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WOMEN'S LITERACY AND INFORMATION AND COMMUNICATION TECHNOLOGIES:

LESSONS THAT EXPERIENCE HAS TAUGHT US

Anita Dighe
Usha Vyasulu Reddi

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Prologue

At the dawn of decolonization in the mid 1900s, the newly independent countries had great hopes and visions for the social and economic development of their citizens. Much of these hopes depended on the provision of education, including literacy, for their vast populations. Six decades later, there have been great strides made and some of these countries have developed and have become powerful. However, the more things have changed, the more they have remained much the same for the poor and the illiterate. In the face of all the efforts by governments and civil society organizations, there is the harsh reality that the largest number of poor and illiterate still resides in South Asia, in conditions not very different from those of their forefathers. .

At the same time, information and communication technologies (ICTs), both old and new, have also been around for much of the 20th century. Countries like Canada have exploited these technologies successfully for the development of their remote and hard to reach communities. Taking a cue from their experience, the developing countries have used these technologies, with varying degrees of success. Many of us are both witness and participants to the exploitation of ICTs to further the goals of development

In an all out effort to address the inequities of development, the global community of governments, scientific and research organizations, donor agencies, civil society organizations and private sector institutions has accepted the Millennium Development Goals and the targets that have been set to bring about a qualitative and quantitative difference in the life of the global poor. To a large extent, ICTs are seen as vital tools to trigger this revolutionary change and women and girls have been singled out as the focus of the global effort.

In his book Development as Freedom, Amartya Sen (1999) argues that in individual freedom lies the capacity for political participation, economic development and social progress. The goal of all development is the enabling of the exercise of such a freedom - the freedom to make a choice, and consequently the empowering of an individual so that he or she is able to make the choices that determine the quality of life. Literacy is the root and without literacy, there can be no empowerment, much more so for women and girls.

However, whenever discussions and debates surrounding the relationship between gender and ICTs take place, one is reminded of the parable of the six blind men and the elephant. Each describes the elephant from his own perception of the creature; none is able to come to terms with the enormous size or complexity of the object being described. Both the contours and the shape change constantly; just as in debates on gender and ICTs.

Even a quick web search of the theme would reveal the many dimensions of the issue and the interchanges when the theme comes up. We would like to tease out, at this stage, some of the common themes that emerge (not necessarily in any order of importance or priority).

The focus of global development agenda has been on two cross cutting themes. The critical importance of gender and

of the inclusion of women and girls in the process of development is one such theme. Without the inclusion of women and girls, no development effort will pay dividends. The second theme relates to the importance of using information and communication technologies (ICTs) in accelerating the development process.

The enormous complexity and diversity in perspective when we examine gender as an issue is always apparent. Debates and perspectives range from an engagement with feminist theory and dialogue to policy dimensions and to specific applications of communication in the field for the improvement of the lives of women and girls. Those of us who have witnessed intergovernmental discussions and debates also know that gender means different things in different societies. While in some of the developing countries, this is largely a concern relating to women and girls; in other parts of the same developing world, it can often mean the "mainstreaming of men and young boys" in society. Gender as a critical issue in human development is not restricted only to developing societies. It is there even in the highly developed societies, taking on a very different yet familiar face of domestic abuse, gender harassment at the workplace, and property rights.

A similar kind of complexity is found when we turn our attention to debates in the relationship between communication, media and gender. There is confusion even in the definition of terms:-what do we mean by communication: processes or products; technologies or societies. The confusion gets compounded when we begin our discussions - is it at policy levels; is it at looking at the interface between media and society; is it at a study of the portrayal of women in the media; is it at the analysis of content and its underpinnings; is it by examining the way in which the intervention of communication has altered or not changed our lives.

Again, within the field of communication, where do we focus? Is it on policy, processes, the tools, the audiences, or the results? Have we as yet made the synergistic connection between policy and applications and how one is critically dependent on the other? And at what level do we begin our analysis?

Many of the questions raised about the effect of technology are multidimensional, reflecting world society in all its diversity and complexity.

If ICTs are seen as the main drivers of contemporary society, then it is expected that these technologies will effectively terminate a social structure based on inequality. These new technologies appear to have an impact upon the economic, political, and social systems existing today.

Protagonists argue that ICTs will remove the tedium from life, giving the individual leisure during which he/she can choose to better his/her life. The social and cultural impact of technology is greater than that of the hardware alone. The use of ICTs refers to the systematic application of collective human rationality to the solution of problems by asserting control over nature and over human processes of all kinds. What is included are not simply machines but the collection of transferred attitudes, values, institutions, social and political structures, new management patterns, new training and human resource deployment requirements as other varied inputs which are required sometimes simply for the use of the technologies. What is clearly evident in the current global scenario is that the new

developments have already increased the already substantial potential for control of information in traditional world centres. These patterns of control have exacerbated, rather than reduced the growing disparity between the 'haves and the have-nots'

The growing disparity was studied in the 1970s by Tichenor and others[1] who called it the “knowledge gap” between those with access to knowledge and those without. Today, it continues to be hotly debated and is called the growing 'digital divide'.

Hamelink (1986) and many others since have argued that the perceived notion of the information society is that it is decentralized, with greater access to information for all segments of the population, and a shift of power structures away from the governing elite to the masses and proponents of the new technologies point to the ways in which the new technologies could encourage and foment the process of democratization of societies. Perhaps this shift took place in earlier social revolutions. There is no indication that such transformations will take place unless there is a paradigm shift in the way in which the technologies are deployed and used.

What has happened is that national boundaries have been reduced to lines drawn on maps, independence has become interdependence and those who have access to knowledge remain the better off as the divide seems to grow rather than narrow.

Agrawal (1986) has argued that there is a differential access to media in developing cultural gaps. Cultural elite are at the apex of a social hierarchy, while the poor are at the bottom. Access to information technology can be represented by an inverted pyramid where, because of the very nature of the technology, elite have greater access to the media than the poor. When the inverted pyramid of technology access is superimposed upon the cultural hierarchy structure, the culture and knowledge gap between the rich and the poor widens, refuting hopes of planners seeking to use the technology for development. Given that women are at the poorest and most discriminated end of the divide, it is they who will be the worst affected in a globalized world where only the fittest will survive.

Twenty years since these discussions took place, the debate still continues. Technological changes and their use for development have grown exponentially since then. But the questions remain. This may be as much because of the ICTs themselves as also in the conditions of their application.

As individuals extensively involved in the use of information and technologies for both general and specific programmes in development in India, we were concerned with the trends that we saw emerging from our own analyses of work. On the one hand, we felt that ICTs definitely had a role to play, and perhaps that ICTs have not been given enough of a chance to be able to demonstrate potential. On the other hand, we repeatedly found two important aspects of the use of ICTs in developmental contexts, one that the conditions and contexts of ICT use were likely to be more important than the technologies themselves and would therefore have to be addressed and second, that many of the projects and programmes we studied and evaluated would have been benefited from inputs and changes in programme planning, design and implementation.

It is for this reason that we commissioned Dr. Anita Dighe, a well known Indian scholar and practitioner with more than three decades of experience to explore the conditions and contexts in which ICTs could be effectively deployed for adult basic education, and more specifically for women's literacy.

We requested her to concentrate on the Indian experience for various reasons. First, India still, in gross numbers, has the largest number of illiterate women in the world. Second, India has been a test-bed for any number of experiments and programmes, successes and failures, in the use of ICTs for development. Third, India presents the most challenging of socio economic, ethnic, cultural, religious, geographic, and language conditions and learnings from the Indian experience would be of value anywhere in the world. And finally, time and resources limited our exploration of contexts and conditions outside this sub continental nation.

This monograph is an outcome of her work as she explores the different dimensions of women's literacy and ICTs, from feminist pedagogy, literacy issues, and ICTs. In the last section of the monograph, Dr. Dighe makes suggestions for the way in which programme planning, design, implementation, and evaluation takes place.

For us, this monograph is by no means the last word. In fact, it is a beginning of work in progress.

Dr. Usha Vyasulu Reddi

Preamble

Policy makers, planners, administrators and researchers hold highly polarized views on the impact of information and communications technologies (ICTs) and their role in promoting objectives such as poverty alleviation, universal education, reduction in mortality and health hazards, sustainable development and in bridging the digital as well as socio-economic divides in the world. Thus, many consider the possibility of technological leapfrogging whereby ICTs would be able to achieve the above mentioned objectives within a short time-frame. The critics and the skeptics, on the other hand, are of the view that ICTs have little value and that they would cause more harm to the less developed world, particularly for populations that are economically and socially disadvantaged.

The debate rages on and has been inconclusive so far. It is important to recognize, however, that due to the significant, interconnected economic, social and technological changes that are taking place, literacy and education have become even more important for personal, social, and national development than ever before. On the one hand, while rapid technological changes are fast creating what is now known as `information society,' on the other, there are an estimated 18% adults or 771 million globally, who are still illiterate[2]. Of these, the majority is women, and nearly all are from the poorest sections of the society.

While ICTs have generated considerable interest, the interconnections between literacy and ICTs are still not well understood by policy makers, planners, administrators, or practitioners around the world. This is true at least in part because those working in developing counties are not necessarily familiar with the manner in which ICTs have been used in other parts of the world. Also, few literacy practitioners are highly trained in new technologies and those professionals who understand technology, are unfamiliar about the potential of ICTs in addressing problems of non-literate adults.

The fact remains that the past decade has witnessed an explosion in projects that have applied ICTs to support socio-economic development. Thus every sector has been involved- government, academia, large corporations, inter-government organizations and NGOs. However, despite tremendous energy and resources having been expended in these projects, documentation and research evidence is still somewhat sparse and inconclusive. It is therefore not possible to firmly establish that ICTs can trigger socio-economic development.

It was keeping this background in mind, that the present study was conceived to ascertain what, if any, has been the impact of ICTs in promoting women's education, particularly women's literacy. Recognizing that women's illiteracy would further exacerbate the already serious problem of `digital divide,' it was felt that a review of literature would help in assessing what new perspectives had emerged during the last few years. It was also felt that field visits to on-going projects in varying settings would help in identifying and validating some core principles of good practice in the use of ICTs in literacy programmes for women.

As the present study got under way, however, it was soon realized that some changes in the original design would have to be effected. It was realized that while on the one hand there were limited experiences in the use of ICTs for women's

literacy in the South Asian region, on the other hand, there was little hard evidence of the transformative potential of ICTs that was envisaged when this study was conceived. What was not clear was reflected in three areas of concern: how were the technology choices made and by whom? What were the conditions under which ICTs were deployed? And finally, why did ICTs not seem to succeed? Was it due to the nature of the educational experience, the social context of gender relations in the country or inherent limitations of the ICTs to deliver results? A wider and a more extensive review of research was therefore considered essential to understand concepts, examine experiences, and highlight policy as well as implementation strategies in the use of ICTs for women's literacy.

A primary focus of this paper is therefore to highlight why the problem of women's illiteracy needs to be addressed, and what experiences exist in using ICTs to address illiteracy. After reviewing what have been some of the salient experiences of running literacy programmes for women in developing countries, material from a broad array of sources and areas are used to support a growing picture of the possible interventions that would have to be made if ICTs have to be meaningfully used for women's literacy. The paper then provides a brief description of the status, trends and problems relating to application of technology to adult literacy in some Third World countries, with a special focus on India. Thereafter, the paper analyses research experience relating to the use of ICTs for women's programmes vis-à-vis women's access to ICTs, use of ICTs for poverty alleviation, and women's empowerment through ICTs, highlighting the lessons learnt.

On the basis of this review, the paper concludes by identifying strategies and planning elements that need to be taken into consideration if ICTs have to be used for women's literacy programmes.

1.0 Context

In a paper written for the World Summit on Information Society, 2005, Gurumurthy and Singh[3] refer to the manner in which the neo-liberal economic policies (favouring free markets, globalization and reduction of the role of the government and the public sector) have successfully pushed the traditional development agenda from the national policy frameworks of many countries by capturing to its advantage, the theoretical space of information society (IS) developments in the South. According to them, at the turn of the 21st century, the neo-liberal agenda was helped by three developments that took place. First, the governments of the South took the new information and communication technologies (ICT) as an economic opportunity for pushing exports and for creating jobs in IT education and in IT-enabled services (ITES) that would give them the boost they needed to propel themselves into the information society. Second, the private sector, mainly the multinational corporations (MNCs), was seen as the leader for providing infrastructure and technology. But thirdly, the development sector, long suspicious of the globalizing potential of the ICT, took a somewhat non-engaging stance to the new possibilities that had been opened up by ICT for development. This development was further aided by a framework that was laid at the global level, for mainstreaming ICT for development, now known as the ICT for development (ICTD) perspective. Once again, this policy framework was dominated mainly by the private sector, mostly MNCs from the North and consisted of euphoric predictions about the transformations ICTs would bring about.

In most developing countries, the ICTD policy is the domain of IT and telecom departments. These departments focus more on business and technology issues and tend to be excessively pro-market and not sufficiently development-oriented. Even where some IT and telecom sectors do concern themselves with development, the approach is generally from the technology, rather than the development end and they often talk about rural connectivity and infrastructure, e-governance, e-delivery and growth, rather than a more need-based improvement of `quality of life.' The development departments, on the other hand, do not have a good ICTD orientation and even if they do, they are not able to influence ICTD policy in any significant way. While the situation is gradually beginning to change, what needs to be understood is that a new theory of ICTD has to be developed so that the unprecedented opportunities for development in using the ICT are not wasted. Gurumurthy and Singh propose that a new paradigm of the IS that serves the developments needs of the South or `IS for the South' needs to be developed. According to them, a beginning of a transition to a comprehensive ICT-based development strategy can be made by setting up a countrywide infrastructure which includes connectivity, access, hardware and software as well as capacity building at individual, community, and institutional /organizational levels. Since markets are not likely to fulfill any of these crucial needs, it is the public sector that has to provide the lead through strong policy interventions and substantial public investments. Such a strong policy intervention has become imperative in view of the outcome of the recent World Summit on Information Society (WSIS) held in Tunis, 2005, at which the neo-liberal paradigm of the IS was once again asserted. In order to ensure that the social and developments aspects of the IS are implemented, it would be incumbent that the basic ICT infrastructure is regarded as a social responsibility of the state and provided as a public service. It is only if this happened, that a beginning can be made for developing a meaningful IS for the South.

2.0 Why Women?

In order to understand what likely impact ICTs would have on women, a look at the history of the feminist discourse that has influenced development thinking is useful. In the 1970s, there was a world-wide awakening that women had been excluded from the development projects in the Third World as the development community began to realize that the `trickle down' approach to development had not been effective. Feminists signaled the origins of the Women in Development (WID) approach by highlighting women's exclusion and invisibility from the development projects. The WID approach therefore advocated that women should be treated on equal terms with men.

Meanwhile, by the second half of the 1970s, the Women and Development (WAD) approach, theoretically influenced by Marxist-feminists, raised some questions about the WID approach. According to the WAD paradigm, while women have always contributed to the development process, it was the dependency of the Third World on the rich countries of the world that was responsible for the exclusion of poor women from development projects. As proposed in the work of Development Alternatives with Women for a New Era (DAWN), it was through women's organizations that a change would be brought about in these unequal relationships.

In the mid-1980s, WID shifted its underlying discourse from equity to anti-poverty to efficiency (Bhavnani, Foran, Kurian, 2006). This resulted in the basic needs approach to development with an emphasis on income-generation strategies and skills development for women. The underpinning of the efficiency discourse was to promote economic growth through an efficient use of women's labour.

The Gender and Development (GAD) approach is currently the predominant discourse that informs development policies and programmes. GAD aims to `not only integrate women into development, but (to) look for the potential in development initiatives to transform unequal social/gender relations and to empower women(Canadian Council for International Cooperation, 1991).

According to Bhavnani, Foran, and Kurian (2006) all the above three approaches do not take culture adequately into consideration. Building on Raymond Williams' notion of culture as lived experience, they aver that a Women, Culture and Development (WCD) lens brings about women's agency into the foreground and enables a better understanding about how inequalities are reproduced and challenged. Hence, a WCD perspective that would combine culture with development, encompassing the everyday experiences of Third World women, would provide a better understanding of how transformative development takes place.

The importance of these theoretical perspectives cannot be underestimated. However, the translation of these perspectives into policy and implementation plans has left much to be desired and other than in programmes and projects which have started with this ideological premise, implementation plans have left these approaches on the margins. The superimposition of the ICTD agenda, where ICTs are seen as enabling tools has only added to the complexity of the theoretical perspectives, which now have to address newer dimensions of the globalizing and other consequences of the ICTs. The euphoria over the ICTs has overshadowed the critical questions of the theoretical

debates and perspectives raised in the WID, WAD, and GAD debates.

