Use of iCTs in Non-Formal Education and Life Long Learning

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**Background**

Globalization and technological changes have accelerated during the last fifteen years and have created a new global economy. One of the challenges facing the developing countries is preparing their governments and their people to participate in the globalization process as well as in the communication and information revolution. Alongside, there is a growing concern among policy makers, planners, business executives to make their societies competitive in the emergent global economy.

The emergence of this new global economy as well as the information revolution has serious implications for determining the nature and purpose of educational provisioning. Thus, as access to information has become possible through technology, educational institutions can no longer remain institutions for transmitting prescribed knowledge over a fixed period of time. Rather, global changes are making it necessary for youth and adults to acquire knowledge and skills that make possible continuous learning over their lifetime. Information and Communication Technologies (ICTs)-which include radio and television as well as newer digital technologies such as computers and the Internet, have been widely welcomed as having the potential to increase access to learning by helping to overcome barriers such as those of cost, time or space.

This fast paced development that has taken place in recent years, however, has to be juxtaposed with another reality that cannot be wished away. For the fact remains that there are millions of children, youth and adults who have not been provided an opportunity for schooling or other means to have an access to education. According to United Nations Educational and Scientific Organization (UNESCO) Education for All Global Monitoring Report for 2008, there are 774 million illiterate globally. Almost all of them live in developing countries, particularly in South and West Asia, sub-Saharan Africa, and Arab countries where the literacy rates are about 60 per cent. Women account for 64 per cent of adults who cannot read and write with understanding. The problem of illiteracy is particularly grave in the South Asian region. Most of the illiterate women are poor, live in rural areas, are older in age and belong to linguistic, ethnic and religious minorities.

The Asia-Pacific region, however, presents a contrasting picture. Thus, there have been significant achievements in the education sectors in many countries in the Asia-Pacific. In the last two decades, participation in primary education has increased, there are more girl children in schools, retention rates are improving, as well as gender equality in the teaching profession and access to post-primary, post-secondary, and professional education. But these achievements still fall short of global commitments. The task of
providing learning opportunities to millions of youth and adults still remains a daunting challenge. Beside eradicating illiteracy, youth and adults need to be provided educational opportunities that would improve their skills, enhance knowledge bases, create windows for learning, and ensure continuous learning, all fundamental to fulfilling the Millennium Development Goals (MDGs) to which all the nations are committed.

Dhanarajan (2009) identifies specific groups that need special attention so that they too can participate in the creation of the knowledge society. These are:

- Those who are functionally illiterate: Apart from the 774 million illiterates globally, there are almost half as many adults who cannot cope with the demands of daily life on the basis of their prior literacy levels;
- The physically challenged: Annually, in Asia alone, about 15 million people become disabled as a result of wars, diseases, accidents, malnutrition. Their major educational need is to pick up skills for self-improvement and employment;
- Those who have remained unemployed over a long period: Long-term unemployment is debilitating in many respects and requires special delivery mechanisms and pedagogy;
- Out-of-school youth, particularly boys: This group is highly vulnerable to socially disruptive behaviors. This group would require a combination of apprenticeship, employment and life skills oriented education in order to help them to participate as respected citizens of the country;
- Women and girls: In many countries of the Asia-Pacific, women and girls are still marginalized from participating in education and training. Special efforts would have to be made to circumvent the social, cultural, and economic impediments to their education;
- Refugees, migrants, displaced people, recent immigrants and non-nationals: Today, nearly 125 million people live outside their homes or even countries of origin. This flow of people for political, social, or economic reasons is not expected to slow down. They and their children need educational programs that will develop their language, social and job skills.

Innovative programs need to be designed to meet the educational needs of these varied groups.

**Importance of Non-Formal Education (NFE) programs**

In recent years, significant developments have taken place in international policy discourse on NFE in relation to developing countries. Together these have produced a more articulated body of knowledge around NFE that has enabled countries in the region to develop their own visions and approaches on the basis of the international experiences. Hoppers (2008) has captured some of these significant developments.

