

# ICTs -Reaching Beyond the Educated

A public goods approach to ICTs, education and sustainable development

*18<sup>th</sup> January, 2005*

## ***ICTs -Reaching Beyond the “Educated”™***

A paper in three parts

- The nature of ICT opportunity and inadequacy of present ICT for education approaches
- Using ICTs for building a new paradigm in education, that is inclusive of those who have been excluded by the present education systems “” and discussion of an actual intervention in this context
- And, briefly touching upon important policy issues relevant to use of ICT for education that can form a basis of sustainable development

I will start with an example that is often quoted to show how a sudden new opportunity placed in our hands gets under-utilized because we are caught in paradigms shaped by older technologies and their corresponding possibilities. This is about the advent of movies. The new technology of filming moving images was tried early in the area of entertainment. But at first, movies were all about theatre captured on film. You will probably remember this aspect from the very old movies you have seen. Only with time and experimentation did people realize that what they had at hand was actually a whole new medium with its own immense new possibilities that could be used to take entertainment to entirely different levels, doing things unimaginable earlier. Movies were not about capturing theatre in film, and replaying it at will. It was something new, completely new, and had to be treated as such. We all know today what impact movies have had on the world throughout the last century, and still continue to have.

I want to co-relate that situation - about early movies “” with the use of ICTs today in education. Everyone knows ICTs are a powerful tool, almost infinitely malleable; and education is an area where these technologies have found early and extensive use. But

the use of ICTs in education has by far been within the traditional education paradigm. It has been about schools, about curriculum and examinations, about a particular period in life for education and such. There have been shifts of emphasis “ like conceptual shifts often spoken of, from classroom based learning to pupil- centered learning, but by and large the manner in which the ICT opportunity has been employed in the education

sector, has failed to breach our own mental barriers and the boundaries of the traditional education system.

Such times as these, when immense technological possibilities beg appropriate application, the real opportunity, in any area of intended application, is to re-visit the most basic premises on which present systems are based. However, in applying ICTs to the field of education we have till today mostly looked at what the traditional education systems do, and have sought to do those things better and more effectively. This paper argues that a greater opportunity exists in analyzing anew where our education systems have failed to reach, and what it has failed to do. And then see if, with the new ICT opportunities at hand, we can design interventions which can achieve *now* what we have failed to achieve earlier.

### ***Revisiting failures of our education system, as we build on its successes***

So, let us focus on areas where our education systems have failed. After decades of national efforts, we still have a literacy of 65%. And only 54 % of Indian women are literate. Failures in achieving total literacy have to do not only with poor intervention designs and low resource commitments; it has to do also with the issue of building on literacy and the use of literacy to a person, in her social context. We will speak of this issue a little later.

And of course, literacy figures are only the start of the story. Failures of our education system that can perhaps be judged to be even greater become apparent if we sit down to analyze what actual empowerment and benefits have literacy and education given to most people. How much education, and to what avail has it been; is really the key

question. Trying to stress this point, one may immediately come in conflict with what we all know about education being the basis of much significant social change in India all these years. But here we are emphasizing what have been the failures, rather than the successes of our education system, not out of cynicism, but for a very practical purpose of overcoming these failures.

Here we are trying to evolve a framework of application of new and very powerful technologies to the field of education. And do it in manner that the role of education as the key to our sustainable development is greatly enhanced. As stressed earlier, it is opportune that we apply these technologies not in the service of present education systems, but relate their application to the highest and widest objectives of education.

For this purpose, let's then try to re-construct briefly what we mean by education "deriving the meaning from the objectives we associate with attempts to educate people.

Broadly, and briefly, education can be said to encompass, building capacity to receive knowledge, developing techniques, processes and means for receiving and employing knowledge as well as the content of information that can be used as knowledge. (Literacy, the technique of capturing language in signs and recollecting it from signs, is a basic technique in this category.) Since knowledge has real meaning only in its application we can include in the definition of education, the specific capacities to engage fruitfully with the various institutions of civilization "be it of, business, governance or other social associations.

Who then are the educated by these definitions? The elite who have access to very effective "techniques and processes of knowledge"; those who not only can read and write, but access books and other print material regularly, who communicate and exchange information widely for fruitful economic activity, know the law of the land or have access to the opportunity to know when required, those who have extensive access

to other information that has bearing on their life chances, and know what to do with this information as required. And today, these “educated” people increasingly also have access to new ICTs for information and communication, multiplying their already ample opportunities.