With regard to the impact of technologies on women, there has been a tendency on the part of governments and development agencies to treat technologies as neutral, value-free, without taking into account the social, environmental and economic effects of the technology being introduced. A common assumption with respect to ICTs is that the mere presence of technology itself will improve efficiency and will therefore bring benefits to the community. As a result, IT policy of most governments in Asian countries focuses on growth and on building IT infrastructure, provision of IT education and on improving efficiency. According to Gurumurthy (2004), this focus on efficiency compromises concerns relating to equity. In any case, social equity requires commitment to women's equality. Therefore, women's equality needs to be integrated as a cornerstone of any ICT strategy.

The preparations for the WSIS had led to fresh assessments of the significance and relevance of gender issues in the technology policies of developing countries. The various international fora had stressed the importance of integrating gender equality considerations into ICT policy, programmes, and projects at all levels to promote the social, economic, and political empowerment of women (Huyer and Mitter, 2005)

In addressing the Commission on the Status of Women, the United Nations Secretary General had stated:

A focus on the gender dimensions of information and communications technologies is essential not only for preventing an adverse impact of the digital revolution on gender equality or the perpetuation of existing inequalities and discrimination, but also for enhancing women's equitable access to the benefits of information and communication technologies and to ensure that they can become a central tool for the empowerment of women and the promotion of gender equality. Policies, programmes and projects need to ensure that gender differences and inequalities in the access to and use of ICT are identified and fully addressed so that such technologies actively promote gender equality and ensure that gender-based disadvantages are not perpetuated .

As is known, the global community has accepted the Millennium Development Goals (MDGs) as the key development targets for the first part of the 21st century. Among the most prominent of these goals are those relating to achieving basic education, building on the Education for All (EFA) initiative begun in Jomtien, Thailand in 1990 and reaffirmed at the second EFA meeting in Dakar in 2000. The MDGs have gone further in proposing goals that integrate not only education, but also address problems of extreme poverty and hunger, as well as health, gender equity and many other worthy social and economic concerns. Within the final goal there is a reference to the growing and increasingly important area that has seen huge growth over the past decade, namely Information and Communications Technologies (ICTs) for education.

The argument that the issue of gender should be seriously addressed since supporting women's participation in the information economy would produce a range of benefits, is gradually gaining momentum. There is a realization that the value of information to women is enormous and affects all aspects of their lives. According to Huyer and Mitter (2005) although more research is necessary, currently available evidence indicates that when women do have access

to ICTs, they can substantially improve their lives, and increase their income. They refer to a FAO study that showed that women who are involved in meaningful ICT projects produce results for improved economic and social well being in the community. ICTs can provide women with skills, training, and market information for their small-scale enterprises. For example, information on reproductive health can contribute to women's economic activities by improving health and decreasing the number of children, thereby improving their income-earning ability. And yet there is recognition of the fact that despite the new opportunities that ICTs have offered to women, there is need to be cautiously optimistic. For the digital or knowledge society divide is especially acute with respect to women. As stated at the Women's Forum at the Global Knowledge II Conference (Kuala Lumpur, 2000) the digital divide is not just an issue of the polarization of the information rich vs. the information poor- it is also a divide between women and men everywhere. While the beneficiaries tend to be the young, urban-based, English speaking Internet users who are also overwhelmingly male, majority of women live in rural areas where connectivity is rare or even non-existent.

The number of women Internet users in any case is miniscule in most countries where there is an insignificant amount of Internet access for the entire population. According to the Telecommunications Union (ITU) statistics released in 2002 on female Internet usage, in poorer countries, women represent a much smaller proportion of even this insignificant number of users.

There are other barriers that women face. While accessing the Internet is one thing, owning a computer is another since computer costs are still high in many parts of Asia and Africa. Language is also a determinant of the digital divide. The predominantly English and other European languages in most regions of the world is a barrier to most users globally. Thus, speakers of non-European and indigenous languages- including a large proportion of women- tend to be left out of the information loop (Huyer and Mitter, 2005). The support of local languages and local content for ICTs was therefore identified as a major issue to promote ICT use in developing countries at the World Summit on Information Society (WSIS) and identified as a major block to women's use of ICTs. In India, a great deal of work is being done to develop software in indigenous languages and this initiative has the possibility of improving India's low literacy rate and overcoming any fear of new technology.

In order to address the problem of digital divide, proactive efforts would have to be made to ensure women's active participation in the knowledge society. This would include more than just access to ICTs or to the Internet. Rather, efforts would have to be made to provide information literacy to women. Information literacy has been defined as the ability to access, know where to find, evaluate and use information from a variety of sources. It involves communication, critical thinking, and problem solving skills (Huyer and Mitter, 2005). In other words, digital divide needs to be understood much more than merely a divide in access to the Internet. Rather, it reflects a divide in the opportunities to develop and use the skills that information literacy would provide. It is therefore imperative to ensure equality in ICT access, knowledge as well as its use.

3.0 Use of ICTs for Women's Literacy: Why is it Important?

According to the latest UNESCO estimates for 2006, there are 771 million illiterate adults globally, or 18% of the world's adult population. Almost all adults who have yet to acquire minimal literacy skills live in developing countries, in particular those in South and West Asia, sub-Saharan Africa and the Arab States, where the literacy rates are about 60%. Women account for 64% of the adults worldwide who cannot read and write with understanding. The problem of illiteracy among women is particularly grave in the South Asia region. Most of the illiterate women are poor, live in rural areas, are older in age and belong to the linguistic, ethnic and religious minorities.

In order to address the enormity of the problem, the United Nations launched the United Nations Literacy Decade (2003-2012) in 2003. The aim of the Decade is to bring literacy to all. The overall target for the Literacy Decade is the UNESCO Education for All (EFA) goal of increasing literacy rates by 50% by 2015. The Literacy Initiative for Empowerment (LIFE) is a global strategic framework and key operational mechanism for achieving the goals and purposes of the UN Literacy Decade.

Because of the established relationship between illiteracy and poverty, the achievement of the Literacy Decade Goals is central to the realization of the Millennium Development Goals. The International Action Plan for implementing the Literacy Decade states that "literacy for all is at the heart of basic education for all and that creating literate environments and societies is essential for achieving goals of eradicating poverty, reducing child mortality, curbing population growth, achieving gender equality and ensuring sustainable development, peace and democracy" (UNESCO, 2002). The Action Plan calls for a renewed vision of literacy that goes beyond the limited view of literacy that has hitherto been dominant. The Plan elaborates, `it has become necessary for all people to learn new literacies and develop the ability to locate, evaluate and effectively use information in multiple manners." (p. 4)

These developments have come during a time when rapid economic, social and technological changes are taking place globally. Economists acknowledge that increasingly knowledge and technology are playing a significant role in what is termed as `knowledge economy.' A linked development--sometimes called the `information society' is the social transformation that is taking place due to the advent and spread of the information and communication technologies, in varying degrees, through all the countries of the world. The economic, social and technological transformations have significant implications for the skills needed by the workers of the knowledge economy and citizens of the information society. According to Wagner and Kozma (2005), personal participation in such knowledge and technology driven societies begins with literacy. But while it has to be conceded that notions of `knowledge economy' and `information society' characterize changes that are taking place in the developed world presently, the developing countries would need to gear up by providing their citizens with the education and training that they would require to function effectively as workers and citizens in the future.

With rapid expansion of ICTs, while educational applications of technology would be made available to school-based programmes, there is a strong possibility that due to scarce resources, these would exclude the poorest and the marginalized groups. There is thus a danger that with growing importance of ICTs in knowledge-based societies, those groups with little or no literacy will fall even further behind those who are literate. The literacy gap that already exists will therefore grow even wider. Undoubtedly, this would exacerbate the problem of digital divide.

If the United National Literacy Decade goals are to be achieved, efforts would have to focus on reaching those at the very bottom extreme of the literacy divide, and there needs to be consideration of how ICT can contribute to achieving those goals.

3.1 What does it mean to be literate?

Does `being literate' have the same meaning to two different individuals? Maybe not. And yet, the term `literacy' appears to be so commonplace that it seems everybody understands what it means. However, literacy as a concept is complex and dynamic and has evolved over the years. It would therefore be useful to understand the evolution of this concept in order to examine what role ICTs can play in literacy programmes.

There has been much debate in the past 60 years over how to define literacy and therefore how to proceed in terms of literacy learning. Four discrete understandings of literacy have been identified:[4]

- Literacy as an autonomous set of skills: According to this understanding, literacy is a set of tangible skills- particularly the cognitive skills of reading and writing- independent of the context in which they are acquired and the background of the person who acquires them

- Literacy as applied practiced and situated: This approach focuses on the application of literacy skills in `relevant' ways, and led to the concept of `functional literacy.' Rather than seeing literacy as a technical skill independent of context, proponents of this approach argue that literacy is a social practice, embedded in social events. Among the key concepts in this view are `literacy events' and `literacy practices.'

- Literacy as a learning process: This understanding views literacy as an active process of learning and is based on the idea that as individuals learn, they become literate. Paulo Freire is perhaps the most famous adult educator who emphasized the importance of bringing the learners' socio-cultural realities into the learning process itself and then using the learning process to challenge the social processes.

- Literacy as text: This approach examines the nature of the texts that are produced and consumed by the literate individuals. The broader policy issue raised by this work is whether the types of existing literacy programmes are relevant to the present and future lives of learners.

These four approaches broadly reflect the evolution of the meaning of literacy and have influenced the international policy discourse in literacy. UNESCO in particular has played a leading role in developing international policies on literacy and in influencing the changing policy discourse among national governments.

At the end of the Second World War, UNESCO had assumed the responsibility for putting literacy on the educational agenda among the stakeholders in the international community. Initially, UNESCO supported the idea of a `fundamental education' that focused mainly on the skills of reading and writing. This was reflected in UNESCO's (1958) statement that a `literate person is one who can, with understanding, both read and write a short simple statement on his or her everyday life.' Since this narrow understanding of literacy had led to motivational problems for adults, the concept of `functional literacy' was introduced. The functional literacy concept focused on the economic and development potential of literacy and was later put into practice in the form of Experimental World Literacy Programme (EWLP) that was conducted by UNESCO from 1967 to 1973 in eleven experimental projects around the world. The EWLP experience, however, showed that illiteracy still remained a problem with the marginalized groups.

In the 1970s, due to the influence of Paulo Freire, literacy was seen as a strategy for liberation. The aim was to enable the adults not only to read the word but also to `read the world.' Freire's (1970) emphasis on literacy to `liberate' as

opposed to literacy to `domesticate,' captured the imagination of those who started understanding the transformative potential of literacy.

Further developments in the last two decades have helped in viewing literacy as a broader and more complex social construct. Levine (1984) had focused attention on the social dimension of literacy and on the importance of understanding the social context in which literacy was being used. Street (1984, 1995) refers to two models of literacy. These are the autonomous model and the ideological models of literacy. In the former model, there is a distancing of language from the learners. Language is treated `as a thing,' distanced from both the teacher and the learner. External rules and requirements are imposed and the significance of power relations and ideology in the use of language, ignored. In this model, language is conceptualized as a separate, reified set of `neutral' competencies, autonomous of the social context. With regard to schooled literary as well as of most adult literacy programmes, it is the autonomous model of literacy that has generally dominated curriculum and pedagogy.

According to Street (1995) the notion of multiple literacies is crucial in challenging the autonomous model which has promoted the notion of a single literacy, with a big `L' and a single `y.' It is important to recognize that this is only one sub-culture's view and that there are varieties of literacy practices. Street advocates the ideological model of literacy that views literacy practices as being inextricably linked to cultural and power structures in a given context. The work that has been done in the fields of linguistics, anthropology and education suggests for him new directions for literacy research and practice.

In recent years, literacy is increasingly being conceptualized as multiple, socio-cultural, and political. UNESCO (2002) now conceives of literacy in the plural as `literacies' and embedded in a range of life and livelihood situations. Thus, literacy differs according to purposes, content, use, script and institutional framework.

The concept of `multiple literacies,' however is complex. The term multiple literacies has different connotations. Consequently, the pedagogical implications are problematic.

Due to the multiplicity of communications channels and increasing cultural and linguistic diversity in the world today, it is now contended that the new communications media are reshaping the way we use language today (New London Group, 1996). When technologies of meaning are changing so rapidly, there cannot be one set of standards or skills that constitute ends of literacy learning. Multiple literacies are therefore a way to focus on realities of increasing local diversity and global connectedness (ibid, 1996).

Recent work of constructivist writers has further enriched our understanding of literacy. According to Wangsatorntanakhun (2001) each individual constructs the concept of literacy individually and as a result of social interactions, and that these interactions are mediated through and by socio-cultural identity, values, and beliefs. Given such an understanding it would mean that it is necessary to understand the multiplicity of literacies individuals face, as they become members of ever expanding groups and communities. Hence each of us could possess varying degrees of proficiency in multiple literacies within different communities of similarly literate persons. Wangsatorntanakhun (2001) re-conceptualises the aims of literacy acquisition to emphasise the following:

- Recognition of the close connection between social, cultural, and political dynamics and literacy practices, including the ways that literacy practices can be transformative,
- Acknowledgement and appreciation of the many diverse ways that people use and understand reading and writing, reflecting the multiple worlds in which they participate,

- An emphasis on the value of family, community, and personal contexts determined by the quality of social relationships,
- An appreciation of what has been called local literacies and the reading and writing done by ordinary people in their everyday lives

It is evident from the above discussion that while at one end of the spectrum, the concept of literacy is narrow, uni-dimensional, limited to technical skills, at the other end is a concept of literacy that is multidimensional, multiple, context-specific. In the countries of the South that face massive problems of adult illiteracy, it is the `autonomous' model of literacy that prevails. This is also the `universal literacy for all' model, which is generally advocated by international agencies.

Despite the growing complexities in the understanding of literacy, there is a widespread recognition that literacy skills are essential in to-day's knowledge societies. This is because there is growing evidence worldwide to show that there are economic, social, political benefits that accrue to individuals, communities, and nations. And yet, literacy was one of the most neglected of the six goals adopted at the World Education Forum held at Dakar in 2000. In a bid to put literacy back on the educational agendas of a large number of developing countries, the recent EFA Global Monitoring Report (GMR) affirms that literacy is a human right and is at the core of Education for All. The benefits of literacy are spelt out thus in the GMR:

Human Benefits

Self-esteem: Studies on the behavioural changes involved in literacy training indicate that literacy has a positive impact on self-confidence and self-esteem.

Empowerment: Literacy has the potential to empower learners to have more control over their own learning and knowledge development. In addition, literacy can give learners greater control over everyday-life situations including avoiding being cheated.

Enabling communication with family and friends: In a rapidly globalizing world, trans-national migration is taking place on an unprecedented scale. Literacy enables communication with family and friends, whether in the print or electronic medium.

Political Benefits

Literacy can bring about increased political participation by enabling people to participate more fully in community meetings, trade union activities, and national political life.

Cultural Benefits

By providing access to written culture, literacy can enhance cultural awareness and appreciation, and therefore contribute to safeguarding cultural diversity. For example, by teaching minority groups and indigenous peoples how to read and write in their languages, these groups can become empowered to enhance and protect their cultures and rights.

Social Benefits

Literacy can enable people to develop their knowledge and capabilities in a range of areas, such as nutrition and health care. Women have often benefited greatly from literacy programmes. For example, gaining of literacy skills by women has been shown to contribute to improved health (of both women and their children), reduced child mortality (and therefore reduced birth rates), and increased demand for access to education for their children, together with better learning achievements by their children.

Economic Benefits

While there is little evidence to indicate direct links between increased literacy and greater economic returns, there are strong links between illiteracy and poverty.

Nevertheless, it is likely that because literacy can enable individuals to have a wider range of choices in terms of education and skills-development, literacy can lead to greater knowledge and skills, and can therefore lead to increased individual income.

It has been well established that education and development are closely linked. Since literacy constitutes learning how to learn, it is the core of education and is therefore a central element of economic development.

It is evident from the above that literacy has far-reaching benefits in terms of bringing about changes in individuals and societies, and of contributing to improving the quality of life of all.

3.2 Women's Literacy- What does experience show?

Women constitute the largest group among the adult non-literate population in most developing countries, and yet, the problem of women's illiteracy has never received the priority attention it deserves from policy makers and planners, particularly in the South Asian countries. Interestingly, the international as well as the national experience seems to indicate that women participate in large numbers in literacy campaigns/programmes. According to Lind (1992) her experience in many African countries in the 1990's indicated that women represented between 70 to 90 percent of the enrolled literacy learners. In India, evaluation studies of the government-sponsored literacy programmes undertaken by social science research organizations in the country showed phenomenal increase in women's participation in the Total Literacy Campaigns (National Literacy Mission, 1988, Dighe 1995, Ramachandran, 2002). However, sexual division of labour and numerous domestic responsibilities that are imposed on women condition the extent to which their participation can be regular. Women are often heard to complain they cannot come regularly to literacy classes due to work at home, or due to a sick child, or due to lack of time. Then there are the problems of repeated pregnancy, of indifferent health, of physical violence and bodily abuse. Women also have problems of another kind and these relate to a poor self-image and low self-esteem. Limited social interaction leads to the internalization of their subordination so that poor women have been known to feel that they are useless and worthless learners. Most of them even regard their learning disabilities as natural and normal. This has implications for the organization of literacy programmes for women for, in order to overcome this attitude, it will have to be ensured that the learning process is such as to enable women to experience a feeling of self-worth and self-confidence.

