

## **Preface**

### **Role of ICT in Empowerment**

Empowerment was originally defined as a process through which powerless and disadvantaged groups could attain power and self-determination. Empowerment is something that marginal people need to manage on their own and gain control over themselves throughout their lives (Larsen, 2004). Empowerment is no longer only something that marginal and underprivileged people are fighting to attain, but also something that others are trying to achieve (Baistow, 1995). Information and Communications Technology (ICT) for development is widely regarded as one of the best approach to empower marginal communities (Slater & Tacchi, 2004; Samaranayake, 2004; Mathison, 2003).

History shows that technology has been a powerful tool for human capacity development and poverty reduction. The dawn of the 21<sup>st</sup> century marked outstanding progress and revolutionary achievements in technological advancement. In almost every field, technological innovations have analogous expansion. Most observable advancements are in medicine, information and agriculture (Hidellage, 2003).

In the past few years, important progress has been made in providing access to ICTs for a larger portion of people in developing countries. However, it has been observed that, in spite of this progress most developing countries are facing significant challenges associated with ICTs. The first challenge is the domestic digital divide. A large proportion of the population in most developing countries remain without access to ICTs and are deprived of the opportunities brought by ICTs. The second challenge is the effective use of ICTs. Access to ICTs is only a beginning. Essential skills and knowledge are required to make effective use of ICTs for development purposes (Fillip, 2002). Along this perspective, human capacity development is an essential element to bridge both the global and domestic digital divide. Therefore, this human capacity development must address multiple levels of information skills and knowledge networking.

## **Bridging the Gap**

In any society or country, there are groups of individuals that are distinctly 'at a disadvantage'. What does that really contemplate? 'Disadvantaged groups' or 'marginal communities', are unable to take advantage of opportunities that may be available to others in a society, or a country. There may be many reasons for their inability to take advantage of such opportunities. Perhaps they are poor and can not afford. Some may be physically or mentally disabled. Some may find themselves facing special challenges simply because they are women, or part of a minority group (Fillip, 2002). Children and elders, in particular often find themselves facing many challenges in accessing information due to lack of education, lack of skill and even due to economic and social problems.

If the digital divide (i.e., the gap between information haves and have-nots) is likely to exacerbate existing inequalities within countries, it is essential to address the divide with special attention, so that the groups that are most likely to be on the wrong side of the divide and are already in a disadvantaged position can be given equal opportunities in the development processes (Fillip, 2002).

It is a critical fact that, despite dramatic technological advances approximately a one third of humanity are deprived of basic technologies. The poor and the vulnerable are the principal victims of the impact of technology divide. The technological advancement should offer the poor people real technology choice with affordable, appropriate and accessible options (Coventry, 2003). The focus of the technology debate should not be restricted to new technologies but also include all technologies of use to marginal communities. Thereby, the technologies, through scientific development can be promoted and utilized to uplift their livelihood and empower them (Pant, 2003).

In many countries, the current ICT deployments have contributed positively to their GDPs at an accelerating rate. The challenge is to create and maintain a competitive edge in the global market, inflicting major investments in education and information technology for innovation. Their capacity can be increased further through need based education, increased communications, by applying scientific knowledge for their benefit, promoting sustainable

income generating activities, and removing social and cultural barriers for knowledge development.

### **Knowledge Networking for Empowerment**

ICTs facilitate the flow of information and the creation of knowledge. Knowledge gives them skill and ICT empowers them. Knowledge is a social and cultural resource, but knowledge networking is about creating new alliances of intelligent entities and the civic society (European Commission, 1994). At the global level, it is about a symbiotic relationship between the local and the global. Hereby, improved access to information can result in improved community knowledge for managing sustainable development.

However, knowledge networking reflects a belief in the need for much wider diffusion of knowledge and experience in a society. So, knowledge networking is not about increasing the quantity of information, the speed of its transmission and 'user friendly' interaction, it is rather about the quality, appropriateness and situatedness of information, and the processes of conversation of information into knowledge (European Commission, 1994 p.1).

### **Information Networking for Empowerment**

ICTs are glamorized in terms of hyper-definitions such as 'information society', 'information economy', 'information technology paradigm', 'information is power', 'information poor and information rich societies', etc. (CEC, 1991). But, the application of knowledge to 'productivity' and 'innovation' creates new social groups in the knowledge society: 'knowledge workers', 'knowledge professionals' and 'knowledge executives'. Knowledge workers own tools of knowledge. Therefore, the new economic challenge through information networking is about productivity of knowledge work and of knowledge worker (Drucker 1993:7).

