70	3	480	0.21	3	38	1.52328	2	27	1.082	2	208	8.34	2
3	Chamoli	73.00	3	173.10	3	1157	0.15	3	55	1.48505	2	35	0.945	2	372	10.04	2
4	Champawat	63.10	3	625.20	1	666	0.37	2	27	1.20245	2	20	0.891	3	216	9.62	2
5	Dehradun	100.00	1	713.39	1	2617	0.85	1	165	1.28691	2	181	1.412	1	172	1.34	3
6	Garhwal	71.40	3	118.60	3	2947	0.55	2	172	2.46744	1	99	1.420	1	1515	21.73	1
7	Hardwar	90.30	2	337.30	2	1020	0.43	2	66	0.45606	3	96	0.663	3	308	2.13	3
8	Nainital	75.00	3	770.80	1	2317	0.60	2	86	1.12726	3	88	1.153	2	532	6.97	3
9	Pithoragarh	76.00	3	204.40	3	1087	0.15	3	73	1.57910	2	50	1.082	2	573	12.39	2
10	Rudraprayag	81.20	2	146.10	3	658	0.35	3	50	2.19839	1	20	0.879	3	63	2.77	3
11	Tehri garhwal	77.00	3	115.20	3	1823	0.45	2	117	1.93469	1	68	1.124	2	527	8.71	2
12	UdamSing Ngr	100.00	1	330.80	3	1850	0.64	1	66	0.53415	3	96	0.777	3	265	2.14	3
13	Uttarkashi	95.00	1	190.50	3	1069	0.13	3	38	1.28808	2	26	0.881	3	184	6.24	3

TOTAL 8131 2 320.20 2 19543 0.37 2 1068 125805 2 878 1034 2 5608 6.61 2

Source: Author, Data Source: Directorate of economics & Statistics; www.indiastat.com; www.ua.nic.in.

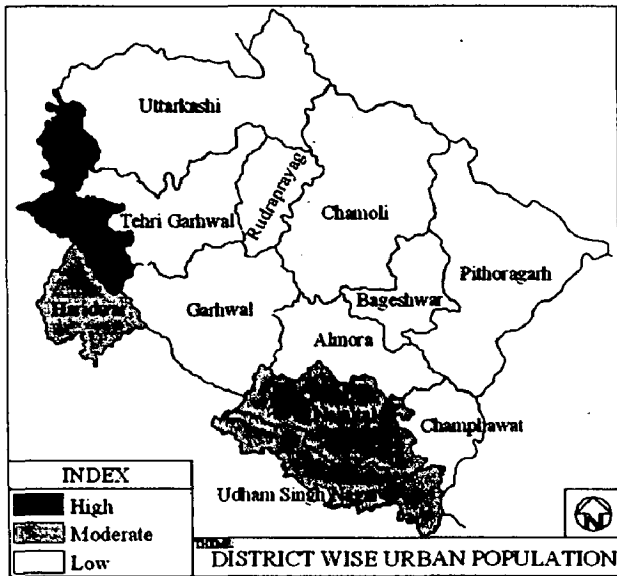


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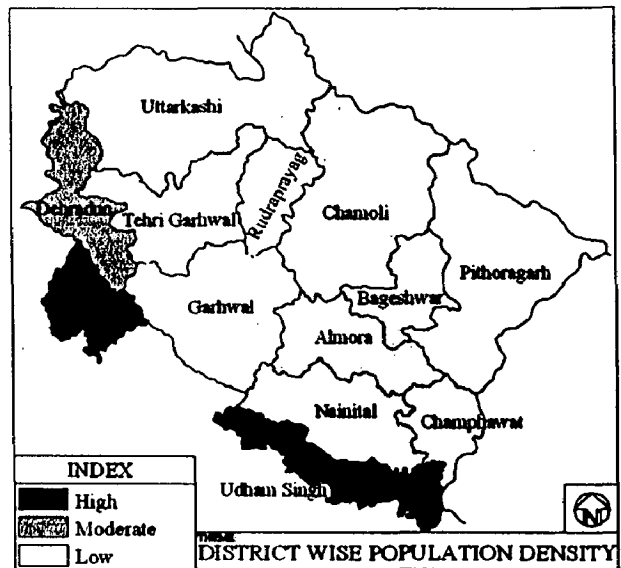


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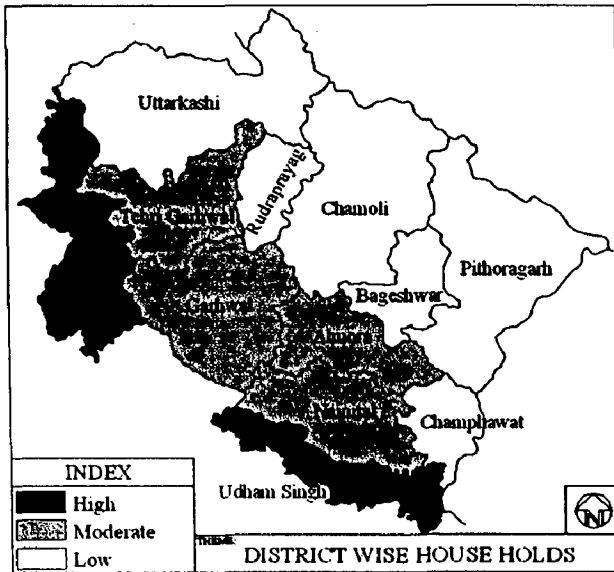


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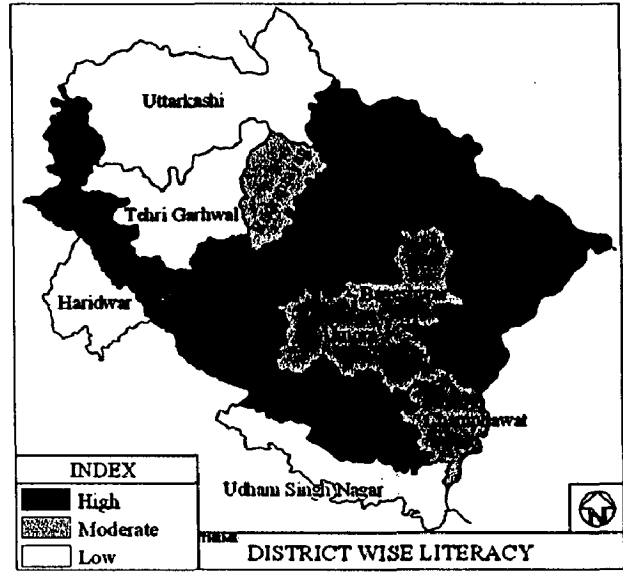


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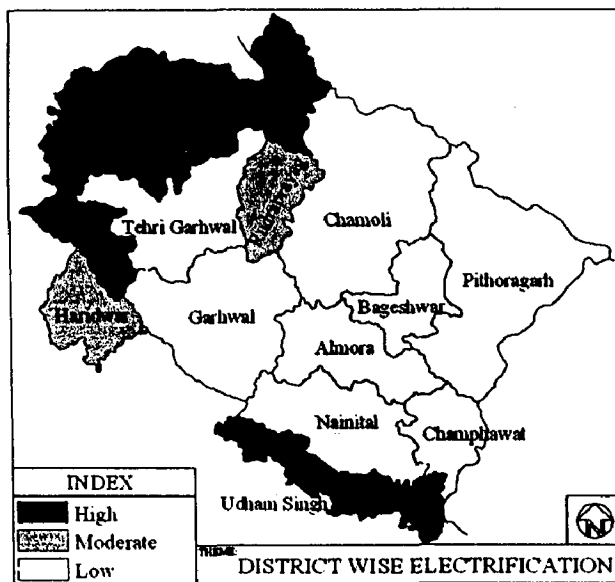


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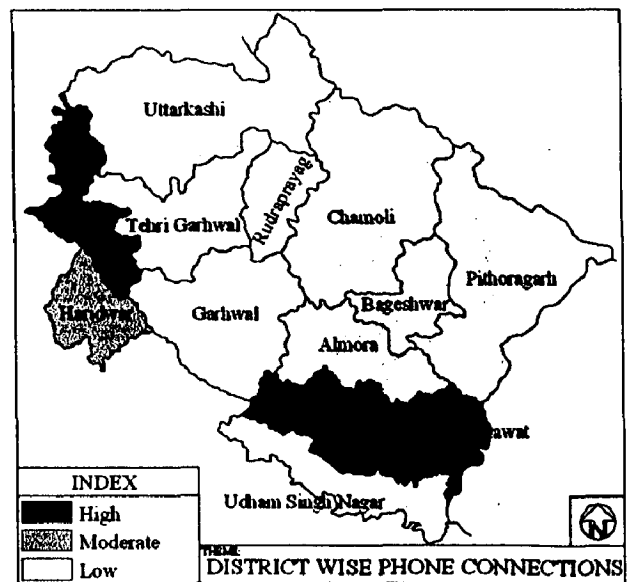


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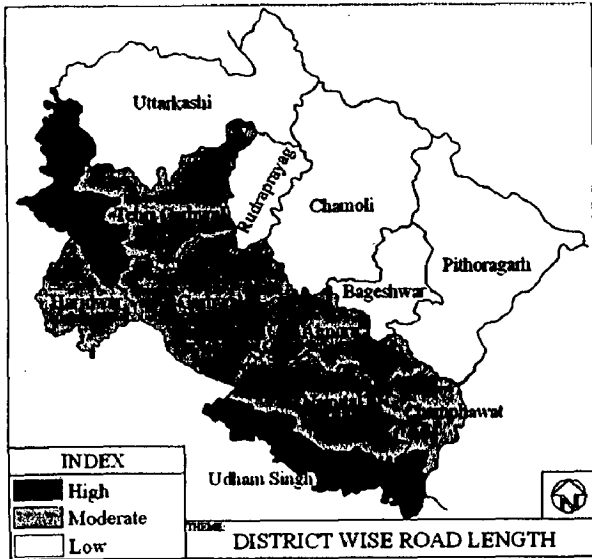