Then there are the intangible barriers that precipitate women's dropping out of the literacy classes or non-continuance in any educational programme. These relate to male attitudes, lack of family support, institutional barriers such as lack of support systems (eg. crèche facilities, easy access to water, etc), or an insensitive curriculum or a teaching-learning process that is not conducive for continuing with education. Horsman (1988) refers to the messages that literacy programmes give that can be implicitly damaging for by placing a burden on women by telling them what they should be, such programmes create feelings of inadequacy and incompetency among them. Horsman goes on to state that by placing too great a focus on literacy skills, such programmes play down all the other skills and abilities that women have. What is then offered to women are `safe programmes' which affirm the value of literacy within the context of accepted roles of women.

Another area of concern relates to the level of literacy attained by women. Again, Lind's (1992) experience of the literacy programmes in many African countries showed that the drop out rate was higher and attendance was more irregular among women than among men. Her experience also showed that it took longer time for women than for men to become functionally literate. The research experience of Carron et al (1988) showed that the newly-literate women in Kenya tended to use their newly acquired literacy skills less frequently in their daily lives than men. Stromquist's study (1994) showed the variable levels of literacy acquired by women over a three year longitudinal study and also pointed out that women do read and write in their daily lives but in small and infrequent amounts, patterns that would hardly support the development of literacy habits.

The varying levels of literacy reached by women also has implications for post literacy and continuing education programmes for women. In the literacy programmes of most countries, the basic literacy phase is followed by the post literacy and continuing education programmes that are intended to sustain and consolidate the fragile literacy skills of the neo-literates. Mishra, Ghose, and Bhog (1994) are of the opinion, however, that adult learning and particularly that of poor women should not be related to the classroom-like progression from one grade to another. For their experience of working in Banda, Dungarpur, and Pudddukotai showed how such educational programmes must be linked to their immediate environments. Their action-research project showed that when learners started participating in their own educational development, a spiral of learning got catalyzed and as women became active learners, this became an ever-expanding spiral. Their experience therefore indicated that insofar as poor rural women are concerned, there is no linear progression from literacy to post-literacy to continuing education phases.

3.2.1 Literacy for Women's Empowerment

The 1980s and the 1990s witnessed a critical questioning about the kind of education that would be most relevant to the needs of poor women. For it was recognized by feminist scholars and activists that literacy for poor women is not merely an acquisition of skills of reading, writing and numeracy alone. As a matter of fact, there was considerable criticism of the traditional literacy programmes that had focused merely in imparting 3 Rs to women. Thus, it was recognized that literacy for poor women must become a means for acquiring knowledge and skills whereby women can begin to understand and analyze unequal gender relations and the structure of their poverty and exploitation so that they can collectively challenge and change the existing social reality (Anand, 1982; Bhasin 1984, 1985, Ramdas 1990, Stromquist 1992). In other words, literacy had to be perceived as a tool for empowering women in the wider struggle against inequality and injustice in society. Beside unanimity about the multi-faceted nature of the term, there was also a realization that the term `empowerment' was about `power' and about changing the equations of power between men and women at all levels. Essentially, empowerment indicated a movement from a state of powerlessness to one that enabled women to take greater control over their lives and resources (Batliwala, 1994)

As is apparent, the 1990s saw a resurgence and the concept of education for women's empowerment gained momentum among women's activist groups. One of the earliest attempts to build on the experience of women's groups and to provide meaningful education to poor women was made through the Women's Development Programme in Rajasthan in India, and subsequently, since 1989, through the Mahila Samakhya Programme (Education for Women's Equality) which is now in operation in more that 10 states in India. In providing the foundation on which Mahila Samakhya was built Batliwala and Ramachandran (1987) elaborate on how these programmes must begin with an investigation of the socio-economic reality by the women themselves, an examination of the problems faced by them and a process of critical analysis, often leading to collective action against the injustices suffered by them in the home, in the workplace and society. Literacy is not imposed on women; rather they are allowed to seek literacy at a point when its meaning and value become evident to them. Literacy is thus not viewed as an end it itself, limited to the teaching of basic reading, writing and numeracy skills, but as part of an overall strategy of empowerment. The educational process must enable women to ask questions, seek answers, act, reflect on actions and raise new questions.

Experience has shown that as women have gradually become empowered at the individual and collective levels, they have been able to address programmes such as access to drinking water, payment of minimum wages, access to health services, ensuring functioning of the village school, and they have taken collective action against domestic and social violence. Every issue taken up by the women has resulted in an educational activity. When the mahila sangha (women's collective) decides to take up an issue for debate or action, it involves a systematic analysis of the problem, collection of necessary information, visits to the `block' or district headquarters, and collective planning on the course of action. Mahila Samakhya has given women a voice in the villages, provided legal and administrative support, and focused systematic efforts to improve women's access to available educational and developmental facilities. In this manner, the Mahila Samakhya approach has become an integral strategy for mobilizing women for participation in development.

Elsewhere in Asia, many NGOs and some government departments and ministries were running educational programmes for women and girls whose stated goal was to empower women. Batliwala (1993) therefore undertook a study to build a conceptual framework of women's empowerment by analyzing different strategies that were being used in the region to empower women. Batliwala's study provides a South Asian perspective, and it was expected that similar initiates would be taken up in other parts of Asia and the Asia Pacific. UNESCO's efforts in this direction also need mention. Various projects were undertaken and seminars organized to grapple with the theoretical base to formulate strategies and indicators of empowerment.

In his foreword to the COL Literacy project report, Rogers (2004) refers to the notion of a `fault line' that is appearing in developing countries as a result of contrasting world views about the purpose and process of adult literacy. On one side of the fault line are those for whom `literacy is like education.' According to this understanding, there is a centralized curriculum that is developed by the so-called experts and is uniformly `delivered' to the learners. On the other side are those who see adult literacy as inextricably linked to social and economic development, with the control of the programme and determination of the content resting with the learners. The emphasis is more on the use, rather than the acquisition of literacy skills. Research evidence with regard to women's literacy is increasingly showing that it is the latter approach that has more relevance to women learners. This is not to suggest that literacy has to be postponed indefinitely. Rather, many NGOs believe that the demand for literacy must come from the women as and when they realize its value and role in their overall empowerment. It is argued that in this strategy, learners are self-motivated and thus become literate faster and retain their literacy and numeracy skills much better.

3.2.2 Feminist pedagogy

Inadequate attention has so far been paid to understanding how women learn and what the barriers to their learning are. The issue of women's lack of self-confidence and low self-esteem in starting or returning to an educational programme is now well known. This lack of self-confidence, however, is endemic to women and cuts across cultural and class barriers. Due to a variety of reasons including social norms and mores as well as the process of acculturation and personal experiences, most women exhibit extreme lack of confidence when they join an educational programme. Coupled with this is what has been described by Belenky, Clinchy, Goldberger, and Tarule (1986) as the phenomenon of `finding their voices.' This is a positive reinforcement and an assurance that women need to know that they are intelligent, that they are capable of learning. The adult education functionaries would therefore have to be trained to give positive and constructive feedback to adult women to ensure that their confidence is enhanced and not eroded.

In feminist pedagogy, there is a commitment to giving voice to those who have been silenced, to the importance of reflection and action. Feminist education theorists who write from the perspective of the liberatory model have been influenced by Paulo Freire's work but they have also been critical of Freire and Marxist education theories. According to them, the primary focus of the latter has been on class-based oppression, but that they have not dealt adequately with oppression based on gender, race or interlocking systems of oppression such as gender and race, or gender and class, or gender, race, and class.

Research is also beginning to show that women seem to do best in learning environments where affective forms or knowledge that come from life experiences are valued (Belenky et al. 1986). In short, they do best in learning environments where there is an effort to relate theoretical concepts to real life experiences. In these environments, women begin to recognize their own ability to think independently, to think critically, and to come to their own conclusions. It is also in these connected teaching-learning situations that many women come to recognize and hear their own voices. Connected teachers, as defined by Belenky et al. (1986) see the teacher as a `midwife.' The teacher's task is to draw students out, to “assist the students in giving birth to their own ideas, in making their own tacit knowledge explicit and elaborating on it” (p.217), and to support the evolution of the learners' own thinking.

The idea of capitalizing on learners' life experiences and relating theoretical concepts to these experiences is not new in the field of adult education. What is new, however, is the emphasis feminist pedagogy places on the importance of women in particular reclaiming and validating the learning that comes from their life experience as women. Women learners come to an educational programme with specific personal histories, learning styles and expectations that are shaped to varying degrees by their experiences as girls and women in a society characterised by male power and privilege. In addition to barriers posed by sex discrimination, many women are doubly or even triply disadvantaged as members of ethnic minorities, as working class women, or as members of other marginalised groups. In order to provide an educational programme that would be appropriate to women's needs, it would be necessary to understand more about their experiences, their learning needs, the difference and diversity among them so that a women-sensitive approach could be planned and implemented for them.

3.2.3 Content of Literacy Materials

As part of literacy programmes, primers are written for pedagogical purposes. They are developed for the purpose of selection, construction and transmission of valued knowledge and practices that the learners are required to study in order to be certified as literate. Extensive research on school curriculum has been done, particularly in the West, to draw attention to how `the choice of knowledge' presented in the curriculum is part of the process of hegemony.

Research studies on textbooks show that they are ideological message systems for the transmission and reproduction of values and beliefs of some groups, while those of others are invisibilised and marginalized. Apple (1990) has highlighted how class, race and gender inequalities work through schools in the content and organization of the curriculum.

The broad contours of the content of school textbooks closely approximate those of the literacy primers for the adults. Adult literacy curriculum, however, has remained a neglected area of research An analysis of the literacy materials developed by World Education, an international NGO, showed that though Freirean terminology was consistently used, the content of the literacy primers was essentially `pseudo-Freirean'- for it perpetuated dependence and subordination (Kidd and Kumar 1981). This study also revealed how the literacy text can become an important symbolic system for expressing and disseminating economic and technical power and dominance.

An analysis of literacy primers in use in six states of India (Dighe et al, 1996) showed how certain recurring patterns ran through each of the literacy primers in use in different languages. Thus, the overall approach was to treat the adults as those with `empty minds' who had to be sermonized about the manner in which their lives could improve. The basic thrust was `victim blame' and not `system blame' Such individual blaming perspective did not attempt to link the development problems with the structural reality of the poor, perennially plagued with landlessness, lower wages, unemployment and lack of access to basic services and facilities. Development messages and information were communicated mostly either through a monologue or through a very limited conversation between the characters in the text. In general, hardly any dialogue or discussion was initiated to enable the learners to understand divergent points of view on a given topic. Such a top-down approach reinforces the dominance of the viewpoint of the `progressive' protagonist while depicting the learners as passive recipients of development messages. There is therefore a tendency to talk down to the learners as though the illiterate minds are `empty vessels' waiting to be filled by the sagacious advice given in the literacy text. Freire (1985) refers to this phenomenon as the `nutritionist view of knowledge' according to which the illiterates are considered as `undernourished' and have to be `fed' or `filled' in order to know. Pedagogically, such a didactic approach to learning does not recognize the indigenous knowledge of the learners and would neither allow them to think critically nor enable them to raise questions about whatever is learned.

If one considers the issue of gender in literacy curriculum, some of the studies highlight how certain repetitive images and themes characterize the content of the literacy primers. These studies (Bhasin 1984, Patel 1987) have shown that the primers ignored women's role as productive workers and focused exclusively on their roles as wives and mothers. The literacy primers thus generally reinforced traditional definitions of women and propagated the ideal for Indian women as being a person who is passive, submissive and self-sacrificing. There was no attempt to challenge or question the existing sexual division of labour and discriminatory practices against women in society.

Greenberg (2002) quotes what a researcher had to say about the content of an adult literacy textbook in Egypt. “I leafed through the whole textbook looking for pictures of women and found only one, though every story was accompanied by a picture. In this picture, every woman was pregnant or accompanied by small children or both. I asked what the story was about and was told the subject was family planning. The agricultural work Egyptian women undertake, participation in the paid labour force in a variety of capacities, food preparation, household work, beer brewing, and all the other types of work with which women engage, were completely ignored.”

The study by Dighe et al (1996) showed that despite `women's equality' being stated as a goal, it was basically the ideology of domestication that was promoted in the literacy primers. The portrayal of women was stereotypical and did not reflect the reality of everyday lives of poor women.

The experience of Mahila Samakhya as well of various women's NGOs has shown how women can generate their own learning materials on the basis of their lived experiences. Niranter, a feminist NGO in India, developed a curriculum collaboratively with village women on five issues that affect their lives. These included water, forests, land, society and health (Windows to the World, 1997). Niranter has also been successfully bringing out a newsletter called `Pitara' with the participation of the village women in its production and content.

In recent years, in response to increasing awareness that adult education programmes the world over were failing due to stagnation and standardization of literacy methodologies which are characterized by the use of a primer, REFLECT (Regenerated Freirean Literacy through Empowering Community Techniques) evolved as an innovative approach. This approach is based on diverse theories and grassroots experiences which include the work of Paulo Freire, PRA techniques, feminism, popular education, empowerment approaches to development and the practical experiences of several organizations in different countries. Central to the practice of a REFLECT process is a `negotiated curriculum' where women actively define and decide the content and direction of their learning. The experience of implementing this project in India has shown how questions of power, participation, gender, inequality, social stratification and the politics of development has formed part of this negotiation process (Girijana, Yakshi & Anthra, 2002)

The role of the teacher in a formal classroom has traditionally been that of a knowledge giver. The relationship between the teacher and the students has been hierarchical and the channel of communication has been one way. Freire had termed this the `banking' concept of education. The importance Freire has given to dialogue by equating it with education, as well as to the non-hierarchical relationship between the teacher and the learners has led to a change in the role of the adult literacy teacher. Such a teacher creates a learning environment, builds on learners' experiences and facilitates social interaction and cooperation. A literacy teacher who makes learners feel comfortable, helps them voice their opinions, encourages them to question, critique, analyse and to arrive at their own decisions would go a long way in facilitating and promoting adult learning. Learner-centred teachers understand that they must find ways to know their individual students and provide a safe and nurturing context to promote learning. Learner-centred teachers also understand that not only is learning a natural lifelong process, but motivation to learn also comes naturally when the learning context is supportive (McCombs 2003).

3.2.4 Literacy and Livelihoods

One of the major problems organizers of literacy programmes for poor women face is that relating to lack of poor women's motivation for literacy. The demand of poor women is invariably for the economic betterment of their lives, rather than a traditional literacy programme. It has therefore been argued that literacy per se means little to poor women unless it leads to a perceptible change in bettering their lives. In other words, the link between literacy and livelihoods has become a central issue.

The concept of livelihoods, however, needs to be unpacked. The report of the Uppingham Seminar on Literacy and Livelihoods Revisited held in June 2002, outlines a continuum of meanings that exist among international and national agencies and development practitioners that range from a very narrow economic definition, stretching to a much broader view of livelihoods as including individual and social well being, health and environment.

A three year project titled `Women's Empowerment through Literacy and Livelihood Development (WELLD)' funded by World Education and in partnership with PRIA (Participatory Research in Asia) and state level NGOs in Madhya Pradesh and Andhra Pradesh in India, showed how a holistic programme that combines the cycle of acquiring and using the basic literacy skills and an economic knowledge base, can be developed. The important and innovative

component of the project was to provide women with the foundation for making their own choices for an improved quality of life. As an `economic education programme' it aimed at helping women acquire the basic knowledge and skills they would need to make informed financial and livelihood decisions. In working with women's self-help groups, it was assumed that once women acquired the skills of reading, writing and numeracy, they would efficiently manage an independent savings and credit group. In other words, the goal of WELLD was to prepare women to master basic literacy skills and make informed decisions about whether and how to expand and improve their current livelihood activities or to take advantage of new livelihood opportunities.

At the end-of-the-project dissemination meeting, the achievements of the project were presented. According to the project document, 50% of the women had acquired literacy skills and were now using their skills to write provision list, read scraps of paper, and other private materials. While actively encouraging their children to go to the school, there was a growing interest in women to attend the literacy classes. They wanted to use their literacy skills to acquire new knowledge. Thus, some of them wanted to know how to read bank passbooks. Women had started improving livelihoods through credit and learning a skill from the NGO partners.