Thus, there is increased information that is available about NFE programs that have been designed in different countries in the region. A joint research project undertaken
by member institutions of the Asia Pacific Program of Education for All (APPEAL) Resource Centre and Training Consortium (ARTC) to document and disseminate innovative approaches to NFE highlighted the kinds of NFE programs that were undertaken in the region (UNESCO, 2002). The study also demonstrated that NFE was gaining ground in many countries that had already established separate organizational arrangements for promoting NFE programs. As a matter of fact, NFE programs were expanding even in countries with a high level of basic education coverage and these programs were making the formal system more flexible. In most countries, NFE programs were evolving into a potential mechanism for meeting the emerging educational needs of people more effectively than the formal system of education.

There is greater recognition of diversity of NFE programs. There is a growing awareness about varied groups of learners for whom NFE programs need to be designed. Increased interest has also led to an identification of different conditions of disadvantage and of what this could mean for designing NFE initiatives. Donors have played an important role in determining what types of NFE programs would receive funding. Thus, donor preferences have shaped NFE programs associated with expected impact on economic productivity or those that have focused on equity and social emancipation agendas. As a matter of fact, increasingly one can discern that it is the ideological orientation of organizations and persons associated with them that determine the nature of NFE programs. There is thus the World Bank related perspective that takes a more minimalist and reactive approach to the nature and purpose of NFE-focusing on practical skills, relevant for coping with the changing environment, with an emphasis on livelihood, health, nutrition, civic education and the like. Those associated with a more progressive agenda prefer to take a maximalist and pro-active stand focusing on people learning to critique society and to take collective action aimed at changing their life situation and moving their communities out of poverty. While both talk of ‘empowerment,’ the connotation of the term varies. The former acknowledges that basic learning is essentially about improving the lives that people are already living, the latter aims directly at social and economic transformation (Hopper’s, 2008). Most government funded NFE programs belong to the former category.

There is an increased recognition of NFE programs as complementary form of education. There is undoubtedly a greater realization among many governments that EFA through formal primary schooling for large numbers of children and adolescents would remain elusive for a long time to come. Alongside, there is a realization of the need to bring out-of-school youth and adults into the fold of NFE programs to promote national development. As a matter of fact, there is heightened concern to bring about complementarity between formal and non-formal education through equivalency and accreditation programs. Earlier, since the accreditation frameworks were weak or non-existent in most countries, NFE students suffered a disadvantage vis-à-vis those from the formal education stream in either not being certified or in not getting absorbed in the job market.
The flexibility of non-formal learning, along with the possibility of crediting learning outcomes has enabled adult learning to move away from the ‘schooling’ model, thus ‘freeing the participants to learn what they want, when they want, where they want and for as long as they want’ (Rogers, 2004:11) In actual fact, the lifelong learning frame provides the formal context within which both formal and non-formal education can address their particular clienteles with content and pedagogical styles that are appropriate to those learners (Duke and Hinzen, 2006). The concept of lifelong learning has thus gained greater recognition in most countries of the region.

Despite their growing importance, the fact remains that NFE programs have remained relatively small, are poorly funded, with little systematic assessment. Also, their linkage with the formal system is often not very effective. A major problem, exacerbating these problems, is the very small volume of NFE opportunities, in relation to the demand to meet the educational needs of youth and adults (Hoppers, 2008).

**Why use ICTs in Non-formal Education (NFE) and Life Long Learning (LLL)?**

Throughout the 1990s as well as in the present decade, ICTs have been increasingly used in the educational systems of developed countries. The European Union Memorandum on Lifelong Learning (2000) highlighted the crucial role of ICT for active citizenship and employability in the 21st century. Furthermore, in the context of globalization and the emergent ‘knowledge society,’ lifelong learning has been revitalized and is being adopted in the North as a key political, social and educational organizing principle for the new century (Torres, 2002).

There is also a growing interest in the use of ICTs to extend educational opportunities in the developing countries. While many governments have paid specific attention to integrating ICTs into compulsory schooling, more recently efforts have been made to use ICTs in NFE programs. There are various perceived advantages of integrating ICTs in NFE.

ICTs are perceived as widening the provision of educational choices. ICTs are seen as being able to widen access to education- in particular, supporting and facilitating a diverse range of sources of educational provision from which learners can choose. Thus, a wide range of educational providers, including universities, NGOs, government agencies and the private sector would be involved, particularly because learners who have diverse learning styles would need different kinds of skills from formal, non-formal, informal, and distance and open learning infrastructures.

