



# eGranthalaya: Moving Towards Rural Digital Library for Sustainable Livelihoods

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# Focus : People Felt Needs



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- Reaching the Unreached : Public Services
  - From Digital Divide to Digital Opportunities for sustainable development and economic growth.
  - Fostering agricultural growth, poverty reduction and sustainable resources use.
  - Water, Energy, Education, Health, Agriculture & Rural Development, Biodiversity : Sustainable Development & Earth Care Policies
  - "Sustainable Societies in Viable Rural Space" : A Cluster of Villages is a viable rural space
  - Globalisation, Liberalisation and Privatisation



## Viable Society in a Rural Space: An Epitome for Rural Livelihoods

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- Rural Connectivity is the lifeline of Indian economy.
- There have been concerns about persistent rural poverty, unemployment and inequality, and resulting social tensions at grassroots level in India.
- At the beginning of the new millennium, 260 million people in the country did not have incomes to access a consumption basket, which defines the poverty line.
- Poverty Alleviation, Livelihood Opportunities and Gainful Employment are closely linked.
- The growing populations need food, clothing, shelter, fuel and fodder for their livestock.
- Sustainable livelihood is a multi-faceted concept.



# People Needs : The way forward - "Information Systems as an Investment and not Expenditure"

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- 'Local government is about meeting people's needs,'
- Sustainable development and Sustainable Lifestyles.
- Change social problems → opportunities.
- Libraries : the life-force for learning
- Convert people needs → 21st century services.
- Bringing ICT closer to people needs. (i.e. the new wave of ICT, the related infrastructures and applications and services, will address today's key societal challenges.)
- ICT Diffusion and Fusion of Technologies for economic growth and sustainable development.
- Making every citizen and business benefit from ICT.



# People Needs : The way forward - ICT for Communities

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Community Telecenters, leveraging this basic connectivity to the local community, often provide much broader range of social and economic services to the community:

- computer literacy training,
- distance learning to train teachers and health workers,
- distance health care information,
  - e-government services,
- e-commerce link to global markets,
- market price information for farmers,
- small and micro-enterprise support, and
- participation in the political process, to name a few.

These services provide a foundation for the empowerment of rural citizens as well as economic opportunities.



# IT in Public Services: e-Governance & Convergence of core technologies

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- e-Government (e-Service, e-democracy and e-Governance)
    - Government to Government (G2G)
    - Government to Business (G2B)
    - Government to Citizen (G2C)
    - Government to Employees (G2E)
  - Development of appropriate models for each location and each segment of society



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- There are about 6.25 lakhs Villages and about 2.3 Panchayat Raj Institutions (Grassroots level governance institutions) in India;
  - Village problems are inter-related and the resources (natural and human) are integrated.
  - People are both the "end" and "means" of development and also bound by a common space, history, culture and know-how.
  - Indian villages are still complex, intertwined and multi faceted.
  - H.E. Dr. Abdul Kalam, President of The Republic of India visualizes establishment of Village Knowledge centres (VKCs), and also a "Village Information officer" to reap the benefits of e-governance, tele-education, tele-medicine, e-commerce and e-judiciary initiatives



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- Rural India desires to take advantage of "knowledge-intensive" techniques for its sustainable development and sustainable consumption.
  - Grassroots level Information access (Contents) and Grassroots level access to Information (Networking) are the two essential components for grassroots level development strategies through ICT.
  - Community Information and Communication Centres (CICC), as a concept and model, aim to "boost efficiency and enhance market" integration through Internet/ Intranet technologies for sustainable remote/regional development at grassroots level.
  - In India, NICNET based "Community Information Centres (CIC)" in grassroots level in the North Eastern States (Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura), Sikkim, Jammu & Kashmir & Lakshadweep.





## Digital development at Grassroots: A Journey started in 1985 with the establishment of NICNET in districts of India

- Digital development at Grassroots: A Journey started in 1985 with the establishment of NICNET in districts of India
- With the establishment of NICNET in districts numbering about 439 in 1985-87, National Informatics Centre (NIC) has launched its "district information system (DISNIC)" in about 27 sectors viz., agriculture, animal husbandry, education, health, industries, rural development, micro-level planning, etc., as an informatics tool for development planning and responsive administration.
- In the era of e-Governance at grassroots, the relevance of the DISNIC Programme has been felt necessary even now, and hence the Planning Commission has desired to re-establish the DISNIC-PLAN Project, with institutional linkages of grassroots level organizations, to provide continuous support to development agencies in districts, during 2004-07.