It was evident that the project had been empowering for women. For in many instances they had used their newly acquired skills and confidence in dealing with people in authority. Women in both states were taking up issues of social justice by demanding equal and minimum wages, intervening in village Panchayats (elected body at the village level) and safeguarding citizens' rights.

Most literacy programmes, however, that include a livelihood component, adhere to a rather more restricted economic view of livelihoods that is often labeled as an `income-generation' programme. Interestingly, an analysis of some of the on-going literacy for livelihoods initiatives undertaken mainly in some African countries revealed that those who conceptualized livelihoods in terms of economic benefits seemed to hold a view of literacy that saw it primarily as a pre-requisite for the acquisition of knowledge and practical and vocational skills. In other words, what was noted was that `within many literacy and livelihood programmes, a narrow economist view of livelihoods was coupled with a functional, utilitarian and technicist view of literacy' (Papen, 2002)

A World Bank and IIZ / DVV (Institute for International Cooperation of the German Adult Education Association) study makes a powerful case for providing livelihood skills training for teaching literacy (Oxenham et al, 2002). The study that was undertaken in four African countries concluded that there was evidence to suggest that it would be worthwhile for vocational or livelihood education policy makers to develop livelihood training with literacy-numeracy instruction for very poor non-literate people, most of whom tend to be rural women. Their study showed that the minimum period needed by a non-literate person to attain a degree of literacy and numeracy sufficient to support advancement in a livelihood seems to be about 360 hours of instruction and practice. The other findings were that the success of livelihoods-plus-literacy / numeracy programme can be reinforced if they start from or, at least incorporate, training in savings, credit and business management, along with actual access to credit. The study also showed that two cadres of instructors, one for livelihood and business skills, the other for literacy skills, was more prudent than relying on a lay person to teach both sets of skills.

The policy recommendations that were made in this study included the following:

- Designing the education and training programmes that are participatory and interactive in nature
- Using literacy / numeracy content that comes from livelihood skills and is integrated with training right from the start

- Recognizing that organizations, particularly non-governmental, more concerned with livelihood and other aspects of development, are better at designing and delivering effective combinations of livelihoods and literacy than those with an education focus

- Working with established groups of people with common purposes (self-help women's groups as in the case of WELLD project,), rather than with individuals brought together only for literacy.

A question that is often raised in such programmes is whether to start with literacy or with livelihoods first. In several such projects, literacy is the first area of intervention, as livelihood activities are believed to require at least a minimum of basic reading and writing skills. However, there is no evidence to suggest that some people cannot improve their livelihood without a prior improvement in their literacy skills. As a matter of fact, there are enough examples which show the above assumption to be wrong. Also, experience has shown that improved literacy does not necessarily bring about significant improvements in people's economic situation. As a result, when learners who join such programmes with high expectations, find that nothing much has happened for those who have begun to read and write, they become frustrated and lose their motivation to continue.

As noted in the report on the Uppingham Seminar, there are other issues that need to be addressed. A question that needs to be asked in the context of each intervention or policy is who defines what livelihood means? This raises the question of power. Can the participants of the literacy and livelihoods programmes decide for themselves which income-generating activities they would like to embark upon? Or is it the organizers who decide what would be viable and sustainable economic activities? Similarly, there is need to address the power differentials between different literacies and rather than subscribing to a technicist view of literacy that denies the existence of different literacies, to ask on what basis are some literacies chosen in order to be taught and supported while others are left out.

According to Roger (see Papen, 2002), the problem with the narrow technicist approach to literacy and livelihood programmes is that they do not lead to effective command of literacy skills nor to viable livelihood practices and certainly not to empowerment. It is therefore necessary to address the problems of poverty centrally, as addressing material poverty is certainly among participants' most pressing needs. When poverty becomes the focus of interventions, then an expanded vision of literacy and livelihoods education as part of a system of lifelong learning becomes essential. The expanded vision of literacy and livelihoods has a humanistic and social view of both literacy and livelihoods and extends beyond purely economic considerations. This is elaborated thus by Papen (2002):

Besides technical and vocational skills, it would include economic and cultural literacies, life skills, political empowerment as well as support for local culture and social life. Such an expanded view explicitly addresses questions of language and local knowledge. Furthermore, it defines development in broad terms, acknowledges the politics of development and encourages empowerment from below, aiming to support democratic processes at local, national and international levels.

Considering the diversity of social, political and economic factors that would need to be addressed, it would be difficult to suggest a generic model when planning a literacy and livelihoods strategy. Rather, such programmes would need to be flexible, grounded in the local context and developed with direct input from local people and offer a variety of individual and community-focused solutions. Suitable research and evaluation interventions would need to be planned. A variety of indicators that capture both the economic as well as personal and social changes in people's lives would need to be worked out.

3.2.5 Language and Literacy

The question of the language of instruction is a good example to highlight the centrality of power when talking about literacy. Since literacy primers form the mainstay of most mainstream literacy programmes, the language used in primers is an ideological issue which must be seriously addressed. In the multi-lingual, multi-ethnic and multi-cultural developing countries of Asia, Africa and Latin America, language is not only the criterion for ethnic identity but it is also the expression of ethnic consciousness. And yet, language policies that have been inherited from the colonial era have given importance to the colonial language or to the standard language/s and have marginalized the spoken languages or the mother tongue languages of vast sections of people in most Third World countries.

A consideration of the language policy in India will provide insights about the politics of language. The 1961 Census recorded 1652 mother tongue languages in India. The corresponding 1971 and 1981 Census figures for mother tongue languages had shrunk to 221 and 106 respectively. The reason for this was that from 1971 Census onwards, the Census Commissioner was advised to drop listing all those languages that had less than 10,000 speakers. Presently, the Eighth Schedule of the Indian Constitution recognizes 18 languages as standard regional languages with Hindi and English considered being `official' languages.

It is evident that the Eighth Schedule takes no cognizance of the vast majority of Indian languages. While the standard and official languages have power, recognition and prestige, the others are left to languish with such demeaning labels as `dialects,' `tribal languages,' and `minor languages' (Saxena 1997). Education, the judiciary, administration, mainstream trade and commerce, use the standard regional or the official languages for communication purposes, totally ignoring the vast majority of Indians whose mother tongue languages are different. While mainstream literacy programmes tend to ignore the power dynamics involved in the preferred language, a few NGOs have looked at the possibility of an alternate approach. Experiences of two NGOs, viz. Nirantar in Banda district of U.P., and of Rupantar in Chattisgarh have shown that instead of beginning with pre-fabricated methodology and primers, there should be an attempt to evolve context-specific, interactive teaching methods and materials so as to confront the issue of language/dialect from an ideological standpoint.

It is now widely accepted that the mother tongue should be the medium of instruction not only for early childhood education but also that the starting point has to be the dialect or the spoken language in the case of non-literate adults. This is particularly important in the case of poor rural women who only speak and understand the local dialect and oftentimes do not even have a smattering of the standard regional language. The need to sensitively handle the issue of transition to the standard regional language is highlighted in the case study by Bhog and Ghose (Ouane, 2003). Their experience showed how in the process of collectively evolving, with neo-literate women, a bi-monthly broadsheet, the latter defined not only the themes and the content of the broadsheet but also engaged in its writing and production. But as the women realized that they needed to have access to Hindi, the standard regional language as it was a language of power and of the powerful, the transition was made in a gradual manner, ensuring a limited fusion between Hindi and Bundeli (the mother tongue). The experience of Bhog and Ghose showed that as women gained greater control over their writing and reading skills, they were in a stronger position to handle the complex process of language integration.

And yet in the concern for making a switchover from the spoken dialect to the standard regional language, an unstated viewpoint persists that only education in the standard language will liberate people from ignorance and bring about national integration. Also, there is an assumption that the spoken `local' languages are likely to encourage fissiparous anti-national tendencies, keeping people enslaved in backwardness. According to Saxena and Mahendroo (1993),

standard languages divide society and control information flow. As such they are effective tools for maintaining regional and national status quo. In the process, people's spoken languages are subdued and marginalized, ensuring the cultural hegemony of the ruling elite.

On the other hand, Mukherjee (2002) is of the view that there is need to engage with the hierarchical social structures embedded in the language-dialect relationship and to think not in terms of appropriation of one in favour of the other, but in terms of creating communication without domination so as to de-hegemonise the importance of the `standard' language.

There is certainly no single solution to the above issues. Decisions need to be taken on the ground or in the light of local conditions and local language practices. Even in the case of literacy and livelihoods programmes, it is important to find out which languages women are most likely to use in the context of their own livelihood activities. It is possible that it is the standard regional language which may be required to deal with individuals and institutions outside the community such as the middlemen, traders, state officials and the like.

3.2.6 Culture and Learning:

Those who regard culture as central to shaping and moulding the educational process contend that the interrelatedness of culture and leaning has been neglected in the study of learning. One way in which insights could be obtained to ascertain the role of culture in learning would be through ethnographic research studies. The case studies presented by Street (2001) under the New Literacy Studies show how the outcome of such research might lead to different curriculum and pedagogy than those in many traditional programmes. The ethnographic approach to literacy research has shown that by being sensitive to local needs, it would be possible to recognize where some local literacy practices are more central to practical `needs.' The value of local literacies is that the everyday uses of literacy by marginalized groups in both rural and urban settings help identify specific literacy skills that are focused on immediate tasks. The pedagogical challenge would be to see how to make the link between the `local' and the `central' and to establish a dynamic relationship between the two so that generic skills could then be transferred to other situations. The ethnographic study done by Dyer and Choksi (Street 2001) on the Rabaris, a nomadic tribe from Gujarat in India, showed that there were substantial differences between their own and Rabaris' perceptions of `literacy.' Their ethnographic study helped in developing a much more substantial set of understandings about the complexity of what Rabaris understood by literacy. The Rabaris' conceptions of knowledge, identity and being influenced their understanding of literacy and hence a literacy programme for the Rabaris would have to provide for such expectations. Studies on folk mathematics have shown the indigenous methods by which adults acquire numeracy skills. A study done by Saraswathi (Rampal, Ramanujam, Saraswathi, 1997) showed how, despite being illiterate, adults in rural Tamil Nadu had acquired sophisticated numeracy skills. These included ability of the elderly to calculate time and seasonal changes on the basis of the length of the Sun's shadow. Or the ability of the village women to count in order to make sophisticated geometrical patterns as part of the cultural practice of making `kolums' (a design made of rice paste and natural colours in front of the house each day as a sign of good omen). Such ethnographic studies present people's perspectives on literacy and would undoubtedly be different from those of programme designers who develop literacy materials, often far removed from the local context. They would thus help design more culturally sensitive literacy programmes that would also have greater relevance and acceptability.

Summing up

As is apparent from the above discussion, there has been considerable experience and learning that has taken place

with regard to literacy programmes for poor women. And yet literacy programmes for adult women have just not taken off. According to Ramachandran (2002):

Barring pockets of innovation, the painstaking process of developing primers, identifying and training teachers, and running literacy classes, camps or information literacy circles, have not been taken up on a priority basis. Here again, the problem may revolve around pedagogic and resource support. Being a women's empowerment programme, the expertise and skills needed to run a serious literacy programme are not available with the project. The project's ability to reach out to resource institutions seems to be limited

As aptly summarized by her, `Literacy activities in the absence of empowerment programmes, and women's empowerment programmes that have not encouraged women to read and write, are both incomplete. The problem lies with organizing a `fit' between the two streams. Thus far, literacy programmes have either focused on traditional skills of reading, writing, and numeracy to the neglect of bringing about women's empowerment or paying attention to livelihood issues. Or else, women's education programmes have focused on `empowerment, 'to the neglect of promoting women's literacy and livelihood skills. Alternatively, women's economic needs have been addressed through income-generating activities but rarely have such programmes paid attention to the other two issues.

Clearly, programmes / projects that use ICTs in women's literacy will have to take cognizance of these experiences and developments.

4.0 What are ICTs?

Information and Communication Technologies (ICTs) are often associated with the most sophisticated and expensive computer-based technologies. But ICTs also encompass the more conventional technologies such as radio, television and telephone technology. While definitions of ICTs are varied, it might be useful to accept the definition provided by United Nations Development Programme (UNDP, 2003): `ICTs are basically information-handling tools- a varied set of goods, applications and services that are used to produce, store, process, distribute and exchange information. They include the `old' ICTs of radio, television and telephone, and the `new' ICTs of computers, satellite and wireless technology and the Internet. These different tools are now able to work together, and combine to form our `networked world' a massive infrastructure of interconnected telephone services, standardized computing hardware, the internet, radio and television, which reaches into every corner of the globe'

In earlier decades, the use of the older analogue technologies, i.e. radio and television, for literacy and adult basic education was extensive. The use of these media was predicated on the view that these two mass media transcended the illiteracy barrier and therefore could be used effectively to reach out to illiterates. Potential reach and access were the main drivers for using radio and television. Equally, support from external donor agencies, technical assistance in the form of satellite technology during the SITE experiment, coupled with the strength of India's own technical human resource enabled experimentation with various forms of radio and television to provide adult basic education, including literacy. Later experiences in India included using satellite and terrestrial information and communication technologies in varied fields, from agriculture to health, literacy, women's empowerment, and in-service skill upgradation and training for development staff. [5]

The new ICTs are seen as transformationally different. For the older media such as print, radio and television, regulation, shaping and production of content and the delivery methodologies remained one way media and in public hands. Essentially analogue, they lacked speed of delivery, and were sensitive to geography and distance and costly. The new digital media are potentially more open and can be owned and operated by an individual or social group; i.e. ownership of the media now has shifted to the hands of the person who can control the remote or the mouse or the mobile phone, and therefore, vary the purpose for which the medium is being used while at the same time, defining the medium in terms of one's own needs and wants. This leads to diversity in both form and content; the possibility of localization in terms of language, culture, design, content and use. Because these new media seem to capitalize on these strengths while addressing the weaknesses of older media, they are seen as key tools in the battle against illiteracy and for adult basic education.

ICTs also have differential access and impact patterns for women. The issues that inhibit women's access to education and technology of any kind have been discussed elsewhere in this monograph. Much of the discussion and promotion of ICTs for meeting educational goals today has not accounted for this differential impact and it is perhaps for this reason above all why older technologies did not have the significant impact that they were intended to.

To some extent, the push toward the use of the newer, digital ICTs emerges from both the hope and the hype that current use of the newer computer and web based technologies will yield similar results to the efforts of the past. According to Livingstone (1999), the question that emerges and can be debated is whether these media are really transformationally “new”; what the strengths and limitations of these technologies are and whether the “grammar” of the new media is such that can be exploited in conditions of extreme deprivation, poverty, and illiteracy; along with other conditions that must be met for effectiveness, i.e. reach and access, relevance of content, familiarity and ease of use. An exploration of current use of ICTs in literacy programmes is therefore a precondition to any debate on the digital media's potential, promise and pitfalls.

4.1 Current use of ICTs in Literacy Programmes[6]

In order to understand the use of ICT in literacy programmes, in 2004 UNESCO, Bangkok, commissioned case studies from seven most populous countries of the world that are still faced with the problem of adult illiteracy. These case studies from China, Bangladesh, India, Pakistan, Egypt, Mexico and Brazil, examined initiatives that use ICT as a tool in efforts to improve literacy and highlight innovative practices, where applicable.[7]

While these country studies do not necessarily focus on women, they nevertheless provide insights about the common problems faced by them with regard to the use of ICT in literacy programmes.

Thus, the case studies highlight that adult literacy programmes as part of educational policy and practice have generally remained a neglected area for policy makers and planners in most countries. This is particularly so with regard to India, Pakistan and Bangladesh. What is evident is that their commitment and investment in adult literacy programmes is not commensurate with the massive problem of adult illiteracy faced by them. Since these countries are far from achieving EFA goals, they are still struggling to expand primary and secondary education and to address quality issues. Consequently, these priorities take precedence over considerations such as those relating to adult illiteracy.

With regard to ICTs, there are problems relating to those of infrastructure. The country studies from Pakistan, Bangladesh, Egypt and China refer to a limited telecommunications infrastructure. Problems of bandwidth capacity, non-availability of computers, poor transportation network, including those relating to uninterrupted power supply, have hampered the use of ICT even in school education. Lack of sufficient financial resources is a major constraining factor.

The country study from Egypt realistically assesses the reasons for the non-use of ICT by literacy teachers. These include: (i) financial constraints (ii) scarcity of trained manpower (iii) lack of technical and maintenance personnel (iv) inadequate number of specialists in use of ICT for literacy, and (v) negative attitude of the educational personnel at various levels and their unwillingness to change.

