

# A Brief View to Digital Divide in Indian Scenario

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**Abstract-** The phase “Digital Divide” has been applied to the gap that exists in most Countries between those with ready access to the tools of information and communication technology and the knowledge that they provide access to and those without such access skills. A further gap between the developed and under developed world in the uptake of technology is evident with in the global community and may be of even greater significant. The relevance of these strategies to developing countries and strategies for reducing the international digital divide are also explored. Libraries have long been essential agents in fostering peace and human values. Libraries are now operating digitally, and their digital services open up a new channel to the universe of knowledge and information connecting cultures across geographical and social boundaries. The phenomenon of digital discrimination prevailing among various social, political and working groups has led to the emergence of digital information rich and digital information poor groups within societies and perhaps in the global environment. This paper discusses how the digital divide can influence to the Indian scenario also to the global world.

**Index Terms-** Digital divide, India, Library, Information, Communication, Technology

## I. INTRODUCTION

**D**igital divide refers to a substantial symmetry between two or more population in the distribution and effective use of information and communication resources. The world we live in has been changing rapidly with the emergence of the ubiquitous Society bringing forward extraordinary benefits and opportunities together with new challenges. The ability to create and utilize information plays a significant role in both socio-economic structures of our lives. On the other hand ICT has faced serious problem of digital divide between developed and developing countries. The digital divide affects many nations of the developing world. The term encompasses inadequate funding, a lack of necessary computer and internet skills and a lack of English language proficiency that hinder expansion and use of digital information resources. (Dubey,P, 2010). Factors influencing digital divide vary from region to region the digital divide is depending and the differences in the usage of communication resources between countries and regions intensifying. The digital divide can be defined as the gap between individuals, households, business and geographical areas at different socio-economic levels with regards both to their opportunities to access ICTs and to their use of the internet for a wide variety of activities. As internet has rapidly growth to underline almost aspect of the global economy, the term “Digital

divide” has often been referred to internet access it is a divide that affects and reinforces fundamental economic and social divides between and within countries and is threatening to further exacerbate these inequalities.(Singh.k, 2012)

## II. DEFINITIONS

The term “digital divide is said to have been coined a decade ago by a former United States Assistant secretary for commerce for telecommunications and communication, Larry Irving. Jr, to focus attention on the existing gap in access to information services between those who can afford to purchase the computer hardware and software necessary to participate in the global information network, and low income families and communication that cannot ... (Dragulanescu, 2002). The phase “digital divide” refers to the unique and disproportionate pace of development in societies in having access to digital infrastructure and services (Paul,J .2002). Hence the digital divide relates to disparities between countries (Naughton, 2001, Paul 2002), communities with in countries such as economically disadvantage groups or ethnic and linguistic minorities (Dorr and Akeroyd, 2002, Warne man-2002).

### Dimensions of Digital Divide

The word “divide” suggests a significant barrier, one on a massive scale and hard to shift as in “continental divide” or “great divide”. Digital divide is emphasized much on digital divide issues of hard work, technical infrastructure and connectivity loom large but these are not the only dimension of the digital divide. ([www.lianza.org.nz](http://www.lianza.org.nz)). the eight Cs of success in the internet economy formulated by Rao (2000) provide a classification that is strongly oriented to technological and economic dimensions such as-

#### Connectivity

It is suggested that the following dimentions which modify and add to Rao’s 8cs which can be identified on the basis of barriers and their effects as described in literature but they don’t start with the letter c- not only the telecommunications infracture but also availability of state of the art , work state peripheral equipment and soft ware. Access to all these by the general population, not merely technology for rural and disadvantaged communities.

#### Capacity

Sufficient trained IT professionals to install and maintain h/w, s/w and networks. Professional information workers those who are belongs to education and professional associations of IT and library information professionals.

### **Content**

Content not only means from the developed but also from the country it and communities in vernacular language relevant to national and local issues are as far as concerned.

### **Community**

Client base depends on literacy rate and level of groups, including rural communities, women, children and elderly persons with disabilities.

### **Finance**

Capital for investment in infrastructure and implementation ongoing revenue for sustainability of systems. Legislation and regulatory bodies impacting on telecommunication, the flow of content, e-commerce, availability of foreign currency, flow of funds between levels of govt budgetary constraints, producers, competitions, non-govt organization etc.

