Chapter 2
Review of Literature

Review of literature is an important part of any new research. This helps in reviewing the work that has been already done in the proposed area, which will definitely help in better understanding of the problem area in an effective manner. Review of literature can be seen as the best source for understanding the problem. The chapter reviews the literature about ‘Public libraries’, Public Libraries and Community Information Services’, ‘ICT and Community Development’ and ‘Community Information Centres (CICs) and Community Information Services’. The following studies are reviewed to understand the role of CICs and Public libraries in providing Community Information Services.

2.1 Public Libraries

Patil, V. (2013) in her paper entitled “Public Libraries Library Automation and Networking: Need and Importance of Maharashtra” describes the current status and challenges that the public libraries in Maharashtra State are suffering. Libraries all over the world have already transformed themselves from delivering traditional library resources and services to the technology based resources and services. Public libraries are good media for transformation of information to the general public of the society. Users of the public libraries are from child to adult. According to the author, unfortunately the public library system in Maharashtra lacks the basic infrastructure to support ICT implementation and also it lags behind in terms of its accessibility to the common man in Maharashtra.

The paper “Development of Public Libraries through Public-private Partnership in India: Issues and Challenges” by Muralidhar and Rao (2013) describes the concept of public-private partnership (PPP) and examine how it is different from ‘privatisation’ concept. It examines the present status of public libraries in India and the need for mobilising support for their improvement. The authors stressed the need for implementing the National Knowledge Commission recommendation for PPP. The paper highlights the role of the public sector and private firms in developing public libraries
through the PPP model. At the end suggestions were made on how to implement the model for the development of Public libraries.

Iwhiwhu, Enemute and Obotavire (2012) in a journal paper entitled "Public Library Information Resources, Facilities, and Services: User Satisfaction with the Edo State Central Library, Benin-City, Nigeria" describes the User Satisfaction for Information Resources, Facilities, and Services of Edo State Central Public Library. The satisfaction of library users is a function of the quality of information product(s) received, the quality of information system and library services provided to access the information product. Therefore, satisfaction is a function of three main sources — quality of the information product, the information system and the services that make the information product available. These three levels of measure of satisfaction are defined by the information resources, facilities and services in this study. These sources of satisfaction, when properly harnessed may contribute to users' overall satisfaction. The accuracy, completeness, precision, and relevance of the information materials obtained from public library by a user are measures of the product performance. In this study the response rate of the administered questionnaire is 196 (98%). The result showed that 123 (62.8%) respondents were males while 73 (37.2%) was females. The majority of the respondents (52.6%) were between 21-24 years of age, while 15.8% and 13.3% are between the ages of 15-20 years and 25-34 years respectively. Not surprisingly, only 12 (6.1%) of the respondents are under 15 years of age, while 2.6% and 1.5% of the respondents are between 45-54 years and above 55 years of age respectively. Findings show the level of satisfaction of users with the information resources at the Edo state central library. The result revealed that users were not satisfied with the information resources. Beside this users were satisfied with the furniture at the Edo state central library. The result also showed that users are satisfied with the library space, fans and air conditions, lightings and ventilations and flooring, catalogue and the restaurant facilities in the library. However, users are not satisfied with the photocopier facility, computers, carrels and periodicals. It is important to note that the poor state of photocopiers and other ICT facilities in the library have serious implications on the effective performance of the library system. The result revealed that the users in Edo state central library are only satisfied with three services provided in the library, which are hours of service, labelling
services and bindery services with a mean of 2.87, 2.32 and 2.88 respectively. The result showed that fiction and non-fiction books, textbooks, reference books and audio visual information resources are not available in the library. On the basis of findings some recommendations were made by authors; the state government should as a matter of urgency provide the necessary funds to stock the library with relevant information resources and ICT facilities for effective functioning of the Edo state central library; library staffs are expected to change their attitude to work and towards users and render the necessary assistance to facilitate user's search in order to satisfy their hunger for relevant information resources needed. In addition, the operations of the library should be automated to enhance library services provided by the library. The library may also improve in the efficiency of their services to users to increase their satisfaction level.

Library users are the fundamental component of any given library as they are the customers for which the library is meant for. Their opinion, views and feelings account most in the fulfilment of the core objectives the library is built for. This paper “A Case Study of Users’ Survey in Public Libraries in Kenya” by Kinya, (2011) discusses the public library services in Kenya from users’ angle; therefore researcher has surveyed users of all 32(100%) public libraries in Kenya. This research paper is, further, intended to help public libraries, librarians, managers and management to decide how to integrate resources and services in such a way that most users can understand them well enough to make productive choices. It compiles usability test data evaluating users and services offered on library public libraries in Kenya. This research paper describes the progress and application of a fundamental comparison typical which allows librarians to quantitatively measure library users’ apparent quality, satisfaction and constancy with a library as well as the degree to which exact elements of a library’s services, collections and setting donate to those perceptions. The paper reports the outcomes of a survey among users at public libraries in Kenya under Kenya National Library Services (KNLS) with specific attention to the 32 (100%) public libraries in Kenya, on aspects of personal information, use of resources and services and their satisfaction level.

According to authors Public libraries in the North East Region of Nigeria have gone through a lot since the 1960s as Native Authority Libraries, to Provincial Reading Rooms, to Provincial Libraries, to Divisional Libraries and finally to the present State Library Boards. What however, remains constant is the inability of the Libraries to adequately satisfy their communities at the various stages of their metamorphosis. This is a consequence of a long period of neglect and lurk worm attitude of governments towards public libraries. It is the firm believe of the researchers that the Federal Governments new development policy tagged “Vision 2020”, the concept of “Re-Branding Nigeria” and of course the need to nurture their nascent democracy by imbibing democratic values, can only succeed when they have educated, well informed and enlightened citizens. Here lies the role of the Public Libraries in the North East Sub-Region and Nigeria.

Lankes (2007) in a paper presentation entitled “Participatory Networks: The Library as Conversation” present his thoughts on how libraries facilitate conversations. The idea is based on a simple theory: Knowledge is created through conversation; libraries are in the knowledge business; therefore, libraries are in the conversation business. Though libraries serve a vital role as community memory keeper, they often fall short of the ideal. Lankes explained how by embracing the participatory online technologies from Web 2.0, libraries can advance not just their communities, but their positions within them. He discusses how adopting network concepts and software promotes the library’s most fundamental mission: knowledge creation and dissemination.

Matoria, Upadahaya and Moni (2007) in their paper entitled “Automation and Networking of Public Libraries in India Using the E- Granthalaya Software from the NIC” describes the development of the library management system, e- granthalaya, for public libraries in India. This is an initiative of the Indian governments National Informatics Centre (NIC). The paper outlines the challenges & the potential of a full scale deployment of this software at a national level.

The project is being implemented in various phases depending on the funds, infrastructure and willingness of the various state governments and library authorities. This case study provides an understanding of the challenges confronted by the NIC in the
scale and scope of the deployment of e-granthalaya. The national effect towards a “single window access” is constructively undertaken in tandem with local conditions and technological developments.

The proposed end product is a web based online library service connecting public libraries in India and integrating library services in a “single window access”. The authors concluded that there is a need for greater orchestration of funding provision, acquisition of systems, data entry of catalogues, hosting and so on.

Lalbiaksanga (2006) in his dissertation submitted to Mizoram University “Public Library in the Development of Mizo Society: A Case Study of Aizawl District Library” highlighted the functions of public library for social development by giving services of public libraries to the society in his MLISc dissertation submitted to the Mizoram University in 2006. According to him public library links people of various communities to knowledge society through its varied services to the society and also highlighted some of the activities rendered by public libraries for the welfare of the society as:

- Self-education centre of the society;
- Community information centre;
- Cultural Centre of the society;
- Centre for recreation and healthy use of leisure time;
- Supporting role of literacy activities;
- Developing reading habits and creativity among children;
- Services to disadvantaged section of the society; and
- An impartial democratic institution of the society

Wani (2006) gave an account of Public Library System in J & K in his paper” Public Library System in Jammu & Kashmir: An Assessment”. The paper is an insight into the public library system of Jammu & Kashmir from ancient to present times. It lists different initiatives undertaken and reports submitted to the Government from time to time. The study mainly assesses 34 public libraries for their operations, services, staff strength and infrastructure.
The study reveals certain tantalising facts about the prevailing public library system of the state. The Public Library System needs complete revamping of all its facets. This can be achieved in two phases. One short term plan and second long term plan. Under short term plan following measures may be taken:

- At least, one staff member from each library should be provided ICT training which later can create bibliographic databases/ catalogues of their respective libraries.
- Releasing sufficient funds for acquisition of adequate collection.
- Providing better and increased number of user oriented services.
- Starting extension services to attract people to libraries.
- Once the people come into the libraries user education should be provided so that they stay lured.
- Providing Internet facility.
- Extension of working hours.

Under long term plan, a master plan may be laid down to be achieved during 5 to 10 year period. This plan will make public libraries in State a living force for education, culture and development. Under this plan following targets need be achieved:

a) Construction of new suitable buildings and Provision of adequate furniture and fixture
b) Enactment of library legislation
c) Recruitment of Professional Staff and to train them in modern learning, education and communication skills
d) Networking of Libraries and Integration of catalogues into a WEBOPAC
e) Collection development policy to suit different regions of the state.

Ghosh (2003) in a poster presentation entitled “Public Libraries in the Internet age: Indian scenario.” investigates the status of Public Libraries in India in the internet age. In India majority of people live in rural areas and new technologies are not accessible from remote villages, therefore a wide gap has been evolved between the libraries of ‘knowledge haves’ and knowledge have-nots. Today Internet and web technologies open
up new ways of interactive communication between public libraries and the civil society. The progress in the Information and Communication Technologies (ICT) enable remote people to get connected by several technical options in a more affordable manner. Based on the widely accepted conceptualization of "ICT for development," this article suggested various ways where convergence technologies can be used to improve and promote the existing library services. An attempt is made here to make a proposal for ICT driven public libraries for Indian states with suitable library extension programs to help the entire rural as well as urban community especially unprivileged masses.

**Bernardvawk (1995)** in paper entitled “Rural Information Needs and the Role of the Public Library” highlight some of the conditions affecting rural and small libraries in the United States and to describe their roles in providing information services. For many Americans, the community library continues to be viewed as a place for books and used primarily by women. This article also reviews the major findings of two research investigations conducted by the author under the sponsorship of the U. S. Department of Education. There has been a great deal of interest in the potential benefits community networking may offer the developing world. This is particularly true of rural information and Communication Technology (ICT) projects that seek to bring emerging technologies like low cost computing and Internet access to rural households, social institutions and governments. Yet despite extensive activity in this area, collective understanding of the need for community networking and its ideal form is comparatively weak. Furthermore, there is no ‘one-size fits all’ design for rural ICT networks; communities vary greatly in their social, economic, and political organization, and therefore information needs, and the design of the most appropriate and relevant community networking system, will vary from place to place and over time within a given area. For successful community networking, the design and implementation of projects should be driven by the specific needs of communities.

**Mangla (1984)** in a journal article entitled “Role of the Public Library in Developing Countries with particular Reference to Literacy” stated public library as a vital agency for continuous education and information to serve the community. He also stressed upon
the needs of library legislation and need for suitable reading and other materials, need for professional manpower.

He suggested that:

- Formulation and implementation of a Nation Policy for Library and Information Service so as to establish a well planned network of public library service in the country.
- Training of the required manpower.
- Developing relevant programmes of cooperation and coordination amongst the developing countries and with the developed ones so as to gain from each other’s rich experiences; and
- Allocation of 10-15% of the budget meant for the informal education for public library services.