While India's leadership in the application of computer technology is well acknowledged, it has only made sporadic efforts in the use of ICT in adult literacy programmes. This is also true of Bangladesh where even though most innovative work in education has been initiated by NGOs, there is still limited use of ICT in literacy programmes. Also, such initiatives have largely been donor-funded, pilot-based, and small scale. As a result, as pilot projects, they become a major cause for quality initiatives not being sustained.

There are other problems with regard to the use of ICT in literacy programmes. These relate to problems of perception. Thus, there are those countries where ICT are seen as add-ons to the education system. In other words, there is little recognition that ICT can be used to supplement and complement the conventional education delivery system or processes, or that they can be used to improve the quality of teacher training programmes. As a result, few teachers have been provided with training on how to integrate ICT into the teaching/learning process.

4.2 Broad trends in the Use of ICTs in Literacy Programmes

Some broad trends emerge from these country studies with regard to the use of ICTs in literacy programmes. These are:

- Most countries do not use ICTs in literacy programmes. Nor have they formulated policies for integration of ICTs in adult literacy programmes.

- Most countries have problems with regard to financial resources and lack of technological infrastructure
- There is one characteristic that is common to almost all countries. The ICTs used are typically basic ones- radio and television. When computers or the Internet are involved, they are for restricted, targeted users.
- There is much greater use of ICTs, particularly in school education. The use of ICTs in community learning centers, is still limited.
- Most ICT projects for adult literacy are pilot projects and are often funded by foreign/international agencies. They suffer from problems of sustainability.
- Not much attention has been paid to gender issues. There is no effort to address issues of access, content, impact of technology insofar as women are concerned.

4.3 Literacy projects using ICTs in the South Asian Region

As mentioned earlier, a few NGOs have been using ICTs for adult literacy in Bangladesh.[8] One of the innovative experiences is that of Dhaka Ahsania Mission. This NGO has set up Ganokendras or the Community Learning Centres wherein ICTs are used for improving the quality of life of the community, including developing ICT materials for literacy.

An innovative project in Bangladesh has been run by Bangla Innovation through Open Source (BIOS). BIOS has been developing multi-media materials for teachers and for school students. It has been attempting to popularize Mathematics and Science through the use of ICTs. BIOS has been receiving a positive feedback for this initiative from schools.

The country study from Pakistan[9] has highlighted that it has had experience in the use of educational radio and television over the years. The services of Pakistan Television Corporation (PTV) and of Pakistan Broadcasting Corporation (PBC) have been utilized for various educational projects. The first ETV pilot project was started in 1975 and was a functional literacy project to cover 24,000 adults. The Adult Basic Education Society, along with PTV, worked on a literacy programme that also made use of video cassettes. The Allama Iqbal Open University (AIOU) took the initiative to start a Functional Education Project for Rural Areas (FEPRA) and used the AV van, audio cassettes and flipcharts, along with a primer, for the purpose. On the basis of positive experience, the Institute of Educational Technology of AIOU started producing radio and television programmes which are now being transmitted on the national broadcasting network and the non-broadcast media are used for small group interaction and individual study. The Computer Science department of AIOU has been developing multi-media materials for capacity building purposes.

In India too there have been experiments in using radio, television, video cassettes for educational and instructional purposes. But there has been no consistent use of technology in adult literacy programmes.

Three pilot projects in India titled `Khilti Kaliyan,' PREAL' and Chauraha' attempted to use television and radio for teaching literacy to adults, particularly adult women. While these were innovative initiatives and highlight the potential of media in addressing the problem of adult illiteracy, the fact remains that these initiatives were thwarted due to lack of political and administrative commitment, inadequate planning and management effort and lack of concerted coordination at various levels..

Box - 1

Khilti Kaliyan

This 24-part serial aimed at women in the age group of 15-35 years was made with the intention of encouraging them to recognize the need for literacy and the changes that literacy would initiate in their lives. The serial was based on an experimental literacy primer by the same name. It was developed for women learners, and dealt with themes and issues pertaining to the lives of rural women. In the course of its effort to complement the primer, the TV serial established a link with the real problems of social, economic and political deprivation and oppression faced by women. Thus, the narrative of Khilti Kaliyan forced the audience to consider the position of women in society and the reasons for their unequal status.

Although made with the two main objectives of attracting women learners to adult education centres and enriching the learning process, Khilti Kaliyan went beyond that in its potential `as a radical new effort to draw women into the mainstream by transforming education into a real tool of development and change.' The TV serial was telecast by Delhi Doordarshan Kendra once a week over 24 weeks. However, it was telecast without adequate preparation to ensure that adequate TV viewing facilities, or even the literacy primer, were available at the adult education centres. Nor were the adult education instructors trained in using the films in conjunction with the primer being taught in class.

Source : Avik Ghosh,Communication Technology and Human Development,2006

Box - 2

PREAL (Project in Radio Education for Adult Literacy)

PREAL was operational in 16 selected districts of Bihar, Uttar Pradesh, Madhya Pradesh and Rajasthan. Weekly programmes under the title Nai Pahal was broadcast from eight AIR (All India Radio) stations that covered these districts. The objective of PREAL was to study the effectiveness of using radio lessons to enrich the learning experience of women learners in adult education centres (AECs) and thereby sustaining their interest in attending the classes regularly and achieving the prescribed literacy norms. Particular emphasis was laid on reinforcement of reading ability through a planned and systematically graded reading drill that was inducted into every lesson that was broadcast. The instructional content was in standard Hindi but the spoken dialect of the particular region was also used to enrich programme content, vocabulary and cultural specificity. In tribal districts, however, literacy was initiated in the local tribal language and vocabulary and then gradually built up to standard Hindi. Five hundred AECs in non-tribal districts and 300 AECs in tribal districts were identified for each AIR station, making a total of 3,800 AECs.

PREAL encountered several problems. The AECs did not function regularly. Sometimes, the literacy instructor was not present and at other times, the learners were not there or the two-in-one sets had problems or the batteries were weak. The organization and management of listening sessions at the AEC were also poor and therefore exposure to PREAL broadcasts was not regular. Consequently, the effectiveness of PREAL in terms of reinforcing reading ability was limited. In conclusion, it can be said that the management of PREAL was weak in comparison to the magnitude and complexity of the project. The decision-makers in the government, both at the Centre and at the state levels, did not fully appreciate the scale of significance of the project.

Source : Avik Ghosh,Communication Technology and Human Development,2006

Chauraha- an instructional TV serial

Box - 3

Chauraha was an ambitious project of the National Literacy Mission. This TV serial attempted to teach reading and writing the Devnagari (Hindi) script. It was based on the belief the instruction through a powerful audio-visual medium like television would quicken the pace of learning and adults could be made literate in a shorter span of time. Chauraha was a set of 40 15-minute TV film episodes that, for the first time in India, used sophisticated computer animation techniques to teach Hindi writing within the overall framework of a narrative storyline. The technique was to show an easily identifiable image from daily life (or a graphic representation) and then superimpose a letter that could be associated with it.

The storyline of Chauraha followed the pattern of a TV serial filled with emotional content as the main characters went through their travails in life. Its theme was woven around the value of education. Chauraha combined direct instruction with awareness on various development issues and did so in an entertaining and enjoyable manner.

The lesson from the Chauraha experience was that planning and developing good quality materials were not sufficient for cost-effective application of communication technology using a sophisticated medium like television. Preparing the ground, ensuring availability of the hard ware, sustaining learner motivation, providing supplementary print materials, training the instructors to use the materials and design other learning activities had to be an integral part of the planning process.

Source : Avik Ghosh,Communication Technology and Human Development,2006

The Tata Computer-based Literacy programme (CBFL), uses a mix of methods, including computer software, animated graphics, multimedia presentations and flashcards, to teach reading skills.[10]

The Tata Computer-based Functional Literacy Programme

Box - 4

In this programme, computers deliver the lessons in multi-media form, but these are supplemented with textbooks. Audio voiceovers explain how letters combine to give structure and meaning to various words and pronounce the words.

The emphasis is on words rather than alphabets. Lessons are designed to be visually stimulating and entertaining, using elements such as puppets. The lessons are based on material developed by the National Literacy Mission. The lessons focus on different languages, even dialects

Under the project, a number of learning centres have been established. Each centre has a computer and an instructor. Because the project relies on computer programmes, it has less need for highly trained teachers, which is an advantage in areas which lack teachers. A typical class has between 15 to 20 people and is held in the evening hours.

Source: http://www.totalliteracy.com

Bridges to the Future Initiative (BFI) was designed to improve basic skills of literacy and vocational skills of youth and young adults, in poor communities. It uses innovative ICT tools and methodologies to promote adult learning.

Box - 5

Bridges to the Future Initiative (BFI)

While great strides in India education have been made, it is now clear that many schools are able to offer only inadequate quality of instruction, leading to a primary school drop-out rate of between 35-50% across the poorest states of India, including in Andhra Pradesh where the BFI has been operating since 2003. Thus, the main target are the tens of millions of disadvantaged youth (ages 9-20 years) who are at risk of never getting a good job, performing poorly in trades that are education-dependent (especially those that change with the knowledge economy), and suffering a variety of health consequences due to poor education and income. Many of these youth (especially girls and young women) have had some schooling, but often too poor in quality for these individuals to achieve a functional literacy ability.

The BFI model is designed to take advantage of already-existing ICT infrastructure, largely in secondary schools, and create content to which such out-of-school youth have access. The instructional model builds on the oral competence of the learners in their mother-tongue, Telugu, the majority language in the state. As part of the BFI, a major impact assessment- a longitudinal study- has been undertaken to follow BFI out-of-school youth, and other youth in control groups, to measure skills and knowledge acquisition. Up to March 2005, over 200 youth (age 10-20 years, about 60% girls) participated in the BFI programme. Results indicate that the participating youth are learning literacy skills at an accelerated pace and show greatly enhanced motivation and retention. Further, results suggest that those youth with least schooling- especially girls- show the most gain in performance, and many of these have left the BFI programme to return to complete their primary schooling. The BFI in India (along with a companion project in South Africa) was designed to demonstrate that cost-effective solutions can and should be developed for the most challenging situations.

Source: Daniel Wagner, ed. Monitoring and Evaluation of ICT in Education Projects: A Handbook for Developing Countries, p. 96

The Commonwealth of Learning Literacy project that was undertaken on pilot basis in two sites each in Rajasthan, Madhya Pradesh, Tamilnadu, highlighted how ICTs can play an enabling role in literacy programmes.

Box - 6

Commonwealth of Learning Literacy (COLLIT) Project

Commonwealth of Learning (COL) received support from British Department of International Development (DFID) to undertake a pilot project in India and Ghana to explore ways by which literacy programmes might be enhanced through the use of appropriate technologies. The three year pilot project which began in July 1999 was implemented through the `technology-based community learning centre' model. The concept of a community-based learning centre, where various types of ICT equipment could be deployed, managed and accessed by members of the community, where learning could be facilitated and where locally relevant learning materials could be developed, was a central ingredient in the COLLIT project. The impact of the project was most visible on the people involved in operating the learning centres, most of whom had no prior exposure to computers and other ICTs. By the end of the project, the facilitators and staff at the learning centre, in both countries, emerged as well-respected ICT-trained literacy instructors with experience in using the equipment to develop locally relevant instructional materials. The COLLIT project also demonstrated that given the opportunity, learners are quite capable of using ICTs in ways that not only help them achieve educational goals, but that are also remarkably motivating and applicable to other facets of their lives

Source: Glen Farrell ed. ICT and Literacy: Who Benefits? Commonwealth of Learning, Vancouver, 2004

In Same Language Sub-titling (SLS), the lyrics of film songs shown on television appear as sub-titles in the same language as the audio, on the television screen. Capitalizing on the insatiable appetite most adults and children have for film-based entertainment, SLS ensures that the nascent reading skills of those who are barely literate or semi-literate, are reinforced in even the remotest villages of India.

The M.S. Swaminathan Village Knowledge Centres project is an innovative project in India that has a pro-nature, pro-poor, pro-women and pro-livelihood orientation. The project has shown how learners can develop locally relevant content with the use of technology.

Box - 7

Village Knowledge Centre in Madurai district

Implemented by the Asia-Pacific Programme of Education for All (APPEAL) through the UNESCO Bangkok office, the `ICT Applications for Non-Formal Education' project supports the use of ICT in non-formal education, so as to enable learners to expand their livelihood opportunities and assist them in improving their quality of life.

The project supports the development of Community Learning Centres (CLC) and Village Knowledge Centres (VKC), and encourages equipping these centres with appropriate ICT. The project also supports the provision by these centres of literacy and basic education courses which utilize relevant ICTs

The literacy course offered in the Madurai VKC begins with a lesson on how to use a digital camera. Participants photograph people and objects in their daily lives, including family, household items and surroundings. In the next lesson, participants learn how to put their photographs into slide presentations and how to store them on CD-ROMs, using the computers in the VKC. Then, with the help of the trainer, learners pair each photograph with a letter of the alphabet. The slides are used as learning material in literacy courses and print-outs are also prepared so as to enable learners to practice and build their literacy skills outside the VKC.

Source: www.unescobkk.org/education/ict/nfe

4.4. Role of ICTs in Promoting Literacy

On the basis of the country studies that highlight best practices in the use of ICTs for literacy programmes, as well as other experiences around the world, particularly in school education, it is averred that ICTs have the potential to play the following specific roles in promoting literacy.[11]

1. Enhancing Learning: ICT can be used as a tool for acquisition of literacy skills. For example, radio, when used in combination with printed course material, can make literacy lessons more true-to-life and interesting. Also, this combination of audio and visual stimuli is more effective than visual stimuli alone in enhancing vocabulary and sentence construction skills and can aid information processing and memory.

2. Broadening access to literacy education: Access to literacy education may be limited, or may be denied, for a number of reasons. These include social, cultural, political and geographical factors, as well as lack of time to attend classes, lack of qualified teachers, lack of literacy materials in local languages, and issues such as delay in receipt of feedback and results.

3. Creating local content: ICTs can enable the rapid and cost-effective creation and distribution of socially, culturally and linguistically appropriate learning content. For example, word processing software can be used to modify literacy education material that has been developed elsewhere to make it available in local languages and on locally relevant subjects.

4. Professional Development of Teachers: Qualified and trained teachers represent the key to quality teaching and learner motivation. However, in many countries professional expertise is limited and thinly distributed particularly for the provision of non-formal literacy education. While ICTs cannot be substitute for teachers, ICTs can supplement and support teachers by reducing their workload and enhancing their lessons.

5. Cultivating a literacy conducive environment: For literacy to become widespread in a society, written material should also be readily available in daily life and accessible to all. Such environment cultivates opportunities for coming into contact with, and creating, written material and thereby reinforces and promotes the development of literacy skills.

5.0 Women and ICTs: Salient Research Experiences

Within the last decade, particularly in the last few years, considerable field experience is now available internationally on the impact of ICTs on the lives of people. While not all studies necessarily pay attention to gender issues, it is still evident that the volume of available materials, including state-of-the art and literature review studies, are on the rise, Since it would not be possible to attempt an exhaustive review of studies, an attempt is still made to undertake an overview and to identify broad themes and issues that are highlighted by studies that focus on women and ICTs.

There are three broad areas in which considerable documentation is now available. These areas include:

1. Barriers to Women's Access to ICTs
2. ICTs and Poverty Alleviation
3. Women's Empowerment through ICTs

An attempt is made below to highlight salient issues that are raised as a result of the review of studies / reports as well as significant lessons learnt.

5.1 Barriers to Women's Access to ICTs

An area of interest with regard to women and ICTs is that of access and of identifying barriers that impede women's access to technology.

During the period from 1998 to 2001, the Commonwealth of Learning (COL), commissioned a series of research reports and held regional expert group meetings to address the issue of barriers that women experience in using information and communication technologies (ICTs) for open and distance learning (ODL). The reports examined the situation in Commonwealth countries in four regions: Africa, Asia, the Caribbean and the South Pacific. Expert meetings were then held for each of these regions. Subsequently, a concise synthesis report was prepared on the detailed information that was generated by the research process in order to ensure that women have equal access to technology and are able to contribute to their full potential (Green, 2002). While the main focus of the report was on the open and distance learning, it would still be useful to present the highlights of this comprehensive study in order to understand the various barriers that women face in accessing technology.

Many of the barriers women face in accessing ICTs are the same ones they face when accessing education of any kind. Thus, illiteracy was raised as the major barrier to women's education for most Commonwealth African and Asian countries. The challenge of illiteracy has to be overcome before women can benefit from ICT, though use of audio and video technology have been known to overcome the problem of women's illiteracy to a limited extent. Poverty and lack of economic power are known to affect women more than they affect men. Women's inability to spare time to learn because of heavy domestic responsibilities is now well known. In the African and Asian countries, it is the broader socio-cultural factors that perpetuate women's inequality in society, and hence undervalue their need for education. The lack of women teachers / trainers is another major barrier to women's education.