The increased choice and diversity is also seen as widening participation in NFE and training ultimately leading to the inclusion of marginalized groups that tend to remain outside the fold of educational programs. In particular, it is suggested that offering NFE programs through ICTs would help to overcome the barriers that deter people from existing forms of learning, i.e. by making learning provision more flexible; bringing costs down; making learning more accessible and affordable; offering reliable and accessible information; and allowing people to learn at their own pace (Selwynn, 2003).
It is therefore perceived that barriers to learning, whether social, psychological, or physical are resolvable through the use of technology which can offer education to learning on ‘any time, any place’ basis.

ICTs can increase learner motivation and engagement, by facilitating the acquisition of basic skills and by enhancing teacher training (Romulo and Akhtar, 2003). Another perceived advantage of ICTs is that relating to stimulating different forms of learning— in particular, self-directed learning as well as supporting and mediating constructivist learning. Aside from an instructivist approach wherein learners use ICTs only to acquire knowledge and skills, experience has shown that ICTs can provide more interactive learning that encourages learners to construct and develop new ideas, concepts and meanings and thereby transform their existing knowledge base (Selwynn, 2003)

Apart from issues of participation, provision and diversity, it is also perceived that ICTs lead to improvements in the learning outcomes of NFE programs. While it has to be conceded that the research evidence for ascertaining the effectiveness of ICT based NFE programs remains fragmentary and sparse, the fact remains that there is a growing body of small scale case studies which demonstrate the ‘value added’ learning that takes place in ICT based NFE programs.

In all these cases, although not generalizable, it can be concluded that there is a growing body of research which suggests that ICT based learning can be beneficial to learners.

**Use of ICTs in NFE and LLL- an analysis of experiences**

In order to understand how ICTs have been used in NFE and LLL programs, it is important to understand how ICTs have been used for development, particularly for poverty alleviation. For the trajectories of the two intersect, influence and determine the effectiveness of each other.

During the 1990s, the goals of poverty reduction gained prominence in international development discourse. This happened because there was a growing realization that the earlier strategies of the 60s, 70s, 80s, which had focused on liberal economic and structural adjustment policies to promote economic growth were failing to achieve expected goals (Huyer and Mitter, 2005). As a result, during 1990s, `pro-poor’ growth, ‘human centered approach to growth and development’ became part of the agenda of most international and bilateral agencies which adopted poverty reduction as an overarching goal. The adoption of the Millennium Development Goals in 2000 grew out of these developments. Of the eight MDGs, the first goal relates to that of eradication of extreme poverty and hunger.

Achieving education for all and eradicating illiteracy by 2015 are among the other MDGs that the global community has set for itself. The education-related MDGs build on the EFA initiatives agreed upon in Jomtien, Thailand in 1990 and reaffirmed at the
second EFA meeting in Dakar, Senegal, in 2000. In addition, the United National launched the UN Literacy Decade (2003-2012), which adopted the Literacy Initiative for Empowerment (LIFE) global strategic framework for assisting the 35 countries in which 85 per cent of the world’s non-literate population lives. Because of the established link between illiteracy and poverty, achieving the goals of the UN Literacy Decade is central to the realization of the MDGs. It is envisaged that ICT would contribute to achieving the MDGs.

As a result of this development, the last decade or so has seen a plethora of ICT projects funded largely by international and bilateral agencies whose stated goal was poverty reduction or poverty alleviation in developing countries of African, Asian and Latin American regions. The first stage of the effort to help people gain from the benefits of new information and communication technologies was devoted to institution building and connectivity, that is providing the physical links between people and the digital world. These efforts ranged from making computers available and creating Internet Service Providers (ISP), to inventing innovative ways of establishing the telecommunications links. Telecenter development was part of this effort (Colle and Roman, 2002). Various international agencies such as the World Bank, International Telecommunications Union (ITU), UNESCO, FAO and bilateral agencies such as the USAID, CIDA, IDRC, provided financial assistance to developing countries for setting up telecenters, especially those intended to promote social change and alleviate poverty. The idea of a community sharing computer technology emerged during this phase.