2.2 Public Libraries and Community Information Services

Sharma (2013) in a paper entitled “A Study on Uses of Public Library/ Community Information Centers by the Farmers in Madhya Pradesh” reported that Public library could be a very potential appliance for social change and development of rural India. It plays an important role in social development via providing information, educational and entertainment facilities necessary for society. Questionnaire based survey was used to collect data for the present study. There was no public library available for most of the farmers in their own locality. Library facility was available only for 137 (34.25%) farmers whereas 263 (65.75%) were deprived of such a facility. The present study showed the relevance of community information centre and public library to avail the necessary information regarding agricultural practices by farmers and diffusion mode of new technology and methodology developed in research lab to farmers with important communicator between agricultural laboratory and farmer’s field.

In this book review article “Developing Community-Led Public Libraries: Evidence from the UK and Canada”, the authors Williment and Pateman (2013) discusses that Localism and community engagement have been high priorities for many public services
in recent times, responding to government agendas of decentralisation, devolution and the transfer of power from the state to citizens. The UK Coalition Government's Big Society approach, for example, advocates giving local people more power over the services that they use and encourages them to take an active role in their communities through volunteering and representation on local bodies. In this book, authors explore the potential and implications of a community-led approach to public library services. Taking as a starting point an overview of two projects – Open to All? In the UK and the Working Together Project in Canada – the authors explore how public libraries can become more inclusive by working collaboratively with communities to develop a needs-based community-led service.

The book is divided into 12 chapters, the majority of which discuss aspects of library management from a community-led perspective, incorporating the findings and perspectives from the two studies mentioned above. Each chapter provides a helpful overview of the political and policy context within which public libraries are operating and the response of public library services as well as a range of practical examples of initiatives and programmes designed to reach out to new audiences and build relationships within the community. Chapters end with a “helpful hints” section of items for library managers and their teams to consider when planning community-led work. The final chapter provides a “Road map toward the community-led library service”, summarising the key points and elements of good practice from the preceding chapters. Although community engagement has been a feature of library service policies and development for some years now, the authors suggest that much of the activity taking place under the label of “community development” is piecemeal, focusing essentially on user consultation rather than reaching out to involve local people in partnership in service design and delivery. In this book they urge public libraries to transform themselves from institutions of social control to agents of social transformation by engaging in the co-production of library services with local communities.

The ideas and concepts underpinning this work are thought-provoking and their presentation and discussion are persuasive but the book does raise some important issues. Public libraries around the World are facing cuts to their budgets and services. a point
acknowledged by the authors; on page 203, for example, there is a list of proposed library closures in England as of April 2012 and the situation has deteriorated significantly since. The community-led approach appears extremely staff intensive involving extensive outreach and contact with the community. On page 39, for instance, one of the helpful hints suggests, “After relationships are established with individual community members, ask them if they would be willing to walk through the community with you, and introduce you to other community members”. Those public librarians struggling to maintain basic services with a skeleton staff (or even a “staff” of volunteers) might wonder how they could achieve this. It is also perhaps worth pointing out that community-led libraries are very different beasts from community-managed libraries, the recent development of which in the UK has witnessed groups of volunteers from the local community assuming responsibility for the delivery of public library services. Authors emphasise the importance and potential of coproduction i.e., professionals working alongside the community to design and develop services rather than the wholesale transfer of responsibility to groups of local people who may not be representative of the community as a whole nor terribly accountable to them. Yet, the language used to argue for these two very different approaches to library services is remarkably similar as local councils in England appropriate the language of community development to legitimise the withdrawal of the state from public service provision. Library services adopting the approaches outlined in this book should ensure that partnerships are based on the active involvement of the community and library staff.

Olarongbe et.al (2013) in his paper “Provision and Use of Community-based Library and Information Services: a Case Study of Asa Local Government Area, Kwara State, Nigeria.” emphasized the use of community-based library and information services in Asa Local Government Area of Kwara State. Descriptive statistics was used to analyze data using frequency, tables and percentages. The instruments used in collecting data were a combination of questionnaire, interview and observation. Three hundred (300) copies of questionnaire were administered to randomly selected respondents from ten (10) communities (Afon, Aboto-oja, Ballah, Alapa, Laduba, Ogbondoroko, Olówu oko, Lasoju, Igbo Aran and Elebute) in Asa Local Government and two hundred and sixty-
eight (268) copies representing (89.3%) were returned and found useful. The major findings from the study are that: the majority of the community dwellers were farmers (44.8%) and government workers (22.4%) and they needed information on agriculture and personal development respectively. The majority (40.3%) of the community dwellers obtained their needed information mainly from Radio/Television broadcast.

**Patil and Deshmukh (2012)** in this paper “Community Information Services in Public Library: Concept and Need” discusses that Public libraries, being the library of communities can play important role in providing effective Community Information Services. This paper deals with the design and development of public library based computerized community information services. This paper also discusses the definition of CI, concept of CIS. The paper highlights the components of CIS, Need of CIS, Community Information Service and Public Libraries and discusses the new role for public libraries.

In December 2010, **EIFL’s Public Library Innovation Programme (PLIP)** commissioned a groundbreaking research study into perceptions of public libraries in six African countries. The objective was to better understand the status and role of public libraries in Africa and the vision, aspirations and expectations of library stakeholders. The research will be used to inform and support outreach and advocacy efforts to build and strengthen policies and long-term support for public libraries so they can contribute to community development and improve people’s lives. The study - the first of its kind in Africa - covers six countries in east, west and southern Africa: Ethiopia, Ghana, Kenya, Tanzania, Uganda and Zimbabwe. Researchers conducted detailed interviews over several months with a wide range of stakeholders including people who use public libraries and those who do not, policy and decision-makers in national and local government, librarians and library officials.

Perceptions of public libraries in Africa shows that public libraries offering traditional print-based services are widely available in most of the countries surveyed. The findings show that in each country an overwhelming majority across all stakeholder groups perceive public Libraries to be for books and study rather than spaces for digital technologies and the provision of community development services. Across all
stakeholder groups, lack of technology in libraries – especially computers and the internet – was a significant cause of dissatisfaction. The study found that funding for public libraries is generally low: national and local government officials said that because poverty is the main issue facing communities, libraries are lower on the list of services supported. Yet all stakeholder groups believe that libraries need and deserve more funding and that public library service, when properly supported, can improve people’s life chances and contribute to community development goals.

One of the works in relation to potential of India's Public Libraries to serve as Community Information Centers by Pyati (2009) is “Public Libraries Revitalising in India: Hopes, Challenges, and New vision”. The author suggests that with India’s growing economy and status as an emerging world power, a new consciousness is developing in the country about the need to reinvest in public services. The National Knowledge Commission (NKC) is an advisory body constituted by the Prime Minister to provide recommendations for improving India’s knowledge infrastructure. As part of this Commission, a set of recommendations has been developed to improve India’s long neglected library system. This article explores the implications of these recommendations, with a specific focus on India’s public library system and the social development gains that are often associated with public libraries. The potential of India’s public libraries to serve as Community Information Centers (CICs) is highlighted, as well as the challenges that lie ahead in implementing a new vision for public library revitalization. The article serves as an invitation for concerted action, reflection, and dialogue with regard to this important and pressing issue.

Nyana (2009) in a paper entitled “Creating a Library System that Serves the Needs of Rural Communities in Africa South of the Sahara” states that colonial powers introduced libraries to Africa and they were developed according to the western model of libraries and librarianship where knowledge and culture are primarily transmitted through print media, and now increasingly through electronic means. Against the backdrop of oral tradition which predominates in African culture, this approach leaves out the vast majority of the rural population who are generally unable to read and write and unaccustomed to print and have limited or no access to electronic media. Fifty years after
the end of colonialism in Africa, the transmission of knowledge and culture in rural communities continues to be predominantly oral (word of mouth, proverbs, etc.). However, African librarians have failed to address this in their collections and services. This paper reflects on some of the problems facing African libraries in the provision of information and services to rural communities regarding: inappropriate collections and services, lack of surveys/analyses of information needs of rural communities, high-levels of illiteracy, disregard for oral tradition in the provision of services, lack of funding and cooperation between related agencies, and inappropriate training of African librarians, to name a few. Therefore, this paper suggests a library system that is sustainable and compatible with the oral tradition, and thus explore the following questions: (1) is the provision of information in print relevant to rural populations where information and knowledge are communicated orally; (2) are library collections and services patterned after Western culture and information needs relevant to rural communities in Africa, and (3) how can African librarians be better trained to meet the information needs of rural communities?

Xuemei (2009) in his article presented at 75th IFLA General Conference entitled “Providing government information and services in the Chinese public library” describes what will public libraries do to provide government information for the public as government websites become the major channel of government information, when they have no tradition of government publications collection and provision? This article outlines some feasible methods and potential obstacles of government information services for public libraries in China on the basis of a current situation analysis.

Ongus and Kemparaju (2007) in this paper entitled “Opportunities and Challenges of Providing Electronic Information Services Through Public Libraries in India.” reveals that the public demand for library services has not only grown enormously but is also becoming more diversified. This is due to the widespread acceptance of libraries as central to education and research, community development and nation building programmes. Libraries are expected to meet this critical challenge by providing adequate and effective services to the public. This paper examines the concept of public libraries in general, as well as the state of public libraries in India in the light of the new and
emerging technological dispensation. It proceeds to give a detailed account of recommended steps for introducing and maintaining electronic information services for public use. Some fledging real cases involving impressive attempts of delivering much needed information services in rural areas, using electronic or “digital” media, are mentioned. Authors also give conceivable suggestions for the way forward affecting public libraries.

Mukhopadhyay (2006) in his paper “Public Library Based Web-Enabled Community Information Service for Rural Development in India: Designing A FLOSS Based Multilingual Prototype” made an attempt to develop software framework for public library based and web enabled multilingual community information service by utilizing open standards and open source software. It used GSDL as DL software, PERL, PHP & Java as programming environment application Profile as metadata encoding standard, and an array of FLOSS based multilingual tools for designing Bengali script based user interface, processing and retrieval environment. Development of community information service with maximum human support is crucial for users ‘access to and use of information in daily life situations and their political participation. Public libraries have the potential to develop and provide these services by utilizing this FLOSS based multilingual software framework. A strategy for web-based community information services is needed. This has to be based on research and reports on the role of public libraries in the information society; in particular the role in the local community. Public library should be proactive and enter into partnership with public, private & voluntary organizations in order to be the leading community information provider.

Dent (2006) in the paper “Modelling the Community Library: Characteristics of the Kitengesa Library in Rural Uganda” provides background on how the Kitengesa Community Library in rural Uganda, which serves as both a community library and a school library, might be seen as a model for other similar libraries in developing countries. The Kitengesa Community Library is an example of a successful rural community library. One of the outcomes of the research project is the promotion of the library as a model for other libraries in Uganda and elsewhere on the African continent in rural communities where there are no policies or schema for establishing libraries. The
Kitengesa Community Library had a relatively simple development plan and maintains a simple structure for its management. The library has several features that align it with Mostert’s characteristics of the rural community library, and other characteristics that make it unique, including its ability to meet the needs of both the school and the larger diverse community – which includes farmers, parents, business owners, and teachers from other areas, to name a few. In order for the model to be useful, the story of its success must be shared. Plans to disseminate information about the library include publications, presentations at conferences (including conferences held on the African continent) and a presence on the World Wide Web. As many of those in need of such services and the desire to create community libraries might not have access the web or be able to attend international conferences, it is also important that the model be promoted locally, by word of mouth, both within Uganda and outside the country, by those involved with the project. Current library staff might eventually disperse to other nearby communities and share the experience of Kitengesa by helping to establish similar library services; and those involved with the project at the advisory board level might develop and disseminate simple guidelines and find other systematic ways to help rural villagers set up libraries in their area.

