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India's Perspective of Information and Communication Technologies (ICTs) for Social Development (Pp. 523-535)

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Abstract

There is imperative need to understand the role of ICTs for the socio-economic development in 21st century. Information is a vital resource for the national development and ensuring competent national welfare. This information have to be systematically collected, organized and arranged in an order that can be retrieved for the future exigencies. Information is a social resource and it is a social right to the common people. Social development is encompassed with the development of the other sectors like education, agriculture, industry, merchandise and technology etc. The concept of an ***"Information Technology"*** *is responsible for changing the*

world in the new millennium in order to bring the radical development in the society. Information access and utilization by the society is playing a major role in enhancing the quality of life of the citizens. Information flows, communications and coordinator mechanisms are being digitalized in many sectors of the society. In the era of globalization and economic liberalization India like many developing countries has embarked seriously on the information technology as a pillar to compete globally. Recent studies in Information and Communication, Technology (ICT) have changed the possibilities of human interaction and communication in an unprecedented manner and the role of ICT in the rapid growth of economic transactions over the past two decades, geographically as well as monetarily, merit mention here. ICT has exponentially increased the speed of business for commercial interactions and is primarily responsible for rendering global operations of corporations and their management not just possible but feasible and profitable. Friedman (2000) calls the changes in communication technology the ***"Democratization of Technology"*** *which has been made possible as a result of several innovations that came together in 1980s involving computerization, Telecommunication, miniaturization, compression technology and digitization. In India, the emerging technical infrastructure makes possible a new level of deepening, widening and acceleration in global economic integration Multinational Corporation are decentralizing operations and jobs around the control over decentralized operations. The main paper highlights the significance in using ITC as a tool to bring in both social and economic changes. An illustration showing how ICT through Dr.M.S.Swaminathan Foundation in India has been a success case. A case of this magnitude can be replicated in the Remote spatial areas of Africa.*

Key Words: communication technology, networking, ICT, social messaging, social development

Introduction

The effect and impact of Information and Communication Technologies (ICTs) have been felt and utilised by many sectors in India over the past decades. Though, the communication devices rendered many performances due to the available technologies in the past but the ICTs are being strengthened by the newly acquired modern equipments and machines in order to simplify the works and get id done very fast. The significant achievements of ICTs have been taken into account in the fields of urban scenario viz., railway reservations, airline operations, accounting and finance,

entertainment, and software development and exports but the application of ICTs have not yet played a major role in alleviating the operational handicaps and positively enabling nation-building activities, for example, in people's participation in governance, agriculture and natural resource management etc. The Government needs the goodwill and involvement of all citizens themselves to be enabled to render effective and efficient services through voluntary service and many functions of governance, currently being implemented by their staff. Many functions of the government should become much more transparent and accountable to the citizens and open to citizen's inspection, review and discussion. ICTs can very much help in the goal of achieving at the society level. Hence, there is imperative need to understand the role of ICTs for the socio-economic development in the 21st Century.

The Dimension of ICTs in 21st Century

Information Technology and Development: Foundation and Key Issues However, it is widely acknowledged that there is a great deal of waste in the way these resources have been utilized in the past. Information and Communication Technologies (ICT) is often identified as a key to improve the resource allocation process and to more efficiently implement socio-economic programs. Further, Information and Communication Technologies (ICT) are indeed generating new possibilities to attack problems of rural poverty, inequality, and environmental degradation. Old ways of doing business in terms of delivering important services to the socially excluded segments of the society, vulnerable population, and even the ordinary citizens are being challenged and sometimes given importance in both industrialized and developing countries. But the most question arising now is of the value of ICTs for social and rural development is accompanied by this dilemma for decision makers and even multilateral funding institutions/organisations. The matter under scrutiny is that; should the very limited resources for socio-rural development be applied to developing ICTs capacities, or are they best used for other high priorities such as schools, hospitals and dispensaries? Clearly, there is a grave concern about the possibility of wasted, poorly utilized or otherwise unspent resources in ICTs applications for social and rural development. Hence, there is imperative need for a paradigm shift in the ICTs for Social and Rural Development in the 21st Century.