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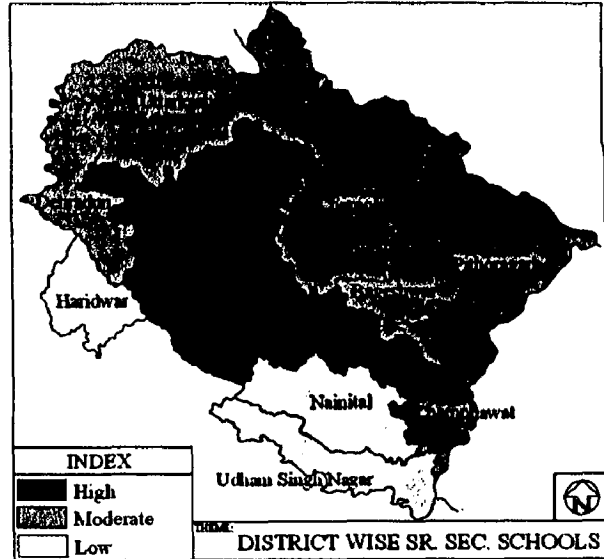


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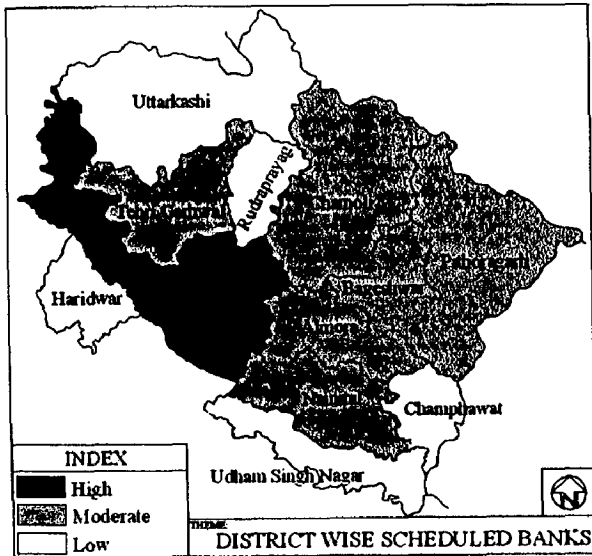


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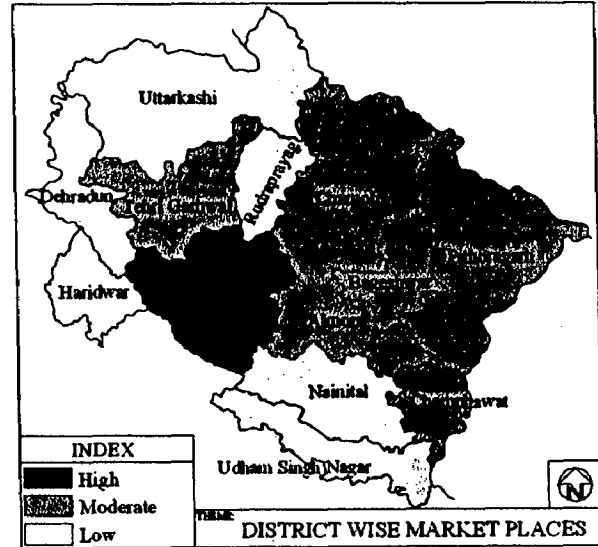


Figure No: 6.11

Table No 6.5: District wise Selected Demographic Factors weighted indices and ranking

Sl No	District	Population			Density			House Holds			Urban Population			Literacy			Combined Index	Rank
		Indx	Wgt	New Indx	Indx	Wgt	New Indx	Indx	Wgt	New Indx	Indx	Wgt	New Indx	Indx	Wgt	New Indx		
1	Almora	3	1	3	3	1.25	3.75	2	1.5	3	3	1.75	5.25	2	2	4	19	3
2	Bageshwar	3	1	3	3	1.25	3.75	3	1.5	4.5	3	1.75	5.25	2	2	4	20.5	3
3	Chamoli	3	1	3	3	1.25	3.75	3	1.5	4.5	3	1.75	5.25	1	2	2	18.5	3
4	Champawat	3	1	3	3	1.25	3.75	3	1.5	4.5	3	1.75	5.25	2	2	4	20.5	3
5	Dehradun	1	1	1	2	1.25	2.5	1	1.5	1.5	1	1.75	1.75	1	2	2	8.75	1
6	Garhwal	2	1	2	3	1.25	3.75	2	1.5	3	3	1.75	5.25	1	2	2	16	2
7	Hardwar	1	1	1	1	1.25	1.25	1	1.5	1.5	2	1.75	3.5	3	2	6	13.25	2
8	Nainital	2	1	2	3	1.25	3.75	2	1.5	3	2	1.75	3.5	1	2	2	14.25	2
9	Pithoragarh	3	1	3	3	1.25	3.75	3	1.5	4.5	3	1.75	5.25	1	2	2	18.5	3
10	Rudraprayag	3	1	3	3	1.25	3.75	3	1.5	4.5	3	1.75	5.25	2	2	4	20.5	3
11	Tehri garhwal	3	1	3	3	1.25	3.75	2	1.5	3	3	1.75	5.25	3	2	6	21	3
12	Udam Singh Nagar	1	1	1	1	1.25	1.25	1	1.5	1.5	2	1.75	3.5	3	2	6	13.25	2
13	Uttarkashi	3	1	3	3	1.25	3.75	3	1.5	4.5	3	1.75	5.25	3	2	6	22.5	3

Source: Author, Data Source from Table no: 6.2 and 6.3

Ranking based on range:

Max	22.5
Min	7.5
Range	15
Interval	5.00

Ranking based on range:

range1	7.5	12.48	1
range2	12.49	17.49	2
range3	17.5	22.5	3

Table No 6.6: District wise Selected Infrastructure Factors weighted indices and ranking

Sl No	Districts	Market Places		Banks		Higher Schools		Sec. Length of Roads		Phone connections		Electrification		Combined Index	Ranking					
		Ind	Wgt	New Ind	Ind	Wgt	New Ind	Ind	Wgt	New Ind	Ind	Wgt	New Ind							
1	Almora	2	1	2	2	1.25	2.5	1	1.5	1.5	2	1.75	3.5	3	2	6	3	2	21.5	3
2	Bageshwar	2	1	2	2	1.25	2.5	2	1.5	3	3	1.75	5.25	3	2	6	3	2	24.75	3
3	Chamoli	2	1	2	2	1.25	2.5	2	1.5	3	3	1.75	5.25	3	2	6	3	2	24.75	3
4	Champawat	2	1	2	3	1.25	3.75	2	1.5	3	2	1.75	3.5	1	2	2	3	2	20.25	2
5	Dehradun	3	1	3	1	1.25	1.25	2	1.5	3	1	1.75	1.75	1	2	2	1	2	13	1
6	Garhwal	1	1	1	1	1.25	1.25	1	1.5	1.5	2	1.75	3.5	3	2	6	3	2	19.25	2
7	Hardwar	3	1	3	3	1.25	3.75	3	1.5	4.5	2	1.75	3.5	2	2	4	2	2	22.75	3
8	Nainital	3	1	3	2	1.25	2.5	3	1.5	4.5	2	1.75	3.5	1	2	2	3	2	21.5	3
9	Pithoragarh	2	1	2	2	1.25	2.5	2	1.5	3	3	1.75	5.25	3	2	6	3	2	24.75	3
10	Rudraprayag	3	1	3	3	1.25	3.75	1	1.5	1.5	3	1.75	5.25	3	2	6	2	2	23.5	3
11	Tehri garhwal	2	1	2	2	1.25	2.5	1	1.5	1.5	2	1.75	3.5	3	2	6	3	2	21.5	3
Udam Singh																				
12	Nagar	3	1	3	3	1.25	3.75	3	1.5	4.5	1	1.75	1.75	3	2	6	1	2	21	3
13	Uttarkashi	3	1	3	3	1.25	3.75	2	1.5	3	3	1.75	5.25	3	2	6	1	2	23	3
													Ind Index	Wgt	Weight					

Source : Author, Data source: Table no: 6.4

Table No. 6.7: Overall Ranks for Demographic and Infrastructure categories			
Sl No.	Districts	Infrastructure Indicators	Demographic Indicators
1	Almora	3	3
2	Bageshwar	3	3
3	Chamoli	3	3
4	Champawat	2	3
5	Dehradun	1	1
6	Garhwal	2	2
7	Hardwar	3	2
8	Nainital	3	2
9	Pithoragarh	3	3
10	Rudraprayag	3	3
11	Tehri garhwal	3	3
12	Udam Singh Nagar	3	1
13	Uttarkashi	3	3

Source: Author, Data source: Table No: 6.5 and 6.6

6.3 Matrix Preparation:

After calculation of demographic and infrastructure rankings, a 3 X 3 matrix is prepared following the procedure as discussed in section 5.1, based on the overall rankings from table no: 5.6. This matrix gives the prioritization of various districts for starting the eGovernance plans.

Table No. 6.8: Matrix of Uttarakhand Districts based on Demographic and Infrastructure Factors

		DEMOGRAPHIC FACTORS →			
		SCORE	1	2	3
INFRASTRUCTURE FACTORS ↓	1		DEHRADUN		
	2			GARHWAL	CHAMPAWAT
	3		UDAM SING NAGAR	HARDWAR NAINITAL	ALMORA BAGESHWAR CHAMOLI PITHORAGARH RUDRAPRAYAG TEHRI UTTARKASHI

Table No. 6.9: Prioritised Districts of Uttarakhand for starting e-governance projects

SI No	District	Phase
1	Dehradun	1st Phase
2	Udam Singh Nagar	
3	Garhwal	
4	Haridwar	
5	Nainital	
6	Champawat	2nd Phase
7	Tehri Garhwal	
8	Almora	
9	Rudraprayag	
10	Bageshwar	3rd Phase
11	Pithoragarh	
12	Uttarkashi	
13	Chamoli	