It is evident that, at the background of knowledge development inhabits information. Information is the result of processing, manipulating and organizing data in a way that adds to the knowledge of a person receiving it. Information is a form of communication or representation of knowledge such as facts, data, or opinions, in any medium or format, including textual, numerical, graphic, cartographic, narrative, or audio-visual. In broader sense, it is the knowledge about the attributes and performance of a community, based on their assessments, documentation, and data sources used in the assessment and evaluation processes. Whereas information networking allow rapid transfer of knowledge and technology across all frontiers of society.

Thereby, the paradox of information networking is that it promotes border less communication and media technologies in the name of common communication space, while at the same time defending national and regional boundaries in the name of diversity (European Commission, 1994). Hence, information networking at the marginal level can be seen as network of local knowledge bases for learning, empowering and technological innovation at the local level. At the global level it is more or less a network of networks of knowledge bases, which enable and support the access, transfer, and sharing of knowledge and models of experiences across national, regional and global boundaries.

It is, therefore, important to ensure easy access to demand driven, value added, time and location specific information to empower a local community through knowledge based information networking. At the same time, knowledge transfer is essential among rural communities, scientists, educators, administrators, health care providers and technology enablers for the benefit of the poor and marginal community. Furthermore, there is a need to promote principles of social inclusion, gender equity, reaching remote territories and remedying regional imbalances. Finally, ICT can provide an excellent means of reaching these goals quickly, and even it serves as a tool for empowering the marginal (MSSRF, 2004a).

### **Where the book stands**

ICT is one of the driving forces of globalization in the context of sharing new knowledge and information. In many nations, especially among the poorest, access to the new knowledge

dynamics is denied by the absence of scientific research and technological capacity. Separated by the digital divide, found within and across the communities, they suffer as their access to new knowledge gradually constricts, their income-generating skills become incompatible, and their ability to compete in a globalized world diminishes.

ICTs for reaching the un-reached, need to focus on developing sustainable operational models for the under privileged groups in providing easy access to knowledge resources. The book covers chapters supporting development of national information and communication policies and promotion of information and communication policy leading to a knowledge society. It included comprehensive guidelines on the policy development process for human resource development including development of interactive self-learning to increase the skills of local participants (trainers as well) by increasing access to knowledge based information. The book also assisted in generating ideas and implementation techniques in development of local content, in collaboration with other partners, identify and promote technologies to provide tools to digitize local content and share content development experiences through the different knowledge hubs across the globe.

In this aspect, bridging the digital divide has become a social, technical, educational and moral challenge, particularly bringing affordable ICT access and content to the un-reached and ensuring that they have the capacity and skills to participate equally (UNESCO, 2002). Associated with these is uneven access of the marginal communities (remote and “unconnected”/“barely connected” rural community) to the benefits of innovations in education, health, communications, research, technology, and governance.

The main focus of the book is to provide ICT policies and strategies for improved access, and quality learning for the marginal groups, including education orientation to the needs of the society. It can play an essential role in academia by focusing ICT methodologies as a means of solving local problems at local levels and learning from traditional knowledge. The knowledge and experience of different countries within the global community should be seen as a valuable resource to be tapped. Special attention has been given to the needs of the adult learners and

community empowerment through innovative approaches like establishment of Community Learning Centres (CLC).

The book can act as a knowledge bank, learning tool, and guideline providing greater utilization of ICT in the form of repository, providing analysis, repackaging target based solutions and disseminating information for the uplift of the majority of the global village. These may include utilities, methods, techniques, and technologies deployed in the development, implementation and dissemination of affordable content (education, health, environment, poverty, gender, communications, research, technology, and governance) to the target communities.

The book also includes success stories, drawbacks, and facts and figures in the social transformation processes of globalization to seek and maintain the meaning of the lives of the disadvantaged communities according to their local perspectives and expectations. These include existing, successful experimentations, deserving pilots, and futuristic approaches in developing information network, SME deployments, and other innovative methodologies adapted at the grassroots.

Capacity development of nations by spawning knowledge through scientific research and partnership programmes, transmitting by means of formal, non-formal, traditional or continuing education, and sharing through the media and information systems varies considerably among and within countries. The disparities combined with the developmental gap may more likely to produce new forms of exclusion and marginalization. It is in the rural and geographically dispersed areas that the digital divide makes itself felt most acutely. Therefore, the book has focused on these critical issues for providing strategic solutions and policy initiations for marginal communities to be the beneficiaries by utilizing ICT as a development tool.