Social Messaging and Networking

The objective of social networking is to enable people to come together to exchange information and ideas, concepts and to act collaboratively on anything of common interest and concern. In the age of information and communication technologies (ICTs) the emphasis is on the application of these technologies to achieve the objective of overall socio-economic development of the communities. **'Information'** is one of the fundamental and national resources which is essential for the development of each sector in the society. Similarly, Information is extremely vital resource for the national development and ensuring competent national welfare. The information which is systematically organized, collected and arranged in such a way that it can be retrieved easily, helps to develop social and rural development resources of a country/nation and such resources can be directed towards economic, social and cultural growth in the long-run even beyond 21st Century.

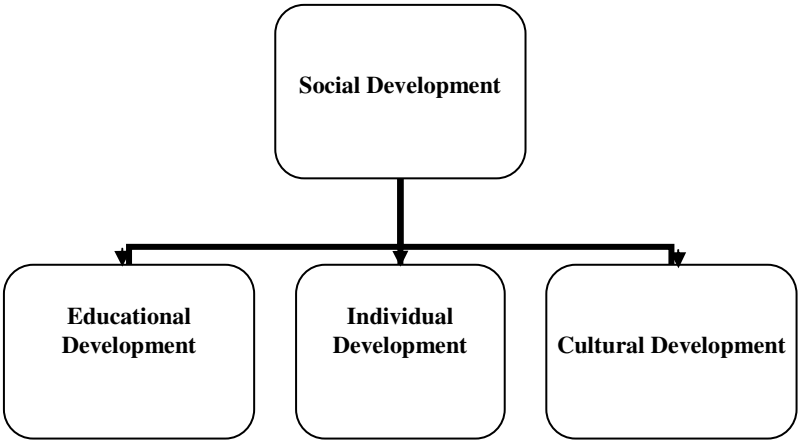
According to J.H. Shera, "Information may be a single isolated fact or it may be a whole cluster of facts but still it is a unit, it is a unit of thought. It can have any dimensions, it is that intellectual entity, which we receive the building block of knowledge".

Benefit and Scope of Information in Social Development

By and large, the social development of a nation depends upon the information system because knowledge incentive, knowledge generating and knowledge based information systems are the desired goals of every society and information is a dominant factor for imparting the knowledge. Hence, Information input is extremely important for social development. The value of information can be realised only when it is generating more benefits to the society in general. More over, the information has become the resource not only to the national development but also for village development and regional development. It is obviously understood that the social development could directly influencing the development of the individual in the society, educational and cultural aspects etc. The following are the important key points to be focused on information in social development:

- Information is a social resource and it is a social right. It gives people the ability to have the freedom of expression.

- It helps to achieve the objectives of social awareness, stimulate people for productive purposes and integrate all persons and their groups together for meeting the desired goals and objectives.



- The unequal distribution of the information rich and information poor and it can become the cause for other economic, political and social inequalities and can become a major obstacle in the balanced act of the social, rural development and overall national development.
- Society can grow with high technology only if supported by effective information services and adequate infrastructures.

Significance of ICTs in Social Development

It is believed that ICT are useful tools for access to and exchange of information, but without understanding of problems, issues and concerns of information access through networks one would not be able to fulfill one's own information needs. To promote network and information literacy say in the north eastern India, adequate and proper development of ICT infrastructure should be made available extensive. IT awareness program information communication networks facilities should progressively extended to all the regions and adequate educational opportunities with IT

facilities should be provided at various levels by various institutions to generate information literates as well as network literates for this particular region. The significance of ICTs in Social Development can be felt in the areas such as Primary sector (Agriculture departments, research and extension etc.), Secondary sector (Industrial departments, Big and Small Scale Industries, research and extension etc.) and Tertiary sectors (railway reservations, airline operations, accounting and finance, entertainment and software development and exports etc.) of the different departments in the Indian economy.