### **Policy frame work**

National information policies, IT, knowledge society, e-govt, technology transfer, rural transfer, etc. Moral and ethical framework, Issues of information sovereignty versus information media and cultural hegemony of the powerful western industrialized nations, use of economic power to force principals of market capitalism on small economies. (Lor, P, 2009).

### **Digital inclusion integrated in Social service**

The imperative comprehensive digital inclusion strategies is not solely tried to economic issues but also government agency their own e-govt initiative to improve citizen services and optimized operational efficiency. As a result a growing number of services are being offered to the public online these include-

- Financial assistance
- Food assistance
- Training opportunities.
- Recreational facilities and programme

### **Digital divide emerges as mainstream issues in Economic development**

The implications of this divide are dramatic at an individual level. Manufacturers now are task line workers with capturing entering and analyzing information about the process to remain competitive in a global economy. Retailers now make extensive use of information technology to help keep inventory levels low and customer satisfaction high. Construction workers are being tasked to use computers to track materials and improve site safety. According to Grey Goldman, CEO wireless Philadelphia- "Digital inclusion has traditionally been seen as a sort of charity initiative. But that is rapidly changing increasingly cities of all types including urban, suburban and rural are linking universal digital access to economic development imperatives. Without access to internet, it is increasingly difficult to become aware of new job opportunities, newspapers for ex-are losing classified advertising business to online publisher. At a national level, a growing number of experts predict that a lack of digital literacy will have a dampening impact on economic prospects. State and local level govts are engaged in a create an environment conducive to hosting a middle class workforce. Economic

advantage and competitiveness will rest heavily on our ability to equip the 21<sup>st</sup> century workforce with competitive digital literacy skills. ([www.microsoft.com](http://www.microsoft.com)).

### **III. INITIATIVES OF BRIDGING THE DIGITAL DIVIDE IN INDIA**

#### ***Kissan call centre***

The Dept of Agriculture and co-operation (DAC) ministry of agriculture govt of India launched Kisan call centres of Jan 21, 2004, across the country to deliver extension services. All the queries related to agriculture and allied sectors are being addressed through these call centres by making a single call the farmers reaches an agriculture graduate or expert who would be able to respond to his queries and problems instantly. These services would be available round the clock. The functioning of the levels I, 2, 3 are as mentioned in the forthcoming specific paras. I. This would be great efforts made by the ministry of agriculture govt in India to bridge the gap between the right information resource and the user by using the phone. ([www.manage.govt.in](http://www.manage.govt.in)), ([agricoop.in](http://agricoop.in)), ([kisancallcentre.org.in](http://kisancallcentre.org.in)).

#### ***Life Line India***

It is a charitable organization working to promote human rights and sustainable development across the globe to explore ideas for a telephone based information service to enable farmers to record a question and after retrieve a recorded reply. By engaged with cisco to co-sponsor the initiative. Life lines India was launched in nov.2006. This solution comprise a Cisco unified messaging platform incorporating integrated with a customer relationship management application and information dbs provided by BT. This coverage currently extends to 700 villages and the average of 350 calls to the service is being received each day. A database of frequently asked questions has been created. This is a vital service to deliver a prompt service to farmers, it is key to enabling service scalability and sustainability so that the overall caller satisfaction with the service is very high at 96% "Life line education" has being developed to extend to every villages by 2010. It is designed to provide the farming communities with access to expert advice on agriculture and animal husbandry problems. Life line India has provided the value of digital inclusion educating the rural users to use technology to access advice and learning to improve the further for their families and the local community.([www.impactindia.org](http://www.impactindia.org)), ([www.impactindia.org](http://www.impactindia.org)), ([en.wikipedia.org](http://en.wikipedia.org)).