Source: Author, Data source: Table No: 6.8

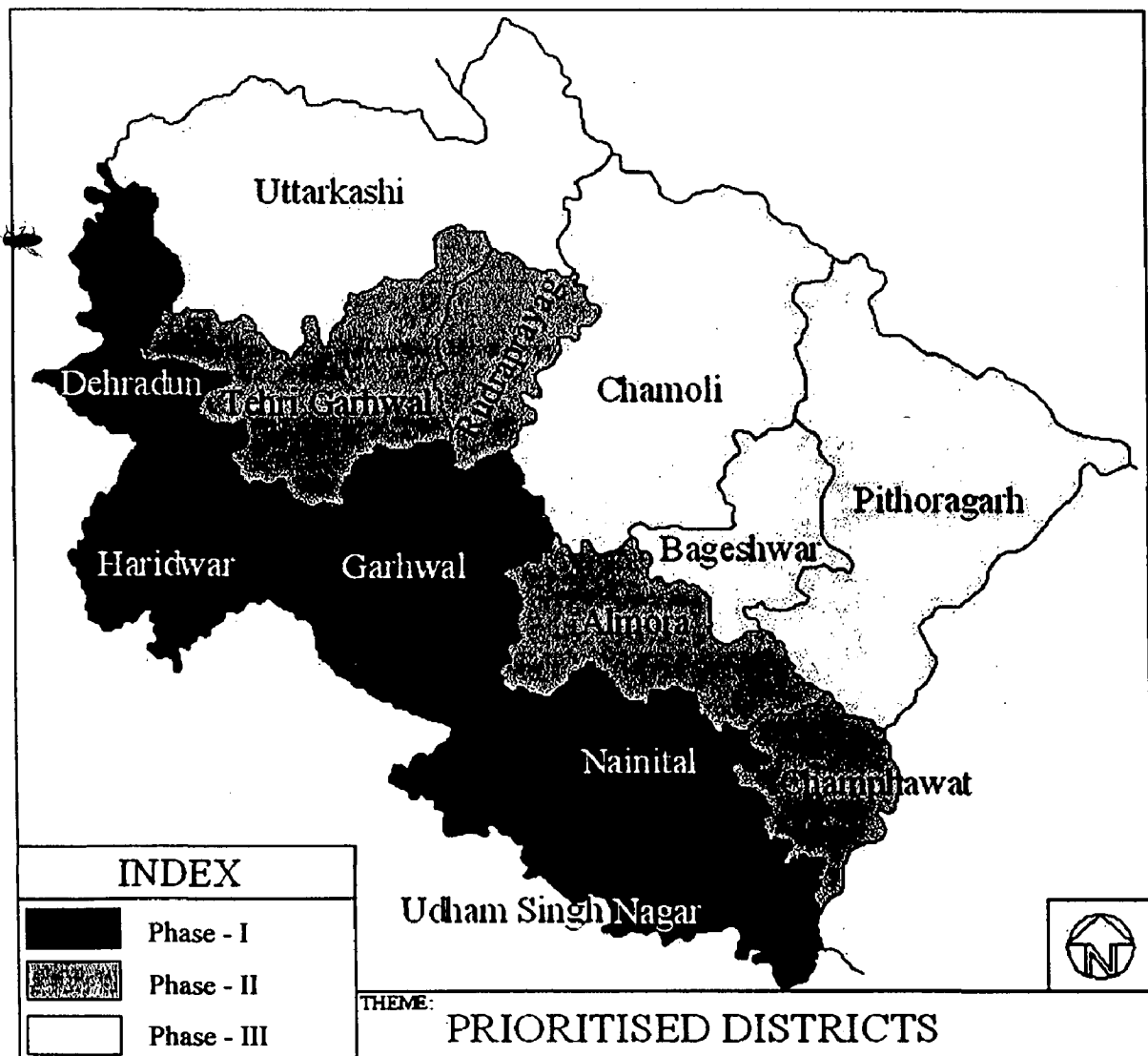


Figure No: 6.12

6.2 Prioritisation within the District:

Prioritisation to be done even for the tehsils and development blocks within the districts, in the same manner as it done for the districts in the above sections. Few factors can be added or removed keeping in view the local ground conditions and peoples' aspirations. Prioritisation is done for the Tehri Garhwal District below.

Table No. 6.10: Tehsil wise Selected Demographic Factors and their Indices of Tehri Garhwal District

Sl	Tehsil	Population						House Holds			Literates		
		Urban	Rural	Total	Total (%)	Index	Ur. Popln (%)	Index	Total	HH's (%)	Index	Literacy (%)	Index
1	Ghansali	0	1,17,913	1,17,913	19.50	3	0.00	3	22,491	19.10	3	61.30	3
2	Devprayag	3,215	97,609	1,00,824	16.67	3	3.19	3	21,462	18.23	3	69.60	1
3	Pratapnagar	0	96,967	96,967	16.03	3	0.00	3	18,388	15.62	3	63.50	3
4	Tehri	32,003	17,1249	2,03,252	33.61	1	15.75	2	38,402	32.61	1	68.60	1
5	Narendra	24,628	61,163	85,791	14.19	3	28.71	1	17,011	14.45	3	69.80	1
TOTAL		59,846	5,44,901	6,04,747	100		9.90		1,17,754	100		66.70	
HH : House Holds			Ur.:Urban			Ru.: Rural			Idx: Index				

Source: Author, Data Source: Primary Census Abstract 2001 (www.censusindia.net)

Table No. 6.11 Tehsil wise Selected Infrastructure Factors and their indices of Tehri Garhwal District

Sl No	Tehsil	Electrification		Telephones		Hr. Sec. Schools		Scheduled Banks	
		Electrified Villages (%)	Index	Per 10,000	Index	Per 10,000	Index	Per 10,000	Index
1	Ghansali	60.76	3	22.13	3	2.12	3	0.933	1
2	Devprayag	62.07	3	78.75	1	3.57	1	0.992	1
3	Pratapnagar	92.24	1	34.44	3	1.75	3	1.031	1
4	Tehri	81.87	1	66.47	1	2.07	2	0.935	1
5	Narendranagar	72.51	2	24.48	3	1.63	3	0.583	3

Source: Author, Data Source: Primary Census Abstract 2001 (www.censusindia.net)

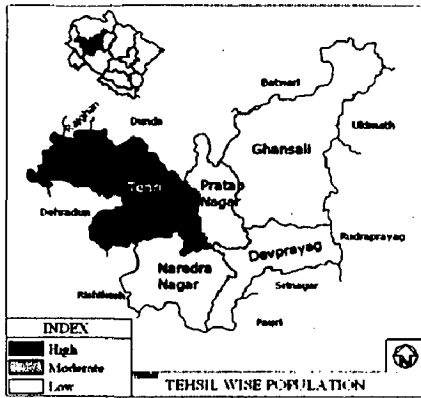


Figure: 6.13

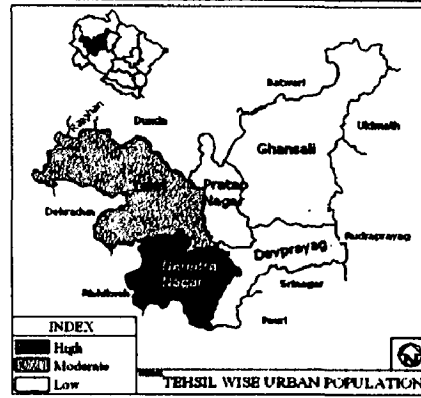


Figure:6.14

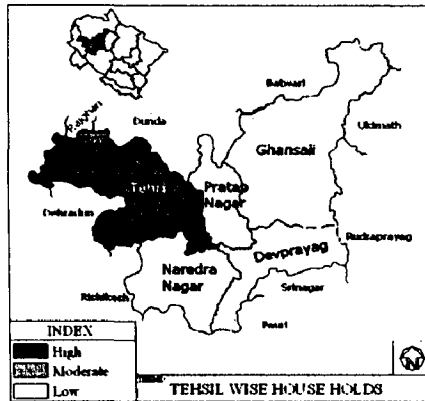


Figure: 6.15

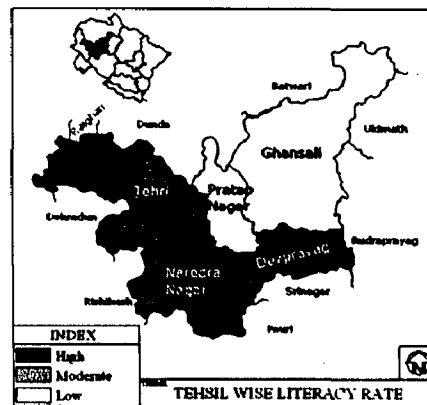


Figure: 6.16

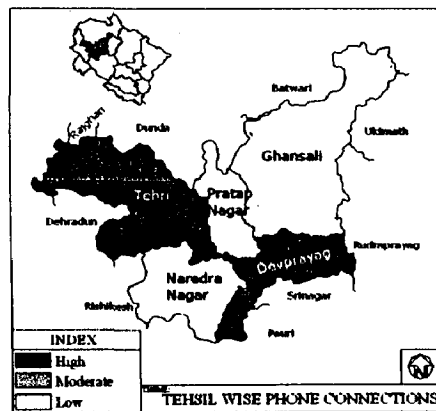


Figure: 6.17

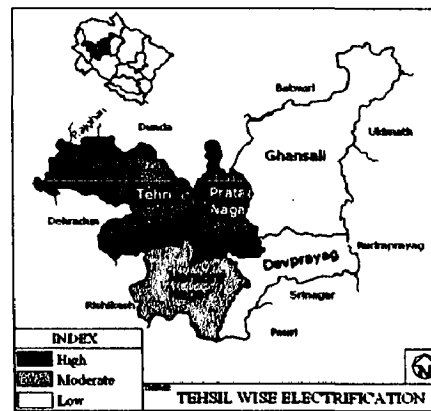


Figure: 6.18

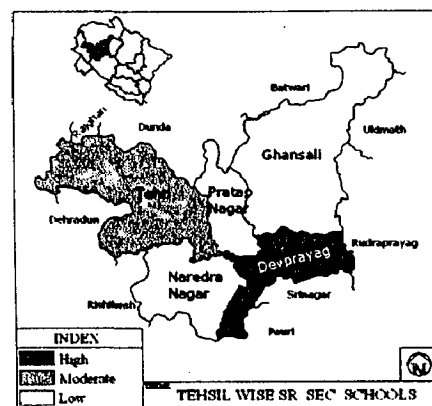


Figure: 6.19

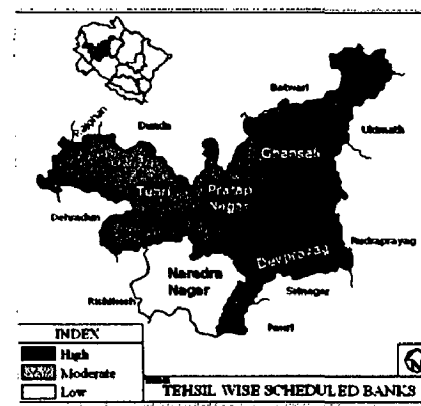


Figure: 6.20

Table No 6.12: Tehsil wise Selected Demographic Factors weighted indices and ranking