Relevance and Changes of ICTs Leading to Information Society

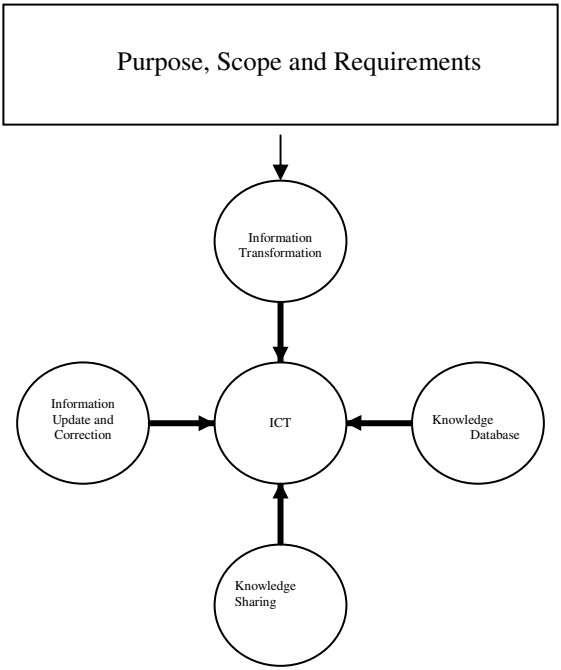
The concept of an "Information Society" refers to a paradigm which is profoundly changing the world in which we live at the beginning of this millennium. The term refers to a society where information, knowledge and related technologies are used to positively boost the society's productivity, its education methods and social relation among its individuals, its policies and other aspect of life. The information society can be defined as the society where access to information and activities related to the search, use and production, as well as exchange of information; plays an important role in the lives of all individuals and establishments. It is a society that processes information efficiently in its socio-economic development and enhancing the quality of life and work environment for all citizens. In order to realize the information society, modern Information and Communication Technology (ICT) need to be used while ICTs are necessary they are not sufficient given that capacity building must equally be developed in a number of areas including economic, social, legal, educational and research. The last decade of the twentieth century witnessed the emergence of an **"information society"** in the industralised countries, characterized by profound changes in the way people live, interact, conduct business, educate, entertain and provide health.

These changes are occurring at an accelerated pace, affecting national and global institutions, Political systems, economic models, and practices as well as the fabric of society and its organisation. This transformation is being driven primarily by new ways of creating and disseminating information using digital techniques. Information flows, communications and coordinator mechanisms are being digitalized in many different sectors of society, and this process is gradually giving rise to new ways of organizing society and production. While this form of "digital conduct" is becoming an increasingly

global phenomenon, it has its origin in what are, for the most part, mature industrial societies. Indeed, the adoption of this technology based paradigm is strongly correlated with a society's degree of development. How ever, technology is not only the child of development but also to a large extent it parent. Significant differences exist in the capacity of countries in terms of adapting to changes in technology and knowledge. Consequently, the more towards the information society constitutes a real challenge to developing countries, particularly in view of the expanding digital divide with developed countries, which render than increasingly vulnerable to reduced productivity and economic capacity, and which in turn, leads to unemployment, poverty and marginalization.

Components of ICTs – A Key to Modernisation of Social Development

ICTs have been defined as the hardware, software, telecommunication technology, human skills and intellectual content that enabled to study, design, development, implementation, support, management or use of intellectual expressions. This includes data, knowledge and language, in all digital, print, audio and visual formats. ICT is one of the primary influences on globalization and with little knowledge of the significance and consequence of ICT within the whole processes of globalization, it has been suggested that we consider the social processes through which ICT acquires significance. According to Ajaji (2000) the revolution taking place in ICTs have been the central and driving force for the globalization processes. Furthermore, there is a need to consider how these social processes are applied for economic and social purposes and how they affect our thinking about global, societal, and organizational boundaries (Robertson, 1992). The purpose and scope of ICTs have been taken into consideration that knowledge data base has to be shared as a information to the common public. The existing information can be verified and new information can be upgraded because of the situation arising due to its necessity by the common user who may be a student, graduate, scientist or businessmen etc. It identifies how much quantum of information were utilized and revamped for further use which depends upon the need of the customer who really wants to satisfy his expectations etc.