#### ***Bhoomi Project***

It is created in Karnataka states covers 66.6 millions of records of land ownership. This project has earned the good will of many people and also international funding agencies. Bhoomi centres are located all over the state. This project can also be used as a data bank of various projects of public and private sector organizations. The project has own 2002 common wealth association of public administration and management award for creating self content governance and opening up new frontiers with the success of Bhoomi project other states of India that tamilnadu, Maharashtra and Madhya Pradesh have started evolving models based on Bhoomi in their respective states. ([www.bhoomi.gov.in](http://www.bhoomi.gov.in)), ([yellowpages.sulekha.com](http://yellowpages.sulekha.com)), ([www.commonfloor.com](http://www.commonfloor.com))

### **Gyandoot project**

Gyandoot is an internet in Dhar district connecting rural cyber cafes catering to the everyday needs of the masses. This web site of Gyandoot is extension of Gyandoot internet, for giving global access. Gyandoot is the 1<sup>st</sup> project in India for a rural information network in the Dhar district of Madhya Pradesh which has the highest percentage of tribes and dense forest. Every village has a computer centre or "Soochnalaya" at prominent market places or major roads. So people can ask their doubts and request information on crops or any other water resources. This is an information centers one such popular centre is in manpower "agriculture mandi" where the latest crop prices are made available to the farmers.(gyandoot nic.in), ([www.unescap.org](http://www.unescap.org)), (web worldbank.org).Also internet connections have been provided to get global information by linking to the www. The govt of Madhya Pradesh is attempting to make (Gyandoot) project a great success by extending it to other districts also to provide to get global information by linking to the www. To train common people to be computer literate "janshiksha" public instruction centre have also been identified and policy is being formulated to bring IT to the common peoples need and benefit. Efforts are also being made by the govt to involve public libraries in this project. The project like Gyandoot at Dhar (MP), wired village at warana Ms swaminathan foundation's project at Pondicherry, collect rate of Thiruvarur (Tamilnadu) project reported in (sotkhik Biswas 2001) have demonstrated these projects executed by the committed agencies have facilitated in bridging the digital divide. These kind of projects demonstrate that rural consumers can and will benefit from connectivity. We will find new educational and employment opportunities through this human mediated internet access projects.([www.mapit.gov.in](http://www.mapit.gov.in)).

### **TDIL Project**

The depth of information technology initiate the TDIL with the aim of developing information processing tools and techniques to facilitate human machine interaction without resources and integrating them to develop modern user products and services. (bhashaindia.com), ([www.irec.conf.org](http://www.irec.conf.org)), ([www.iitg.ernet.in](http://www.iitg.ernet.in)), (tdil.dc.in), (tdil.mit.gov.in).

### **Friends' project**

The fast, reliable instant efficient network for disbursement of services (FRIENDS) project has been launched by the state of Kerala in the southern part of the country with a view to-wards mitigating the hardship of citizens, playing taxes by eliminating middle man, delays and long queues. This project has expanded to serve 13 million people in 12 districts of Kerala. The philosophy of FRIENDS is to treat citizens as valued customers.

Similarly in Tamil Nadu a private outfit "N" lounge offering low cost tele-solutions has worked wonders in Madurai district by using the local loop technology and making available fibre optic lines running across the district by helping private entrepreneurs run services including that of e-governance. (e-printsreclis.org), ([www.hindu.com](http://www.hindu.com)) Lokamitra/ Smart project

Himachal Pradesh has initiated the lokamitra project with grants from NABARD to provide the general public, especially those living in district rural areas, for easy access to govt information facilities of e-governance to their door steps. Lokamitra "soochnalaya kendras" (information centras) have been step up in 25 panchayat areas run by unemployed youth. These kendras provide current information relating to the district and government information.([www.ijdt.com](http://www.ijdt.com)).

### **Toarahat project**

It is a project conceived by the Delhi based development alternatives group. The project provides a bunch of service like employment mandi market, e-mail, weather, matrimonial etc. The high pictured interface makes it easier for a long man to use.

## **IV. GLOBAL OVERVIEW OF THE DIGITAL DIVIDE**

The advent of information and communication technologies has indeed led to technological revolution across the globes and it continues to change the global social and economic milieu of countries making use of these technologies. Now developed countries have become knowledge societies because of this technological revolution and most developing countries are also putting strategies in place to bridge the digital divide by encouraging the use of ICTs. (Stevenson, 1988). (Osunkunle, 2008). It must be pointed out that digital divide exists in these developing and mostly especially under- developed countries as most people still do not have access to ICTS.