Despite the vast amount of literature that is available on ICT and poverty reduction, the various reviews that were undertaken have acknowledged that empirical studies are still limited and have highlighted the anecdotal nature of studies that show how ICT have worked in specific contexts in poverty alleviation (Flor, 2001; Pigato, 2001; Greenberg, 2005; Gerster and Zimmermann, 2003; Adeya, 2002). A significant shift, however, has now taken place in understanding the potential of ICT in poverty alleviation. Hence, from an earlier tendency to either romanticize the potential of ICT in poverty alleviation or to quote a SIDA study, ‘to use ICTs as toys often in impractical, unaffordable and unsustainable ways’ (Greenberg, 2005), there is now a realization that ICT are rather tools, a means for achieving development goals and for poverty alleviation. This realistic and pragmatic orientation has been a significant lesson learnt by development practitioners and technology experts during the last decade.

An analysis of the studies also reveals that unlike the earlier phase, there is growing recognition that poverty is multi-dimensional, complex, has multiple causes and that ICTs cannot solve the political and social problems that are often the root causes of poverty. Thus, there have been a large number of ICT project that have focused on access to markets, and have an income-based approach to poverty alleviation. The potential use of ICTs for growth in such projects is as marketing tools, providing access to markets (e.g. information on prices, promoting goods) and increasing demand. This has worked well for small entrepreneurs who have used the internet to gain access to wider markets.
Other areas in which ICTs have been used with some measure of success include (i) enhancing traditional livelihoods e.g. providing farmers with weather forecasts, crop information, information about market process, etc and promoting new livelihoods that include web-based business and tele-marketing. (ii) for delivering health care through tele-medicine and educating people on health issues, as well as collecting, storing and retrieving data, (iii) through e-governance by computerizing government operations and processes so as to ensure transparency and openness.

There are now other approaches to poverty alleviation. These include the sustainable livelihood approach and rights-based approach. These approaches put people first and advocate bottom-up strategies (Gerster and Zimmermann, 2003). The sustainable livelihood approach emphasizes the importance of identifying varying needs of people as well as identifying crucial information that will have a significant impact on the quality of lives of people. Local content is the basis of this strategy. The rights-based approach insists on participation and local ownership as well as the need for people to have access to decision-making processes and organizing themselves in order to bring about change. In other words, there is a growing awareness that rather than only promoting economic well being of the poor, there is a need to use ICTs to facilitate their empowerment, to enhance their overall personal and social well being.

A review of some existing studies in the use of ICTs in poverty alleviation highlighted the following significant ingredients for their success (Dighe and Reddi, 2006). Thus, ICT projects
- have to be people-driven and not technology-driven;
- must put the needs of the poor at the center and must be demand-driven
- have to be holistically planned;
- must ensure community participation;
- must use participatory communication and participatory training methodologies;
- must ensure accessibility-social, economic, cultural, psychological;
- must plan for sustainability;
- must ensure capacity building and training
- make possible development of local content;
- need interdisciplinary research and empirical studies
- need multi stake-holder partnerships

Among the sectors in which ICTs have been used with some measure of success are all sectors of education, from the primary, secondary, to university education, as well as vocational and skills-based education.

In 2003-2004, a Meta-Survey was conducted by UNESCO, Bangkok, on the use of technologies in education in the Asia-Pacific region. This was the first such survey undertaken to map the use of ICT in the entire region (Farrell and Wachholz 2004) The survey gathered information from 44 UNESCO Members States and provided up-to-date overview of the state of ICT use in primary and secondary, non-formal, technical and vocational education across Asia and the Pacific. The study showed that there was
a great deal of variance among countries with regard to policies pertaining to the integration of ICT into their educational systems. While all of them stated that the development of ICT capacity was important to the future of their countries, fewer had grappled with the policy issues. Despite the burgeoning and often innovative developments, access to ICT appliances such as computers, communication networks and Internet connectivity remained low or non-existent for the vast majority of educators in all but the most developed of the Asia-Pacific countries. The issue of digital divide was much more complex in the region as there were many intra-country factors that created barriers. The factors relating to differences between rural and urban areas, differences within urban areas and age groups, language barriers, caste and gender differences, lack of access to electricity, exacerbated the problem of digital divide. However, this did not mean that there was no use of ICT in these countries. Rather, there was a degree of ‘appropriateness’ in the pattern of ICT usage. Thus, radio and TV were widely used in countries such as Mongolia, Nepal, Pakistan, China and parts of Central Asia to reach large numbers of people with non-formal education programs. The country reports from Nepal, Pakistan, India and Afghanistan showed how a wide variety of radio program initiatives covered topics such as health, food production, literacy and human rights. Pakistan and Mongolia used television extensively in non-formal education.