And in the unlit zone of the left-outs are not only the millions who are still illiterate, but an even greater number of the poorly educated with few skills, little access to necessary information, lesser opportunity and knowledge of what to do with this information and poor capabilities to engage fruitfully with established institutions of civilization in diverse areas that can enrich their lives.

The above can be considered as the real difference between the educated and the uneducated; and therefore the responsibility and goal of education is to put the left-outs on the same platform of opportunity, as the elite have today.

### ***Not what education technologies, but what about***

In this context, we need to see whether our efforts in applying ICTs to education today are focused mainly toward better educating the already educated, or on pulling in those who have been left out by our education systems? Yes, it is always easier to give a leg up to someone who is already climbing well. It may be natural to take the path of convenience - that of least resistance, and to focus on areas where great results can be shown the fastest. And it is hardly a coincidence that this also happens to the path that gives good business models.

Driven by minds stimulated by the eager glow of the new and the possible, led by excitement of innovation, if not by the lure of money, ICTs shape newer and newer education technologies by the day. "Better" schools promise more personal time on computers to every student, one tool has more possibilities than the other and one "content" is more creative than the other, but is obviously also more expensive, compulsive software upgrades make sure that you get only according to what you are willing to pay for, there is cost for every minute of connectivity, and graded-ly greater price for greater bandwidth. the race is endless. All in all, from aiming for a learning environment for each person's specificity, we are increasing into a *paradigm where there is a different learning opportunity corresponding to each level of spending power.*

If we are using the ICT opportunity for education mostly to educate better the already educated, we in fact are merely following what is happening everywhere else. Castells (1991) paraphrased the paradigm of ICT-powered globalization quite accurately, and ominously. He describes the, "profile of a new world, centered on multinational corporations, global financial markets and a highly concentrated system of technological research and development". A system that he envisages "allows linkages with everything that is valuable according to dominant values and interests, while disconnecting everything that is not valuable, or has become devalued. The system has a concurrent capacity to include and exclude people, based upon a capacity to network, and this is where the poor in developing countries suffer from exclusion".

And Castells also tells us that as ICTs enables linking the valuable people to valuable people, forever increasing their "value", all these people excluded from these prime value networks do not disappear. They are there, even if disregarded. In this context Castells

theorizes on a consequently thriving “criminal economy” where the excluded increasingly take refuge, and its implications for our future.

The above digression was a deliberate red herring, in order to raise an alarm about where mindless pursuit of what looks like unprecedented opportunity in the new ICTs can take us. The effort is to emphasize a considered public policy approach to the objectives and consequences of ICT in education “going beyond discussing the ever growing number of promising new education technologies, to questions of what real objectives we have set for ourselves in applying these technologies.

### ***Trying to reach the “un-educated”***

I will now describe an ICT initiative of *IT for Change*, the NGO I come from, that partners an established grassroots program, *Mahila Samakhya*, in using the new technology opportunities for reaching those who have been let down by our traditional education systems. I will first state briefly the context in which *Mahila Samakhya* works at present before going on to the technology intervention.

In the late eighties, realizing that formal education systems have mostly bypassed poor rural women, especially from the disadvantaged sections, the government of India’s department of education designed the *Mahila Samakhya* intervention for these women.

Though a government program, *Mahila Samakhya* works as an NGO for empowering disadvantaged rural women through knowledge transfer, capacity building and developing bottom-up institutions of association among them (SHGs and federations). The program’s motto is “empowerment through education”. The strategy employed is one that addresses the contexts of these women, rather than coming down with a pre-determined approach. The women are organized into self-help groups, which, in case of *Mahila Samakhya*, are foremost learning groups. These SHGs are assisted by facilitators and Resource Persons of *Mahila Samakhya*.

The means of knowledge transfer is mostly through face to face interactions. SHGs meet regularly, and many of these meetings are attended by the *Mahila Samakhya* facilitators and Resource Persons. SHG women are spoken to about various issues pertaining to

their lives, and generally falling within the key identified areas of *Mahila Samakhya* intervention (education, health, political empowerment, legal literacy, livelihoods and

institutional self-sustenance). Small games are also organized to facilitate learning, and more formal workshops and "melas" are organized from time to time.

Most SHG women are illiterate, others are either only functionally literate or have some little education. Literacy development was one of the major efforts of *Mahila Samakhya*, but the results are mixed. And the reason may not lie so much in the disinclination or any incapacity of these women to learn a few signs of the script, it's more to do with the lack of any real opportunity to use literacy capabilities extensively enough. *Mahila Samakhya* has tried common libraries for a few villages, but the reading habit really has not caught on.