Sl No	Tehsil	Population			House Holds			Urban Population			Literacy			Combined Index	Rank
		Index	Weight	New Index	Index	Weight	New Index	Index	Weight	New Index	Index	Weight	New Index		
1	Ghansali	3	1	3	3	1.5	4.5	3	1.75	5.25	3	2	6	18.75	3
2	Devprayag	3	1	3	3	1.5	4.5	3	1.75	5.25	1	2	2	14.75	2
3	Pratapnagar	3	1	3	3	1.5	4.5	3	1.75	5.25	3	2	6	18.75	3
4	Tehri	1	1	1	1	1.5	1.5	2	1.75	3.5	1	2	2	8	1
5	Narendranagar	3	1	3	3	1.5	4.5	1	1.75	1.75	1	2	2	11.25	1

Source: Author, Data source: Table No: 6.10

Demographic Ranking based on range:

Max 18.75
 Min 8.00
 Range 10.75
 Interval 3.58

Infrastructure Ranking based on range:

Max 18.25
 Min 8.20
 Range 10.00
 Interval 3.33

	minimum	maximum	rank
range1	8	11.57	1
range2	11.58	15.16	2
range3	15.17	18.75	3

	minimum	maximum	rank
range1	8.25	11.57	1
range2	11.58	14.91	2
range3	14.92	18.25	3

Table No 6.13: Tehsil wise Selected Infrastructure Factors weighted indices & ranking

Sl No.	Tehsil	Banks			Higher Sec. Schools			Phone connections			Elctrification			Combined Index	Rank
		Index	Weight	New Index	Index	Weight	New Index	Index	Weight	New Index	Index	Weight	New Index		
1	Ghansali	1	1.25	1.25	3	1.5	4.5	3	2	6	3	2	6	17.75	3
2	Devprayag	1	1.25	1.25	1	1.5	1.5	1	2	2	3	2	6	10.75	1
3	Pratapnagar	1	1.25	1.25	3	1.5	4.5	3	2	6	1	2	2	13.75	2
4	Tehri	1	1.25	1.25	2	1.5	3	1	2	2	1	2	2	8.25	1
5	Narendranagar	3	1.25	3.75	3	1.5	4.5	3	2	6	2	2	4	18.25	3

Source: Author, Data source: Table No: 6.11

Table No. 6.14: Overall Ranks for Demographic and Infrastructure categories			
Sl No.	Districts	Infrastructure Indicators	Demographic Indicators
1	Ghansali	3	3
2	Devprayag	2	1
3	Pratapnagar	3	2
4	Tehri	1	1
5	Narendranagar	1	3

Source: Author, Data source: Table No: 6.12 and 6.13

Table No. 6.15: Prioritised Tehsils of Tehri Garhwal		
Sl No	Tehsil	Phase
1	Tehri Garhwal	1st Phase
2	Devprayag	
3	Narendranagar	2nd Phase
4	Pratapnagar	3rd Phase
5	Ghansali	

Source: Author, Data source: Table No: 6.14

Table No. 6.16: Matrix of Tehri Tehsils based on Demographic and Infrastructure Factors

		DEMOGRAPHIC FACTORS →		
		1	2	3
INFRASTRUCTURE FACTORS ↓	SCORE			
	1	TEHRI		NARENDRA NAGAR
	2	DEVPRAYAG		
3		PRATAP NAGAR	GHANSALI	

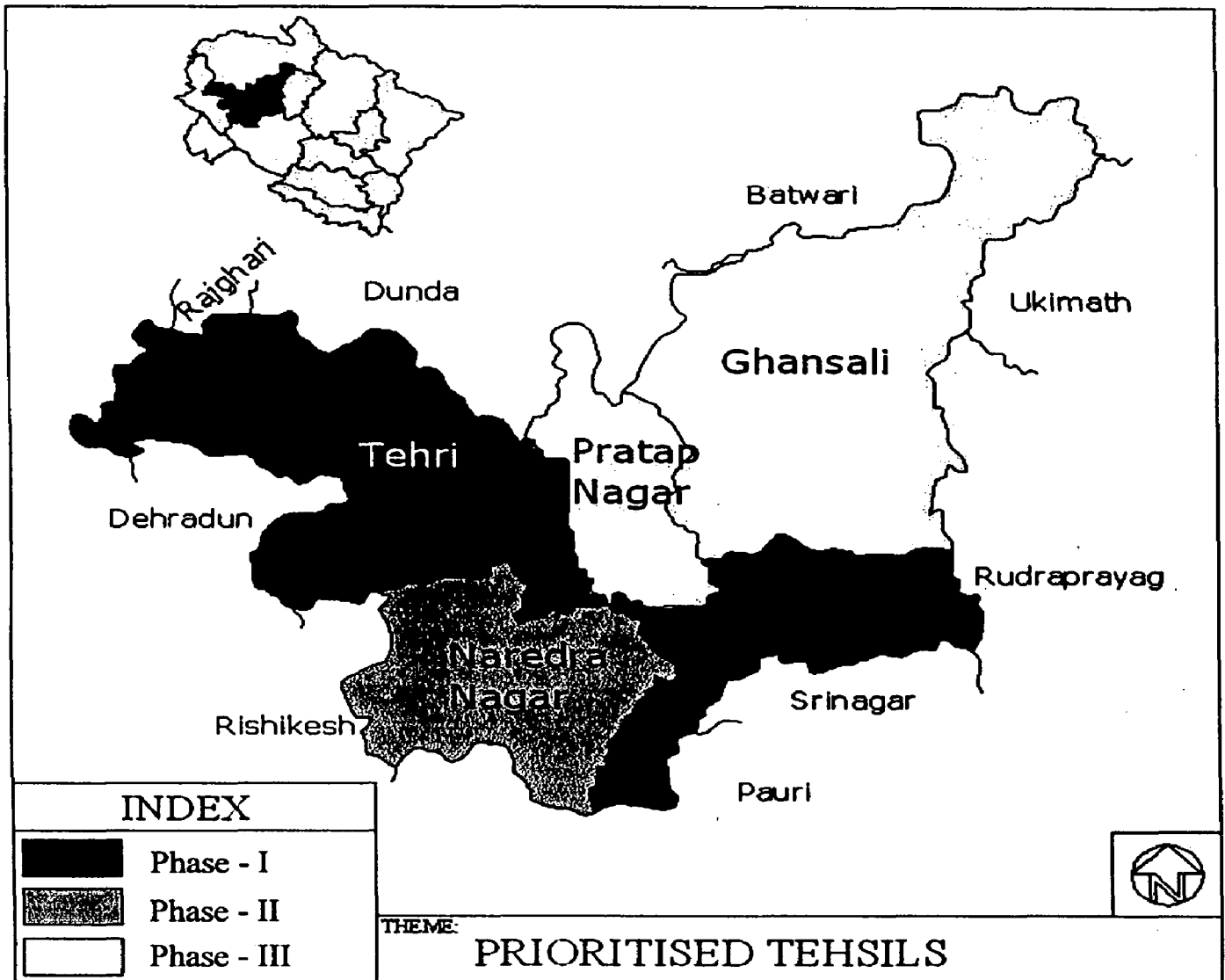


Figure: 6.21

6.3 Prioritisation of the villages within the District:

Prioritisation may be done even further to the villages within a block or tehsil. Local conditions of the village to be kept in mind while prioritizing the villages like population or the customer base, electrification, telecommunications, etc. Due to the non availability of village level infrastructure facilities data, only population is taken as the criteria for the prioritization in Tehri Garhwal District.

Table No. 6.17: Tehsil wise Distribution of Inhabited Villages according to Population in Tehri Garhwal District

	Villages	Ghansali	Devprayag	Pratapnagar	Tehri	Narendranagar	Total
1	<10	3	12	2	9	2	28
2	10 to 25	5	14	7	17	2	45
3	25 to 50	8	35	11	50	8	112
4	50 to 100	17	65	20	96	27	225
5	100 to 150	19	48	20	81	30	198
6	150 to 200	27	49	26	75	28	205
7	200 to 250	15	42	20	70	24	171
8	250 to 300	34	32	20	49	17	152
9	300 to 350	23	21	15	35	23	117
10	350 to 400	26	18	10	36	7	97
11	400 to 450	18	14	11	27	9	79
12	450 to 500	11	8	8	25	3	55
13	500 to 600	26	20	24	39	5	114
14	600 to 700	20	5	13	15	12	65
15	700 to 800	7	8	13	5	5	38
16	800 to 900	7	5	4	7	2	25
17	900 to 1,000	6	4	5	3	2	20
18	1,000 to 1,500	12	6	13	8	3	42
19	1,500 to 2,000	4	0	2	2	1	9
20	2,000 to 3,000	0	0	1	2	1	4
21	3,000 to 4,000	0	0	0	0	0	0
22	4,000 to 5,000	0	0	0	0	0	0
23	>5,000	0	0	0	0	0	0
		288	406	245	651	211	1801

Source: Author, Data source: Primary Census Abstract 2001

Table No. 6.18: Tehsil wise Distribution of Towns according to Population in Tehri Garhwal District			
Tehsil	Town	Local Body	Population
Ghansali	-	-	-
Devprayag	Devprayag	Nagar Palika	2,125
	Kirtinagar	Nagar Palika	1,040
Pratapnagar	-	-	-
Tehri	Tehri	Municipality	25,423
	Chamba	Nagar Palika	6,580
Narendranagar	Dhaluwa	Cant. Town	11,444
	Muni Ki Reti	Nagar Palika	7,880
	Narendranagar	Municipality	5,304
Total	7 towns		59,796

Source: Author, Data source: Primary Census Abstract, 2001

In total there are 1,801 inhabited villages and 7 towns in Tehri district. They are prioritized as per the population in various categories and given in Table No: 6.19.

Table No. 6.19: Tehsil wise Distribution of Prioritised Inhabited Villages and Towns according to Population in Tehri Garhwal District								
TEHSIL	Priority - I		Priority - II			Priority - III		Total Inhabited Villages
	>10000	5000-9999	2000-4999	1000-1999	500-999	200-499	<200	
Ghansali			0	16	66	127	79	288
Devprayag			1	6	42	135	223	408
Pratapnagar			1	15	59	84	86	245
Tehri		2	2	10	69	242	328	653
Narendranagar	1	2	1	4	26	83	97	214
TOTAL	1	4	5	52	262	671	813	1808

Source: Author, Data source: Table No:6.17 and 6.18

Similar method is followed for overall assessment of the villages in the entire state of Uttaranchal and the priorities are given in Table No:6.20.

Table No. 6.20: Distribution of Prioritised Inhabited Villages and Towns according to Population in Uttaranchal								
State	Priority - I		Priority - II			Priority - III		Total No. of
	>10000	5000-	2000-	1000-	500-	200-	<200	
Uttaranchal	13	69	350	752	1,890	4,912	7,775	15,761

Source: www.indiastat.com (Original Source: Ministry of Health and Family Welfare, Govt. of India.)