According to Lesame (2005:3) the term digital divide refers to the gap between the access of individuals, households, organizations, countries and regions at different socio-economic levels of ICTS and internet usage, globally, digital divide exists and this is evident in the fact that developed nations like U.S.A and Switzerland have significant access to ICTS while developing nations in Africa like Mali, Ethiopia and Congo do not enjoy considerable access. However, the rate of access to pcs in some African countries like Nigeria, Congo is less than 1 out of every 100 people (bridging the digital divide in Africa, 2003, world Telecommunications ICTS indicates, 2004).

### **Digital Divide, National and Global distinctions**

The digital divide had different characteristics both nationally and globally. Nationally the digital divide in different countries because each country has a unique history, language, and population characteristics. The total population of the world is nearly 7 billion but the estimate of internet users is only 1 billion or 15%, (according to worldwide CIA world fact book, 2007). The US alone accounts for 20% of the users worldwide. Globally the factors that affect the digital divide are similar to US, with some exceptions. However, in a global context, race could be a factor, because if we compare all the people in developed countries that have access to ICT to all the people in developing country who do not have race is co-related. (A.T.lucky, 2013).

### **Digital Divide and Information Literacy**

Various developing countries could not utilize the full potentialities of their people because of literacy. Libraries must gear up to play an important role in imparting information literacy to empower information user communities. Digital

divide is even witnessed among professionals who are working in the digital environment. Beside the rapid spread of the internet the gap is growing wider as the technological standards grew even faster networks, high level machines and many soft ware and more capable professionals are also required. It is therefore important to identify that a literacy programme is designed for whom and what impact it has on learners. Any information literacy programme should be interesting keep the learner thinking and engaging make them realize what they have been missing so far and should have rippling effect on the world of participants. In India some efforts have been made here to bridge the digital divide The wireless in local loop technology development by IIT Chennai has providing the internet connectivity to 250 community that offer these services to 700,000 people in rural India.(Gaur, 2003). The key to effectively building collection in the digital era is also training of library professional because if they learn how to make most effective use of technology, the latter will automatically get involved in their work culture. They will thus also help to bridge the digital divide by training the information users. (I.V.Malhan, 2009).

### **Digital Divide in Library and Internet**

As popular as library computer are with patrons and libraries an original goal of the investment in libraries was to help “bridge” to computers is not enough to bridge the digital divide, the skills and knowledge to use information technology effectively are equally important. One must have the interest to learn so library environment meet these requirements through their legacy as institutions of public education and most important through the librarians themselves. Informal one-one assistance from libraries has the additional benefit of teaching basic computer skills in the context of the patron own search for information. Research in information literacy and user behavior has shown that technical skills are best learned when they are thought in a problem solving context. An uncertain library patron wishing to engage online resources presents an ideal training opportunity this is exactly where librarians are making their impact on the digital divide.([www.pewinternet.org](http://www.pewinternet.org)), ([www.ntia.doc.gov](http://www.ntia.doc.gov), 22 dec, 2003).

### **Role of Libraries and Information centers in bridging Digital Divide**

Libraries have their computers wired for the internet and available for public use, also the valuable human resource they provide libraries to help visitors find their way bring technology in to our communities in friendly and useful ways for workers who will not access to the internet in their homes or on their jobs. Having internet access, people can reach to public officials to non-profit organizations to the public which they serve having provide quality of the public services provide to the community. Libraries have now many working families need to carry out all this vision of access leading to community action and improvement.

### **Access**

working Libraries can now open the way to the way to the web by providing people with the some access to Internet resources that others have , so libraries are connect for the

Internet so people have use their neighborhood library to go online, and gain access to their local union website or any other website that needs their needs.

### **Training**

Librarians and other library professional can help working people get more comfortable and skilled with using computers and surfing the World Wide Web.

### **Education**

Libraries are now provide adult education programme, as literacy classes and also GEN exams are an important resources that working people can use to get better jobs for themselves and their families. All these resources offer wonderful opportunities for union and libraries to form partnership for bridging the digital and information divide. Librarians can also help working people to get online to use the web through access for those without computers, training and encouragement to help them get over fears of using new technology.