Visit <http://www.disnic.nic.in> dataset



# DISNIC-PLAN New Initiative

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- The DISNIC-PLAN new initiative will support building up databases (spatial and non-spatial), decision support systems, and communication systems to facilitate:
    - Sustainability of resources,
    - Poverty alleviation,
    - Empowerment of women,
    - Full employment,
    - Production systems planning,
    - Infrastructure planning, and
    - Habitat planning.
- Production potentials of village through "circular-flows" and "chain-effect" should be understood.



# DISNIC-PLAN New Initiative: Informatics Blueprint for a Village

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- Village Identification and Location
- General Characteristics
- Public Utilities
- Meteorology
- Geology
- Soil conditions
- Environmental Problems
- Bio-Resources & Forestry
- Household Details
- Agriculture and its constraints
- Livestock and Animal Husbandry
- Fisheries
- Industries
- Irrigation Potentials
- Agricultural Machinery & Implements
- Transport & Communication
- Power & Energy
- Agricultural & Rural Marketing
- Financial Institutions
- Education facilities
- Health & Family Welfare
- Public Distribution System
- Drinking Water Supply System & Sanitation features
- Cooperatives
- Water Resources
- Development Schemes



## Warana Wired Village Experiment in 1990s: True reflection of A Public-Private- Participatory (PPP) Model of NIC and Warana Nagar Cooperative Society in the State of Maharashtra

- Information kiosks in 70 villages to enable villagers to access agricultural, medical and educational information through the Internet.
- About 20 farmers visit each kiosk daily to access information on crop cultivation practices and schedules, quantities harvested and sold net income due to them, pest and disease control, and marketing, among other topics.
- All information provided in the local language (i.e. in Marati).
- Farmers consider the Internet a better source of information than traditional sources such as traders, field officers, television, radio and the print media.
- By providing neutral information, this ICT service also minimizes cheating by unscrupulous traders quoting the prices of farm products.
- Community-based Telecentres offer a way of providing affordable access to ICT services in rural areas.



# Facets of a Citizen : A Differential Study

- A "Citizen" is defined as a member of a country, state, and a district etc. "Citizen" play the role of a "common public", "children", "woman", "mother", "farmer", "employee", "dealer", "trader", "business man", "industrialist", "vendors", "voter", "fisherman", "entrepreneurs", "unemployed", "youth", "sportsman", 'NGO', "senior citizen", "widow", "destitute", "teacher", "poor", "socially backward", "tribal", "driver", "income tax payer", "permit holder", "builder", "exporter", "importer", "manufacturer", "tenant", "freedom fighter", "ex-service man", "orphan", "pensioner", "handicapped", "land owner", "property owner", "employer", "consumer", "travel agent", "passport holder", "Non Resident Indian", "BPL Family", "doctor", "lawyer", etc.
- Both the central government and state governments implement various development schemes with special reference to **target groups** and also **location specific**.



# " ICT Applications and Good Governance"

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- A study was undertaken by (Moni, 2002)[\[1\]](#) to find out what type of services, as given below, to citizen is appropriate for ICT applications in governments so as to facilitate good governance at grassroots level.

[\[1\]](#) Moni, M. (2002) : "Digital Opportunities for Responsive Administration in India: Electronic Administration of Services to Citizens", an Internal Note sent to e-Governance Division of Department of Information Technology, 2002.



## Community Information & Communication Centre (CICC) / e-Community Centres: Sustainability Issues

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- A Community is defined as "people or a group of people living in a particular local area with day-to-day problem solving and with participation in the democratic process".
  - Information sources of relevance to them will relate to any topics that affect/impact the life of the community.
  - John Rose (2005)<sup>[1]</sup> defines Community Information & Communication Centre (CICC) as "a shared community facility, capable of servicing most of the information and the ICT (information and communication technology) requirements of the local population."