Chapter - 7

Proposals & Policy Guidelines

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7.1 Objective

The main objective of the proposal is not only to bridge the digital divide but also for effective use of ICT's in local and regional administration of the state to bring transparency, public accountability, ease of transaction, effective delivery of public services and not the least, easy access to information.

7.2 Proposal

For the effective delivery of services at the front end (at citizen level), we need a strong backend mechanism (at departmental level). So the process should start from the backend and slowly move to the front end rather than the other way which usually happens. For this to occur various measures to be taken at different levels, from the state head quarters to grass root village level, from district head quarters to block development level. Various measures are mentioned at four levels below and the service types are given in table No: 7.1

- i. State level
- ii. District level
- iii. Block level
- iv. Village Level

7.21 State level

The process should start from the secretariat itself and finish in a specific time frame, say for example three years.

In the First Year:

- Departmental offices should get computers and other peripherals.
- All the files and data to be transformed into digital format and be able to transfer the files in electronic form within the department.
- They should host a departmental website giving the details like information about the department, list of service offered, welfare schemes, application forms for down loading and contact address of all the concerned authorities, etc.

In the Second Year:

- They should start simple online transactions like filling and submitting an application, etc.
- They should achieve compatibility to exchange the data between the departments in electronic form.
- Grievance redress cell to be created.

In the Third year:

- All the intra and inter departmental transactions to be done seamlessly.
- Online polls and public opinions to be considered in decision making.
- 24 hour help line and data centre to be setup to look after the departmental problems instantly.

7.22 District level

In the First Year:

- District offices should get computers and other peripherals.
- All the files and data to be transformed into digital format and be able to transfer the files in electronic form within the department and should be able to communicate with state head quarters.
- They should host a district website giving the details like information about the district, census tables, list of district level offices, list of welfare schemes and status, application forms for down loading, contact address of all the concerned authorities, information of tourist attractions, etc.

In the Second Year:

- They should start simple online transactions like filling and submitting an application, etc.
- They should achieve compatibility to exchange the data between the departments and with other head quarters in electronic form.
- Grievance redresses officer to be appointed to look after the public problems.

In the Third year:

- All the intra and inter departmental transactions, state, district and block level transactions to be done seamlessly.
- Online polls and public opinions to be considered in decision making

7.23 Block level

In the First Year:

- Block Development office should get computers and other peripherals.
- All the files and data to be transformed into digital format and should be able to communicate with state and district head quarters.
- Conduct Multi Purpose Household Survey (MPHS) of the block.
- They should put the block level census details, list of welfare schemes and status, application forms for down loading, contact address of all the concerned authorities on district portal.

In the Second Year:

- They should put the village level details, MPHS details, list of welfare schemes and status, contact address of all the concerned authorities of the villages on district portal.

In the Third year:

- All the intra and inter departmental transactions, state, district and block level transactions to be done seamlessly.
- Online polls and public opinions to be considered in decision making.

7.24 Village level

In the First Year:

- MPHS enumeration.
- Land Information System (LIS)
- All other village level data collection and data base creation at block level.

In the Second Year:

- Village Panchayat office should get computers and other peripherals.
- Maintenance of Village level Panchayat accounts. Forms for down loading and online submissions. Utility bill payments.

In the Third year:

- All the transaction from village to state level should go seamlessly of all the government departments and private business players.

7.25 Basic online services at various levels:

Table No.7.1: Minimum level of services to be offered at various administrative levels			
By the end of..	Dist level	Block level	Village level
Year – 1	<ul style="list-style-type: none"> ▪ Application for download ▪ Utility bill payments in different departments. 	<ul style="list-style-type: none"> ▪ Application for download. 	No services
Year – 2	<ul style="list-style-type: none"> ▪ All govt./ pvt. Payments at one stop.* ▪ Online applications filling and submitting for all certificates. ▪ All trade licenses ▪ Road, rail & other tickets ▪ Grievance redressal 	<ul style="list-style-type: none"> ▪ Utility bill collections. ▪ Online applications filling and submitting for all certificates. ▪ Land records. ▪ Other block level services 	<ul style="list-style-type: none"> ▪ Utility bill collections ▪ Market rates ▪ Weather reports ▪ Forms for down loading ▪ Exam results. ▪ Pension and other beneficiaries list.
Year – 3	<ul style="list-style-type: none"> ▪ All payments, applications and other transactions should be seamless – from any where, any time, any how. ▪ 24 hour help line / data centre. 	<ul style="list-style-type: none"> ▪ All payments, applications and other transactions should be seamless – from any where, any time, any how. ▪ Grievance redressal 	<ul style="list-style-type: none"> ▪ Land records. ▪ Taxes, permissions, etc ▪ Citizen biometric identity ▪ Village information system ▪ Computer education
...fallowing year		<ul style="list-style-type: none"> ▪ 24 hour help line / data centre. 	<ul style="list-style-type: none"> ▪ All payments, applications and other transactions should be seamless – from any where, any time, any how. ▪ 24 hour help line / data centre – grievance redressal

Source: Author, From findings & guide lines of earlier chapters

*Govt. / Pvt. Payments (all types) like,

Bills – Electricity, Water, Phone, etc

Fees – College, University, Hostel, Exam, Application form, etc

Taxes – Property, Commercial, Trade, Transport, Entertainment, Permissions, etc

Tickets – Rail, Road, Games, Parking, Toll, etc

7.26 Network infrastructure:

There should be a robust network for carrying out such huge transactions seamlessly. State wide area network should build keeping in mind the following bandwidths at,

- State Head quarters : 100 Gbps
- District Head quarters : 10 Gbps
- Block Head quarters : 1 Gbps
- Village level : 100 Mbps

7.26 Mobile Units for unreachable areas:

There are 7,227 Gram Panchayats and 670 Nyaya panchayats in the state and the remaining 7,864 villages (Total villages : 15,761) are to be covered by mobile units for providing village level services. Basically these villages have population 200 members or even below i.e., about 40 to 50 households or even less. These areas may be isolated or on difficult terrain areas, where connectivity becomes difficult. So the unreachable areas and the villages which do not have separate administrative governing bodies are going to be covered with mobile units. These mobile units have VSAT connectivity and computers are run on batteries. They go along the routes covering the villages on both sides. They stop at one place in a day and the adjoining village people come and get the services. It stops at the same place regularly and on particular days of the month, so the villagers get used its arrival and the timings.



Figure No. 7.1

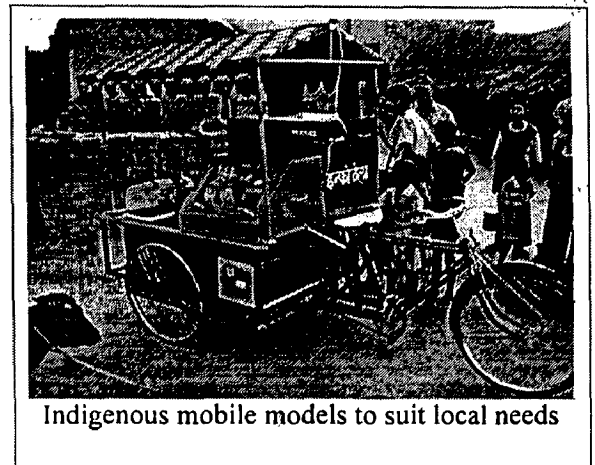


Figure No. 7.2

7.3 Revenue Model for village level Panchayat:

Table No. 7.2: Cost of making ePanchayat at village level

Sl No.	Description	Amount (Rs.)
	Hardware	
1	P-4 system (Compaq - HP make)	30,000
2	Modem, UPS, Printer	8,000
3	Digital Camera	8,000
4	Furniture	4,000
	<i>Sub Total</i>	<i>50,000</i>
	Software	
1	RDBMS & other softwares	10,000
2	Data Entry work	10,000
3	Documentation of village level data	15,000
4	Training for four persons	15,000
	<i>Sub Total</i>	<i>50,000</i>
	Grand Total	1,00,000

Source: Author (After observing models from other states)

Table No. 7.3: Calculations for requirement of Total mobile Units in the state

Total Gram panchayats in uttaranchal	7,227
Total Nyaya Panchayats	670
Total Villages (panchayats + Nyaya panchayats)	7,897
Total inhabitable Villages in uttaranchal (as per 2001 census)	15,761
Villages Covered above (Gram Panchayats + Nyaya Panchayats)	7,897
Remaining Villages	7,864
Remaing villages are to be covered by mobile Units (each mobile unit covers 100 villages) i.e., $7864/100 = 79$ units	79 units

Source: Author

Table No.7.4: Hypothetical budget for implementing eGovernance in Uttaranchal

Sl No.	Type / Level	Nos.	Weightage	Amount (Rs. In lakhs)
1	Gram Panchayat	7,227	1	7,227
2	Nyaya Panchayats	670	2	1,340
3	Block development Offices	95	3	285
4	Tehsils	49	5	245
5	Districts	13	(10 x 5)	650
6	Ministerial Departments	34	(100)	3,400
7	Website creation for each dept.	34	100	3,400
8	Website creation for state	1	100	100
9	Training cell establishment (in dists.)	13	100	1,300
10	Training cell establishment (in capital)	1	500	500
11	Remaining Villages with Mobile units*	79	25	1,975
Total				20,422
Say 25,000 and take a safety factor of 1.5		25,000	1.5	37,500
				Round it off to 40,000
Grand Total (Excluding SWAN)				40,000

Source: Author (Hypothetical model); Source for Administrative units in Uttaranchal : www.ua.nic.in

Table No.7.5: Proposed model at village level:

1	Village Kiosk	PPP model in villages where population is 5,000 or more
		At every village Panchayat where village Population is between 200 and 5,000
		Mobile unit where population is 200 or less.
2	Connectivity	SWAN, ISPN, VSAT
3	Revenue Model	User Charges fixed by the local body / state govt. and Service Charges from respective departments as fixed by the respective departments.
4	Services	All village level Panchayat services & G2C, B2C services. For detailed list see Annexure - IV
Source: Author		

7.4 Policy Guidelines:

- i. The state government should clearly mention and make it mandatory to allocate 3 to 4 % of the individual departmental budget for the delivery of departmental services through electronic means.
- ii. Imposing a time frame and constant monitoring of the achievements.
- iii. Depute an officer in each department to look after the process and he/she must not be transferred or deputed to other works unless the targets are achieved and the mission is complete.
- iv. Offer incentives to develop a healthy competition between the departments, districts, blocks and villages.