This book has selected a few projects who are using ICTs to address the needs of disadvantaged groups, children, youths, elders and communities that are on the wrong side of the domestic digital divide. These are communities in need of support to access ICTs and to acquire the necessary skills to use ICTs most effectively to address their own demands (Fillip, 2002). Beyond these, the book provides valuable insights into the successes and challenges faced by

such efforts in several countries in terms of methodological approaches, technological constraints, human and institutional capacity development and sustainability issues.

The book chapters incorporated research works, community initiatives, regional networks, knowledge based information networks from Africa, America, Asia, Australia, and Europe varying from ICT initiatives for empowerment through ICT to grassroots implementation of ICT based projects, accommodating social enactment, online learning, capacity development, knowledge building and information networking for marginal communities.

### **Organization of the book**

The book contains thirteen chapters including a case study. A brief description of each of the chapters follows:

Chapter 1 outlines some of the reasons for on-line learning becoming a popular vehicle of pursuing educational goals for minority learners. The chapter argues on challenges that must be overcome in order to serve a diverse on-line learning community. It also urges educational leadership to begin a dialogue on on-learning and communication styles, cultural competence in curriculum, academic preparedness, language barriers and access to technology for success of online learning.

Chapter 2 discusses about effective utilization of information technology tools to promote information driven learning systems and analyze different capacity development processes for marginal communities. The chapter has squealed information based learning methods with indicative objectives and outcomes. Several approaches have been analyzed, and a few case studies have been illustrated focussing ICT policies to develop knowledge networking.

Chapter 3 draws on the example of an on line learning project to show how participatory theories, tools and processes can be applied to ICT initiatives that fundamentally address power and empowerment issues related to marginal communities. The project methodology is described with research findings to show how the human ‘communication’ dimension of ICTs can make applied technology more sustainable and appropriate for poor communities.

Chapter 4 showcases social processes that can prepare marginal individuals to take best advantage of a well-conceived ICT project and empower them. This chapter will be extremely helpful to grassroots organizers in developing a key set of skills for choosing community development agendas, and a practical step-by-step guide for mobilizing diverse stakeholders to achieve desired outcomes.

Chapter 5 focuses on the importance of social structures in enabling equitable access opportunities and useful applications of ICTs. It argues on the importance of community involvement and organizational learning in designing ICT policy and projects with access and development related objectives. The chapter presents an example of a programme in Uganda and a short project in Ghana, which both used organizational partnerships and created strong community links to facilitate ICT-enabled development.

Chapter 6 investigates the role of ICT in promoting indigenous people's development. The chapter analyzes key factors under which information and knowledge can be instrumental and substantive for the empowerment of marginal groups. The chapter develops an alternative evaluation framework for ICT interventions based on Amartya Sen's capability approach in contrast to the current discourse around the "digital divide", which argues that for the human development of the poor technology is not the center point.

Chapter 7 examines the concept of the digital divide with available data and shows that those with low incomes and those who are older have little access to technology and the use of computers. Low-income seniors are especially limited in their opportunities to own a computer and they seldom have the skills needed to use one for email, searching the Internet, etc. Various approaches being used to help seniors learn how to use computers are described in this chapter and then focuses on two projects (SeniorNet and SeniorComp) that have proved to be successful.

Chapter 8 provides an overview on the problems of persons with mental illness and guides through how ICT access and usage can be approached in order to empower such marginal

population in both developed and developing countries. It argues that, since isolation is their main problem, networking those people with reliable sources of medical information, providers of distance training and learning, and online self-help communities can have a profound impact on lifting their marginalization.

Chapter 9 characterises the use of ICTs to share information with people at grassroots as ‘connecting the first mile’. It examines the literature about connecting the first mile and identifies the key debates: whether solutions should be participatory or top-down, technological or social, whether they should focus on global or local information, and the overall potential of ICTs for development. The chapter synthesises the lessons from a range of practical studies to identify the factors that contribute to the success of a ICT based knowledge sharing project.

Chapter 10 investigates the ability of the Internet as a fundraising tool for marginal communities in South Africa, and discusses the challenges facing social justice organizations working in the South African non-profit sector in their attempts to harness new technologies to promote their causes as well as their sustainability. The chapter uses online fundraising as a medium and elaborates on the difficulties that social justice organizations face engaging with the online audience.

Chapter 11 looks into the actionable context of knowledge networking, from the perspective of sustainable development, which should accommodate the building of communities in cyberspace of today’s Internet and World Wide Web. This investigation provides a basis for thinking about the possibilities of a virtual community and the dynamics of its construction across a variety of computer-based contexts. The chapter concludes by reiterating the challenge of exposing what it means to create an appropriate context of knowledge networking through which purposeful actions can be supported with the elaboration of suitable information technologies.