<sup>[1]</sup> John B. Rose (2005): "Community Telecentres: Assessing their impact and viability", delivered as the Corzonco-Seshachalam Lectures Series (3) (2005), in the National Symposium on «Information and Communication Strategies for Grassroots development », 4-5 March 2005, organised by School of Information and Communication Studies, University of Madras, Chennai, India.



## Community Information & Communication Centre (CICC) / e-Community Centres: Sustainability Issues

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John Rose identifies the following applications as "**key applications or Killer Applications**" of "Community Information and Communication Centre":

- Public libraries and access to databases;
- Education and e-learning;
- Health services to citizens;
- Services to economic agents (such as farmers);
- E-government & Citizen participation.





## Community Information & Communication Centre (CICC) / e-Community Centres: Sustainability Issues

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- Library Technology is poised to become the new sunrise sector with digital libraries dominating the information service sector while content generation is expected to boom into US \$ 4 Billion Industry by 2008.
- Information Technology, Biotechnology and Library Technology (IT-BT-LT) revolution would be the route to economic progress for developing countries.
- Libraries must change from "collection" oriented institution to "service" oriented organisation.



## Community Information & Communication Centre (CICC) / e-Community Centres: Sustainability Issues

- ~~Converting "traditional" Library into "digital" is essential for self sustained growth.~~
- The future is undisputedly "digital" and concern has been expressed elsewhere on the effects of digital restructuring in deepening economic, political and social inequalities (Crow and Longford, 2000)[1].
- Rural poor are now being treated as a resource, whose ideas and experiences form an integral part of the development strategy (Rajiv Theodore, 2005)[2].
- Public Libraries have the potential to play a key role in tackling social exclusion (Muddiman, 2001)[3]

[3] Muddiman, D. (2001): "Open to all? The Public Library and Social exclusion: Executive Summary", *New Library World* 102 (1163/1164), 154-157.

[1] Crow, B., Longford, G. (2000): "Digital Restructuring: gender, class and citizenship in the information society in Canada", *Citizen Studies* 4 (2), 207-230.

[2] Rajiv Theodore (2005) : "Rural development" , *Yojana*, January 2005



# "Libraries - Knowledge Institutions"

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- Libraries are considered as the pillars of the democracy and society's memory.
- Libraries preserve the culture and knowledge of the country.
- They serve communities as cultural and educational centers - known as '**knowledge institutions**'.
- The cities and urban areas are well identified by the modern library buildings.
- These Libraries should take the shape of "Community Information Centres", which should serve as the backbone of "Literacy Mission and Poverty Alleviation".



# "Libraries - Knowledge Institutions"

- Networking of these Government Libraries and converting them into "digital Libraries" will be the step towards India becoming a Knowledge Society by 2008 (Moni, 2002)[\[1\]](#).
- According to International Federation of Library Associations and Institutions (IFLAI), there should be a one public Library for every 3000 persons.
- Rural Libraries lagged behind in the application of ICT.
- The need of the Library Science is to "empower the people" to improve their working cultures for better their livelihood.

[\[1\]](#) Moni, M. (2002): "Digital Libraries in Rural India: A digital opportunity for sustainable development", Invited Talk on the "National Technology Day - May 11, 2002" organised by DELNET, New Delhi.



# "Libraries in India"

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- Professor Chatopadhyay Committee on National Policy on Library and Information system (NAPLIS) (1985) recommended to establish, maintain and strengthen "free public libraries" and in particular, "the rural public library".
  - There are about 56000 Public Libraries (which include 51000 at village level), 400000 School Libraries, 11000 University/College Libraries, 13000 R&D Libraries, 28 State Libraries, and 526 District Libraries in India.
  - Only 8.4 % of the Villages have access to Public Libraries in India.
  - Rural Public Libraries are a part of this revolution and will serve as the backbone for "literacy mission and poverty alleviation".
  - There are empirical evidences to support that rural digital libraries will sustain Community Information & Communication Centres (e-Community Centres).