For promoting access and inclusion of rural areas

- v. A coherent holistic policy needs to be developed to use ICTs for the inclusion of the remote areas.
- vi. Capacity building of the local population has to be taken into account to ensure that a vast number of people can benefit from the ICTs.
- vii. There is a need to provide affordable ICT resources, and bandwidth to rural areas through community access points such as tele-centers and others.
- viii. Particular attention should be paid to the integration of ICTs to meet the needs of low income rural and urban people.
- ix. One strategy could be to promote awareness of ICT to rural people through broadcasting media and demonstrate the benefits of ICT in exhibitions, schools and other fora.
- x. Encouraging public media to reorient their mission to accommodate educational, scientific and cultural needs of remote areas, especially as they relate to the use of information technologies, would be useful.
- xi. To encourage their use in communities and areas not familiar with technology, the Internet and other new communication technologies should not be presented as a technological gimmick or marvel but as a something that is useful in day-to day life.
- xii. Care has to be taken in developing a content that is relevant to the local needs and demands of the local population. The content should be in a language that is comprehensible to the reader. Words should be simple in keeping with the reading capacity of the reader.

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Annexure-I: World e-Government Readiness Data 2005

	<i>Country</i>	<i>Web Measure Index</i>	<i>Infrastrucure Index</i>	<i>Human Capital Index</i>	<i>E-government readiness Index</i>
1	United States	1.0000	0.7486	0.9700	0.9062
2	Denmark	0.9731	0.7642	0.9800	0.9058
3	Sweden	0.8654	0.8395	0.9900	0.8983
4	United Kingdom	0.9962	0.6471	0.9900	0.8777
5	Republic of Korea	0.9769	0.6713	0.9700	0.8727
6	Australia	0.9038	0.7098	0.9900	0.8679
7	Singapore	0.9962	0.6448	0.9100	0.8503
8	Canada	0.8923	0.6552	0.9800	0.8425
9	Finland	0.8269	0.6524	0.9900	0.8231
10	Norway	0.7962	0.6823	0.9900	0.8228
11	Germany	0.8423	0.6226	0.9500	0.8050
12	Netherlands	0.7346	0.6815	0.9900	0.8021
13	New Zealand	0.8038	0.6021	0.9900	0.7987
14	Japan	0.8154	0.5850	0.9400	0.7801
15	Iceland	0.6077	0.7704	0.9600	0.7794
16	Austria	0.7423	0.5784	0.9600	0.7602
17	Switzerland	0.6038	0.7105	0.9500	0.7548
18	Belgium	0.7115	0.5127	0.9900	0.7381
19	Estonia	0.6962	0.5281	0.9800	0.7347
20	Ireland	0.7115	0.5037	0.9600	0.7251
21	Malta	0.7923	0.4413	0.8700	0.7012
22	Chile	0.9115	0.2773	0.9000	0.6963
23	France	0.6115	0.5060	0.9600	0.6925
24	Israel	0.7308	0.4002	0.9400	0.6903
25	Italy	0.6269	0.4812	0.9300	0.6794
26	Slovenia	0.5923	0.4762	0.9600	0.6762
27	Hungary	0.7038	0.3069	0.9500	0.6536
28	Luxembourg	0.4000	0.6439	0.9100	0.6513
29	Czech Republic	0.5885	0.4102	0.9200	0.6396
30	Portugal	0.4269	0.4283	0.9700	0.6084
31	Mexico	0.8192	0.1491	0.8500	0.6061
32	Latvia	0.4846	0.3805	0.9500	0.6050
33	Brazil	0.7500	0.1644	0.8800	0.5981
34	Argentina	0.6577	0.1737	0.9600	0.5971
35	Greece	0.5115	0.3148	0.9500	0.5921
36	Slovakia	0.5385	0.3176	0.9100	0.5887
37	Cyprus	0.4615	0.4101	0.8900	0.5872
38	Poland	0.5115	0.2901	0.9600	0.5872
39	Spain	0.3923	0.3919	0.9700	0.5847
40	Lithuania	0.5231	0.2528	0.9600	0.5786
41	Philippines	0.7423	0.0840	0.8900	0.5721
42	United Arab Emirates	0.6115	0.3639	0.7400	0.5718

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	Country	Web Measure Index	Infrastrucure Index	Human Capital Index	E-government readiness Index
43	Malaysia	0.5769	0.3048	0.8300	0.5706
44	Romania	0.6423	0.1889	0.8800	0.5704
45	Bulgaria	0.5192	0.2522	0.9100	0.5605
46	Thailand	0.6654	0.1299	0.8600	0.5518
47	Croatia	0.4423	0.3018	0.9000	0.5480
48	Ukraine	0.5808	0.1161	0.9400	0.5456
49	Uruguay	0.4500	0.2261	0.9400	0.5387
50	Russian Federation	0.4538	0.1947	0.9500	0.5329
51	Belarus	0.4885	0.1571	0.9500	0.5318
52	Mauritius	0.6288	0.1762	0.7900	0.5317
53	Bahrain	0.4192	0.3152	0.8500	0.5282
54	Colombia	0.6154	0.1110	0.8400	0.5221
55	Venezuela	0.5769	0.1113	0.8600	0.5161
56	Peru	0.5577	0.1091	0.8600	0.5089
57	China	0.5692	0.1241	0.8300	0.5078
58	South Africa	0.5692	0.1234	0.8300	0.5075
59	Jamaica	0.4885	0.2008	0.8300	0.5064
60	Turkey	0.5231	0.1648	0.8000	0.4960
61	Barbados	0.2154	0.3107	0.9500	0.4920
62	Qatar	0.3269	0.3116	0.8300	0.4895
63	Seychelles	0.3308	0.2343	0.9000	0.4884
64	Panama	0.4885	0.0980	0.8600	0.4822
65	Kazakhstan	0.4500	0.0638	0.9300	0.4813
66	Trinidad and Tobago	0.3635	0.1969	0.8700	0.4768
67	Bahamas	0.2923	0.2304	0.8800	0.4676
68	Jordan	0.4346	0.0971	0.8600	0.4639
69	TFYR Macedonia	0.3962	0.1237	0.8700	0.4633
70	Costa Rica	0.2538	0.2596	0.8700	0.4612
71	Lebanon	0.3423	0.1857	0.8400	0.4560
72	Saint Kitts and Nevis	0.1115	0.2562	0.9800	0.4492
73	Brunei Darussalam	0.2462	0.2264	0.8700	0.4475
74	Saint Lucia	0.2865	0.1737	0.8800	0.4467
75	Kuwait	0.2500	0.2694	0.8100	0.4431
76	Kyrgyzstan	0.3654	0.0398	0.9200	0.4417
77	Maldives	0.3115	0.0748	0.9100	0.4321
78	El Salvador	0.4269	0.0906	0.7500	0.4225
79	Uzbekistan	0.2731	0.0510	0.9100	0.4114
80	Saudi Arabia	0.3769	0.1445	0.7100	0.4105
81	Fiji	0.2808	0.0836	0.8600	0.4081
82	Dominican Republic	0.3115	0.0912	0.8200	0.4076
83	Georgia	0.2115	0.1086	0.8900	0.4034
84	Bosnia and Herzegovina	0.2731	0.0926	0.8400	0.4019
85	Bolivia	0.2885	0.0568	0.8600	0.4017
86	Antigua and Barbuda	0.1577	0.2454	0.8000	0.4010
87	India	0.5827	0.0277	0.5900	0.4001
88	Saint Vincent and the Grenadines	0.2538	0.1763	0.7700	0.4001
89	Guyana	0.1846	0.1209	0.8900	0.3985

	<i>Country</i>	<i>Web Measure Index</i>	<i>Infrastructure Index</i>	<i>Human Capital Index</i>	<i>E-governmen readiness Index</i>
90	Botswana	0.3692	0.0640	0.7600	0.3978
91	Samoa	0.2654	0.0377	0.8900	0.3977
92	Ecuador	0.2500	0.0899	0.8500	0.3966
93	Mongolia	0.2308	0.0679	0.8900	0.3962
94	Sri Lanka	0.3192	0.0359	0.8300	0.3950
95	Grenada	0.0885	0.2254	0.8500	0.3879
96	Indonesia	0.2962	0.0494	0.8000	0.3819
97	Belize	0.2538	0.1407	0.7500	0.3815
98	Iran (Islamic Republic of)	0.2962	0.1079	0.7400	0.3813
99	Egypt	0.4462	0.0717	0.6200	0.3793
100	Guatemala	0.4346	0.0484	0.6500	0.3777
101	Azerbaijan	0.1808	0.0712	0.8800	0.3773
102	Albania	0.1615	0.0680	0.8900	0.3732
103	Cuba	0.1500	0.0499	0.9100	0.3700
104	Tonga	0.1269	0.0472	0.9300	0.3680
105	Viet Nam	0.2231	0.0489	0.8200	0.3640
106	Armenia	0.1115	0.0759	0.9000	0.3625
107	Paraguay	0.1654	0.0706	0.8500	0.3620
108	Swaziland	0.2923	0.0456	0.7400	0.3593
109	Republic of Moldova	0.0538	0.1138	0.8700	0.3459
110	Suriname	0.0500	0.1148	0.8700	0.3449
111	Namibia	0.1654	0.0678	0.7900	0.3411
112	Oman	0.1731	0.1385	0.7100	0.3405
113	Nicaragua	0.2500	0.0348	0.7300	0.3383
114	Lesotho	0.2385	0.0135	0.7600	0.3373
115	Honduras	0.2231	0.0412	0.7400	0.3348
116	Cape Verde	0.1731	0.0808	0.7500	0.3346
117	Tajikistan	0.0615	0.0422	0.9000	0.3346
118	Iraq	0.0538	0.0164	0.9300	0.3334
119	Dominica	0.0692	0.1709	0.7600	0.3334
120	Zimbabwe	0.1654	0.0395	0.7900	0.3316
121	Tunisia	0.1538	0.0993	0.7400	0.3310
122	Kenya	0.2308	0.0187	0.7400	0.3298
123	Algeria	0.2462	0.0365	0.6900	0.3242
124	San Marino	0.2846	0.6482	0.0000	0.3110
125	Uganda	0.2154	0.0090	0.7000	0.3081
126	Nepal	0.4000	0.0063	0.5000	0.3021
127	United Republic of Tanzania	0.2750	0.0110	0.6200	0.3020
128	Cambodia	0.2308	0.0060	0.6600	0.2989
129	Myanmar	0.1538	0.0040	0.7300	0.2959
130	Bhutan	0.3846	0.0175	0.4800	0.2941
131	Gabon	0.0923	0.0662	0.7200	0.2928
132	Syrian Arab Republic	0.0654	0.0458	0.7500	0.2871
133	Ghana	0.1885	0.0214	0.6500	0.2866
134	Congo	0.1346	0.0119	0.7100	0.2855
135	Sao Tome and Principe	0.0115	0.0797	0.7600	0.2837
136	Pakistan	0.4269	0.0238	0.4000	0.2836