The workers could also go to the library community technology centre to set up a free web-email account and use the local web site to get information on action needed from their co-workers and community organization working together, libraries and working people can fulfill the promise of using new technology for effective communications.

### **Academic Libraries**

The national knowledge commission (2007) has made a recommendation that all academic institutions must set up an international repository of ETD. So the libraries should go for an effective resource sharing network although there are certain efforts taken at the regional level such as (ALIBNET, MALIBNET, ADINET, and PUNET) etc. Libraries should continuously orient their users with modern information in having access to information, communication and technologies which can ultimately results in bridging digital divide. Bridging the digital divide –the best academic library in India has a budget 25% of the lowest ranked of 100 surveys in 2001 of ALA membership. (Dasgupta,S.K).

### **Public Libraries**

Most of the public libraries in India lack of proper infrastructure in terms of skilled manpower and technology. The govt should take up necessary steps for providing proper infrastructure and needs to strengthen the libraries in modernization.

### **Digital Libraries Project**

This aims to digitize million of rare books in the country and make it available to the users freely i.e keeping it as an open source is a step to-wards bridging digital divide. In order to bridge the digital divide in a larger way the govt of India in collaboration with the centre for advanced computing based in pure, which aims to bring about one million of digital books to the doorsteps of promote literacy. (Singh, 2007). Honey bee network brings together those creative and innovative farmers, artisans, mechanics, fishermen and women who have solved a problem through their own genius without any outside help whether from state, market or even NGO such self triggered and



developed innovative. The Muktabodha digital library project was begun in 1995 and the national mission for manuscript both are working to digitize the manuscript. Their goals are to make available on the World Wide Web important texts from the archives. ([muktalib5.org](http://muktalib5.org)), ([www.globethics.net](http://www.globethics.net)). Digital library of India is an ambitious project of IISC and ministry of communication and information technology govt of India. Vidya nidhi through its digital library and E-scholarship and the INFLIBNET through its sodhganga are collecting all the thesis submitted to the Indian university and are trying to provide free access to the literature which is again a sincere efforts towards bridging the digital divide. ([www.icsti.su](http://www.icsti.su)), ([deity.gov.in](http://deity.gov.in)), ([www.columbia.edu](http://www.columbia.edu)).

### **Digital Divide in Libraries and Library professionals**

In this information age, it is recognize that information is the core of all developmental activities where libraries have the key role in all collecting, storing, and disseminating the universal information. But libraries are not getting adequate attention and care while chalking out action plans for digital divide. Many education institutions are now conducting in-house training programme for their library professionals. Efforts of educational network and special network have an appreciable role in this matter many rural libraries are now here in the scene. They are facing with technological manpower and financial crunch. Some of their basic constraints are

- Crisis in getting sufficient fund
- Crisis in development of manpower
- Crisis in conducting staff training programme-to improve working quality
- Crisis in getting qualitative housekeeping soft ware

None availability of resources in digital form leading to lack of proper information services. So government and local bodies should give proper attention to these areas. An action plan should be framed for development of rural libraries. Earlier public libraries were providing government information leaflets and other documents. But when the emphasis shifted from print to digital information libraries especially public libraries are facing many barriers to change their environment appropriately by digital information storage retrieval and dissemination. This has created a digital divide among libraries and library professionals working in different organizational setup as the public libraries are having the closest links with rural community.

### **Rural Libraries and Community information Centre**

Rural libraries are the grass root nets of public library system and nearest link with the rural community. But government and other agencies working for digital divide do not give proper important to rural libraries even though one rural library from every panchayat is selected for implementing information Kerala mission to act as community centre. It will not be effective if rural librarians are not trained in the management of digital information access and preservation, especially in exploring the possibilities of internet and give IT enabled services for rural community by giving proper training in digital rural library care takers they can be converted as good managers of CIC and help in the building contexts. The library in a particular locality may become a clearly house for content

information on community organizations, services, etc. It may provide specialized services both inside and outside the library building such as job information for a community with high unemployment. The library may create local directories maintain files of service agencies. (Abraham.L.T, 2008)

### **Barrier of Digital Divide in Indian Scenario**

#### **Low Literacy Rate**

As per 2001 population census of India the literacy rate of India has shown as improvement at 65.38%. It shows male literacy rate 75.66% and female literacy is 54.28%. Kerala with 90.86% is the top literacy rate in India. When literacy rate in urban and rural areas there is a difference in the literacy rate which in turn creates a hurdle for digital divide.