## Digital Library Services: A Paradigm Shift & A Step Towards Sustainable Rural Livelihoods

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- Networked Library environment play an important role in rural revitalization, as libraries have emerged as a sunrise industry due to globalization and liberalization at regional level, and decentralization trends at grassroots level.
  - Moreover different communities are active in the area of 'digital libraries". Borgman (1999)[1] defines "digital Library" as:
    - (a)"content collected on behalf of users", and (b) "institutions providing a range of services in a digital environment"
    - While most of the digital library projects falls into (a), the speculation about the future developments concentrates on (b).
- [1] Borgman C.L. (1999): "What are digital Libraries? Competing Versions", Information processing and Management, 35 (3), 227-43.
- "e-Granthalaya: a digital agenda of library automation and networking" facilitating "rural digital libraries" and promoting "local contents" through UNICODE and interoperability capabilities of XML.



## Digital Library Services: A Paradigm Shift & A Step Towards Sustainable Rural Livelihoods

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- Most of schools and colleges are located across the country in rural areas. They lack better communication and transportation infrastructure.
- These institutions turn out lakhs of students every year.
- Majority of the students are not even capable of purchasing reference basic textbooks and are mostly dependent on the obsolete/old textbooks.
- The teachers are really handicapped with the current knowledge due to lack of accessibility to knowledge source.
- There is need to equitable development of the country through uniform distribution of the Natural and ICT resources.
- These difficulties can be overcome if the Indian libraries (Viz., 4 Lakhs School Libraries, 11000 University/College Libraries, and 13,000 R&D Libraries, 56000 Public Libraries (which include 51000 at village level), 35 State Libraries and about 526 District Libraries) become the part of "digital library" movement and form the nodes of **"Knowledge Management Grid"** of India.



## Digital Library Services: A Paradigm Shift & A Step Towards Sustainable Rural Livelihoods

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- National Informatics Centre (NIC) is the largest IT professional services government organization set up by the Government of India, with national presence in India.
- NIC is the only organization in India to provide total informatics support to the ministries and departments of the Central Government, State Governments and District Administrations. The main strengths of NIC are as follows:-
  - Domain expertise in various sectors of Government Business Allocation (Social Sectors, Economic Sectors, and Accounting and Treasuries, etc);
  - Development Expertise & Experience in Systems Development Life Cycle (SDLC);
  - Expertise & Experience in Networking, Software Technology and Hardware technology;





## Digital Library Services: A Paradigm Shift & A Step Towards Sustainable Rural Livelihoods

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- Web sites development and hosting with expertise in developing dynamic sites;
- Email and Internet services using NICNET;
- Imparting training in 'standard tools', computer awareness and application systems;
- Handholding support during implementation;
- District Centres providing state-wide and nation-wide support for application systems;



## Digital Library Services: A Paradigm Shift & A Step Towards Sustainable Rural Livelihoods

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- Starting as a small programme under an external stimulus by an UNDP project in 1977, it has grown incrementally and later exponentially as one of India's major programmes, which has helped to usher in the required transformation to cope with the trends in the new millennium.
- NIC has emerged as a hub for technology transfer on e-Government & e-Governance solutions for Developing Countries, ASEAN member Countries, BIMSTEC member countries, CIS Countries and SAARC member countries.



## Digital Library Services: A Paradigm Shift & A Step Towards Sustainable Rural Livelihoods

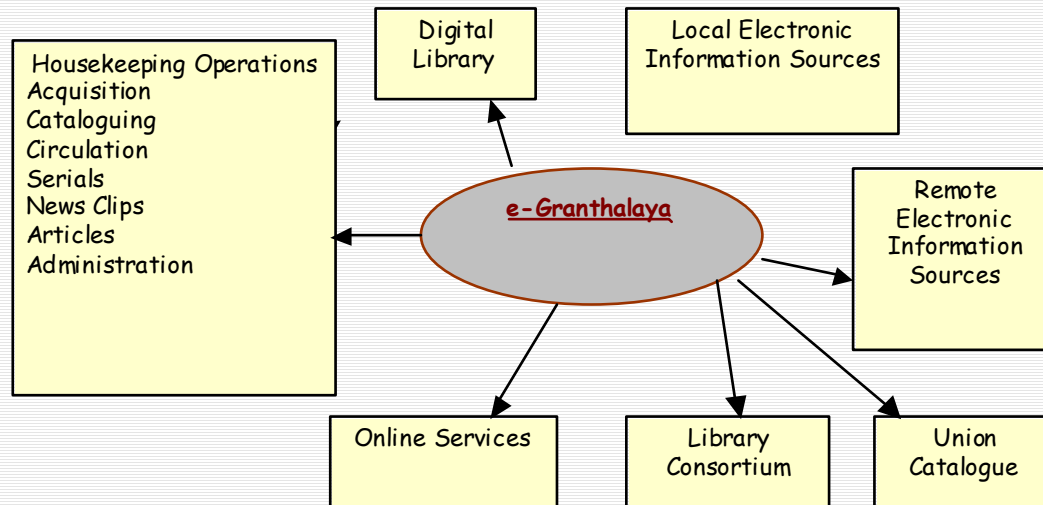
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e-Granthalaya: A Digital Agenda for Library Automation and Networking :The objectives of this mission are as follows:-