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	Country	Web Measure Index	Infrastrucure Index	Human Capital Index	E-government readiness Index
137	Malawi	0.1731	0.0053	0.6600	0.2794
138	Morocco	0.2385	0.0637	0.5300	0.2774
139	Nigeria	0.2231	0.0143	0.5900	0.2758
140	Solomon Islands	0.1000	0.0206	0.6800	0.2669
141	Madagascar	0.1846	0.0075	0.6000	0.2641
142	Papua New Guinea	0.1615	0.0302	0.5700	0.2539
143	Rwanda	0.1154	0.0035	0.6400	0.2530
144	Timor-Leste	0.1135	0.0000	0.6400	0.2512
145	Cameroon	0.0962	0.0139	0.6400	0.2500
146	Mozambique	0.2788	0.0057	0.4500	0.2448
147	Lao People's Democratic Republic	0.0788	0.0074	0.6400	0.2421
148	Monaco	0.2192	0.5021	0.0000	0.2404
149	Djibouti	0.1731	0.0211	0.5200	0.2381
150	Sudan	0.1615	0.0293	0.5200	0.2370
151	Benin	0.2385	0.0142	0.4400	0.2309
152	Togo	0.0308	0.0313	0.6200	0.2274
153	Senegal	0.2538	0.0275	0.3900	0.2238
154	Yemen	0.0962	0.0413	0.5000	0.2125
155	Comoros	0.0538	0.0082	0.5300	0.1974
156	Serbia and Montenegro	0.4462	0.1417	0.0000	0.1960
157	Eritrea	0.0577	0.0069	0.4900	0.1849
158	Angola	0.1654	0.0066	0.3800	0.1840
159	Andorra	0.2519	0.2990	0.0000	0.1836
160	Côte d'Ivoire	0.0538	0.0223	0.4700	0.1820
161	Liechtenstein	0.1731	0.3637	0.0000	0.1789
162	Bangladesh	0.0731	0.0055	0.4500	0.1762
163	Gambia	0.0962	0.0248	0.4000	0.1736
164	Mauritania	0.0692	0.0278	0.4200	0.1723
165	Vanuatu	0.0500	0.0293	0.4200	0.1664
166	Burundi	0.0385	0.0043	0.4500	0.1643
167	Sierra Leone	0.0962	0.0056	0.3900	0.1639
168	Afghanistan	0.1769	0.0020	0.2680	0.1490
169	Chad	0.0077	0.0023	0.4200	0.1433
170	Guinea	0.0385	0.0102	0.3700	0.1396
171	Ethiopia	0.0154	0.0027	0.3900	0.1360
172	Burkina Faso	0.2327	0.0060	0.1600	0.1329
173	Mali	0.0615	0.0060	0.2100	0.0925
174	Niger	0.0115	0.0069	0.1800	0.0661
175	Palau	0.1692	0.0000	0.0000	0.0564
176	Micronesia	0.1077	0.0519	0.0000	0.0532
177	Marshall Islands	0.0904	0.0416	0.0000	0.0440
178	Tuvalu	0.0269	0.0841	0.0000	0.0370
179	Nauru	0.0577	0.0495	0.0000	0.0357
	Countries with no web presence in 2005				
180	Central African Republic	0.0000	0.0028	0.4300	0.1443
181	Democratic People's Republic of Korea	0.0000	0.0057	0.0000	0.0019

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182	Democratic Republic of the Congo	0.0000	0.0021	0.5100	0.1707
183	Equatorial Guinea	0.0000	0.0254	0.7600	0.2618
184	Guinea-Bissau	0.0000	0.0107	0.3900	0.1336
185	Haiti	0.0000	0.0157	0.5200	0.1786
186	Kiribati	0.0000	0.0253	0.0000	0.0084
187	Liberia	0.0000	0.0032	0.0000	0.0011
188	Libyan Arab Jamahiriya	0.0000	0.0573	0.8700	0.3091
189	Somalia	0.0000	0.0073	0.0000	0.0024
190	Turkmenistan	0.0000	0.0375	0.9300	0.3225
191	Zambia	0.0000	0.0230	0.6800	0.2343
Source: United Nations, Department of Economic and Social Welfare, "UN Global E-Government Readiness Report - 2005"					

Annexure-II: National eGovernance Plan Mission Mode Projects

Sl.	Mission Mode Projects	Ministries/ Departments responsible
Central Government		
1	Income Tax	Ministry of Finance/Central Board of Direct Tax
2	Passport Visa & Immigration Project	Ministry of External Affairs/Ministry of Home Affairs
3	DCA21	Department of Company Affairs
4	Insurance	Deptt. Of Banking
5	National Citizen Database	Ministry of Home Affairs/Registrar General of India (RGI)
6	Central Excise	Department of Revenue/Central Board of Excise & Custom
7	Pensions	Deptt. Of Pensions & Pensioners welfare & Deptt. Of Expenditure
8	Banking	Deptt. of Banking
State Government (tentative, to be finalized in consultation with the States)		
1	Land Records	Ministry of Rural Development
2	Road Transport	Ministry of Road Transport & Highway
3	Property Registration	Department of Land Resources
4	Agriculture	Department of Agriculture & Cooperation
5	Treasuries	Ministry of Finance
6	Municipalities	Ministry of Urban Development and Poverty Alleviation
7	Gram Panchayats	Ministry of Panchayati Raj
8	Commercial Taxes	Ministry of Finance
9	Police (UTs initially)	Ministry of Home affairs
10	Employment Exchange	Ministry of Labour
Integrated Services		
1	EDI (E-Commerce)	Ministry of Commerce and Industry
2	E-Biz	Department of Industrial Policy & Promotion / Department of Information Technology
3	Common Service Centres	Department of Information Technology
4	India Portal	Department of Information Technology and Department of Administrative Reforms and Public Grievances
5	EG Gateway	Department of Information Technology
6	E-Courts	Ministry of Justice/ Ministry of Home Affairs
7	E-Procurement	Ministry of Commerce and Supply
Source: www.india.gov.in		

Annexure-III: Services at eSeva Centre, Hyderabad

SNo	Department	Service
	G2C Services (128)	
1	APCPDCL (1)	Payment of electricity bills
2	HMWS&SB (2)	Payment of Water bill Reservation of Water Tanker
3	Municipal Services (17)	Payment of Property Tax of MCH Payment of Property Tax of LB Nagar Payment of Property Tax of Qutbullapur Payment of Property Tax Gaddiannaram Payment of Property Tax Kukatpally Payment of Property Tax Uppal Payment of Property Tax Kapra Payment of Property Tax Malkajgiri Registration of Birth Certificates Issue of Birth Certificates Additional Copies Registration of Death Certificates Issue of Death Certificates Renewal of Trade Licenses Registration of New Trade Licenses Issue of Prepaid Parking Tickets Payment of Property Tax of commercial establishments
4	BSNL (2)	Payment of telephone bills Sale of ITC Cards
5	APSRTC (1)	Reservation of APSRTC Tickets
6	RPO (2)	Sale of Passport applications Filing of Passport applications
7	CTD (5)	Filing of A1/A2/AA9 Returns of APGST Filing of C6 Returns of APCST Payment of RD Cess Payment of Entertainment Tax Maha Bill
8	R&S (1)	Sale of Non-Judicial Stamps
9	RTA (2)	Payment of vehicle tax for non-transport vehicles Payment of quarterly tax for transport vehicles
10	Income Tax (1)	Filing of IT Returns
11	Education (17)	Payment of Examination fee of Board of Intermediate Colleges Sale of EAMCET applications Results of Intermediate Final Examinations Results of Intermediate First Year Examinations Sale of ICET application Sale of ECET application Filing of ICET application Sale of LAW CET application Filing of LAW CET application Sale of DIETCET application Sale of applications for eligibility test for Ambedkar Open University Issue of duplicate hall tickets for SSC Issue of duplicate Marks Memos for SSC

Annexure

		Sale of applications for courses in Nagarjuna University
		Filing of applications for courses in Nagarjuna University
		Collection of application fee for courses in Nagarjuna University
		Sale of applications forms for CDEOU
12	APPSC (3)	Sale of applications for APPSC Information
		Results of Group II Recruitment
		Issue of duplicate hall tickets for Group I examination
13	Police (68)	Payment of Inquest/Panchanama fees
		Payment for First Information Report
		Payment for Inquest/Panchanama fees
		Payment for Post Mortem Report
		Payment for charge sheet
		Payment for Missing of Passport
		Payment for Missing of Cell Phone
		Payment for Missing of Certificate/Documents
		Payment for Barath Pcession
		Charges for shifting vehicle from A.P.to other states
		Payment for Police Clearance Certificate
		Payment for Cycle Stand (Vehicle Parking)
		Payment for Missing of Registration Certificate/Driving Licence etc.,
		Visa Fee: Upto 1 Year
		Visa Fee: Upto 3 Years
		Penal Fee
		Visa Fee: Upto 5 Years
		Charges for Inspector/Reserve Inspector (Day)
		Charges for Heand Constable (Day)
		Charges for Police Constable (Day)
		Charges for Police Constable (Night)
		Charges for Head Constable (Night)
		Charges for Sub Inspector/Reserve Sub Inspector (Night)
		Charges for Inspector/Reserve Inspector (Night)
		Charges for Sub Inspector/Reserve Sub Inspector (Day)
		Charges for Category 1 (Initial Fee)
		Charges for Category 3 (Ordinary) (Initial Fee)
		Charges for Restaurants (Initial Fee)
		Charges for Tea Stalls (Initial fee)
		Charges for Restaurants (Renewal Fee)
		Charges for Category 3 (Ordinary) (Renewal Fee)
		Charges for Category 2 (3 Star) (Renewal Fee)
		Charges for Category 1 (5 Star) (Renewal Fee)
		Charges for Category 2 (3 Star) (Initial Fee)
		Charges for One Band Type Loud Speaker (Per Day)
		Charges for Cultural Programmes (Per Day)
		Charges for Off Course betting center (Renewals)
		Charges for Off Course betting center (License Fee)
		Charges for Hyderabad Race Club (Per Day)
		Charges for Hyderabad Race Club (Application Form)
		Charges for Permission for Film Shooting/T.V. Shooting
		Charges for Permission for Show/Benefits Shows
		Charges for Cultural Programmes (Application Form)
		Charges for Band Music and Dance in Hotels/Restaurants etc., (Per Annum)
		Charges for Band Music and Dance in Hotels/Restaurants etc., (Per