A study undertaken by UNESCO to ascertain the experience of seven of E-9 countries, (UNESCO 2006) presented case studies of the innovative ways in which ICT had been used to enhance literacy education.

One of the initiatives has been the development of telecentres at the community level which are new organizational arrangements that are designed to foster and support the use of ICT in non-formal education. Several models are emerging in the region that provide learning spaces and opportunities for grassroots-based education and training, reaching out to remote areas and giving access to education for even the most disadvantaged and marginalized groups. Currently, there are three types of learning spaces that are using ICT effectively to enhance non-formal education (Dighe, Hakeem, and Shafeer, 2009):

- Telecentres
- Community Multimedia Centres
- Community Learning Centres

**Telecentres**: A telecentre is a public space where community members can access telephones, computer, Internet and other forms of ICT that can help them gather information and communicate with others. The simplest kind of telecentre is a booth in which the owner of a cell phone sells user-time. This has worked well in countries such as Bangladesh where the Grameen Bank has been lending money to rural women to buy cell phones since 1997. A more complex kind of telecentre contains equipment such as fax machines, photocopiers, computers, printers, and Internet connection. A telecentre has a limited educational function but is empowering to those who can access information easily. In the case of Grameen Bank, it has also helped in augmenting the income of the village women in Bangladesh and thereby alleviating poverty.
Community Multimedia Centres: CMCs are nonprofit telecentres which specifically aim at promoting community empowerment and address the problem of digital divide. A CMC, also known as a ‘community e-centre’ (CeC) combines community telecentre facilities (computers with Internet and e-mail, phone, fax and photocopying services) with community radio—which is run by local people in the local language. The radio—which is low-cost and easy to operate—not only informs, educates and entertains, but it also empowers the community by giving a strong public voice to the voiceless, and thus encouraging greater accountability in public affairs. CMCs provide a gateway to active membership by all in knowledge societies by enabling everyone to gain access to information and communication tools and thereby gain access to information that can be used by people to improve the quality of their lives.

Community Learning Centres (CLCs): A Community Learning Centre has been defined thus by a UNESCO document (UNESCO 2007)

A Community Learning Centre (CLC) is a local place of learning outside the formal education system. Located in both village and urban areas, it is usually set up and managed by local people for local people. In this way, CLCs are home-grown institutions that are well positioned to provide education programs that address the specific needs and desires of the populations they serve. The CLCs’ focus on life long learning often makes them a central component of community development. Centres may offer diverse learning opportunities, but all share a common goal; helping people to improve their quality of life through education and skills development.

The aim of a CLC is to help individuals empower themselves and promote community development through life long education for all people in the community, including, adults, youth and children of all ages. The main beneficiaries of a CLC should be people with fewer opportunities for education, for example, out-of-school children, illiterate youth and adults, including women and the elderly. A CLC does not necessarily require new infrastructure, but can operate from an existing health center, temple, mosque, primary school or other suitable venue.

In 2002, APPEAL launched the ICT-NFE project with financial support from the Japanese Funds-in-Trust for ICT. The purpose of the project was to use the potential of ICT to explore the effective delivery of education and skills training for quality of life improvement, poverty alleviation and community development through CLCs and other community-based mechanisms.

Of all APPEAL supported regional projects none has generated greater enthusiasm among Member States than the CLC project. Initiated in the late 1990’s it has attracted over 20 countries in the region to try out community-based models for learning at the local level. A number of countries that have piloted the development of CLCs with the support of APPEAL have now developed models that are being replicated with the support of communities, governments and other partners.
The country experiences highlighted that ICTs have the following potential for NFE and LLL (UNESCO, 2007). Thus, ICTs
- can bring about community empowerment;
- can be effectively used for developing a variety of materials in NFE programs;
- promote skills training and ensure access to information. Hence, they play an important role in poverty alleviation;
- can be creatively used for developing literacy skills;
- can play an important role in community activity and community information management;
- assist in information creation and dissemination;
- can assist in capacity building at all levels;
- ensure better networking;
- can assist in effective monitoring and evaluation;
- ensure better documentation.

While ICT-based NFE programs are gaining momentum in the Asia Pacific region, it might be necessary to exercise caution and to scale down expectations from such projects in the light of some research findings as well as the experiences of the OECD countries that have been using ICTs to actively promote lifelong learning.