“Public Library 2.0, Towards a New Mission for Public Libraries as a “Network of Community Knowledge” an article by Chowdhury, Poulter and Mcmenemy (2006) seeks to propose a new vision for public libraries in the digital age. This conceptual paper is based on an understanding of the recent developments in ICT, internet and digital libraries; and also on the authors’ personal experience in research and development in library and information science – especially in relation to public libraries – and digital libraries. The study argues that currently there are no proper mechanisms for capturing, preserving and disseminating community knowledge, and proposes that public libraries in the digital age should take a new role whereby they should act not only as a gateway to knowledge, but also as a platform facilitating the creation of, and access to, local community knowledge. Proposes a model for PL2.0 where public libraries can take on this new role to build a network of community knowledge. The paper proposes a conceptual model for the second generation of public libraries, and further studies are required to test and implement the model. Paper also proposes that the new role of public
libraries will be to shift from solely providing access to knowledge to acting as a platform for the storage and dissemination of local community knowledge within the global context created by twenty-first century digital technologies.

**Khan and Bawden (2005)** in their paper “Community Information in Libraries in Pakistan” highlight the current status of, and future prospects for, community informatics (CI) services in libraries in Pakistan. It is based on a questionnaire survey of academic and public libraries, and community centres, in the major cities of Pakistan, backed up by interviews with librarians and community leaders. It is found that while most libraries provide community information services, these are of traditional kind, and there are very few examples of information and communication technologies-based CI. There is enthusiasm for developing such services among librarians, and high regard for library services in the community. Essential factors are funding for provision of equipment and training, and awareness raising in the community. The study was limited to a sample of libraries in large cities. It is found that while most libraries provide community information services, these are of traditional kind, and there are very few examples of information and communication technologies-based CI. According to authors there is enthusiasm for developing such services among librarians, and high regard for library services in the community. Essential factors are funding for provision of equipment and training, and awareness rising in the community. Proposals for development of a government-sponsored CI initiative are presented. This is the only study to date which investigates the role of libraries for CI provision in Pakistan, and one of very few which studies this topic in a developing country.

“Broad-Based Study: Community Networks and Libraries”, a study presented at CRACIN workshop by **Caidi and Chein (2004)** indicates that the recent research suggests that libraries and community networks form a natural partnership. At a cursory glance, the mission to provide access to pertinent information for members of the community ties libraries and community networks together. Looking more closely at the various roles which libraries and community networks play, one may realize that they share more commonalities than simply the provision of information. They reflect the mission of the parent organization; seek to solve local access problem; aim to develop
partnerships with community organizations; foster communication and require cooperation, vision and leadership. Overall, there is great potential in the partnership between public libraries and CNs. Libraries have an extensive amount of knowledge and experience to offer in the community networking movement, and it is now time to take advantage of this. Not only will the partnership strengthen the mission of providing information, education and resources for citizens, but also, it will reinvigorate the notion of public access, equity and democracy.

B. Ramesh Babu and Gopalakrishnan (2004) in their study “Community Information Services in public libraries in India: Myth or Reality” remarked that Community information is the information in the community for the community. It is the information required by members of the public to make effective use of the resources potentially available to them in the communities in which they live. In this article, the authors describe the community information services, nature and types of services provided by the public libraries in India. They also outline the scope of public libraries in the provision of CIS. According to the authors, provision of CIS in public libraries shall be made mandatory and shall be made as an integral part of the public libraries service. For this purpose a national/local level network of community information centres needs to be established and developed. The long pending NAPLIS report has to be accepted and implemented. It is also required that the library legislation shall include the provision in relation to CIS. In order to make the CIS a reality, government and NGO’s shall coordinate, supplement and complement each other. The professional associations such as ILA, IASLIC, etc shall come forward to formulate guidelines for the effective implementation of the programs associated with CIS. On successful realisation of the above stated programs the provision of CIS by the public libraries in India will become a reality.

Mukhopadhyay (2004) in his paper “Community Information Services Through Web & CDROM: An Open Source Framework for Public Libraries in India” deals with the design and development of public library based computerized community information services by the application of open source software. It uses MARC 21 community information format as content designator and metadata schema, apache as web server,
PERL programming environment and Greenstone digital library package. It also analyzes the thrust areas for community information services and provides a detail methodology that can be utilized by public libraries in India. Web integrated Community information service is an amazing strategy for fulfilling information needs online and can be used constructively for development efforts. The concept discussed in this paper is the creation of a web site based on the information from the local community, using an inexpensive mechanism and applying open source software. In implementing this kind of strategy each library has to carry out own information need survey to plan a CIS system. Further research on information needs behavioral pattern of information seeking in rural communities and information flow (provision and usage) and exchange in rural India is essential for the establishment of successful digital community information system.

Nimsomboon (2003) in his paper “The Role of Public Library in Thailand as the Learning Center for Rural Communities” tells that Thailand presently has a very large rural population of approximately 48.96 million (80% of the total population of 61.2 million). According to the 9th National Foundation Education Development Plan of Thailand (2002 – 2006), to increase the chance of learning access for all is one of the strategies to fulfill human resource development. Public library system as the learning resource in rural communities has to tune its role to support this policy. This presentation will introduce the Public Library System in Thailand in terms of history, development, status, current tasks, and future plan as well as give discussion about the facing barriers of public library in Thailand in various aspects.

From the author’s point of view, the understanding of rural communities in various aspects is essential for public librarians. Public librarians have to have proactive role to provide appropriate library services to communities. In rural communities where people still trouble with many conditions, library services are not so important as public health services or public utility services. Librarians should have “knowledge” about their own communities both sociological and psychological aspects. To cooperate closely with other government authorities in the same community is recommended. For example, the authorities of the Ministry of Public Health and the Ministry of Interior work very closely to rural population so librarians should disseminate essential information via this channel.
According to the research result from the information providers’ perspective, there are many kinds of information that rural populations are not aware of, such as health education, drug prevention, sex education, parenting information, and environmental conservation. The status of public library system as the learning centre in rural community is the new role and it is good chance for public librarians to work in such a challenge context. Public librarians should have more cooperation with communities to find their real needs. In Thai rural society, the personal relationship is still important and people are still friendly and optimist. Public librarians should take this good point to be a chance to promote library services to grassroots level.

Pittigrew, Durrance and Unruh (2002) in their article “Facilitating Community Information Seeking Using the Internet: Findings from three Public Library–Community Network Systems” reported findings from a study on how public libraries are using on-line community networks to facilitate the public’s information seeking and use in everyday situations. These networks have been lauded for their potential to strengthen physical communities through increasing information flow about local services and events, and through facilitating civic interaction. However, little is known about how the public uses, such digital services and what barriers they encounter. This article presents findings from a 2-year study that comprised a national survey with public library staff, followed by extensive case studies in three states. At each site, data were collected using on-line surveys, field observation, in-depth interviews, and focus groups with Internet users, human service providers, and library staff. The on-line surveys and the follow-up interviews with respondents were based on sense-making theory. In their article they discussed: (1) how the public is using networked community information systems and the Internet for daily problem solving, (2) the types of barriers users encounter, and (3) the benefits for individuals and physical communities from public library–community networking initiatives and the emergence of “information communities”.

Role of Community Networks and Public libraries in providing services to people is well explained by Durrance and Schneider (2001) in their article entitled “Public Library Community Information Activities : precursors of community networking partnerships” gave an account on information about institutions which can provide community services
such as libraries and community networks. For libraries, the mass production of books merged with rising populations to make the concept of public-access information feasible, economical and socially valuable. For community networks, the emergence of the personal computer, standardized operating systems, affordable modems, low-cost telecommunications software for host computers as well as end-users, cheap disk space and memory, combined with the political restlessness following the 1960s, provided ideal ingredients for information services that are "by the people, for the people". The author also described about Community Networks (CNs) which are electronic (or 'virtual') communities for sharing critical information, communication, and entertainment. Both public libraries and community networks have arisen from some of the noblest democratic, communitarian impulses: the urge to share information; the urge to engage every member of the community in decision-making; the urge to improve the condition of one’s own life and the lives in one’s community.

Pitgrew, Durrance and Vakkari (1999) done a literature review and overview of public libraries community information initiatives in their study “Approaches to Studying Public Library Networked Community Information Initiatives: A Review of the Literature and Overview of a Current Study”. According to them in a world characterized by the use of rapidly advancing technology, public libraries are championing the rights of the individual to equitable public access to information provided over the internet. But beyond general connectivity, libraries are also facilitating citizens’ access to networked community information (CI) by actively linking users with relevant sites, by hosting pages for other service providers, and by participating in community networking initiatives. For individuals, the availability of networked CI means that they can access it at anytime and from any place, including the home, office, and public library. This article reviews recent trends in the networked CI literature, including public library involvement, and then discusses a major study underway for which multiple methods are being used to collect data from users, librarians, and service providers in three states. Particular attention is given to explaining the use of theory specification to apply Dervin’s sense-making framework in an online environment.
The research paper "Partnerships for Citizenship and Community Information through the Public Library Network" by Kendall and Wilkinson (1998) envisages the enhanced communication between citizens and local government as a key role for the proposed UK public library network. Improved internal partnerships between the library and local government departments and representatives will be required. An example of the potential for the development of partnerships with social services departments is discussed, drawing upon recent research reports. However, an emphasis on citizenship information alone would be unfortunate. Partnerships with other information, advice and community networks will be essential to further the aims of increasing social inclusion through electronic networks. This recommendation is supported through a review of partnerships throughout the history of community information, and discussion of recent initiatives including the growth of community information and community information networks in the UK.

According to Anwar (1996) in their article “Community Information Services in Malaysia: A Study of Information–Seeking Behaviour of Community–Based Organizations in the Klang Valley” reports that Community Information Service (CIS) was introduced by public libraries in Western countries in response to an expressed need. Public library service in those countries was at that time almost universally available. There was, however, a need to focus on certain segments of the community which required problem–oriented information and assistance. This study further states that public library services in Southeast Asia are not developed to the level where an active role is being played in the area of Community Information Service. Before public libraries in this region, which do not cover most of the population, venture into CIS, it is appropriate to find out if there is a real need for such a service. The information–seeking behaviour of Community–Based Organizations (CBOs) in the Klang Valley (Malaysia) was studied using a mailed questionnaire. CBOs which participated in the survey are active in a variety of areas, but concentrate on problems faced by children and youth, health services, and physically and socially handicapped individuals. They use a number of sources to obtain information, but the local public library is the least–used source. These CBOs would like the public library to “provide information,” “maintain a directory of organizations,” “assist CBOs in creating greater awareness,” and “refer individuals to
organizations." It is found by author that organized CIS activity in public libraries in the Klang Valley is almost non-existent. This paper proposes a programme of action which includes making a professional commitment to CIS, setting up a CIS Working Group to study information needs and develop a prototype CIS model, developing guidelines for setting up CIS, and designing a staff development programme.

Alemna (1995) in their study “Community libraries: an alternative to public libraries in Africa” states that public libraries in Africa have been very slow to involve themselves in community information. This is not to underestimate the services they attempt to provide or the obstacles that they have to overcome. It is also not to claim that public libraries are irrelevant in Africa, but merely to state that the needs which they were set up to meet are quite different from current community information needs. Hence, in this study the proposal for an alternative service that is designed specifically to meet the needs of rural Africans.