A combination of the impact of all these factors- illiteracy, poverty, time famine and socio-cultural factors can severely restrict a woman's mobility. This lack of mobility can hamper women's ability to benefit from educational opportunities if she needs to travel some distance to access the educational programmes or if the venue of the programme is either unsafe or is at a culturally inappropriate place or if the time is inconvenient.

In addition to the above, there are barriers to women's access to ICTs which can be summed up in three major categories: those of relevancy, availability and usage. The major barrier to the use of ICTs for women is its lack of relevancy to their lives. `Women encounter barriers to the use of ICTs when the learning content is not directly relevant to their livelihood, and when it does not value their knowledge, wisdom and experience. If the instructional design and learning strategies are not gender-appropriate, women fail to reap the potential benefits of ICTs (Green, 2002). Unless the content delivered by ICT has a direct impact on women's lives, they will not perceive the need and benefits of ICTs. More research studies have corroborated the above research findings. Thus, Huyer and Mitter (2005) refer to the use of language and how the predominance of English and other European languages in most regions of the world is a barrier for most users globally. Speakers of non-European and indigenous languages, including a large proportion of women, tend to be left out of the information loop.

Then there are barriers to availability of technology. While such barriers affect both men and women, it is the rural women who are more adversely affected. In order to ensure availability of technology, it is necessary to provide access to equipment, access to an adequate communications infrastructure, electricity access, Internet access and access to technical support that will ensure that repair services are provided and technical information is provided to women.

The study highlighted that the barrier of access emerged as the number one barrier to the use of technology-supported learning. It was realized that for women learners to access the necessary technology, several conditions have to be in place: the equipment appropriate for the task has to be physically available (Access-Technology); cost has to be within reach (Access-Costs); the learners have to have the skills to use the technology (Access-Skills); the learners have to be aware of the service (Access-Information); and the socio-cultural conditions have to permit, if not encourage the learners access (Access-Socio-cultural).

Public and community access sites (including telecentres and cyber cafes) can be a solution for the problem of access. But according to Huyer and Mitter (2005), the few evaluations done to date indicate that women do not have the same rate of access as men. Public access is sometimes located in an environment where women do not feel comfortable or in locations women have difficulty traveling to. An evaluative study of the Jhabua Development Communications Project (JDCP) had highlighted the social, cultural and psychological barriers women faced in accessing a community site where community television sets were installed.[12]

In substance, there is a differential access to and consequently impact of the use of ICTs for women, especially the poor as the conditions and contexts of their lives are vastly different from those of men.

In order to overcome the barriers to women's access and use of ICTs, the INSTRAW Collaborative Project on Gender and ICTs held four Virtual Seminars during 2002, and identified four approaches (Huyer and Sikosha, 2003). These included:

- ensuring a gender perspective in ICT-based projects: It was considered necessary to integrate gender perspective in the overall project cycle as a means of ensuring that structural barriers to women's access to and use of ICTs are diminished, if not completely removed;

- ensuring adequate and sustainable technology transfer: The tele-centres must explicitly address the needs of women and operate on the basis of a careful needs assessment or feasibility study and follow a well-developed project plan to achieve sustainability . Adequate transfer of know-how must accompany technology transfer. Several low-cost strategies such as use of audio and video technologies, use of local language, and presenting information in an entertaining and engaging way,

could facilitate this;

- designing technologies appropriate to women's needs: Women should define their own agendas for the whole range of ICTs that include not just the sophisticated technologies but also the community networks, including the traditional media. Women must develop a sense of ownership of technology if the barriers to women's access to and use of ICTs have to be overcome;

- ensuring gender-sensitive ICT policy and regulation: In order to overcome persistent barriers to women's access to and use of ICTs, there is need for an adequate policy-making and regulation of the ICT sector development.

5.2 ICTs and Poverty Alleviation: Lessons Learnt thus far

During the 1990s the goals of poverty reduction gained prominence in international development policy. This was because there was growing realization that the earlier strategies of the 60s, 70s, 80s, which had focused on liberal economic and structural adjustment policies to prompt economic growth were failing to achieve expected goals (Huyer and Mitter, 2005). As a result, during 1990, `pro-poor growth,' `human-centred approach to growth and development' became part of the agenda of most major 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. It was envisaged that ICTs would contribute to achieving the Millennium Development Goals.

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. Review studies on the potential of ICTs in poverty reduction have shown that in the earlier phase, there was a tendency to either romanticize the potential of ICTs in poverty alleviation or to use ICTs as `toys' often in impractical, unaffordable and unsustainable ways.[13]

Yet another problem was that in the rush to provide technology to developing countries, little attention was paid to conceptual frameworks or to following any guidelines on ICT utilization. As a result, while there were some successes, there were also a large number of failures. There was, however, a tendency to not acknowledge failures by disguising failures through the use of the phrase `lessons learnt.' Thus for example, the `lessons learnt,' in rural projects have related to those of high illiteracy in rural areas, poor telecommunications and physical infrastructure, erratic power supply, etc.- constraints that were known and therefore should have been taken care of in the planning stage of the project itself.

Presently, there is a vast amount of literature that is available on ICTs and poverty reduction. While it would be impossible to follow all the developments in the field, 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 ICTs have worked in specific contexts in poverty alleviation. However, a significant shift has now taken place in understanding the potential of ICTs in poverty alleviation. For, there is a growing realization that ICTs do not create transformation in society by themselves. Hence, they are not an end in themselves, but rather, they are 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 projects that have focused on access to markets, and have an income-based approach to poverty eradication. The potential use of ICTs for growth in such projects is as marketing tools, providing access to markets (eg. 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.

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 to organize 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

According to a SIDA study (2005), there are a number of areas where ICTs have helped to alleviate poverty. Among the sectors in which ICTs have been used with some measure of success are (i) all sectors of education, from the primary, secondary, to university education, as well as vocational and skills-based education. The use of ICTs in education, however, is sparse and erratic. An important pre-requisite is that of trained people, including teacher training and the need for widespread deployment of technology, (ii) enhancing traditional livelihoods eg. providing farmers with weather forecasts, crop information, information about market prices, etc. and promoting new livelihoods that include web-based business and tele-marketing (iii) for delivering healthcare through tele-medicine and educating people on health issues, as well as in collecting, storing and retrieving data, (iv) through e-governance by computerizing government operations and processes so as to ensure transparency and openness.

The case of Grameen Bank is often quoted to highlight how ICTs have been successfully used for poverty alleviation.

Box - 8

The experience of the Grameen Bank in Bangladesh

The most oft-cited example of a success story is that of the Grameen Bank. It has been highly discussed in the popular press and research papers. The story is how members of the Grameen Bank (GB) of Bangladesh, the village-based micro-finance institution, have changed their lives with access to the telephone. Grameen Bank's members form the backbone of Grameen Telecom, with women in villages being offered loans to buy cellular phones at taka 18,100 a piece (385 dollars). They are then able to rent the sets out to other villagers on a commercial basis. The GB refers to these phones as `Village Pay Phones' (VPs). The effects of VPPs are assessed from two angles; sellers of services (telephone lessees/owners) and buyers of services (villagers). Grameen Telecom moved in where the monopoly public telephone company had failed in rural Bangladesh.

Source: Catherine Nyaki Adeya, `ICTs and Poverty; a Literature Review.'

According to Mitter (2005), the major advantages of this type of IT-enabled enterprise are minimal educational requirements (just some basic mechanical aptitude), and the small amount of capital needed, which can be supplied by micro-credit schemes. The operators resell the mobile phone service to fellow villagers, earning an average of

annual income of $ 300 as against the national per capita income of $ 286. Such schemes are particularly useful for rural development where access to telecommunications and internet technology is limited.

UNESCO's work (2003) through development of Ethnographic Action Research Methodology focuses on the innovative use of ICTs related to poverty alleviation..

Box - 9

Namma Dhwani Local ICT Network (Budikote, Kolar district, Karnataka, India)

Namma Dhwani Local ICT Network combines a radio studio, an audio cable network that delivers radio to local households, and a telecentre with computers, internet connectivity and other multimedia tools. It is run by and centred on a network of women's self-help groups (SHG) and linked to a government school and a local development resource centre. Daily community radio programming addresses local information and communication needs, drawing on a variety of multimedia resources, like websites and CD-ROMs.

Box -10

Empowering Resource Poor Women to use ICT (Chennai, Kancheepuram and Cuddalore, Tamilnadu, India) has put computers with internet connectivity into the homes of women's self-help group (SHG) members. In rural, urban and semi-urban areas, women and their SHG networks are using ICTs in familiar, empowering spaces with content developed specifically to meet their needs. Particular attention is given to income generating activities and the need for innovative product development and marketing.

Box - 11

ICT Learning Centre for Women (Seelampur, New Delhi,) is an open learning centre for girls and women located at an inner-city madarsa (Islamic school) in a high-density, low-income area of New Delhi. Interactive multimedia content is developed and used to support vocational and life-skills training, to provide rights-based information to poor girls and women and to build their awareness of health issues and livelihood opportunities.

Source: Ethnographic Action Research, UNESCO, New Delhi,

The manner in which ICTs can enhance income from a traditional occupation is highlighted by the following case study.

Box - 12

Smart card by milk collectors in Rajasthan

A successful example of an ICT-enabling business which has access to the internet and a micro financing component is the use of smart cards by women milk collectors in Rajasthan. The smart cards are used to record the quality, fat content, and sale of milk to distributors and also serve as a bank book, allowing them to make decisions on spending and increasing their profits through the elimination of middle-men called dudhwalas

Source: Swasti Mitter, `Globalisation and ICT; Employment Opportunities for Women'

There are examples of the manner in which ICTs have been used to respond to the needs of the agricultural communities

Box - 13

Use of ICTs in agriculture

From Asia, UNDP (2002) gives examples on how information technologies have been used in poverty eradication, especially in connection with the needs of women farmers. These range from information concerning agronomic practices and farming methods, to information on how to access and use new technologies, or market news and agricultural commodity prices. Other information is on weather predictions and rainfall patterns, recommended crops for the season as well as information on meetings and workshops on relevant issues

Significantly, while women constitute a major constituency among the marginalized groups and, as is apparent from the above cases, participate in fairly large numbers in poverty alleviation programmes, most ICT projects have focused on the `poor' as a general category without necessarily paying attention to issues of gender. However, significant lessons have been learnt in the implementation of ICT projects for poverty alleviation in recent years. While this learning is still inconclusive, it would be useful to distill some of this learning so that suitable strategies for using ICTs for poverty alleviation among poor women can be evolved.

An attempt is made below to highlight significant lessons learnt from a review of some existing materials in the use of ICTs in poverty alleviation.[14]

- ICTS have to be people-driven and not technology-driven

  There has been a tendency to make investments in technology without making a parallel investment in people. According to Reddi (2004), `the bulk of the investment in any project generally goes toward overhead costs and few resources are left for project activities. A parallel investment in people- in good quality social research and community mobilization and involvement rarely takes place.' What is also important to recognize is that people take time to understand and get acculturated to new technology. A process of de-mystification of technology has therefore to take place so that poor people can begin to understand how the technology functions and are made aware of the possibilities that ICTs offer. This process cannot be rushed or hurried and people's pace of learning has to be respected. This has particular relevance for women as they would first need to get over the mind set that technology is for men and not for them. It would be necessary for women to feel comfortable with technology, for women are likely to be hesitant in adopting new technology unless strategies are developed to deliberately include them.

  Impact of ICTs also depends on attitudes, expectations, on organizational climate and management styles. It is possible that intermediary organizations that are implementing the ICT projects are hierarchical and bureaucratic in their style of functioning. Any hands-on experience in the use of technology can become a major hurdle in such organizations. Overcoming resistance and negative attitudes becomes a challenge that has to be overcome.

  It has to be recognized that the focus of ICT projects has to be on people, organizations and processes, and not just on technology.

- ICTs must put the needs of the poor at the center and must be demand-driven

  ICTs have the capacity to be exclusive. It is therefore imperative that before introducing ICTs, an attempt is made to understand existing information systems of the poor. There is need to understand how ICTs and culture intersect, for cultural factors can be a hindrance to adoption of ICTs in rural areas. This is particularly relevant insofar as women are concerned. Ethnographic action research has been found to be useful in understanding information needs of the poor in specific contexts.

- Importance of holistic planning

  To date, enough lessons have been learnt about the need and importance to plan holistically for ICT projects. Hence there is need to take stock first of availability of existing infrastructure, including internet access in rural areas, and to then plan for hardware and software possibilities. Issues relating to connectivity, affordability, and capability need to be addressed. Planning for acquisition of ICT skills as well as for human resource development, must take place.

- ICT projects must ensure community participation

  ICT projects, like any rural development project, must ensure sustained and ongoing consultations with members of the community, particularly the poor members, so that they take crucial decisions relating to physical location, timing and use of ICTs. The poor benefit from ICTs when they know and control both technology and related know-how. Beside providing access to information, there would be need to increase the `voice' and participation of the poor in various decision-making processes. It is important for the poor to use ICTs to share knowledge and to build networks.

- ICT projects must use participatory communication and participatory training methodologies

  Participatory processes can enhance community interest. Learning by doing de-mystifies technology for the poor and ensures that they have practical knowledge about ICTs so that they develop basic skills in operating them. User skills relate to technological skills as well as literacy skills. These requirements highlight concerns of gender equality as women are among the most disadvantaged sections in many developing countries.

- Importance of appropriate ICTs

  While ICTs have great merit, it is not always that the newer technologies are best suited to address poverty-related issues. Emphasis should not be just on expansion of telecommunication systems but on consideration of which technology is appropriate in which context. An important role played by ICTs is that of information exchange and information dissemination. However, technologies such as radio and mobile telephony have been found to perform these functions very effectively in a large number of developing countries. These technologies are comparatively cheap, are flexible, can overcome barriers of infrastructure, as well as those requiring literacy and other skills. Due to high levels of illiteracy among poor rural women, these technologies are particularly appropriate for them. Experience has also shown how women have responded positively to these technologies and have

used them in creative combinations with traditional media such as folk songs, dance, and theatre, for self-expression and communication.

Selection of appropriate ICTs is crucial to ensure their use

- Ensuring ICT access

As a deliberate step to ensure access of rural communities to ICTs, community tele-centres have been regarded as a viable strategy. However, the community tele-centres have met with varying successes. Some have made a major positive impact, some have fallen into disuse. There is a need to spend more resources in opening up access to marginalized communities in innovative and cost-effective ways or else they can further perpetuate inequalities. Women's access to ICTs is a major problem. An important lesson learnt is that ICTs should be located in local institutions to which poor women have open and socially and psychologically unhindered access.

- Planning for sustainability

Donor agencies and government departments are often seen to support the view that initiatives and projects in development must become financially self sustaining over time and that it is necessary to have a business model to ensure such sustainability up front. While self sufficiency is perhaps an end goal, this should not absolve the funding agency, especially the government and public bodies from becoming the most important stakeholders in ICT projects. It is poverty that has created women's existing economic and social condition in the first place and until their economic and social empowerment takes place; poor women will be unable to pay for user fees for services or to develop their own sustainability model. Help has to come from outside and it is imperative that the donor or the government agency put a sustainability plan in place and to implement it gradually until such time as the project becomes self sustaining in every respect of the term. Given the very nature of poverty and illiteracy, it cannot be assumed that a set time frame for sustainability will work - thus, agencies have to be very careful in terms of their definitions and understanding of sustainability, and equally realistic and meticulous when planning project durations for achieving the sustainability objectives

- Importance of capacity building and training

In order to ensure that poor people can use ICTs effectively, it would be necessary to provide skills training programmes of various kinds. Such training programmes would have to be organized on an on-going basis to ensure operational use of ICTs as well as their maintenance and upkeep by the members of the community. This would gradually instill a sense of ownership among the community.

- Importance of relevant content

Empirical evidence about modern ICTs, mainly the internet, is still limited. The added value of the internet for poverty alleviation among the poorest has to be conclusively demonstrated. However, basic lessons related to the use of internet are (i) those who live in poverty must define their information needs themselves, (ii) information provided should be in local language and even better, originate from local sources

Local content is a key issue in knowledge creation. The advantage of local content is that it would be locally owned and adopted by the community

- Need for inter-disciplinary research and empirical studies

  Presently there are not many empirical studies on ICTs and poverty reduction. What is available in large measure, are descriptive and anecdotal accounts that are often self-laudatory in tone and content. Clearly, there is need to undertake an honest stock-taking of what worked and what did not work, and for what reasons. Evaluative studies- formative as well as summative- would be necessary to identify the problems, the stumbling blocks, and the importance of timely mid-course corrections that would be necessary for ensuring that the objectives of the ICT projects are met. Considering the multi-dimensionality of the concept of poverty, it would be necessary to undertake inter-disciplinary research in order to ensure that all aspects of poverty measurement are adequately addressed.