So, personal face-to-face interactions have continued to be the main knowledge transfer strategy for *Mahila Samakhya*. Within the obvious constraints of these means, *Mahila Samakhya* still has shown significant outcomes. Internal capacities within SHGs and their federations are being developed, aiming for self-sustaining learning networks. Every SHG woman is a member of one theme group or the other, and these theme groups meet separately across SHGs, developing knowledge bases and capacities in their particular theme area. These are then sought to be transferred to all women of their respective SHG.

While *Mahila Samakhya* is a bold initiative and has shown good results, the program also feels structural and systemic limitations in taking its gains beyond a certain level. I will not discuss these limitations in detail here, but move on to how ICT opportunity was seen as relevant in this situation.

***Are ICTs relevant here?***

In keeping with the principles laid out in this paper earlier we began our ICT intervention from the basicsâ€” re-visiting of the entire paradigm of the *Mahila Samakhya* intervention. First of all, we internally re-interpreted the *Mahila Samakhya* motto more in tune with the information age opportunity, as â€”Knowledge for empowermentâ€”™ from the original one which was â€”education for empowermentâ€”™.

We conceptualized the new education paradigm that *Mahila Samakhya* was already trying out in part, but which in our view could be taken to its logical conclusion only through a contextual use of the new technologies. The new education paradigm had the following essential features.

- A broader definition of education to include a wider variety of knowledge processes
- Taking â€”educationâ€”™ out of schools, into peopleâ€™s living environment, and its contextual learning structures (though the need for schools as institutions of formal socialization of children obviously remains)
- De-centralized content making â€” developing it contextually, and bottom up
- Integrating processes of education directly into education enabled opportunities for the people

An ICT project, named *Mahiti Manthana*, has been designed upon this framework. I will now quickly get down to the brass-tacks of the project. We realized that the women of *Mahila Samakhya* were most comfortable with direct voice-image medium, and not with text-based means of knowledge transfer. Many of these women regularly watched TV, but few, even if literate read much or read at all. Most werenâ€™t much used to telephones but there was little skill requirement needed for it, and many did sometime use the telephone to communicate emergency messages to relatives, and *Mahila Samakhya* organizational issues to *Mahila Samakhya* offices.

*Mahiti Manthana* project builds on the far-reaching changes that have taken place in video technology in the last few years. CDs today cost less than Rs 10, VCD players less than Rs 2000 and handy-cams in the range of Rs 15-20,000. Basic video editing software often comes free with computers, and editing techniques are becoming more user-friendly by the day. The recent International Film festival in Goa had a competitive section for digital movies made by persons less than 24 years of age, of less than 24 minutes in less than 24 hours. Some of the outputs have been so good that they have been chosen for viewing abroad. Another film festival in Europe had a section on movie clips shot on mobile phones. A science teacher in Bangalore herself made a video document of important laboratory experiments, which is now used as an educational aid along with a print manual. People are forwarding video-clips with representations of grievances to public authorities, where these clips serve as compelling evidence of the issue. A new inexpensive media, very rich in content and powerful in impact, is taking root. And it has great relevance in reaching to people beyond the pale of traditional education system.

The project will develop significant volumes of inexpensive video documents relevant to the needs of *Mahila Samakhya* women. We will shoot workshops, training sessions (including those conducted by other organizations), meetings with officials, *Mahila Samakhya* meetings, in fact anything and everything that can give us useful content. And the project will also develop specific documentaries on various themes. As importantly, the project will source content from every possible source - dubbing, sub-titling, and inserting facilitator video clips into sourced content - contextualizing it to local needs in every possible way.

And all this video content will be indexed with appropriate meta-data - including which meetings and other contexts it is most relevant to be used for, whether it is best used by a trainer or is for unaided viewing etc. Comments of viewers will also be tracked and used for assessing utility. And while *Mahila Samakhya* women will have processes to obtain these resources on demand, the idea is to provide the whole lot of CDs at the

village level itself (200 CDs today cost less than Rs 2000). And the project will ensure that SHGs have access to TVs and VCRs as community resources.