- Automation and Networking of Government Libraries and Information Centers;
- Automation and Networking of Public Libraries and Information Centers;
- To provide marginalized villagers their opportunity to access knowledge;
- To serve as an integrated Information Center model by creating cost effective and economically viable model to the masses in a timely period;
- Impacting Information Technology on the G2C interface; and
- Providing platform for self-employment.



# Digital Library Services: A Paradigm Shift & A Step Towards Sustainable Rural Livelihoods



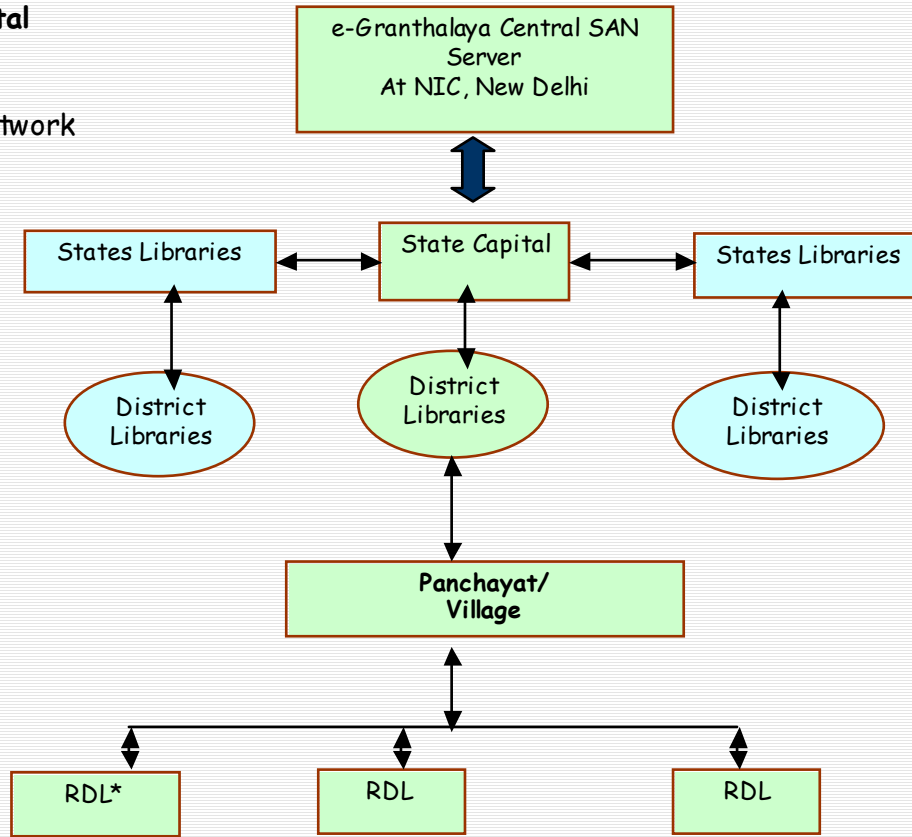
**Figure 1:** Functions and modules of e-Granthalaya Software



# Digital Library Services: A Paradigm Shift & A Step Towards Sustainable Rural Livelihoods

(\*RDL means Rural Digital Libraries)

Figure-2: e-Granthalaya Network at micro level





## Digital Library Services: A Paradigm Shift & A Step Towards Sustainable Rural Livelihoods

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Rural India requires an "e-Granthalaya" on a mission mode for facilitating sustainable livelihoods: Poverty Alleviation, Livelihood opportunities and gainful employment.

The 'e-Granthalaya' acts as 'wheels of transformation' of the rural people through information facilitator vehicle - NICNET.

Thank You.