Nkabinde (1988) in his dissertation with title “The Public Library as a Community Service in a Developing Society: Case Study of Botswana” submitted to University of Natal, Durban evaluates the purpose and role of the public library in national development in Botswana. Particular attention is focused on the public library as a community resource as well as its sensitivity in meeting the needs of community members and of organizations operating in the community. The nature of the problem, brief historical and current developments of the public library in Botswana is discussed. Research objectives of the study are also outlined. The study attempts to locate the public library in developing countries within development strategies such as the modernization and basic needs approach. Discussions further illustrate how policies emanating from these development strategies have influenced public library policies in these countries, and in Botswana. Attempts are made to show how the public library in Botswana is trying to adjust to shifts in emphasis of government development plans, especially the rural development emphasis. Author also outlines methods of research used to collect and process data obtained from the village Molepolole in Botswana. There is a brief discussion of the nature of this village as well as that of the community public library. Chapter 4 and 5 present findings of the household survey and of community
organizations and public librarians interviewed. An analysis and interpretation of findings of the household survey based on a sample of 203 readers drawn from the village is also presented. Community organizations interviewed include both government and nongovernment. Patterns of reading and views on the library of both readers in the survey and public library users are explored. Chapter 6 presents a brief review of developments of the national campaign to eradicate illiteracy in Botswana, which was launched by the Department of Non-formal Education (DNFE) in 1970. The study shows what role the public library has been, and what it should be, in the provision of effective support for the promotion of literacy and reading. The last chapter gives a summary of findings, and suggests a model that could be adopted to develop an effective rural public library service in Botswana. The model is based on principles of the basic needs approach to development, which emphasizes appropriateness, focus on target groups, accessibility, affordability, integrativeness, participation and assertiveness.

An exclusive article “Rural Public Libraries and Community Economic Development” by Waizer et.al (1997) reveals how public libraries can play a significant role in community economic development for several reasons. First, access to a well-stocked library adds significantly to the overall quality of life in a community. Second, librarians are sometimes the most educated and well-trained community information specialists. Third, libraries frequently have up-to-date computer systems, fax machines, Internet access and information retrieval skills that are of growing importance in an information-based economy. He also stressed upon the importance of libraries in providing community information services as many local librarians and library boards have recognized the potential for the library in community development efforts and see positive results for both the community and library from these efforts. For example in 1993, the Illinois Institute for Rural Affairs, with a grant from the Illinois State Library, started a series of workshops for local librarians to help them to better understand the role of libraries in community economic development. More than 100 librarians participated in these regional workshops and follow-up activities and perceive benefits.

YON and Daud (n.d) in their article “Knowledge Management Implementation Model for Community Information Service (CIS) in the Library: A Case of Penang State
“Library” remarked that information is so essential that it has become part of every human being. All human beings have information need, either individual or collective. Information is that basic need of life, which helps in the proper fulfilment of other needs such as food; shelter etc. for its survival and growth. Hence it can be rightly said that without information, survival and development of any community is not possible. Therefore, it is the basic responsibility of any Public Library to provide information services to communities. In addition, the Public libraries, being the library of communities can play important role in providing effective Community Information Service (CIS). These institutions are entrusted with the duties of providing right information to right users at right time, there by helping people to deal with daily problem solving or in improving the quality of their lives. This paper attempts to share the KM Implementation Model for Perbadanan Perpustakaan Awam Pulau Pinang on their CIS portal and to share the lesson learned of the successful CIS portal implementation throughout state of Penang.

Tran (n.d) in this study “Diffusion of Community Information Networks in New Zealand Public Libraries: a Case Study” suggests that there is much potential for community information networks in New Zealand, and for the public library to become involved in developing and managing these networks. However, there is not much effective activity in this area that includes libraries. Some libraries encourage Internet access to information, but only a few libraries have taken the next step of facilitating access to networked community information by actively linking users with Community Information Networks (CINs) and by participating in electronic community information initiatives. It is likely that the level and amount of web and internet use vary significantly across the public libraries in New Zealand, but it appears that the web and the internet are increasingly used to supplement or even replace more traditional forms of library use and information access.

This is a story of an innovation as seen through the experience of selected staff at one public library in New Zealand, ‘Alexandria City Library’. Because of the requirement that the test library remain anonymous, ‘Alexandria City Library’ or ‘ACL’ has been adopted as its pseudonym. Through this case study, this research seeks to extend the
understanding of how CINs are being used by public libraries, and to assess key factors in adoption of the Internet for CINs. It also explores the application of a particular theory to the diffusion of CINs in ACL through Internet connectivity and, through this theory (Diffusion of Innovation), assesses the conditions which make these networks feasible.

It must be noted that this paper is part of a larger project in which library staff as well as users are surveyed. In this part authors focus on the library staff in one library, who are the key personnel in developing and managing the CIN; in the second part, reported elsewhere, they survey the users to determine their views of the CIN and to assess their rates of adoption and the attributes that contribute to or hinder this.

2.3 Role of ICT and Community Development

**Abraham (2013)** in his paper “Information and Communication Technology (ICT) for Rural Development Information System and Services in India” outlines the application and use of ICT in the delivery of information products and services in the rural areas in India. He also describes opportunities and challenges of ICT and highlights successful strategies for using and implementing ICT in rural sectors; discusses the efforts and initiatives for developing rural development information system in the rural areas of India with reference to NICNET, community information centre, an INTERNET Kiosk and accessing the rural development information in brief.

**Parvathamma et. al (2013)** in their paper “Use of Electronic Media by Rural Community in Gulbarga District, Karnataka State’ India” presents the findings of the study of socio-economic status, use of electronic media and benefits derived from the use of these media by rural community in Gulbarga district, Karnataka state, India. Per capita income of 88% of the study population is less than Rs. 20,000/-which is less than the national and the state per capita income. Television and Radio are the most frequently used electronic media by more than 90% of them, mainly for entertainment purpose. While cell phone is used by 78%, use of internet is restricted to only 12%. Major benefits of electronic media are improvement in social life and general knowledge. Findings indicate that electronic media has played a marginal role in rural development. Television and radio need to play a major role, not only as entertainers and news providers, but also as facilitators of local
change and rural development. Capabilities of cell phone need to be used extensively to provide region specific information through SMS. Internet can play a greater role in rural development, if it is accessible to them at affordable cost, in their locality, in local language.

The article “The Vision of Agriculture Network Community Information Integration: A Case Study of China Agriculture Sustainable Development Information Service Mobile Interconnection” presented in IFLA conference by Ding and Qing (2012) investigates the situation of the information mobile interconnection within Chinese agricultural information network community and the situation of those community users acquiring the information mobile interconnection, putting forward to an idea of China agricultural sustainable development information service mobile interconnection. It seeks the route for the network community mobile interconnection integration, leads Chinese agricultural information users to have a “pure” point to surface communication in a broader space finally, and mostly ensures the agriculture network community users to have more specialized and simplified “self-organization” information using space.

Choudhary (2012) tries to explain in his paper entitled, “ICT Enabled Community Development in India” the ICT’s contribution in development of community. According to him Development is neither simple nor straightforward linear process. It is a multidimensional exercise that seeks to transform society. This exercise of transforming the society always requires the need of mass media; this is because mass media multiplies the effect of development in a community. Mass media have seen different forms from its inception and each mass media have different impact on community development. In the 21st century, print and electronic medium to a large extent have been overcome by new media or information, communication and technology (ICT). The direction and pace of development in ICT have led practically all world economies to recognize the improvement of ICT in catalyzing activity, empowerment of society and bringing about major socio-economic transformations. In India this effect had been felt immensely. India has made a mark in the global market at its capacity to use ICT. But how much of it has been used for development? This paper will examine the extent to which information, communication and technology has contributed towards community development in
India. The paper analyses data to find out contribution of ICTs in providing broader development benefits to all Indian citizens. Many ICT based institution have taken place over the last decade and some positive effects have resulted. But however these successes have failed to meet the bull’s eye. The various social and economic constrains also becomes a stumble stone for development. Efforts are made by government as well as private enterprises to use ICT for positive development.

**Jamwal and Padha (2011)** presented a paper in national conference entitled “*Perception of Agriculture Staff in the Implementation of ICT in Agriculture and Rural Development in J&K state (India)*” stressing upon the role of ICT in rural development. They state that in order to transform rural community into information driven, modern and competitive society, the role of Information Communication Technology (ICT) cannot be ruled out. The people working in the agriculture sector are least equipped with proper tools to deal with rapidly changing agricultural production scenario and international competitive environment. Also, the existing Transfer of Technology mechanisms and extension programs, mostly run by the government departments, e.g.: Community Information centers (CIC) by National Informatics Centre (NIC) in Jammu and Kashmir State of India are slow and in many cases ineffective as bridges between the research community and the farmers. This is partly due to inadequate use of new means of information dissemination under these programs. The existing “technology divide” can be addressed effectively through extensive use of ICT, especially when the present extension system is no longer relevant and able to meet the increasing demands of our farming community and rural people. So in this scenario the views of stakeholders in the policy making of use of ICT in agriculture and rural development are taken into account. One of the foremost stakeholder is agriculture university which has a liability of disseminating information amongst rural farmers. So authors have taken the perception of the agriculture staff also, while formulating guiding principles for the action plan and recommendations in J&K ICT for Agriculture and Rural Development. For this study, a Stratified sampling has been done for the in-depth analysis to find out the relation of ICT with agriculture and rural development on a five point likert scale. Few of the conclusions that came out were that there is correlation between funding of ICT by the government and uptake of ICT by the farmers and rural people, secondly there is correlation between Literacy of rural
people and improved uptake of ICT in the agriculture, thirdly Agriculture Universities needs to play an important role in familiarizing farmers with the use of ICT, so that they become self dependant.

Osman et.al (2011) in a study “A New Cobras Framework to Evaluate E-Government Services: a Citizen Centric Perspective” discusses that E-government services involve a large number of stakeholders. In the literature, there are a huge number of fragmented papers on e-government models that aim to evaluate an e-government service’s efficiency and effectiveness from a general perspective. But a little effort exists to provide a holistic evaluation model from a specific stakeholder’s perspective. In this paper, a holistic (COBRAS) evaluation framework is proposed based on the most successful measurement factors that impact the satisfaction of users with an e-government service. Such factors are identified from the published literature, classified into four groups and validated using e-government experts and users as follows: Cost; Opportunity, Benefit; Risk, Analysis for Satisfaction. The framework balances the user’s cost and risk of engaging with an e-service with the associated benefit and opportunity from such e-service. The balanced analysis would determine the degree of satisfaction of users that ultimately ascertains the success of an e-service take-up. A set of 49 validated questionnaires are tested on a sample of 2785 users of TurkSat e-government portal in Turkey and analyzed using confirmatory factor analysis and structural equation modeling to establish relationships. The proposed framework is demonstrated as a useful tool for evaluating satisfaction of users and the success of e-government services.

In her paper entitled “The ICT in Agriculture: Bridging Bharat with India”, Banerjee (2011) remarks that development Communication is relatively new in the study of mass communication, but the reach is much wider than its parent. In the end years of World War II, Development Communication emerged as a field as a combination of political and economic factors in Asia, Africa and South America namely the third world. Further she said that from the ‘70s, however, development concept was refined and broadened through the addition of ecological dimensions and technology transfer. With the advent of globalization in 1990s, Development Communication has gone through a sea change; the effect was naturally felt in India, especially in the rural belt and more importantly in
the agricultural sector. According to the author never-seen-before initiatives were taken by governments, private players and in form of Public-Private Partnership to implement ICT model in interior areas. Sometimes, it is e-governance, sometimes e-commerce and sometimes e-education. Information and Communication Technology has played a significant role in developing the communication channels in the rural areas. In her paper, she tend to focus on the state of rural development through ICT by way of examining ITC e-Choupal initiative, Kissan Kerala, Gyandoot and agropedia. How these initiatives transformed the agricultural scenario in the rural belt and what could be the way forward for ICT in giving shape to a new India is discussed in this paper.