		Annum) (Renewal)
		Charges for Exhibition, Cultural Programmes, Fashion Show, Personality Contest (Application Form)
		Charges for Exhibition, Cultural Programmes, Fashion Show, Personality Contest (Per Day)
		Charges for Blasting Permission (15 Days)
		Charges for Blasting Permission (30 Days)
		Charges for M.L.Gun(Meizzle Loading Gun) (Renewal Fee)
		Charges for M.L.Gun(Meizzle Loading Gun) (Initial Fee)
		Charges for B.L. Guns (Meizzle Loading Gun) (Renewal Fee)
		Charges for B.L. Guns (Initial Fee)
		Charges for B.L. Guns (Renewal Fee)
		Charges for 22 Rifle (Renewal Fee)
		Charges for 22 Rifle (Initial Fee)
		Charges for Revolver, Pistol Rifle (Renewal Fee)
		Charges for Form XI : License to Repair, Test Sell or Transfer (Initial Fee)
		Charges for FormXVI : Import Licence (For More than one weapon & Ammunition)
		Charges for Form XX : Transport License (For More than one weapon & of Ammunition)
		Charges for Form XX: Transport License (single weapon)
		Charges for Form XVI:Import License (single weapon)
		Charges for Form XII : Licence to sell transfer or test (Initial Fee)
		Charges for Form XII : Licence to sell transfer or test (Renewal Fee)
		Charges for Form XIII : License to sell transfer or test and keep for sale, transfer or test (Renewal Fee)
		Charges for Form XIII : License to sell transfer or test and keep for sale, transfer or test (Initial Fee)
		Charges for Form XI : License to Repair, Test Sell or Transfer Renewal Fee)
14	SAAP (1)	Sale of Tickets for Games/Events
15	HUDA (1)	Sale of HUDA Plan Books
16	Labour Department-3	Renewal of Trade Licenses
		Registration of new Trade Licences
		Change of numbers
B2C Services (23)		
1	Tata Teleservices Ltd.(1)	Payment of TTL Telephone bills
2	Reliance (2)	Filing of applications for Reliance CDMA Mobile Phones
		Payment of Reliance telephone bills
3	Airtel (3)	Sale of Magic Cards
		Sale of new kits of Airtel Mobile Phones
		Payment of Airtel bills
		Sale of Magic Cards
4	Western Union Money Transfer (1)	Transfer of money using Western Union Company
5	Appolo Services (5)	Sale of Health Checks
		Wellnes Rx Health Scans
		Tele Medicine
		Super specialty / Normal Consultants
		Sale of DOST cards
6	Pioneer Online (2)	Sale of Phone Cards
		Sale of dialup cards
7	Movie Tickets(1)	Sale of Movie tickets
8	Idea (3)	Sale of New Chit-Chat cards
		Recharging chit-chat cards

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		Payment of bills
9	Indiatimes (1)	Sale of Cricket 'T' - shirts
10	First Flight Courier Ltd (1)	Booking of Courier / Sending Emotional cards
11	Bharat Matrimonial (1)	Matrimonial Registrations
12	Tsunami (1)	Sale of Tickets for Tsunami Musical Concerts
SERVICES IN THE PIPE LINE (8)		
	G2C Services (6):	
1	Railways (1)	Reservation of Railway Tickets
2	TTD (2)	Reservation of Darshanam Tickets
		Booking Accommodation
3	Agriculture (1)	Payment of Tax
4	Education (2)	Payment of Examination fee Osmania University
		Payment of Examination fee Ambedkar Open University
5	LIC	Payment of premium
	B2C Services (2):	
6	Indian Airlines (1)	Reservation of Tickets of Indian Airlines
7	Hutch (1)	Bill payments of telephones
Source: www.e sevaonline.com		

Annexure-IV: Services at ePanchayat, Andhra Pradesh

SI	Services
1	Bio-metric attendance Monitoring
2	Below Poverty Line - Enumeration
3	Village Level Planning
4	Meetings Management
5	Self Help Groups related information management
6	Monitoring Attendance in GP Meetings
7	Managing Information related to the Meetings at Mandal/ District Officials
8	Managing Information related to the assignments of the Superior Officers related to the Village.
9	Managing the information related to the GP Property.
10	Managing Information related to the Weaker section Housing Program
11	Encroachments related information Maintenance.
12	Managing Information related to the Atrocities against Women & Children (if any)
13	Gram Panchayat Registers Computerisation
14	Communicable Diseases related information management.
15	Tax demands, receipts generation, revenue accounting.
16	Anti Malarial Spraying related information management.
17	Crops related information management.
18	Anganwadies, Balwadies related information management.
19	Generation of Certificates for citizens.
20	Tree Plantation & Protection related information management.
21	Maintain Sanitation related information.
22	Maintaining information related to the atrocities against SC, ST (if any)
23	Planning & Implementation related information management.
24	VTDA related information maintenance.
25	Relief & Rehabilitation related information management.
26	Untouchability Eradication Programmes related information maintenance.
27	Assistance to AP TRANSCO related information maintenance.
28	Enrolment related information management.
29	Minimum Wages Act violation related information maintenance.
30	Maintaining information for organizing Literacy Classes
31	Birth - Death Registration related information management.
32	Crop Coverage Information management.
33	Marriage Registration information management.
34	Extension Information management for dissemination.
35	Grama Sabha - Beneficiaries Information management.
36	Managing land Information for Azmoish of Crops
37	Property Details information maintenance.
38	Maintenance of Agriculture Statistics
39	Managing Information for Serving Legal Notices (as and when required)
40	Maintaining information to ensure upkeep of Display boards & Assets
41	Managing information related to village level events to Inform Public.
42	Maintaining information related to Black Marketing of Inputs for reporting.
43	Managing information to assist in Loan Recovery.
44	Maintaining Weavers Information for reporting.
45	Maintaining information related to Panchanamas conducted.

Annexure

46	Managing information for generating and issuing Dependency Certificate to Weavers
47	Managing information to ensure safety of Govt Attached Property.
48	Managing information to ensure better Co-ordination among various Agencies operating in the village.
49	Managing information for performing Election Duties
50	Managing information related to Govt. Programs for public participation.
51	Maintaining information to inform Police about unlawful incidents.
52	Managing the information related to village Teachers for better liaisoning.
53	Managing Information to Organize Meetings for Community work
54	System to Report Accidents immediately to higherups.
55	System to ensure Co-ordination among all Departments right from hamlet level to the state level.
56	Manage Information related to the Old age Pension Scheme.
57	Maintanance of information to ensure Clean and Green
58	System to report Epidemics Out break in time.
59	System to provide Marketing Services
60	Managing information related to the Community Welfare & Development

Annexure-V: Services Offered at RAJiv Village Centre

Sl.No	Service Module	Service Offered
1	Public Grievances	Online filling and redressal of grievances, Representations, complaints Accessing replies and other communication Received
2	Market Information land	Market value assessment, issue of extracts of basic/market values, enables calculation of stamp duty, registration fee Land Classification Issue of encumbrance certificates Issue copies of registered documents Enquiries on survey numbers Applications for mutations, transfers, issue of pass books and title deeds, subdivision of survey numbers Collection of taxes and cess Applying for pattas for govt. lands, issue of copies of pahani/adangal Applying for FMB Applications for Govt notices/offer for sale, Lease, and other schemes from time to time. Prohibited properties information
3	Application and Issue of Certificates & Registration	Registration of birth and death Issue of certificates of birth and death Issue of caste certificates Issue of residence certificates Issue of income certificate for social Educational, medical and other Benefits Application for issue of driving Licenses, renewal Payment of road tax, vehicle tax Registration of SSI units, village Industries, cottage industries
4	Social, economic and other Rural, agricultural services	Applications for Social schemes like NOAP, NMBS, NFBS Apathbandhu, Loans, grants and assistance under Various state or central schemes Applications for special schemes like CMEY, PMRY, RGAY, etc. from Time to time Applications for schemes from time To time
5	Educational Services	Application for schools and colleges admissions Notification and sale of Application forms for EAMCET, LAWCET, EDCET, ICET, APPSC, UPSC, BANKS, ARMED FORCE, CAT, GATE, and all other competitive Exams Application for educational loans and other govt. schemes Information on adult educational Programs
6	Messaging & Information	Email, telegrams, voice and web chat, e-notices, opinion polls, surveys Voice mail, video mail, SMS, MMS, file transer Video conferencing broadcast, multicast, one-to-one Net Meeting for Interviews, selection Matrimonials-information and matching
7	Police and Security services	Payment of fees notification Payment of charges for police Services Payment of charges for events Payment of fees for Visa renewal, penalties

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8	Financial Services	Applying for financial assistance from Banks, govt, subsidies grants, and aid
		Applying for insurance – all kinds
		Information on investments, schemes
		Information on loans and credit facilities
		Application for disaster relief, accidents and natural calamities
9	Utilities	Applying for new power & water connection
		Payment of power bills, water bills
		Applying for new telephone
		Payment of bills for telephone
10	Healthcare	Telemedicine
		Awareness programs (AIDS, Cancer, birth control, pregnancy and women And child health workers and citizen
		Online consultations, referral
		Donation of organs (eye, kidney, Liver etc.)
		Announcement of epidemics and Seasonal diseases
		Purchase /ordering of medicines
		Information on medical camps
		Creation and management of Healthcare database of individuals And livestock
11	Leisure, sports, pilgrimage And travel	Information on events
		Applying for reservations, tickets, special services
		Tour planning, travel guide, hotel Reservations
		Issue and renewal of bus passes, Season tickets, ticket dispensing
		Information on routes, fares, Availability
		Astrological predictions
12	Consumer	Information and booking of consumer appliance, household goods, vehicles, cosmetics and other comfort or luxury goods
		Computerised/Digital Photo Studio Services (Photoshop), issue of photo ID cards
		Auction and sale of any kind of Consumer item
		Online and offline advertisements-on. The portal and at the kiosk
		Village notice board

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