#### **Education System**

One of the biggest challenges which face Indian education is the number of dropouts at the undergraduate level. (yajnik, 2005). In order to overcome the digital divide it is necessary that the information technology aspect should be introduced to the students right from their school level and the need for the same is been identified by the Indian govt recently. The govt has introduced the IT in the syllabus right from 1<sup>st</sup> standards so that the students will come to know various strategies of searching the Internet. (Bansode, S.Y, 2008).

#### **Language**

The 1991 census had 10,400 raw returns and they were rationalized in to 1576 mother tongues. They are further rationalized in to 216 mother tongues and grouped under 114 languages (malikarjun, B 2004). For Indians who speak no English the barriers to the information age are inseparable. Thus in practice unless Indian know English which most Indian do not, no matter how be computer use and internet access are effectively.

### **Problems of Digital Divide**

In this modern world marked by a growing need for information skills at all levels, including School University, workplace and ordinary life, similarly, there is an increase in outcries to bridge the digital divide. So the digital divide concerns much more information to increase the spectrum of skills we address, from an information retrieval skills, knowledge of seeking behavior and teaching on one hand, we therefore have an ICT environment and out cries for information skills concerns for description of the digital divide concerns the difference between those who have access to information (the have's) and those who do not have access to information (have nots). It is generally assumed that such diversity might impact on their ability to function in the changing environment and to proper. At university level it has been found that even if students are offered access to ICT and the opportunity to build computer and information literacy skills, that stills seems to be a divide when putting these skills to use. (Behera, j.k, p.139).

### **Challenges of Digital divide**

The challenge of libraries with respects of digital divide is to pro-active in bridging the digital divide paradigm and justify

the role of library and information society. But in reality the challenge of digital divide specifically interest the vision and the very existence of libraries- more over libraries have already been digital divide problem and issues .Secondly –when policy decisions are drafted relating to information library professionals should also be part of the committee to reflect the options of the library community. (How ever the present committee consists of technocrats do not properly see the value of libraries and therefore missing the mark).

In these circumstances the library professionals should quickly position themselves to provide the needed inputs to the policy makers. At the least they should be positioned in such way that they can convince the policy makers. (Tharayil, A.J, 2003).

### **Bridging the Digital Divide**

There is nonetheless compelling reason why it is necessary to greating increase public access to ICT become an enormous engaging the development. It contributed 50%of total generation in U.S productiving in second having the 1990s (Bridges, 2001). In short afford doubt access to information in fracture and the effective use of the gained knowledge is key factors for economic sustainability and improved social conditions. (Www. Techknowlogia.org).

The Digital divide is based on insufficient policy regimes, inefficiency in the provision of telecommunication network and service lack of locality created content and uneven ability to derive economic and social benefits from information intensive activities. To reduce the “digital divide” requires a systems approach broadly attacking all these issues. (wolft.L, 2002).

### **V. CONCLUSION**

In the 1990s government and organization the world became concerned about unequal access to new technologies, whether among individuals or nations, labeling this unequal access a digital divide helped draw attention to the issue. In that sense there is not one Digital divide but many, and diverse efforts on many fronts are needed to overcome them. (warschauer.M, 2010). The digital divides is persistent and still with us but public library are making difference. The strong positive response from both patrons and librarians combined with the clear important of technology literacy in to-days world, justifies continued investment and support in public access computer and library in fracture necessary to support then. If we are really enthusiastic to serve in the digital information revolution, there is no full stop to serve opportunities if we do not want to effectively serve, the service will not stop. We needed to develop models of collaboration among researchers, social scientists, librarian’s technologists etc. So that local requirements are met in a technology innovation. Mean while library professional needed to come out from their shell to drive need to come out from their shell to divide the rural library development with a high spirit and enthusiasm. Since India’s heart lies in its villages, rural library can plays a much needed role not only in bridging digital divide but also in building a well informed and literate society.

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