Gunasekara (2008) in the report “Enhancing the Livelihoods of the Rural Poor through ICT: a Knowledge Map” reported that in Sri Lanka, literacy regarding modern Information Technology (IT) is still at a very early stage. In a country with a 93% literacy rate, IT literacy rates are 9% for the urban population and 3% for the rural population. Utilization of Information and Communication Technologies (ICTs) in rural livelihoods development is almost non-existent. However, there is a growing interest among the government of Sri Lanka, the donors and NGOs. It seems likely that, during the next five to 10 years, a considerable number of people, including those living in rural areas, will adopt ICTs. This is mainly due to: (i) donors’ willingness to invest; (ii) continuity of state support toward the ICT policy since its inception, irrespective of the political parties coming into power; (iii) the rapid expansion of the telecommunications networks in Sri Lanka, especially in rural areas; and (iv) increasing private sector investment in ICT-based businesses. Attempts made by the government, the private sector and NGOs to promote utilization of modern ICTs for rural livelihoods development have had little impact, but have generated a considerable amount of knowledge, which will create a strong foundation for the future. There are multiple reasons for these ICT interventions being unable to leverage rural livelihoods development as expected. These include: (i) lack of understanding of the complexities of rural livelihoods; (ii) lack of identification of appropriate ICT interventions; (iii) weak collaboration among stakeholders; (iv) little focus on service sustainability; and (v) little attention paid towards capacity-building programs, essential at the service delivery level. Participants in this study suggest that more attention needs to be paid to the areas of: (i) capacity building at the meso level; (ii)
research on impacts and outcomes of ICT livelihoods interventions; (iii) promotion of innovations; (iv) development of ICTS complementary policies and rural development; and (v) creation of an enabling environment for sharing experiences nationally and internationally.

In spite of planned development in the independent India, gaps remain in its basic infrastructure, adding to the variety of structural disadvantages and disparities. In this context Raju (2008) in his paper “A Case for Harnessing Information Technology for Rural Development” touches upon the role of traditional media, developments in information and communication technologies (ICTs), the digital divide, and computerization at the rural level in various parts of the country. In this paper, an experiment conducted by the National Institute of Rural Development, Hyderabad, on the use of IT to deliver information through the establishment of Public Information Kiosks (PIKs) is described in detail. Issues that were considered for humanizing the establishment of PIKs were identified. It is concluded in the paper that organizational linkages and networking capacities are to be strengthened for ‘digital unity’ to provide multiple opportunities to the rural communities to exploit local resources for their self-development.

Bist (2007) in the paper entitled “ICT Enabled Development & Digital Divide: An Indian Perspective” discusses direction and pace of development in ICT have led practically all world economies to recognize the improvement of ICT in catalyzing economic activity, in efficient governance, empowerment of society and bringing about major socio-economic transformations in societies. Developing countries like India, have, therefore, made significant investments in these technologies and integrated the same with the development programmes to gainfully realize the fruits of such developments to their society. However, it is realized that this development has created a divide between the ‘have’ and the ‘have-nots’ in the form of a gap between the ‘technology empowered’ and the ‘technology excluded’ communities. It is therefore catching the attention of governments the world over to device programmes to alleviate this divide, called the digital divide. This paper highlights the digital divide scenario in India, various ICT
initiatives undertaken and the major challenges and key solutions in bridging the digital divide in the Indian context.

Singh (2007) in her study “Bridging the Digital Divide in India: Some Challenges and Opportunities” discusses the initiatives made in India towards digital access to information and the role of several programs in bridging the digital divide. The paper highlights include the far-reaching policy reforms of the government in agriculture and rural development, giving impetus to reform in the telecom and IT sectors.

Chauhan and Murthy (2006) in their paper entitled “India on the Way to Bridge the Digital Divide: Role of INFLIBNET” discusses that Information is a driving force in the world and intensely making impact on economy, development and social growth of any nation. Emergence and innovations in Information and Communication Technology (ICT) is dividing the Universe in different dissection. This division is broadly known as ‘Digital Divide’ on the world map. Today, no one is going to deny the existence of digital divide. The Digital Divide is a well-known concept and is being defined by the specialists in different ways. In this paper an attempt has been made to identify the factors that are responsible for digital divide with some solutions are explained. All around the world various programmes have been launched to bridge the digital gap but despite many efforts to improve this gap seems to grow wider and wider due to the inability of those who lack the knowledge and skills needed to use the electronic contents, Internet or other communication technology. In India various programmes have been launched to bridge this digital gap and this paper explains the Role of INFLIBNET through its programme “UGC-Infonet: E-Journals Consortium which is one of the steps towards bridging the digital divide in the country.

Naik and Dash (2006) in the study “E-Grama the Rural Information Gateway of Orissa” made an attempt to describe the benefits of ICT with special reference to e-governance. Electronic Governance is the application of Information Technology to the processes of government functioning to bring about Simple, Moral, Accountable, Responsive and Transparent Governance. The e-grama project implemented at Ganjam district, the first of its kind in Orissa was conceived as a pilot project to bring the benefits of Information
and Communication Technology (ICT) to all the common people of the District and different Government offices situated at Block, Sub-division and District level. "e-grama" is basically an Intranet Portal, having some static and dynamic pages with Intranet e-mailing facility among different users of the Intranet. It not only makes the administrative process smoother but also brings the common people of the district closer to the official information and helps themselves in the field of decision making. It brings in transparency, accountability as both micro and macro results are accessible at district level in easier operable forms. It brings in both efficiency and effectiveness in managing day to day development affairs including dealing with false scandalizing reports which is very common in present day politics or otherwise, against block or subdivision or district authorities. In addition to benefiting District Collector and others, it benefits citizens immensely as these information are put on intranet website. An individual can visit the village kiosk and see for himself. The secrecy is succeeded by transparency. Information on projects is accessible for everyone to see and comment. Duplicacy is removed as village-wise database are continuously updated. This brings in preventive vigilance through e-grama. Anybody can see any information anywhere. The e-grama project is unique for its simplicity and easy operational procedure. The hardware is already in place and operational. The software for the said project has been indigenously developed virtually for no cost, within a period of six months. The software and hardware along with the creation of human resources at end-user level were created by in house professionals. A data warehouse has been created storing more than 4 lakh records on various schemes related to block and villages by our own block staffs by providing them appropriate training.

Rajaram (2006) in his study “Information Literacy Gap: Challenges in Bridging the Divide” make an attempt to highlight the role of information in bridging the digital divide. Information literacy has become a crucial issue today for development and progress. It is the information gap that divides the nations into rich and poor. Even at the individual level to become an independent lifelong learner it is essential to achieve a high level of information literacy. Information Literacy programmes are under way across the globe. An attempt is made in this paper to find out the challenges in initiating Information Literacy programmes. Such a study is important because for the ultimate success of the
Information Literacy programmes it is significant to know and understand the possible challenges. An analysis of eleven case studies on information literacy originating from different countries is studied. The paper identifies and presents eleven challenges in initiating Information Literacy programmes. It concludes by raising to certain issues that emerge.

An article “Information Literacy Initiatives in India with Special Reference to Emerging Knowledge Economy” published in International conference by Ghosh and Das (2006) explains the information literacy initiatives in India. According to authors Knowledge economy in India has emerged since 1990s with the advent of liberalization and globalization of Indian economy. Since then many Indian corporate organizations established their presence outside the country, forming an informal India Inc. in competing globally. The information infrastructure situation in India has also improved a lot since 1990s, not only in the corporate organizations that exploit knowledge resources for the profit making, but also in the public institutions that generate knowledge for the development of all aspects of society and humanity. Judicious use of information resources, available now mainly in the public institutions, especially in the higher educational and research institutions, should be measured in terms of information literacy of the stakeholders. Information literacy is required for effective use, consumption and assessment of information resources available in the institutions. Information literacy can also bridge the gap between digital divide that we observe in many grass-root level initiatives in India in the forms of ‘village knowledge centers’, ‘community information centers’, ‘e-choupals’, ‘gyandoot’, etc. ushered in with the participation of NGOs, developmental agencies and corporate organizations. Present study explores various initiatives in India that address information literacy in maximizing utilization of knowledge resources. This study also focuses on the various initiatives undertaken by different institutions, starting from the elementary level to the higher educational level, professional societies and other organizations.

Rao (2004) in the article “Role of ICTs In India’s Rural Community Information Systems” discusses the role of information and communication technologies (ICTs) for rural communities and also highlights the factors preventing rural communities from
reaping the benefits of information and communication technologies (ICTs) and technological innovations to access them. She defines community information systems and lists selected successful models outside India and argues that despite the limitations in basic infrastructure and low level penetration of information technology in India; more than 50 grassroots projects are using modern ICTs for the benefit of rural communities. This paper also describes selected community projects in India and identifies the bottlenecks in, possible solutions for and observations of the initiatives of rural projects. Author concludes that creating information-rich societies is a key element of poverty reduction and sustainable development. Community network centres can play a key role in meeting the socioeconomic aspirations of rural communities by successfully addressing the “eight Cs” of success in the digital age: connectivity, content, community, commerce, capacity, culture, co-operation and capital.

Carool and Rosson (2003) in a paper “A Trajectory for Community Networks Special Issue: ICTs and Community Networking” discusses the role of ICT in Community Networking. They are of the view that the World Wide Web, network communities, and computer-supported cooperative work have transformed the context for community networks, occasioning a reconstruction of the concept. They analyze features of proximate communities and use these as a basis for examining the design rationale for current implementations of community networks. In particular, they highlight multiple roles and relationships, social and material reciprocity, personal and institutional visibility and accountability, personal and collective efficacy, community-based institutions, and place. They use the analysis to identify directions for further study and development of community networking. They identified a set of central issues and trade-off positions in the design rationale for community networks. From this design rationale, we projected a set of principles that could guide the developmental trajectory of community networking in the future. The people, places, and activities of each community are unique. Nevertheless, they can be associated with categories and scripts; they can be simplified as stereotypes. This insight is a key to developing a commercial digital cities service: To some extent, at least, one size can fit all. From this standpoint, digital cities services are a reasonable commercial codification of the some of the simpler features of the community networks of the past two decades.
The author emphasizes on some of the projects initiated by the government to reach remote and rural areas like “Grameen sanchar sevak,” “Gyan Doot,” the CARD and e–Seva projects, etc. It further discusses Digital Library Projects, viz. the National Science Digital Library (NSDL) and Vidya Vahini, digital mobile libraries and library networks and community information centers. The paper also mentions the role of educational institutions like the Indian Institute of Technology in reducing the information gap by launching projects like Infometa and Webel, and it discusses the role of private business houses and Indian dot–com companies in information dissemination. The article also highlights some of the challenges and barriers to digitization and the need for strong determination, good policy–making and political support in bridging the digital divide in the country.

Caspary and’Connor (2003) in a working paper “providing Low-Cost Information Technology Access to Rural Communities in Developing Countries: What Works? What Pays?” describes role of Information technology in rural areas. According to the authors rural areas of the developing world are the last frontier of the information technology revolution. Telephone and internet penetration there remains a small fraction of what it is in the developed world. Limited means of electronic communication with the outside world are just one source of isolation of rural communities and economies from the forces of national and global integration, albeit an important one. Without roads and electricity, the benefits of extending ICT access would be greatly diminished. Conversely, where these other elements of infrastructure are in place, those benefits can be multiplied. The costs of ICT provision to rural areas tend to be higher than to more densely populated urban areas, and the ability to pay of potential subscribers lower. In recent years, a number of interesting experiments has been initiated to extend low-cost telephone and, in some cases, internet access to low-income rural communities. This paper reviews some of these, with a particular emphasis on whether they are likely to prove financially sustainable. Surveys of rural households’ willingness to pay for telephone service point to its potential commercial viability are done. Franchise models of shared-access provision would appear to have the most favourable economics. Through standardisation and demand aggregation, they offer the prospect of reaping economies of scale in hardware and software procurement as well as in provision of
technical support, and enhanced bargaining power in negotiating interconnection fees and leased line prices. Such models provide opportunities to small entrepreneurs, at the same time creating incentives to both cost containment and rigorous financial management. If innovation is not to be stymied, however, the franchise model needs to allow for flexible local variation in implementation. Besides the strictly economic benefits, there can be important social benefits of maintaining long-distance contact with family members working abroad or in the city. The experience of Bangladeshi women who make up the majority of village phone operators for the Grameen network suggests that social status can be enhanced by virtue of control over a valuable resource — information access. Governments need to consider the difficult tradeoffs among competing uses of scarce tax revenues and borrowed funds. Fortunately, in the case of telecoms and the internet, there is not the same need for substantial public investment that there is in rural roads and electricity. An adequate regulatory framework and well-designed contractual bidding process for supplying less profitable segments of the market should go a long way towards attracting private investment, including in underserved areas. According to the author, this is likely to be the most direct path towards the ultimate goal of “universal service”.