ICTs are increasingly playing an important role in organisations and society's ability to produce, access, adopt and apply information. They are being heralded as the tools for the post-industrial age, and the foundations for a knowledge economy due to their ability to facilitate the transfer and acquisition of knowledge. These views seem to be shared globally, irrespective of geographical location and difference in income level and wealth of the nation. ICT may not be only the cause of changes we are witnessing in today's business environment but the rapid developments in ICT have given impetus to the current wave of globalization. The use and production of ICT plays an important role in the ability of nations to participate in global economic activities. Notably, ICT of the Internet is playing a significant role in socio-economic development in the current changing Environment.

ICTs could offer developing countries unprecedented opportunities to change educational system to improve policy formulation and execution; and widen the range of opportunities for business and for the poor people. It could also support the process of learning, knowledge, networking, knowledge codification, tele-working, employment and science system. ICT could be used to access global knowledge and communication with other people based in different parts of the world.

Information and Communication Technologies for Social Development in Rural Areas

The Particular Project was specifically developed by the M.S. Swami Nathan Research Foundation as part of its program of taking the benefits of emerging and frontier technologies to the rural poor. Modern Information and Communication Technologies (ICTs) were found to have great potential to contribute in this respect. An international, interdisciplinary dialogue, organized by the Foundation in 1992, conducted an analysis of the range of issues involved. The dialogue participants concluded that ICTs would have a major role to play in promoting sustainable agriculture and rural development in the developing world. To be of use to the farming families, the generic information found in the networks, including the Internet should be rendered into locality-specific knowledge to the farming families, and rural women and men can act on. This was the model adopted in implementation this project. The Foundation's approach to dissemination of new technologies in rural areas is premised on the statement of its founder, Professor M.S. Swami Nathan: "**whatever a poor family can gain benefit from, the rich can also gain benefit; the reverse does not happen".** Thus' involvement of ultra-poor in rural areas (there are over 300 million of them in South Asia) in managing the use of ICTs was considered essential for the success of this project. The other critical issue was the need to involve rural women.

ICTs for Rural Women

Women, in general, have involved technological activities from the basic level to higher level either in private or in Government departments. It has been taken into consideration that the value and the importance of the ICTs were realised by all section of the people in the society. Sportive woman who are indulging with advanced technologies like computer, driving, operating and designing activities only because of the interest they have maintained throughout their lifetime. The women in the rural areas have undertaken many ICTs activities to improve their life status as well as to get

employment throughout the year. It will be more useful to women who are intelligent and who can multiply their knowledge according to their capacity.

ICTs for Total Development

Information and Communication Technologies are becoming the engines of human and economic development. The growth of information technology and its impact in the world, from individual's households to organizational and economical, political and social levels is immense. For instance, in Indian context particularly in the North-Eastern Region, it is known and apparent that disparities exist information access by the nature of income, geographical location, language, poverty, illiteracy, education, minority, status etc. This information gap is supposed to be overcome by successful implementation of Information and Communication Technology (ICT) but it is widening even more for small social services organisations in the non-profit sector where community services are in demand for the workforce development and lifelong learning opportunities in global economy and more importantly in the changing world.

It is recognized that ICT is a tool which could be manipulated effectively for information resource development and key in bridging new information network/digital network connections in the poorly ill favoured poor societies. The scenario in the developing world was a quite a different one. Most countries had no national policy for the utilisation of ICT. This had resulted in unplanned information infrastructure. Information systems and services have been introduced haphazardly according to the will and capability of individual organisations. Unplanned development of information systems has become obstacles rather than promoters of total development. Hence, it is useful to have an integrated development in the social, economical, political and cultural development of the country to a larger extent. Comparatively speaking, the earlier outdated ICTs have been updated by the new inventions and latest research which tends to change towards total development at the national level.