One of the disturbing findings of the OECD studies is that the digital divide which is a marked feature of the information society is strengthening inequalities rather than reducing them (OECD, 2008). Those who have higher education levels continue learning through life. According to the study, highly educated people are three times more likely to be Internet users. Also, use of computers and the Internet is generally higher among young people. Groups at risk of exclusion are older people, people with disabilities, unemployed persons. In other words, ICTs increase educational activity among those who are already learners rather than widening participation to include those who had previously not taken part in formal or informal learning. ICT-based learning is being mainly undertaken by those who are already in a good position, in terms of employment, education and social position (Punia et al, 2006). According to Romulo and Akhtar (2003), the initial differences are often reproduced, reinforced, even magnified by the use of ICTs.

While it is claimed that ICTs ensure access to education, it has to be recognized that mere availability of technology does not ensure accessibility. There are economic, organizational and socio-cultural factors that account for differences in accessibility. Gender inequalities in access persist in most developing countries. Furthermore, barriers to learning can still persist due to various reasons. Lack of interest or motivation or ICTs being irrelevant to people’s lives, can act as deterrents to ICT-based learning (Selwynn, 2003). Even with regard to the sustainability issue, it has to be recognized that sustainability of ICT projects has economic, social, political and technological dimensions (Romulo and Akhtar, 2003).
In order to bridge the digital divide there is need to introduce and integrate ICTs at different levels and in various types of education. Experiences, however, is showing that there is more focused integration within NFE as a `sub-system' rather than integration between formal and non-formal education (Hoppers, 2008). Effective integration of ICTs into the educational system is a complex, multi-faceted process that needs to be recognized and paid attention to (Romulo and Akhtar, 2003).

There has been a tendency to look at the `universal’ effects of ICTs and to miss the social context in which ICTs are embedded. Such a de-contextualized approach has led to a belief that the ICTS are a panacea for solving existing problems. There is need to acknowledge that the technological and the social aspects of ICT-based projects are intertwined. Educational achievement are shaped not only by the way education is organized but also by the socio-economic background of the learners, their socio-cultural environment.

Increasingly, the state’s role in promoting ICTs for NFE and LLL is being recognized. There are, however, different roles which different governments are currently adopting with regard to ICT-based NFE. In the neo-liberal framework, the state acts merely as a facilitator to ensure that ICT markets flourish whilst the private sector determines the scope and nature of the provision. Developmental governments, on the other hand, can be seen as taking a ‘proactive central role’ rather than leaving ICT-based educational provision solely in the hands of the private sector (Hoppers, 2008). Such governments are also likely to have social policies for addressing the needs of the disadvantaged groups as well as simultaneously addressing several factors which contribute to deprivation and poverty. A nuanced understanding of the governments’ policies would be essential to understand what role ICT-based NFE programs can play.

There is also a need for educationists and practitioners to develop a better understanding of which ICTs would have contextual relevance. One of the key considerations is the ‘appropriate’ use of ICT-based learning. Thus, ‘new’ ICTs such as the computers and the Internet are not likely to replace `old’ technologies such as television and radio in the near future in some countries. As a matter of fact, radio, television, films and even traditional media are more likely to be effective technologies in developing countries. Face-to-face learning in combination with the old and new technologies would probably be more suitable for the ethos as well as the ground realities of the developing countries.

There is need for research to know why people engage or do not engage with ICT-based programs. Presently, research evidence is sparse, and in some areas, even non-existent. Thus, there is need to develop a research base on how ICTs are impacting on patterns of participation- asking who is using ICTs to engage in non-formal learning as well as who is not using ICTs to engage in such learning. There is also pressing need for research into the outcomes of ICT-based learning in its many forms.

As countries in the Asia Pacific region are poised for expansion in the use of ICTs, there is need for a more nuanced and a more critical and realistic understanding of how
ICTs can or cannot be used to provide effective and equitable systems of NFE and LLL across the region.