- Need for multi stake-holder partnerships

  Poverty alleviation programmes require strong political will and commitment. There is need for a clearly stated policy as well as for various regulatory mechanisms to be put in place. For ICT initiatives to be used for the benefit of the poor, partnerships of various kinds would be necessary. A multi stake-holder partnership between the government, NGOs, and the private sector, with the role and the responsibility of each partner, clearly delineated, would be necessary. Such a partnership would be required at the national and international levels.

5.3 Women's Empowerment through ICTs

An area that has received much attention in recent years is that of the potential of ICTs in empowering the poor, particularly women. In order to understand the empowering potential of ICTs, it might be useful to examine the recent feminist thinking on this issue. The definition of empowerment builds on the gender and development literature which has been referred to earlier. Empowerment is itself a form of power. In feminist literature, `power' is disaggregated into `power over' (domination), `power to' (capacity), `power within' (inner strength), and `power with' (achieved through cooperation and alliance). In feminist use of empowerment, the emphasis is clearly on `power to' and capabilities, and not on `power over' (Bhavnani, Foran and Kurian, 2006).

The process of empowerment can be top down or bottom up. If women are considered powerless, then the idea of `empowering' women can imply a top-down approach. On the other hand, if it is argued that despite patriarchal considerations, women have power; then empowerment would be perceived as a bottom-up process. An important distinction further made by INSTRAW research on ICTs and their potential draws a distinction between empowerment as capacity-building to cope with the requirements of life as opposed to capacity building to transform the conditions of life and assert alternative gender roles. Making such a conceptual distinction is necessary since the use of ICTs to become a tool for the transformatory empowerment of women would require very different policy and advocacy approaches (Huyer and Sikosha, 2003).

Two major approaches to women's empowerment through ICTs have prevailed. One is based on the empowerment of individual women and the other, on the empowerment of organized groups of women. Although these approaches can be perceived as different, they are complementary and not mutually exclusive. Women's activities often involve a combination of both approaches.

Box - 14

The Deccan Development Society (DDS) has trained poor dalit (the Indian social classification for the poorest and untouchables in the caste system) women in Medak district of Andhra Pradesh at use the video to represent their lives and redefine their status. Community radio has become a popular media for women and can play an important role for empowerment and the right to information for poor women. DDS has also set up a community radio station in Machnoor village, with a 100-watt FM transmitter having a 30-kilometer radius reach. Supported by UNESCO, a small team of dalit women have recorded over 300 hours of programming on issues related to women's empowerment, agricultural needs of semi-arid regions, public health and hygiene, indigenous knowledge systems, biodiversity, food security and also local song and drama. Using multiple digital technologies among the communities have proved to be very successful in initiating women to use new technologies and empowering them

Source: Case Study in EduComm Asia, Vol 11, No. 2, December 2005

Box - 15

Self-Employed Women's Association (SEWA) has used the video as a tool of women's empowerment from the mid-80s onwards. SEWA's cooperative, `Video SEWA,' has produced video footage on many issues including livelihoods of poor women. It has used the medium to share information with their own members and also as a tool for training and teaching new skills, and to reach policy makers. Also, SEWA's satellite technology programme has enabled the organization working in over 10 districts of Gujarat, to provide information on topics like Panchayati Raj (village governance institutions), nursery raising and forestry management, savings and credit through the use of satellite cable. Since a number of women farmers and skilled workers in rural areas are unlettered, they prefer to learn about the new methods and market information through the video, phone, radio.

The above two case studies show how ICTs can become a tool for the transformatory empowerment of women at a collective level.

Gurumurthy's study (2003) analyzed the ICT initiatives that have focused on women's economic empowerment in the South Asian region. While these initiatives have been few and far between, according to her, the following gains for women have been made possible through the use of ICTs.

(i) Connectivity and access to information for livelihoods and enterprises: Connectivity through networks can support access to information, covering technical information on sustainable agricultural practices and innovation, market news and agricultural commodity process, weather predictions and rainfall patterns, recommended crops for the season and information on institutions that provide expertise and training;

(ii) Data Management: Information technologies can create systems to store, retrieve and manage information which can help enhance operational efficiency and accuracy in financial transactions, something that organizations that work with poor women, can benefit from;

(iii) Creation of Data Repositories: ICTs can help to reclaim women's agricultural knowledge base and can facilitate the systematic recording and dissemination of knowledge about agricultural practices;

(iv) Mobilization and education of women workers: ICTs can bring about political empowerment of women by furthering their demands, needs and rights as workers. Also, ICTs can facilitate interactive training and building of alliances;

(v) Linking of women producers to global markets: Although not an easy avenue, ICTs can enable women producers to benefit from e-commerce by linking them to global markets. Several experiences have shown how this is feasible;

(vi) Efficient communication for micro-enterprises of poor women: For those poor women who are involved in micro enterprises, ICTs can enable building of a network with customers, suppliers, banks, etc, thus facilitating timely access to people and resources and thereby providing better business opportunities;

(vii) Opportunities for skill-building and employment: It is possible that disadvantaged women with handicaps in education and training, can still benefit from opportunities in the IT labour market. This can happen if they can master basic aspects of computer use and maintenance. There are some organizations that are attempting to explore such possibilities;

(viii) Opportunities for self-employment: Self employment through ICTs is another area that can become an income-earning possibility for the poor. Since ICTs offer business opportunities, the scope for such enterprises for women has to be exploited. Beside the Grameen Bank of Bangladesh, in West Godavari district of Andhra Pradesh, women's self-help groups have set up kiosks and have become kiosk operators, thus running a successful micro-enterprise.

Gurumurthy presents case studies to show how ICTs have aided micro credit activities, while others have found markets for goods produced by women through the internet, while still others have sought to improve the production processes.

At a recent regional meeting,[15] as a run up to the WSIS, feminists averred that rather than making blanket claims for the empowering potential of technology, there was need to be more discerning and to ascertain if the use if ICTs was empowering to all women or to just a cross section and under what conditions. Such a nuanced understanding was considered necessary to ascertain whether the ICT projects were truly empowering the poor women or whether they were missing the mark by catering to the needs of the better-off sections among women. The meeting also resulted in an important understanding that if gender equality was at all to be achieved, policies, programmes, and legislation had to be designed from a gender perspective, with women's empowerment as the pivotal core.

Experiences of implementing ICT for development and specifically for promoting gender equality are varied and context specific. However, Primo (2005) outlines the main lessons that have been learnt:

- Having women as ICT trainers, being aware of the potential barriers that women and girl learners face in relation to technology, accommodating these issues into the training methodology generates the best learning outcomes for women learners.

- Providing women or girl-only spaces backed up with gender-friendly usage policies and guidelines in schools and public access points creates safe spaces where women and girl learners can work best

- Involving local women and girls in content development around their own issues and information needs- turning women and girls into content producers rather than consumers only-provides a strong motivation for them to continue using and benefiting from ICT. As long as women see a change in their livelihoods, they will be more likely to continue engaging with the initiative and the technology.

6. Policy and Planning: Strategies for Consideration in the Use of ICTs for Women's Literacy

The review attempted thus far has highlighted that most developing countries in the region do not presently appear to have a clearly stated policy for the use of ICTs for adult literacy programmes. Furthermore, the existing IT policies are mostly gender-neutral and do not necessarily take a pro-poor stand. A critical part of the problem is the lack of understanding among governments and policy makers of the intersection of gender policy and information and communication policy. Much of the research done in the lead up to the World Summit on Information Society (WSIS) provided evidence that showed that policy making in the ICT field had often ignored the needs, requirements, and aspirations of women, and had not included a gender equality perspective. Most governments assume that there is no need to focus on how policy will impact differently on men and women. As a result, most national ICT policies and strategies are gender-blind (Ramilo, 2005). If the MDG and literacy goals have to be met, an appropriate policy would have to be formulated.

Global experiences show that while many countries have gender equity built into their constitutions in one way or another, there is a wide gap between these constitutional provisions and actual practice when ministries begin to develop their own policy and implementation plans. For instance, an agricultural ministry may have been developing an agricultural policy and plan for the country; but gender is assumed and subsumed in the policy and the importance of gender considerations bypassed with perhaps a sentence or two of mention.

Our contention is that it is necessary to recognize gender issues as a major part of every developmental policy since all programmes affect women differently and are impacted by the gender factor in major ways. It is therefore, necessary, that macro level policies integrate and mainstream gender,specifically women and girls in the context of Asia.

The overall macro level policy must have two elements: the vision and the road map. In other words, while laying out the broader vision at a macro level, care should be taken to ensure that women's needs are prioritized. The vision statement must also be followed by a mission declaration which indicates, in unequivocal terms, who the beneficiaries are expected to be and what impacts, outcomes, and outputs are expected within a given time frame. The road map must delineate the strategy and the tools that will be used to reach the vision, specifying who the partners in the process would be and how they would be brought in as partners and stakeholders into the translation of the vision into concrete implementation plans.

It is very important that wide consultations with various stakeholders, and especially with women beneficiaries precede policy formulation and that there is a 'buy in" by all partners and stakeholders so that they accept the policy and road map as their own.

Similar issues and questions can be raised about the introduction and integration of ICTs in women's literacy initiatives. In addition, there are other detailed elements of a strategy in efforts that use ICTs for women's literacy and these are described in the sections that follow.

6.1 Formulation of a policy that is `gender-exclusive' as well as `gender `inclusive' within a gender equality framework:

With regard to literacy, there are two aspects that the policy would have to address:

1. A rights-based approach to literacy: Education for All cannot be guaranteed until right to literacy becomes a fundamental right of all citizens- women and men. This would have major implications insofar as women's literacy programmes are concerned. With a rights-based approach, the thrust in a women's literacy programme, would be on women's empowerment, organization-building, and forming alliances with like-minded groups

2. Addressing the problem of poverty centrally: Since the problem of illiteracy is inextricably linked to that of poverty, it would be necessary to deal with the problem of poverty centrally if women's illiteracy has to be addressed. If poverty becomes the main focus of intervention, then an expanded vision of literacy and livelihoods education, in the overall process of lifelong learning, would become critical. It is equally important that the policy be clear about the relationships between literacy programmes and other sectors. Women's literacy programmes have to be embedded as part of a larger effort towards social, economic and political empowerment. This important policy perspective will determine the way in which gender and literacy programmes will be implemented and the manner in which ICTs would be integrated in such programmes.

Due to the differential impact of ICTs on women, it would be necessary for a policy to have a `gender exclusive' focus. This would ensure that programmes/projects are designed exclusively for women. Alongside this, however, `gender inclusive' approaches would be necessary to ensure that gender concerns are addressed in all stages/phases of programme/project within the larger gender equality perspective.

Specifically, this would entail formulation of a policy that states specific gender outcomes and defines specific targets which can be translated into implementable and measurable outcomes. The policy would need a clear indication of what budgets are earmarked exclusively for gender-specific projects. If at the macro level there are a defined set of targets which can be translated into implementable and measurable outcomes, at the project management level, it would become possible to specify targets as well as possible implementable outcomes.

6.2 Gender Considerations in Project Cycle

Literacy projects that use ICTs must take into account gender-based constraints that women face and the factors that limit their participation in planning, project design, implementation, and evaluation. Gender considerations in a project cycle require a planning process that promotes the well being and empowerment of both poor women and poor men.

The common instrument for implementing a policy and for channelizing resources to achieve specific objectives, is a given project. Projects have specific phases, identified as planning, design, implementation and evaluation and are collectively termed the project cycle.

Gender should be mainstreamed at the earliest point in the project or programme cycle, as it can fundamentally affect or alter the entire project/programme concept and structure. It is not a one time exercise during the project or programme planning phase. On the contrary, it is an integral part of the entire planning and implementation process and continues throughout the life of the project or programme.

6.3 Planning Considerations

There are several planning aspects that need to be taken into consideration. These are specified below:

6.3.1 Ensure multi stake-holder partnerships :

Since ICT projects require huge financial investments for setting up technological infrastructure; it is possible that in the order of priorities for most governments of South Asian countries, the claims of poor women to participate in the information economy, would get short-changed. A strong political commitment would therefore be critical to ensure that women's share in the gains from ICTs is accorded primacy. It is possible that partnerships between government, NGOs and private sector would be necessary so that the respective strengths of each player can be leveraged. The principal role of the government, however, would be to facilitate the creation as well as equitable diffusion of infrastructure and the adaptation and up scaling of successful pilot projects. The private sector could play an important role in supporting development of content and applications in local languages relevant to women's concerns. NGOs could partner with the government for enabling participation of poor women in the various initiatives and also facilitate capacity building of women. Specifically, in the area of e-governance, there exist immense possibilities for various stakeholders to bring in their resources and capabilities (Gurumurthy, 2003).

6.3.2 Ensure that ICTs projects are process-oriented and not duration-specific or merely target-driven:

One of the problems with most development projects, more so if they are donor-funded, is that they operate with certain time-frames and lay down specific targets that have to be met. While these are planning constraints, it also has to be recognized that if ICT s have to be used effectively as learning tools, they have to be used in a long-term sustained manner. It is the user or the learner, not the content producer or delivery agency, who has to determine the extent and nature of benefit she or he will derive from technology. One of the strengths of the Mahila Samakhya project in India has been that it has respected women's pace of learning and has not rushed or hurried that process in order to meet deadlines or targets determined and fixed by external funding agencies, policy makers and planners. If poor women have to understand technology so that they can begin to exercise control over its content and use, it is they who would have to be involved in critical decision-making in order to ensure that ICTs work for their benefit and advantage.

It is possible that considerable time and energy is required to overcome resistance and negative attitudes to the use of technology. It has therefore to be recognized that the focus of ICT projects has to be on people, organizations, and processes and not just on technology.

6.3.3 Provide Infrastructure and appropriate technology:

The most effective way to ensure access by women to ICTs is to use appropriate technology that is learner-centred and learner-friendly. Selection of ICTs could be based on an assessment of learner needs, taking into account the desired knowledge and skills, as well as the broader technical environment. Many effective strategies use a multi-media approach, sometimes combining the

traditional with the modern. Women are known to prefer such a blended or a mixed mode of learning.

There is need first to take stock of availability of existing infrastructure, including Internet access in rural areas, and to then plan for hardware and software possibilities. Issues relating to connectivity, affordability, capability need to be addressed.

Equally important are questions that determine how technology choices are being made as part of project design. Some of these would include:

Is the technology easily available? Are the physical conditions appropriate to the technology choice existing, e.g. electricity

What steps are being taken to ensure access? Where is the technology based learning centre located? Is it location physically and socially suitable and safe for women to come and go without much effort and without disruption to their many responsibilities?

Who owns and controls access to the technology? Do women exercise control over technology?

What is the cost of the technology being deployed in terms of funding and effort for the agency and for the user? What are the opportunity costs?

How easy or complex is the technology to use?

Is the technology interactive? How is interactivity built in?

Is the technology portable? Can it be used anytime, anywhere or is it fixed in time and space, for instance like television

How easy is it to install, maintain, correct, modify and update the technology? Whose responsibility is it to undertake these tasks?

6.2.4 Enhance women's access to ICTs:

The concept of tele-centres to provide access to ICTs is now almost universally endorsed. The concept of a shared community resource that can act as a community-based information centre has tremendous value for the under-served and physically inaccessible areas. However, the tele-centre model has currently not taken sufficient cognizance and addressed women's priorities and constraints. Some of these constraints have been effectively highlighted by Reddi (2004)

Often the choice of location of the technology is determined by questions of `safety.' not accessibility. Where the technology is placed in a community setting also determines the social issues that underpin access. If the technology is located in a local government office or school, what opportunities do the poor, often living on the marginalized fringes of the village, have to access it? Can women and girls come as comfortably to the venue at any time convenient to them? If there is a custodian or facilitator identified to manage the location and use of the technology, what power roles does the custodian play? If control and operation is placed in the hands of government employee or school teacher, how will that affect

access to the marginalized? If the community centre is open at times when women's household duties take precedence, access is denied.'

Considering the dangers that benefits of connectivity and information will not reach women, Gurumurthy (2003) makes a plea that bringing women into the net of beneficiaries in community-based projects is a challenge that needs to be addressed continuously. It requires careful planning and on-going commitment to address and deal ingeniously with gendered barriers to access.