In Chapter 12 accessibility is defined as providing barrier-free Internet applications for those with physical and other disabilities. In some nations, accessibility to government web sites and

web-based applications is the law. In the private sector, providing accessible web sites makes good business. Although there are cost and time challenges for web designers, who incorporate accessibility, these may be overcome through careful planning and a thorough understanding of accessible design principles.

Chapter 13 is a case study chapter. This chapter focuses on a few capacity development initiatives for marginal communities to achieve the Millennium Development Goals (MDGs) in developing countries. It looks at issues and concerns related to empowerment of marginal communities, problems and apprehensions in human and social capacity development through effective utilization of ICT. The chapter takes several cases in different countries and later on elaborates on three implementations in South Asia.

## **Conclusions**

Local scientific resources are always poorly developed, nourished and disseminated in many countries. Small states are particularly disadvantaged by the absence of employment opportunities for local scientists and researchers, and remained heavily dependent on outside assistance. Serious attention must be paid for their capacity building in scientific education; building relations between science and communities; and targeting limited scientific resources through effective policy and governance. This book can serve as a knowledge provider for the researchers and academics, including policy initiators at all levels for the benefit of common masses.

Throughout the book contemporary technology issues have been portrayed with lessons learned from different projects that complement and applied for economic, technical and social benefit, and content of this will become an added asset to the traditional knowledge systems in the developing countries.

This may encourage all stakeholders of similar nature to undertake participatory reviews of their social sciences curriculum in schools and tertiary institutions to ensure that the content,

pedagogy and goals of basic education parallel citizenship requirements. The outcome should be focused on making changes in both content and pedagogy to strengthen learning techniques towards strengthening of civic consciousness and the revitalization of social resources. This is a long-term but ultimately effective approach to empower marginal communities.

Empowering the community through hierarchical information infrastructure goes a long way in enabling the concept of 'information empowerment' to strengthen the grass root institutions (MSSRF, 2004b). Referring to the phrase 'information society' coined by Daniel Bell in 1973 as a signifier of ICT for emergent service-dominated economies in post-industrial societies and being at the beginning of the new technological revolution of ICT whose consequences are difficult to evaluate. In this context, 'leapfrogging' for developing countries must be considered as something more substantial than simply technological advancement. Until the technological leapfrog 'changes the way people work together and the way they live together', there is no leap towards developed countries of the present, and the information society of the future. There is an enormous quantity of writings by many scholars about the role of ICT transforming the human society. Opinions regarding this transformation vary from one extreme to the other. The direct consequences of ICT revolution are the increased quantity of information flow, while the social impact happens when information flows bring new content to change the society (Walsh, 1996; Frasher, 2002).

In this context, a few organizations are taking a leading role in empowering the marginal communities. APC with its mission statement, "to empower and support organizations, social movements and individuals in and through use of information and communication technologies to build strategic communities and initiatives for the purpose of making meaningful contributions to equitable human development, social justice, particularly political processes and environmental sustainability" (APC, 2003 p.12) is providing valuable directives to many organizations that are working in this field.

Similarly, Bellanet promotes an increased awareness among its partners of the importance and relevance of knowledge sharing practices in support of learning, and works to develop the capacity of organizations to utilize knowledge sharing approaches through workshops,

presentations and dialogue. Bellanet, also aimed at fostering an open and collaborative approach to software production, information sharing, and content development and dissemination (Bellanet, 2004).

However, communication and media infrastructures can not in themselves be either determinants or mediators of common economic, social and cultural dimensions, they are just one of many social and technological determinants which vary from society to society and culture to culture. The infrastructure may be global but its applications and impacts can only be determined by the local human conditions. Hence, future research studies and implementation strategy should include enhancement of impact assessment and implementation support; improvement of knowledge management; promotion of partnerships with institutions with similar aims; and improvement of policy dialogue (European Commission, 1994) for grassroots empowerment.

Observations suggest that making this information revolution accessible to the poor can significantly enhance their living standards. Instances cited in the book demonstrate how leaders and residents of poor neighborhoods have used computer-based information creatively in their own improvement initiative. However, “the effective use of information needs to become an integral part of all the functions of community development (Kinsley, 1998, p.23)”.

This book has also framed the empirical results within a broader theoretical, conceptual, and practical contexts related to the policy discourse on marginal empowerment. Emphasize has been given to an increasingly important issue like, social integration for the most marginal and vulnerable community. Specific policy approach has been adopted towards those who do not, can not or are unwilling to fit within a universal or normalizing social policy approach. However, if this recognition is not complemented by willingness at the national level to provide the necessary scope and resources to accommodate and provide for these people (Larsen 2002) ultimate outcome will be restrained.

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