Challenges and Strategies of ICTS in Remote Areas

Lack of proper Information and communication Technology (ICT), infrastructure and sufficient information support is hampering the remote areas in the country. It is necessary to develop a proper information structure for improving the situation. This will include development of Relevant **"ICT**

Network System" of various steps (Local, regional, national, global) has had a profound influence on seeking, accessing and using information.

Considering the present scenario in the remote state, there are many challenges faced to meet their needs as citizens of the 21st Century.

- ➔ Create a proper ICT infrastructure and its networks system
- ➔ Create a vision to establish and implement plan-priority of actions, owenership, state policies to support National Information Literacy Programme
- ➔ Create access band with-state wide Area Network, Satellite New works.
- ➔ Community Information Centres-in addition to looking at private sector participation need to include education institutions, NGOs community and local entrepreneurs
- ➔ Common IT infrastructure –modular approach
- ➔ Create appropriate educational infrastructure with the application of new technology to enhance appropriate Information Centres and strengthening the existing information infrastructure - to provide lifelong learning and information dissemination services.
- ➔ Create local IT services capability/centers for long term capacity building.

The following are some of the strategies for the common people in many aspects viz.,

- ➢ Agricultural Information System for Marketing Support (AISMS) have designed to serve the interests of the following clients in India
- Farmers and Farmer's Organisations
- Manufacturer's and Processors of Agro Products
- Exporters of Fresh and Processed Agricultural Products
- Traders, Transporters, Insurance Companies and Bankers
- Consultants
- Research Institutions
- Policy Makers
- General Public, Chambers of Commerce, NGOs etc.
- ➢ Terrestrial Broadcasts Facilities, Cable TVs, Telephone, Computers, wireless, microwave etc.
- ➢ Internet

- ICTs provided by Information and Broadcasting Ministry, DOT, ERNET, SIRNET, QTNET, NICNET etc.
- Organisations such as Central Statistical Organisation (CSO)
  - National Sample Survey Organisation (NSSO)
  - Indian Institute of Public Opinion (IIPO)
  - Indian Institute of Public Administration (IIPA)
  - Information, Education and Communication (IEC)

Conclusion

India is speeding up its economic processes in a way that increasingly reduces the sustainability of its political environment and natural resources. Unfortunately, the electronics developments so far, seem to have contributed to the widening gap between the elite and common people of India in material terms; even as this is exposed to public view, over the television media channels. The processes must be put in place by which the government concentrates its concern on equity for all sections of the population and citizenry, and not let the dominant **vote-banks** benefit from national investments and IT infrastructures. This will require immense effort and careful inter-organisation co-ordination. Electronics must be harnessed to facilitate citizens' participation in governance and governmental processes, not only to reduce the burden of personnel expenditures on governmental budgets, but also to change attitudes, behaviour and methods of working, as per the stated plans of the Department of Personnel, the Government of India.

The governmental schemes can be transformed into local peoples' schemes, aided by and planned through the reliable data and information collected and verified by grass-roots level workers and NGOs, networked with data-reservoirs wherever they exist; obtained through a demand driven computer-communication network such as Internet which is non-centralised and non-controlled, but is instead user-driven and demand-responsive. The Prime Minister chaired The National Commission for setting up and operationalising NII and multi-media information highway, proposed by the Electronics Department with membership of DOT, I&B, NIC, Ministry of ID, Ministry of Agriculture, Ministry of Rural Areas and Employment, Welfare, etc. is necessary to lead to 'IT based National Transformation' as was presented to the Prime Minister in SAARC (South Asian Association of Regional Cooperation) presentation recently.

To sum up, the perspective of ICTs for social development highly depend on the electronic infrastructure available in the country. The ICT plays a vital role in the social development by enhancing the ability and capability of producing, accessing, adopting, applying, networking, improving policy formulation and analysis, execution and widening range of social development opportunities in the country in the 21st Century.

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