Blattman, Jensen and Roman (2002) in a case study “Assessing the Need and Potential of Community Networking for Developing Countries: A Case Study from India” describes a strategy that uses a range of both qualitative and quantitative research methodologies to undertake such an assessment, and provides a specific case study of an ICT project in rural Tamil Nadu, a state in southern India. The study gathered data on the following topics: socio-economic status, agricultural marketing & price search, availability of information on agricultural problems, employment availability and search, media use, household spending, and use and satisfaction with government services. The data was used to construct an ‘information and communications profile’ that depicts current ICT and media usage and existing sources of information for various community agents (farmers and producers, laborers, government, etc.). Authors also analyzed the methods and costs at which agents obtain information, as well as gaps and information needs. These analyses allow them to demonstrate opportunities for community and economic development through improved information access, and identify critical issues that
should be considered in the design of ICT projects. This methodology, and the results obtained, will be greatly valuable to both researchers and academics in their community networking undertakings.

The remainder of this paper provide a brief description of the project setting briefly summarizes the research methods, describes the economic and social conditions of the region under study, while it also provides an analysis of the information, communication and media profile of the study area, including a discussion of the implications for project design. Authors also focus specifically on the needs of agriculture and farmers, since agriculture dominates the social and economic organization of this study region. Finally, they conclude with a discussion on opportunities for ICT in rural development, including suggestions for future research.

Cecchini and Raina (2002) in their study entitled “Warana: the Case of an Indian Rural Community Adopting ICT” discusses that information and Communications Technology (ICT) can be used as an effective tool for rural development. An example of the adoption of ICT by a rural community is the Warana “Wired Village” project, in the state of Maharashtra, India. There, the local cooperative is using ICT to streamline the operations connected with sugar cane growing and harvesting. This is benefiting small farmers, both in terms of transparency and time saved on administrative transactions, as well as the cooperative, in terms of monetary gains. The Warana example also allows to draw four key lessons on the use of ICT for development in rural areas: first, before launching any ICT initiative, the information needs of a community should be thoroughly assessed; second, content and software applications should be developed with continuous involvement and feedback from the community; third, special emphasis should be placed on women and poor people’s access; and fourth, operators from the grassroots are probably the best agents to bring ICT to rural communities.

According to the authors, Information and Communications Technology (ICT) can be used as an effective tool for rural development in India and elsewhere in the developing world. An example of the issues involved with the adoption of ICT by a rural community is given by the experience of the Warana Group of Co-operatives (WGC),
which is using ICT to streamline the operations connected with sugar cane growing and harvesting.

ICT was brought to this area by the Warana "Wired Village" project, launched in 1998 as a collaboration between the National Informatics Centre (NIC), the Government of Maharashtra, the Warana Vibhag Shikshan Mandal (Education Department) and the WGC. The right conditions to bring ICT to Warana exist both in terms of human development and of infrastructure, as, for instance, there is uninterrupted power supply in the area. The project aims at bringing agricultural, market and educational information to 70 villages around Warana Nagar and intends to simplify other business operations of the co-operative. Many of these features have not been implemented yet.

According to Raju (2000) in his study "Towards Access to Information in Rural India" states that the rural areas in India are characterized by limited land availability, low literacy, inadequate health, sanitary and drinking water facilities. In spite of over five decades of independence, the rural scenario has not changed much and 75% of rural people are either manual labourers, or artisans. In view of a variety of structural disadvantages, i.e., illiteracy, malnutrition, and the social complications of caste in Indian society, there is a need to redesign the traditional public library and its services to deal with the information needs of rural areas. In this connection, the National Institute of Rural Development (NIRD) conducted a variety of studies and has come up with an action research project aimed at establishing Public Information Centres (PIC's). The objective of these centres will be to provide information on rural development programmes, agricultural extension, and utilities as well as social development information, e.g., health, education, finance, legal. This paper discusses the issues involved as well as the location of PIC's, databases, training, service and the sustenance of PIC's.

2.4 CICs and Community Information Services

Ndinde and Kadodo (2014) in their article “The Role of Community-based Information Centres in development: Lessons from rural Zimbabwe” highlights developmental issues initiated by different community-based information centres elsewhere in the world and in
Zimbabwe. It defines community, information, rural development and traces on community centres throughout their evolution to the modern community-based information centres. The premise of the paper is that establishing community-based information centres in Zimbabwean rural areas would strengthen and empower rural people to be among global players. The major focus of this paper is to provide a framework for establishing these centres in rural Zimbabwe for the purpose of providing everyone with useful, practical information for their developmental activities. Rural Zimbabwe has a bigger role in national and international development which can be achieved by harnessing community-based information systems and services. Despite low level penetration of community-based information centres in Zimbabwe, the Matabeleland South initiatives have capacitated Zimbabweans to follow the trend. The centres should be spread throughout the country to provide information for development. Community-based information centres can act as significant trajectories in meeting social and economic targets for rural people by connecting them to developmental programs. The paper finally shows how community information based centres complement efforts by the government and other agencies in resource sharing and enhancing services available through such centres.

In a journal article entitled “E-Governance Service Delivery - An Assessment of Community Information Centre Model in India” by Saeed, Bharali and Bhowal (2012) provide an assessment of CIC model in India with special reference to E- Governance. According to him there exists relationship between the Governance and Information & Communication Technology [ICT]. For the digital revolution in the rural areas in developing countries like India, governmental intervention was done in the form implementation of a Community Information Centre Model [CIC] of ICT project to reach the people. Hence, an assessment of e-governance through CIC Model was done. The scope of the study was to analyze the activities of CICs in one of the districts in India. The district has its rural and tribal character and unique distinction of ISO 9001:2000 certificate for integrated citizen centric services.

The study investigates the demand-supply matching of e-governance services rendered under the CIC model from the perspective of the providers, users and community people.
The study necessitated, developing a new evaluation methodology and use of Empirical Research Design, structured questionnaire, multi stage stratified random sampling technique, primary data along and Descriptive statistics and Non-Parametric tests for hypotheses testing. The study observed that there is gap between the level of demand and the level of supply in respect of e-governance service by CICs, as perceived by the Service Providers, Service Users and Community People. To fulfil the gap between the levels of delivery of the e-governance service, views of the target population should be considered more. The positive message is that there exists high level of demand for e-governance service in the rural as well as tribal areas.

Islam and Truji (2010) in the case study “Bridging Digital Divide in Bangladesh: Study on Community Information Centers” highlights the different attempts that have been made to bridge the digital divide in Bangladesh, with special focus on the Community Information Centers (CICs), which are playing a unique and innovative role in reducing the digital gap. The right to information has become one of the basic needs of all the people of the community. For building digital Bangladesh and access to information, Community Information Centers are a major potential platform for the rural masses. They have opened a new vista for the community people and help villagers to access the digital world. CICs aim to make maximum usage of ICT and to reap the results for the rural community. As the present government declared the vision “Digital Bangladesh by 2020” it is very rational that the government has to give high priority for the rural masses. In this aspect, CICs will play a leading role in rural areas. This study will certainly create another avenue for bridging the digital gap and digital Bangladesh could well reshape in the future.

NKWANGA Kintu (2010) in the paper entitled “The Role of Community Knowledge Centres in Enhancing Agricultural and Community Development through Information Exchange” discusses that Community Knowledge Centres (CKCs) are community-based facilities equipped with appropriate ICT tools to enhance information generation (from within and without, e.g. indigenous knowledge and market information on one hand, and research findings on the other hand respectively), dissemination and skills development for local communities in African developing countries. They are equipped with materials
like books, newsletters, journals, research reports and electronically stored information that include CD ROMs and web-based resources. Mabamba and Lukwanga CKCs are such centers initiated by Nature Palace Foundation and Arid Lands Information Network with Environmental Alert, respectively. In both cases, community participation is the key. Such knowledge generated is shared locally using leaflets and notice boards and also internationally using internet-based world space technology. In turn the communities are able to access information on markets, pests and diseases management, weather predictions and advice etc. Through this exchange communities have been able to find solutions to their pressing problems in agricultural activities like ‘peculiar’ pests and have been able to increase their profitability using market information provided. CKCs make the media, ICT tools and scientific research more relevant to the grassroot farming communities and provide good entry points for increased use of new research findings in agricultural development.

Islam, Anwarul and Gausul (2010) in their study “Community Internet Access in Rural Areas: A study on Community Information Centers in Bangladesh” explores the role of CICs in Bangladesh in providing internet based services to the rural community. The rural communities have different needs for information depending upon their functions, responsibilities and duties. Different Community Information Centers are meeting up these demands through the provision of information services. The purpose of this article is to highlight Community Information Centers established in the rural areas of Bangladesh and describe how these centers are playing a vital role for providing specific Internet- based information services to the rural communities. This article explores the major role of Community Information Centers (CICs) and its impact on the user communities in Bangladesh. Equal importance is also given to how the communities are getting the latest information facilities through CIC and explores how CIC can be strapped up to promote development of the rural communities in Bangladesh. This article also sees the sights of different community Internet access points in Bangladesh and identifies their service pattern and existing situations of internet services. It also highlights the different problems of CICs and an attempt has been made to suggest some effective measures and future directions for further development of Internet access points and CICs in Bangladesh.
Sankaraiah (2009) gave an account on People’s Network, its aims and objectives in an article “The People’s Network: What is in it for us?” According to the author information age brings with it challenges as well as opportunities. Information technology which is widely believed to usher in information age, if allowed a free rein, may exacerbate the digital divide. The People’s Network (PN) in UK is seen as an answer to some of the problems that accompany information society. This paper begins with an explanation of the PN, its origin and the background. It deals with the PN’s broad aims and objectives, together how they are being realised. PN’s progress has been under review with a few informal attempts and a couple of major formal ones, having the official stamp. The paper also draws attention to some faint dissenting voices on the network in UK. It further attempts to see how India can draw lessons from the UK experience. The public library that emerges out of the PN is looked at in some detail. It also briefly looks into the sustainability aspect of PN.

Ariyabandu (2009) in the paper entitled “Role of Telecenters as Knowledge Networks: Successes and Challenges” reports that conventional telecentres are transforming into knowledge networks with knowledge hubs as the intermediary. Knowledge hubs consist of other knowledge functions like, education, employment, agriculture and health besides providing conventional ICT facilities to bridge the digital divide. Many of the value added services have empowered rural community to access information and knowledge to improve livelihoods and attain sustainable development. Besides new information sources, the transformation has also embarked on new partnerships, governance structures, participation and business plans. These changes have been able to capture the fragmented and inadequately utilized knowledge within the communities to strengthen knowledge networks. The process from telecenters to knowledge hubs has facilitated not only bridging the digital divide but also the economic, social and gender divide which are polarizing the society. The Paper emphasizes the importance of telecenters in the continuum and supports the theory that sustainability of telecenters and knowledge networks are equally important for sustainable development.