6.2.5 Plan for sustainability:

The problem with a large number of ICT projects is that since running costs are high, they tend to close down as soon as the project funds are over. It is therefore necessary to address the problem of sustainability at the planning stage itself. The `user pays' principle is often advocated and followed in order to make the community learning centres financially and technically viable and also to instill a sense of ownership. Experience, however, has shown that user fees tend to exclude the poor, particularly women. Partnerships between stakeholders so as to draw on the strengths and assets of various groups, as well as coordination of efforts with various institutions, ministries and organizations will ensure that this problem is addressed

6.3 Programme/Project Design:

6.3.1 Work through women's organizations/NGOs/civil society groups:

Any ICT project specifically for women, as in the case of any literacy programme for women, must work through women's organizations. The advantage of working through such organizations is that they would be able to provide resource support and organize training programmes for women. A shared understanding, a common vision relating to ICTs, women's literacy and women's empowerment would serve to enhance the value of such organizations. Since partners come from different organizational and individual backgrounds, skills, styles of functioning, it is essential that all partners coming together for an ICT in women's literacy project are clear about and share the project vision, goals, and specific objectives. The development of such a shared vision can come about through regular stakeholder meetings where issues are discussed and debated and problems thrashed out, collaborations and responsibilities assigned and accepted; budgets identified and earmarked and accountability ensured. Women and girls who will benefit should form an important part of the stakeholders, thereby making possible community partnership, involvement, and ownership of the effort. Some non-negotiable principles for identifying like-minded women's organizations and civil society groups and working with such partners, could be laid down. This would ensure that certain basic understanding relating to women's empowerment, is not compromised or diluted.

Likewise, partnerships with organizations would become necessary for providing resource support for organizing ICT training programmes and in the preparation of literacy materials that are suitable to the needs of poor women. Feminist resource organizations would be of great value for the purpose.

6.3.2 Use ICTs to develop literacy programmes that are learner-centred:

Research experience has shown that literacy initiatives must consider the cultural context and must be based on learners' needs. When the learners are given an opportunity to express their views and literacy needs, there is an increased interest and motivation to participate and learn. This is particularly relevant insofar as women are concerned as they are known to have low motivation for a traditional literacy programme that is imposed on them.

In addition, literacy teachers should utilize learner-centred teaching methodologies to ensure that learners remain interested and motivated. This requires that teachers should be trained in learner-centred methodologies as well as how to integrate the use of ICTs into teaching and learning.

6.3.3 Ensure that ICT projects encourage community participation

ICT projects, like any rural development project, must ensure sustained and ongoing consultations with members of the community, particularly the poor members, and women among them, so that they take crucial decisions relating to physical location, timing and use of ICTs. The poor benefit from ICTs when they know and control both technology and related know-how. Beside providing access to information, there would be need to increase the `voice' and participation of the poor, particularly women, in various decision-making processes. It is important for the poor to use ICTs to share knowledge and to build networks.

6.4 Implementation Strategies:

6.4.1 Address skill needs and ensure capacity building

In order to ensure that women and girls have access to ICTs, suitable training programmes would have to be organized. Training programmes would also need to be organized to raise gender awareness among poor women so that they begin to understand the commonality of oppression faced by them whether at home, in the community or at the work place and take collective action to change the existing social reality. Women trainers have been found to be effective in training other women. By training women to train others, they pass along skills and, at the same time, serve as role models. Learning by doing would de-mystify technology for women and ensure that they develop basic skills in operating them. Women's acquisition of skills can progress from use of simple technologies such as the use of digital camera, or audio recording, to more complex technologies. But more importantly, women would have to be trained not just as users of ICTs. They would have to be trained in both hardware and software skills, as content developers and as providers of user support and technical support.

The training programmes would have to be sensitive to gender issues and use language and materials that are based on women's experiences. Women can use technology to develop learner-generated literacy materials.

6.4.2 Develop relevant content:

In order to ensure content relevancy of ICTs, it would be necessary to focus on valuing women's

knowledge, wisdom and experience. Learning strategies would have to be gender-appropriate and built on traditional communication methods. Participatory methods can be effectively used to design and develop the learning content. Local language content can be developed as basic literacy materials, relating to women's daily lives and about their most pressing needs. A variety of materials could thus be developed. These could include areas such as reproductive health, legal issues, domestic violence, sexual harassment, etc. Such materials would be of particular value to those women who have acquired basic literacy skills and need reading materials so that they do not relapse into illiteracy.

A common complaint heard about existing programmes is that the content is not relevant or suitable for use by women. For this reason, some hard questions must be asked about the content. For instance

Who are the women and what are their needs; i.e. what is the user profile; their learning needs, levels and styles?

Who is the content suited for?

What biases-social, cultural, economic, religious, linguistic, and gender-- does the content address?

Is the content realistic in terms of women's experiences? Is it relevant in terms of the women's experiences? Is it locally developed? And what share do the women have in developing their own content?

How is the content organized?

Is the content meeting information needs, accurate, up to date?

How has the technology been modified to make it easy for the women and girls to use, hear, and understand?

Is individual and group learning built in and encouraged?

Does the content encourage, promote, and facilitate interactivity and feedback?

What support systems, such as ground level facilitators and learning materials have been included and made available?

What mechanisms are in place for correction and modification of the content?

What mechanisms and content are in place to promote a continuous learning process that takes the women beyond literacy?

6.4.3 Ensure usability of ICTs

In order to address cultural barriers to women's access to ICTs, it would be necessary to adopt some

proactive measures to ensure that women and girls begin to use ICTs on a regular basis. Thus, several affirmative action initiatives might be necessary. Initially, women and girls could have access to ICTs free of charge. Special information campaigns could be carried out to help women understand what technology could do for them. Tele-centres that provide e-governance services can focus on development, gender and livelihood issues so that women can begin to value the importance of accessing information that has relevance to their lives. The sustainability issue would also need to be addressed. While there is no uniform model that can be applied, increasingly there is a recognition of the need for multi stake-holder partnerships to address this issue.

6.4.4 Ensure that ICT projects promote information literacy:.

There would be a need to use ICTs to develop information literacy among poor women. This is defined as the ability to access, know where to find, evaluate and use information from a variety of sources. This would involve communication, critical thinking and problems solving skills, and has been referred to as the `literacy plus approach' by Wagner and Kozma (2005).

6.4.5 Ensure professional development of functionaries at all levels:

The professional development of functionaries at all levels is critical for improvement of literacy programmes. ICTs can be effectively used for distance learning, materials creation, information and knowledge sharing and networking. The potential of ICTs can be meaningfully used for professional growth and development of literacy and development personnel, planners, administrators, educators.

7. Promote research and evaluation studies:

Gender-specific research on women learners and the barriers they face in accessing learning, including ICTs, remains a neglected area of study. Research studies are needed on the information needs of women in varying contexts. There is need to have gender-specific databases about technology use at all levels- local, national and regional. In order to understand the empowering potential of ICTs, it would be necessary to assess if ICTs really improve women's lives and gender relations as well as promote positive change at the individual, community and broader societal levels. Likewise, it would be necessary to ascertain if women have acquired sufficient literacy skills through the use of ICTs and whether they have access to information that is relevant to their individual, social and livelihood needs.

8. To sum up

ICT projects, by definition, have to be partnerships between agencies with different sets of skills and competencies from project management skills, to subject expertise, communication and media skills, media production abilities, knowledge of delivery technology and social scientists with gender, and grass roots experience with the women themselves. No single agency can integrate all of these skills and plan and execute an effort in a field as complex as women's literacy, which in turn is embedded in inequities of economic, social, ethnic, religious dimensions and to try to do so will only ensure that results from the effort will be minimal, if any

Therefore, there are hard questions that have to be asked and addressed meticulously and these relate specifically to ICT driven or ICT integrated projects and programmes and can be divided into policy and planning, content, and technology choices.

To conclude, technology integration into an effort such as women's literacy is no small task. To achieve a reasonable level of success, the effort has to be long term and sustained. Since technology based initiatives generally have very high start up and maintenance costs and since women's literacy is by and large a problem of the poor, it is imperative that the major stakeholder in the effort is the government whose constitutional obligation it is to provide education to every citizen, whether rich or poor, male or female, adult or child. It is not in the technology itself, but by the manner of its design and application that we can make a difference. Making a difference quickly is what technology promises, subject of course to our ability to use it wisely, meaningfully, and appropriately.

9. Beyond Literacy

In today's fast changing complex world, it would not be enough to acquire the traditional skills of reading, writing and numeracy. Developments in technology are taking place so rapidly that the perceptions about what it means to be a literate person are also changing. As use of ICTs grows, it would be necessary for people, women particularly, to go beyond literacy to develop the skills that would be necessary to utilize the new technologies effectively and productively for their own empowerment. The challenge for the educationists would be to constantly anticipate and to plan educational programmes that would enable adult women to cope with and take advantage of the rapid advances made possible by technology for the betterment of their lives and conditions.

Epilogue

Both the authors of this monograph have been involved in the planning and implementation of a large number of projects in the use of ICTs for development. We had always taken a broad view of the definition of ICTs and had started with the fundamental premise that ICTs were tools available to us for deployment in the various programmes and projects. As evaluators of an equally large number of efforts, we were getting increasingly concerned that despite the best of intentions, there were little or no visible results in improving the 'quality of life' of the marginalized, i.e. the primary identified beneficiaries of the efforts. Nor could one question the commitment or the efforts of the agencies involved; they were champions for the use of technologies for development and we knew them to be passionate about and deeply committed to their work. Equally thorough apparently was the process of planning and design.

We knew the ICTs could, if effectively used, make the critical difference. There is enough global evidence of the potential of ICTs to bring about transformative changes and these have been reported in global literature. While such literature very often commended the potential, it is difficult to tell whether these instances of success could be replicated and upscaled across time, space, and socio cultural settings. We felt that the experiences could be upscaled and replicated, provided that ICTs were given enough opportunity to demonstrate their potential. We felt that they had not been given enough of a chance. It was with this assumption that we set out on this exploration of trying to understand “what works, what doesn't and why”. Moving from a broad perspective of ICTs and development, to ICTs and adult education and finally, we narrowed our focus to women and women's literacy. After all, women would have to be key players if there was to be a sufficient return on the huge investments made.

What we found surprised us. Instead of being central to the process, women were often identified as prime beneficiaries, but conveniently forgotten when planning and implementation seriously got underway. We also found that despite the best intentions, ICTs were used as an afterthought, if the “opportunity arose”, or because their use was financially supported by a donor agency. Rarely, if ever, was the use of ICTs based on an in depth understanding of their strengths and weaknesses; and when ICTs had been used, there were serious gaps in partnerships and shared vision among the various stakeholders. Often the strength of organizations using ICTs was in the technology end; missing was the pedagogical link. Where pedagogy was a strength, an understanding of ICTs was inadequate- invariably an either/or situation. We also did not find any successes or failures, mostly there were lessons learned, and many of these lessons should really have been inputs in the planning and implementation process.

As we sharpened our focus to women and to the issue of literacy for women, the debates became even more confused. The enormous complexity and varied dimension of the women and development issues are often not addressed as we approach the theme from the perspectives of our own individual disciplinary backgrounds. Depending on our own disciplines, we tend to examine data from the perspective of our own training and specialization. For instance, agricultural scientists talk of food security, self sufficiency, livelihoods and growth in agricultural production. Economists study development in terms of growth rates, and incomes, GNP, GDP, and per capita income. Economists talk of international trade and the WTO and GATS; the changing dimension of societies from industrial to service based economies. Psychologists have always examined development from the perspective of the modernizing of the individualthe changing patterns of thought and behaviour that are both an impetus to and consequence of change in any society. Sociologists study group behaviour and how groups influence change. Political scientists look at development as a movement toward a more political participative civil society. Communication scholars study media and their development and role in a developing country. Health specialists look at improving health in societies.

Environmentalists are among the most vocal protagonists of “sustainable development' and educators generally tend

to examine literacy and educational indicators such as gross and net enrolment ratios. Gender specialists look at disaggregating gender data and the role of women in a society. Philosophers and others will argue for an increase and improvement in values in society. IT specialists examine the potential of digital technologies to bring about social change. Even the GID, GAD, and WCD perspectives (discussed earlier in this monograph) applied their own lenses. Consequently, depending on the perspective, a view of women and development today is also changing.

We have not taken an instrumentalist view, i.e. that literacy is an instrument in the process of women's growth as individuals. Ours is a rights based approach. We rooted our work in a strong belief that education is a fundamental and non negotiable right for women and that their path to this attainment of this right is through literacy. Literacy is at the core with all the perspectives pouring in like spokes in a wheel and it is the contexts and conditions that underpin our efforts, rather than the ICTs themselves, that are at the heart of the issue.

In this monograph, we have placed women at the centre of the debate and have tried to summarize the relationship of women and poverty, empowerment, literacy and education, and have examined a few cases of the use of ICTs for women's literacy. Our basic argument is not with the perspective from which one approaches the theme; but that it is necessary to take a multi-sectoral, multi-stakeholder, and multi-dimensional approach and to address the conditions and contexts which will then form the underpinning upon which efforts at the integration of ICTs into a programme should be based. We have also argued that ICTs in turn have their own dynamics, grammar, strengths, and weaknesses which must be understood if they are to be deployed effectively. There can be no piece- meal approach; the issue of using ICTs has to be taken in totality as part of an overall policy, plan, implementation and evaluation. Since much is already known about project cycles and about the inclusion of gender issues in the project cycle, we concluded by asking that all policy makers and programme managers address a set of questions that we have posed to help guide ICT decisions.

In conclusion, we request our readers not to look at any individual segment or section, but to look at the totality of our effort, which as mentioned in the prologue is work in progress and then to critique and add to this body of work, so that all of us together, can make a meaningful difference to the quality of women's lives among the poorest of the poor. Because no one can be as disempowered or disadvantaged as a poor, illiterate woman is.

Notes

1. This was referred to by Tichenor et al in their paper and subsequently also reiterated by Shingi et al (1982

2. UNESCO brings out the Global Monitoring Report each year that serves as a monitoring mechanism for Education for All initiative world-wide. While these vary each year, the latest report for 2006 has focused on Literacy. The literacy estimates are provided in this report.

3. For a more detailed discussion see their paper titled `Political Economy of the Information Society: a Southern view' WSIS Papers. www.Choike.org

4. For a fuller discussion see the Global Monitoring Report on Literacy for Life, 2006

5. Avik Ghosh has undertaken a detailed analysis of India's use of technology for social and human development in his book, Communication Technology and Human Development: Recent Experiences in the Indian Social Sector. New Delhi: Sage. 2006

6. This section is based on part of the text written by the first author for the publication Using ICT to Develop Literacy, UNESCO, Bangkok, 2006.

7. These country case studies included the following;
   (i) Zafar Iqbal M (2004) A study on best practices in ICT based education in Pakistan
   (ii) Ali M., A. Akbar, S. Alam (2004) Study on best practices in Bangladesh, UNESCO, Dhaka
   (iii) Jose de Almeida (2004) A Brazilian study about the best educational practices in basic education giving priority to the teaching of reading which uses information and communication technologies, UNESCO, Brasilia
   (iv) Zhang Z and L Zhao (2004) ICT-based illiteracy elimination and technological training in China's western countryside, UNESCO, Beijing
   (v) Abdul Samie m (2005) Using Information and Communication Technologies (ICTs) in illiteracy eradication in Egypt (Reality and Aspirations), UNESCO, Cairo
   (vi) Study of best practices in education based on ICT (2004), UNESCO, Mexico
   (vii) Chatterjee Bhasker (2004) ICT for basic education and literacy: country study for India, UNESCO, New Delhi

8. This is based on the country study on Bangladesh titled `Study on best practices on ICT based education in Bangladesh'

9. This is based on the country study from Pakistan titled `A Study on best practices in ICT based education in Pakistan

10. The country study on India by B.Chatterjee has a description of the various ICT projects for basic education and literacy.

11. For details see ICTs to develop literacy,UNESCO,2006

12. While the Jhabua Development Communications Project was lauded for the use of ICTs for training and development, an evaluation study undertaken by Reddi et al highlighted the various barriers the poor, especially women, faced in accessing technology

13. This has been highlighted by ICTs and Poverty: A literature Review, SIDA

14. This section attempts a synthesis of the lessons learnt on the basis of a review of several documents. Prominent among them are Alexander Flor: ICT are Poverty: the indisputable link;' Miria Pigato: information and Communication Technology, Poverty and Development in sub-Saharan Africa and South Asia;Alan Greenberg: ICTs for Poverty Alleviation, Basic Tools and Enabling Sector;' Richard Gerster and ' Sonia Zimmermann: Information and Communication Technologies for Poverty Reduction?'; Catherine Nyaki Adeya: ICTs and Poverty: a Literature Review'

15. To examine gender in the information society, a meeting was organized by WSIS Gender Caucus, IT for Change, UNDP Asia Pacific Gender Mainstreaming Programme, UNDP Asia Pacific Development Information Programme in partnerships with IDRC and UNIFEM, South Asia in Bangkok in March 2005

16. For a fuller discussion see Gender and Women in Agriculture and Rural Development in Asia , FAO

17. A number of examples are quoted in the publication `Using ICTs for Literacy Development'

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