**Constraints and challenges- what lies ahead?**

In concluding the Meta-Survey carried out in the Asia-Pacific region, Farrell and Wachholz (2004) aver that the vast majority of the countries in the region are still at the early stages in the process of adopting ICT tools into educational systems. And yet, they comment on how rapidly the situation is changing. The extent of change that is taking place rapidly can be gauged if we look at the infrastructure development. According to Butt and Sarker (2009), connectivity has continued to dominate ICT discussion in the Asia Pacific region. Between 1999 and 2006, the number of Internet users in Asia and the Pacific increased five fold from 2 to 12 per 1000 individuals. According to UN ESCAP (2007), this is still below the world average of 17 and far below the figures of 69 in North America and 43 in Europe. Nevertheless, economics of scale and the increased number of Internet users has pushed the demand in this sector from ‘no, or limited connectivity’ to broadband and a level of ’bandwidth redundancy.’ However in 2006, there were still 3 broadband subscribers per 100 people in Asia Pacific, compared with 20 in North America and 16 in Europe (Butt and Sarker, 2009).

Different governments in the region are also making substantial political commitments to broadband expansion. For example, the Indian government is expecting 20 million broadband connections by 2010 and plans to ensure broadband connectivity in every school, health center, and Gram Panchayat (local government) level. While the region includes countries such as China that are undergoing rapid economic growth, as well as highly developed nations whose economies are adapting rapidly to the high technology manufacturing capabilities emerging in other areas, it also includes countries facing severe development challenges and structural poverty that will not be easily solved. In some advanced economies, there appears to be a marked shift from a decade of experimentation in the form of donor-supported, NGO-led, small scale, pilot projects towards a new phase of systemic integration informed by national government policies and multi-stake holder implementation processes. However, what is disconcerting is that these changes are mainly taking place in the school education and higher education sectors and the spin-offs in the non-formal sector are still not evident (Dighe, Hakeem, and Shaeffer, 2009).

Among the less developed economies, the costs associated with setting up ICT infrastructure is forcing many governments to make difficult choices with the scarce resources available to them. For most national governments, priority remains placed on children’s primary education. The pressure to achieve EFA goals has forced a large number of national governments to even sideline the education of out-of-school youth and non-literate adults. On the other hand, with the developing countries attempting to produce the necessary human capital for a ‘knowledge-based’ economy, more funding is now needed for formal higher education systems. Hence, due to the continuing pressure of globalization, the further use of ICT in NFE in developing countries will have to find a balance between the need to increase human capital for production in a
‘knowledge-based’ economy, and the growth of NFE programs that primarily focus on developing the social capital among marginalized communities (Lizardi 2002)

A major cause for concern is that while governments worldwide have signed up to the UN goal that promises a 50 per cent reduction in illiteracy by 2015, the investments they are making in the programs that will deliver those goals, are abysmally small. Torres (2002) laments that there is a mismatch between rhetoric and practice even among the international agencies for the ‘expanded’ and ‘renewed’ visions proposed in all the major recent international declarations and commitments- of basic education (EFA, Jomtien 1990), of adult education and learning (CONFINTEA V, Hamburg 1997) of literacy (UN Literacy Decade, 2002)- tend to remain on paper and are contradicted by the same international agencies that promoted them and that provide technical and financial assistance to the South.

The outcome of the World Summit on the Information Society (WSIS) at Tunis in 2005, on the other hand, was more forthright with regard to international cooperation. Thus, there were no promises, no concrete and binding commitments from industrialized countries to help finance the development of the information society. Essentially, the position adopted by the industrialized countries was aimed at placing the responsibility for bridging the digital divide on the government of the poor countries (Peyer, 2006).

The problem has been further exacerbated with the recent crisis in the global economy. The poor, developing countries have been hit the hardest by the onset of the financial crisis they had no hand in causing. In the near future, these countries are likely to have lower levels of public spending on infrastructure, health, and education. While it is still too early to predict whether the recession the world is experiencing can be turned around fully, the specter of a large section of youth and adults, particularly women, not having access to ICTs and to non-formal education and thereby not participating in the knowledge society, is now looming large.

Given the scale of the challenges and the importance attached to ending extreme poverty, focusing on educational programs for youth and adults should become one of the global priorities of our time. The Global Campaign for Education, a coalition of NGOs and trade unions working in over 100 countries for the right to free, good quality education for all, is attempting to do just this. Likewise, the emergence of the global civil society movement that was created thanks to the WSIS, will have to continue pursuing discussions, studies and campaigns to demand the establishment of a real development agenda in the area of information and communication.
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