Subramanian and Arivanandan (2009) in his study “Rural Development through Village Knowledge Centres in India” envisages that Information and Communications
technologies (ICTs) have played a major role in the development of societies. For the past several years, India has experimented with extending the reach of ICTs to rural areas with a view to bringing development to these areas. Several projects are currently underway. This paper examines the implementation of Village knowledge Centres in rural Southern India. They first describe the developmental disparity that exists between urban and rural areas in India, and justify the implementation of rural projects that extend ICTs to rural areas. They examine prior work, and then describe in detail the Village knowledge Centre Project, conceived, developed and implemented by the M. S. Swaminathan Research Foundation (MSSRF), a Non-Governmental Organization (NGO) located in Chennai, India. They describe their field visits and observations, and conclude with an analysis of the role and benefits of such projects, unresolved questions and issues, and possible directions for future work in this area.

Islam and Islam (2008) Improved communication and easy information access are directly related to the social and economic development of a country. Access to telephony and ICTs world, development has become more widespread in developing countries like Bangladesh. This study aims to identify the information facilities of rural communities in Bangladesh and understand the challenges and opportunities. It also explores how CIC can be strap up to promote development rural communities in Bangladesh. Questionnaire, documentary sources and observations are the major methods of this study. The study identifies that CIC will make easier community peoples life to enter information arena with an easy environment and help them to increase their skills, expertization in their respective fields. Different problems are also appears for establishing CIC and it also suggests some suitable suggestions for further improvement of CIC in Bangladesh. Community Information Centre has opened a new vista for the rural people in Bangladesh. Effective utilization of ICT has the potential to make the rural communities in Bangladesh prosperous. Further, no single agency can deliver all these critical inputs. Besides the private sector, the need for a proactive participation by the government sector, NGOs, government agencies and other civil society organization is also important. The project CIC aims to make maximum usage of ICT and the latest technology available in the most developed countries to reap the results into the rural community. The idea of having network of CIC in every village connected together into a Village Community
web-portal, and complemented by Intelligent, Real-Time Governance will lead to reduced information asymmetry between administration and the citizens. No nation can progress leaving behind more than two-thirds of its population. The tools and technology in the forms of CICs, the Community web-portals, intelligent and Real-Time e-Governance are at hand to reach the rural masses in Bangladesh.

This paper “Social Development in Indian Rural Communities: Adoption of Telecenters.” by Rao (2008) outlines the problem faced by India in dealing with her rural poor, who constitute about 72.2% of 1027 million and live in 600,000 villages with poor or no infrastructure, and suggests ways to increase their income level. The government must redefine its policies and strategies, and deploy information and communication technologies (ICTs) innovations with application and active participation from development organizations (DOs) to achieve this. This paper highlights the status of ICTs in India and their role in social development, and discusses the case of telecenters, their benefit and overview of current initiatives with select examples. Further, it deals in detail with the sustainability of telecenters and analyses the emerging scenario using Gartner's Hype Cycle. The study concludes that many ICT initiatives in India lack a comprehensive plan in addressing the target population, struggle to sustain due to insufficient infrastructure and are too ambitious as they are not equipped with appropriate technologies in serving the rural communities. Author is of the view that to be successful, a telecentre model needs to be built upon the principles of multi-stakeholder partnership involving the government, private organizations and DOs for combining innovation, responsiveness with stability and public participation, and needs to include massive numbers of excluded people into the information world.

CICs mainly encourage the use of IT in urban as well as rural areas. These CICs enable the local community to fulfill their information requirements regarding their field of interest by using information technology tools. In this regard the article by Jet Damazo (2007) entitled “Community Information Centers in Sri Lanka” reflects the role of CICs in different districts of Sri Lanka. In Community Information Centers in each of the three districts - Gampaha district in the Western Province, Ratnapura district, and Kalutara district – the people are able to access vital information that helps to create opportunities
for them to participate in economic growth. The article also envisages the project, carried out from late 2003 to 2005 which builds upon the Government’s vision to take information and communications technology to every village, citizen, and business. It aims to serve as a testing ground for electronic learning, commerce, medicine, and government services, and consequently provide case studies on how these services can effectively reach the poor and disabled. To expand accessibility, in each of the districts, 10 village-level information centers were set up and connected to the community information centers through the information networks. After a year of operations, the three community information centers served more than 60,000 people - 31,000 in Gampaha, 17,000 in Ratnapura, and 18,500 in Kalutara. Out of which 32 to 41% belonged to the poorest of the poor, known as Samurdhi recipients, or those with a monthly income below the poverty threshold of Rs3000. More than 75% of the users were classified as poor who were looking for information related to jobs, education, and those relating to industries.

Content plays an important role in providing information to various communities especially rural communities. Content can be enriched through Community Information centers (CIC), which allow the rural communities to share and exchange content and also helps them to strengthen and empower themselves. Dash (2007) made a deliberate effort in her study “Block Community Portals of Community Information Centres in the North-Eastern States” to describe the role of Block Community Portals that are helping to generate relevant content by local communities to facilitate the local expression. Content development is an integral part of an information system. With this objective, Community Information Centres (CICs) have been set up by the Government of India in 487 blocks of the north-eastern states. Block Community Portals (BCPs) at CICs are helping to generate content about, and relevant for, local communities to facilitate the local expression and application of information using need assessment studies and community participation. Communities are making use of this system as a means of information sharing and are thereby reaping the benefits of ICT.

A relevant book Community Information and Technical Centre: focus on South East Asia (2007) by UNESCO focuses on digital divide between urban and rural population of
South East Asia. This book mainly stresses on analytical comparison of different types of community centers, telecentres and multimedia centres. Various chapters in this book cover evolution of community centres, community libraries, community information centres, telecenters and community multimedia centres. This study mainly focused on eight specific issues viz. policy environment, organizational structure, management of the operation and staff, programmes and services, financing particularly costs and revenues, outputs, outcomes and their impact on the communities & their development, factors that determine success and failure, sustainability of policy programmes and facilities. This book also includes case studies from Ban Fon, Thailand, Ban Limthong, Thailand, Ban Samkha Thailand e-way centre, Luang Prabang, Lao PDR and PDA centre in Nakhon Ratchasima.

**Nandita and Dash (2007)** in their paper “Community Information Centres” discusses the importance of setting up the ICT Infrastructure at the Block Level, to provide web access and Internet services such as e-mail, Market access in north-eastern states. The eight north-eastern (NE) states of India have traditionally been less developed than the other states due to their geographic remoteness and difficult hilly terrain. The Government of India, in 2002, set up 487 Community Information Centres (CICs) at the block level in the eight NE states of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura. They are equipped with computer communication equipment and are internet-enabled. The CICs, besides offering basic services like internet browsing, e-mail and training in computer fundamentals, also provide citizen-centric or government-to-citizen (G2C) services.

e-Suvidha is a single-window front end for such services and is offered by many CICs. It enables the citizen to apply for government certificates, licenses, etc., at the CIC, monitor the progress of the application and collect the document from the CIC. Examples of documents covered are birth, death, marriage certificates, arms license, etc. ASHA, a joint effort by NIC and Assam Small Farmers Agribusiness Consortium facilitates agribusiness in the state of Assam through a web portal. A block community portal (BCP) or individual web site has been developed for each CIC. This provides an interactive plat-
form for collaboration within and outside the community and information of local interest.

Several proactive CIC operators are implementing some praiseworthy good practices at the CICs under different categories, such as electoral activity, e-governance services, examination results and other multifarious activities. Awareness programmes on the benefits of IT, in general, and the services offered by CICs, in particular, are conducted by the CIC operators. In addition to using novel means, like debates and quiz competitions for awareness, the CIC operators even conduct door-to-door awareness campaigns. The CICs facilitate global communication access, empower local citizens, enable rural IT education and provide connectivity to the masses.

According to the author the CICs have been established against insuperable odds as the region is hilly, and traditional means of communication are poor. A unique team effort has facilitated a very successful project. It has substantially impacted socio-economic development of the region. In the wake of the success of the CIC project in the NE of India, a similar project has been implemented in another remote and less developed region of the country, namely the state of Jammu and Kashmir (J&K). Deliberations are under progress on similar projects in other states of India. This paper elucidates how e-governance services are being delivered virtually at the doorsteps of citizens for their all-round benefit and the development of the region.

With CICs, government wants to bring e-governance at grass root level in India. In this regard Kokil (2007) presented a paper “SAP-LAP Analysis: Gyan Ganga, E-Gram & Communication Information Centres”. This paper reveals that the Gyan Ganga, e-Gram and Communication Information Centre (CIC) are the ambitious projects of government of India related to e-governance, which is the application of ICT in government functioning to bring in SMART governance. The paper describes about projects by individual SAP-LAP analysis and SAP-LAP analysis of all together. In recent years there have been several projects launched by the government(s), sometimes in association with some private parties, to provide rural citizen with better mechanisms of governance using
IT as a tool and leveraging the connectivity for the empowerment of rural community so as to assure a greater and meaningful participation in the development process.

**Singh et al. (2006)** in their paper entitled “Access to Web-Based Community Information Services in North East India” made an attempt to highlight the access to web-based community information services of the Community Information Centres (CICs) in North East India. Emphasis has been given on the objectives, specific purposes, infrastructure, and major facilities and services. Authors point out the need for assessing the impact of the CICs to the people of the region and conclude that such services can be used for the development of the region.

**Kibat (2006)** in his paper entitled “Community Information & Referral Services for Rural Areas of South East Asia: A Conceptual Framework” describes that there is a growing recognition that library and information services must become part and parcel of socio-economic development programs. Since the majority of people in Southeast Asian countries still live in rural areas and are engaged in agricultural activities, attempts were made to reach them through rural library services. However, existing services are deemed too book oriented and hence information and referral services (I & R) have been suggested as an extension of existing library programs, particularly those services providing information on agriculture. A CAINS (Community Agricultural Information Networking System) model is proposed. The paper concludes that I & R service can help reduce the information gap between the urban and rural areas.

**Kamba (2006)** in his article “Access to Information: The Dilemma for Rural Community Development in Africa” states that provision of information services in Africa has been dispersed and access to various information services has become more difficult; the principal victims of these developments have been rural people without having any individual means of becoming literate, due to them being too illiterate, too young, too old, too poor or too ill because of the economic and information poverty. The paper will provide a highlight on the value and usefulness of information as it affects rural community development and the need for it to be managed effectively. The premise of the paper is that promoting the role of information through the establishment of
innovative community information centre (ICIC) will strengthen and empower the rural people to be among global players in the knowledge-based economy and also it will provide the opportunities for rural community development in general. This entails that the development of any rural community is a positive indicator for the development of a nation. Finally the paper provides a framework for which library and information services can be sustain to foster rural community development by making information as influential factor, which serves as an agent of social, educational, economic and political development.

The paper “Community Information Centres in Nagaland with Emphasis on Medziphema Block” by Singson (2006) highlights the information needs and users’ dependence for information on Community Information Centres (CIC) in Nagaland with emphasis on Medziphema block. It also focuses on the effort needed for imparting computer literacy, information literacy for preparing and powering the underprivileged rural masses through the use of ICTs in such community centres. An attempt is made to reduce the challenges faced by disadvantaged communities such as lack of suitable skill set, language barriers and low literacy in using ICTs and the Internet through a simple, consistent and easy-to-use interface that requires low level competence from users and through accessibility to the use of multiple media (textual, audio, visual). The community information centres and village knowledge centres are the recent additions to this effort that would transform India into an information society, where information and knowledge resources are considered as critical ingredient for development. But problem is with the effective and efficient use, consumption and evaluation of information resources, so that informed citizen can take right decisions. Here information literacy can play a vital role in educating the users of libraries on various information and documentary resources, where to start searching of information, what where and how to access them, how to assess and compare retrieved information, how to communicate their information or findings to the general masses and experts, and so on. In addition to borrow books for entertainment and leisure, community information centres can also disseminate information on community development, best practices, literature, culture, trade, education, etc. which may be further elaborated when needs arise. Information seekers may want consolidated or exhaustive information. To provide right information to the users, operators should be
trained to develop information literacy competency and should able to educate the user that will make user information literate.

**Bishkek (2004)** in his paper entitled “Community e-Centres (CeCs) for Rural Development and Poverty Reduction” discusses the goals of CeCs i.e., strengthening national capacity to utilize satellite communication and other ICTs to improve connectivity and services to rural communities in under-serviced areas, demonstrate accessibility and affordability of satellite broadband CeCs for physically difficult areas and to identify mechanisms for long-term sustainability of satellite broadband CeCs. Of the 3.3 billion people in the Asia and Pacific region, around 66% live in rural areas. The waiting time for extension of terrestrial-based communication infrastructure is lengthy: some mountainous or very isolated areas may never be connected to the outside world by cable or fibre network. Satellite-based communication is however practical for these areas, and can be introduced on a graduated (step by step) basis, with data rates and call capacity increasing over time. A community-based service offers cost advantages, as fewer facilities are required and the overheads are shared by many users.

**Methei and Devi (2004)** in their paper entitled “User Needs: A Case Study of Community Information Centres of Manipur State” made an attempt to study the IT awareness of the user community in the State of Manipur. The paper highlights the information needs and dependence of information on Community Information Centres (CIC) are analysed. The conclusion focuses on the considerable work and effort needed for imparting computer literacy, information literacy for preparing and powering the masses for the construction of knowledge based society. Further, according to the requirements of the user community, content preparation is necessary and it has been suggested that, the information available on internet may update on a frequent basis usually in local language for the benefit of local communities.

**Muthukumaraswamy (2004)** in his paper “Awakening rural India through CICs” writes about World Corps of India’s(WCI) experience in its project in Kuppam, Chittoor district, Andhra Pradesh, India which provided important lessons for exploring the potentials of ICT for generating employment in the rural areas of India. The model that
WCI attempted focused on capacity building of the youth, which enabled them to create a micro-enterprise - “Community Information Centres” for their economic sustenance, while meeting the communication and information needs of the communities in small towns, villages and habitations. The CIC is a hybrid model combining the provision of G2C – Government to Citizen Services, B2C – Business to Citizen Services and C2C – Civil Society Organisations to Citizen Services and information and communication services all under one roof. The CIC functions both on behalf of the community, the government and the private agencies in providing information services that caters to the underserved communities by using IT-enabled Communication Technologies. Apart from taking the benefits of ICT to the underserved communities, this project has created an opportunity for sustainable and meaningful employment for the unemployed youth of rural areas.

**Kumaresan and Chitra (2003)** in their study “A Study on the Need of Rural Information Centres in the Villages of Tamil Nadu” reveals that there is need for Rural Information Centres (RIC) in villages of Tamil Nadu from where people can obtain information of interest and use to them. It can be a centre where people can take part in learning activities, discuss and share knowledge and information and concerns with extension and other community workers, planners and administrators. Further the RICs can help the people can take part in retaining their literacy and numerical skills. The RICs can also be a forum where members of the village can work on community projects and produce their own information materials. It can also serve as a place for cultural and leisure activities. Keeping these aspects in view the RICs can have the following objectives:

- To improve the competency and productivity of the people by giving relevant and authentic information.
- To play an active role in the process of socio-economic transformation of poor villages.
- To disseminate information in the language and form which is more suitable or acceptable and understandable to the rural people?
- To give current information of both national and international nature.
- To be an institution of social and cultural change.
Rural areas are the backbone of any developing country. Productive, effective and meaningful services of RIC are very much essential in view of high rate of illiteracy and poverty in rural areas. This is so particular in Indian villages where 76.7% of total population resides, with more than 50% of them illiterate and 30% of the population falling below the unless the living conditions and standards of living of these people improve, any statements, reports and data would falsify the true or intrinsic development of the country. Since the chunk of poorer sections cannot afford acquisition and access to information resources, RICs may meet the information needs of the village people.

This report “Community Technology Centers as Catalysts for Community Change: A Report to the Ford Foundation” by Davies, Pinkett, Servon and Schwartz (2003) presents the findings from an exploratory research into how community technology centres (CTCs) could function more effectively as public spaces and as forces for positive social change at the community level. In understanding the dynamics of their work at present, authors hope to inform community technology researchers, practitioners, and funders as to the ways in which the movement can leverage its accomplishments of the past in order to serve communities more broadly as it looks toward the future. This research was initiated with funding and direction from the Ford Foundation, in order to assess the situation in which CTCs currently find themselves and make recommendations regarding whether and how CTCs could be supported to take on broader community agendas. The primary assumption driving this work was that CTCs—most of which are located in disadvantaged neighbourhoods with rapidly changing demographics—are important not only because of their specific digital divide work, but also because they act as key public spaces in areas where there is a dearth of such community places. They also hypothesized that there was a gap between the community development and community technology fields, and that this new perspective would help to bridge this gap, enabling greater efficiency and effectiveness on both the community technology and community development fields. Through this research, the goals were to:

- Understand the extent to which CTCs already think of themselves and act as public spaces in the communities they serve;
• Investigate perceptions of a gap between community development and community technology work;
• Explore the ways in which CTCs, as public spaces, can catalyze broader positive community change and the strategies they are employing to do so;
• Identify the characteristics of CTCs that are most amenable to carrying out this kind of work;
• Discern what specific kinds of support CTCs require in order to do this kind of work; and
• Make recommendations regarding actions CTCs can take, and that funders can use to establish priorities for CTCs.

To fill the digital gap between urban and rural population community information centres play a vital role. This is well expressed by Thomas (2003) in “Expanding Access to Information in Cambodia: Community Information Project”. In this article he gave an account on how CIC helps in expanding access to information in Cambodia. The Asia Foundation, an international non-governmental organization active in Asia since 1954, has launched an innovative new project that provides unprecedented levels of access to information and communication to every Cambodian province, through a network of 22 CICs. To build this digital gap, the Asia Foundation (TAF) is supporting the establishment of CICs, in 22 provinces and municipalities across Cambodia. The core of each CIC is an information and communication technology unit that provides internet access, e-mail and other computer based services to the local community. Financial support for the project is being provided by the United States Agency for International development (USAID).

Amudhavalli (1999) in his article “Community Information Network” overviews what community information means and its implications on the role of a library and information centre. No single institution can meet the general information requirements of any given community. It attempts to examine how a cooperative venture of interagency network can lead to an effective community information service suitable for the local population. Libraries can make a provision for CI in two ways. They can try to provide a service direct to individuals and groups by running an advice
desk/bureau/centre handled by specially trained professionals. Alternatively, they can provide this service indirectly in conjunction with other agencies targeted for focused group like disadvantaged community within a locality. In urban areas, the role of library and information centre will be supplementing and complementing while in rural areas there will be a need to initiate this activity.

**Rao, V.M (n.d)** in this paper “Bridging the Digital Gap at Village Level: Lessons Learnt From Pondicherry's Village Knowledge Centre” discusses that with widening gap in digital divide among urban and rural areas, it has become imperative to bring the people of disadvantageous groups to the main streams of society and have similar accessibility to the information technology for overall growth and prosperity of any country. According to author any intervention to bring the rural masses to the door step of IT, GIS and ITES can bridge the digital gaps in the society and facilitate growth and prosperity of any region, people and country. Pondicherry, a eastern state of India, exemplifies the evidence of such a deliberate effort, promoted by a research NGO organization, who have made it possible to take advantage of the IT revolution for various aspects of the local people in terms of improvement in their information access, sharing, better preparedness for disasters and exposure on e-extension and education. The working of such a system making the whole village a environment friendly and bio-village and transformed the database to a knowledge base. Predominantly a fishing community set up, villages developed computer infrastructure and WAP based Motorola Spread Spectrum technology to have high speed distributed internet centres and share among them daily weather, agricultural information, health, education, credit linkups, GIS on land use and land cover, disaster information through downloading web heights and other multi purpose centres and also generate resources for the sustenance and promotion of the set up reliably. Village school children no longer scared of computers and plays games and educational CDs on the computers. Fishermen plans for his schedules to the sea based weather prediction and web heights. Village women have been managing the computers and also using them for multipurpose activities like job works, educational purposes, information sharing, developing various sectoral information base for village level development activities, policies and programmes of GO and NGOs and a host of activities. Now that computerization process and IT been operational in their villages and
the village people are linked to the outside world, there is a conscious effort to take all advantage of the IT, Geomatics and ITES revolution for their own local use and development. Land use and Land cover information, land information system at the cadastral level, satellite information on natural resources and linking various layers of attribute data on socio economic, infrastructure, natural resources and market information, helped the village community to take decisions more judiciously in an optimum manner with various alternative action plans. Various action plans generated by GIS help the villagers save time and money and take actions in time. The Pondicherry experiment of Village Knowledge Centres made it possible to prove that IT, Geomatics and ITES can be effectively implemented at the local level and people can be partners in progress and decision makers in their own development.

Impact of CICs on the rural areas of Nepal is described by in study entitled “Rural Transformation by the Establishment of Community Information Centers (CICs) in the Rural Areas of Nepal: A Pilot Project”. The study states that Nepal Rural Information Technology Development Society (NRIDS) was established in 2004 with the objective of bringing IT awareness and services to people living in rural areas throughout Nepal. The fact that Nepal has failed to embrace the information revolution over the last ten years means that as a country we have fallen further behind the developed world, rather than gaining ground. Everyone would agree that Nepalese people who are involved in agriculture, education, construction, and tourism can benefit greatly from access to the Internet and web technologies, just as residents of other countries have. If only these people could have their eyes opened to how business and education is carried out in the developed world, business would prosper, and students would be benefitted. The problem is that much hard work is needed to provide computer access and training to rural areas in Nepal, and, as it stands, very little is being done to rectify the shortcomings in ICTs. This work began with the endorsement of the Syangja District Development Committee; the members of NRIDS have been formulating a blueprint to convert Syangja into the model district for an information revolution in Nepal. With the go of time this movement has been extended in Kaski and Dang District as well. The Members of NRIDS are working now for the formulation of Strategies throughout the Rural Nepal. This blueprint is based around the establishment of Community Information Centers (CICs) in villages where
there is currently an extreme shortage of information and information processing mechanism. A CIC, with the involvement and support of local business people, teachers, serviceman, and young people, have been established in different villages; Mayatari, Karendada, Bagalthok, Lampata, Bayatari, and Helu in Syangja; Kaskikot, Dhital in Kaski and Rampur, Laxmipur of Dang district. According to the study CIC is not designed for the big talks of ICT but to make the local people aware what ICT is. It is concerned with how the local people can get benefitted from the ICT such as how can even a farmer get benefits from it. NRIDS is carrying its activities with belief that the one and only alternative that Nepal can compete in the today’s global world is through ICT. It aims at providing the local community with an environment where the people can increase their skills, expertise and professionalism with the help of ICT in their respective field. The primary objective of NRIDS is to create ICT awareness in the grass root level. The major concern of NRIDS is to well acquaint the community in ICT development for the community, by the community and with the community.

Conclusion

So, it is concluded from the review of literature that Public libraries and CICs are serving people in their own ways. Public libraries are not much associated with Community Information Services, but they have a lot of potential of providing these services to the people at grass root level and also for their existence it is important that public libraries should provide CISs. On the on hand CICs are providing CISs to the people with the help of ICT and are playing significant role in bridging the digital divide. It is also noted during the review of literature, that no study has been done so far for integration of public libraries and CICs. So researcher has a great opportunity to explore the areas where these two organisations can integrate / collaborate to provide CISs in a better and effective way.

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