The women will also be trained on making their own video-documents. This process not only facilitates bottom-up and peer-to-peer communication, seeing other women in similar situations describing similar concerns in a manner and a language one clearly identifies with, is an important identity building process for these women, individually and as a part of a group organized for their empowerment. Such a process of identity building can be a cathartic process towards empowerment

Processes of education fail to make an impact in many contexts not only because of choice of wrong means or techniques, but also because those targeted often do not have sufficient means of actually using the acquired knowledge for their benefits. This greatly reduces the motivation of the targeted group to obtain, assimilate and retain education.

The *Mahila Samakhya* initiative also develops institutional means for SHG women to employ the acquired knowledge for various purposes to enhance their life opportunities. It develops means to take collective action like approaching public authorities, devising livelihood projects etc. The *Mahiti Manthana* project uses ICTs to further enhance these capacities and linkages. It will set up a call centre for women to access specific information, as well as approach authorities and experts, as required. This call centre will have direct linkages to lawyers, women's police cell, government officials etc.

Telephones will also be encouraged to use for networking among SHGs and contacting *Mahila Samakhya* organizational apparatus.

The *Mahiti Manthana* project recognizes that ICTs should build on and assist existing processes, and leverage existing institutional interventions. While the ICT component is completely aligned with existing processes of *Mahila Samakhya*, the *Mahiti Manthana*

project also seeks to specifically enhance *Mahila Samakhya*'s organizational capacities through ICT based internal KM and MIS platforms. And the plan even for *Mahila Samakhya* women is not to stop with video based knowledge transfer, but move on to video-conferencing to other computer based interventions. One of the early web-based system that is being developed is an online catalogue of books available in various libraries in the nearby towns, with complete meta-data about each book (including comments of earlier borrowers), that more educated *Mahila Samakhya* women can requisition online. The books are delivered as well as returned during weekly trips of *Mahila Samakhya* women to the city for organizational purposes. This is an example of using the power of ICTs to overcome the reach related limitations of physical resources. Computer based training modules, networked computer based platforms for organizational interactions, and (accountability enforcing) interactions with outer agencies like governments, and other such applications will also be developed.

I hope in describing this intervention I have not strayed too far from what the dominant paradigm will be willing to include under the term "education". The new technologies, I will repeat here, need to be used to redefine the conceptual frameworks of education, rather than merely "enhancing" present systems, in the manner of early movies that merely tinkered with theatre a little here and there, more or less just recording it for later viewing.

***It does not trickle down " the disadvantaged have to placed on the top***

There will still be some who will like to believe that there is no case for different approaches and systems for those excluded by the present education system. As new innovative education technologies are developed, the same technologies will be useful for everyone, and thus benefit everyone eventually. And the way ahead is only to keep expanding the options through technology innovation and business growth.

But it really is not true to think that the rich and poor communities are at different points along the same spectrum. And therefore like rich schools, so the poorer schools, and so

the SHGs; there is only a difference of degrees of benefit from new technologies which is more or less unavoidable. Those currently excluded need completely different paradigms. To mention just two things; they need free and open sharing of education content – something that is increasingly becoming more and more difficult under traditional IP (intellectual property) regimes, being made more oppressive by the day. And these groups need free ICT connectivity for knowledge processes in the same way as they have needed free schools.

We do realize that a video CD is for Rs 10 today only because the business processes have innovated technologies, and employed efficiencies of scale. But we also know that these CDs are of little value when it not easy to get a copy of a CD on development content - something like information on training SHGs or on women’s health issues - even from government archives for free copying and dissemination by a project like *Mahiti Manthana*.

In the ICTD (ICT for development) sector, increasingly, a neo-liberal ideology dictates business models and revenue possibilities for every development initiative. Free connectivity is balked at as destructive to human enterprise and unsustainable. But if connectivity is the means to getting knowledge as well as fruitfully engaging with empowering institutions, why does it need to be spoken of in a different framework than that for basic education and health facilities? The whole regulatory regime in the telecom sector is focused on protecting the incumbent’s revenue, for –no one knows what will happen if the system collapses–. So do the worries of the IP system, and therefore our –innovation capacities–, collapsing if we experiment with new more open IP regimes, suffocate attempts to freely share knowledge - most needed by the poor, but least –affordable– by them.

Such obsession with protecting existing systems will not allow us to do what is needed to include those who have been excluded by the present education approaches. Speaking about the disadvantaged with concern without agreeing to rock the boat, where some rocking is needed, will really take us no where. The new ICTs are revolutionary only if we have the human and social capacities and inclination to lead the

portended great changes. Otherwise they represent just another step to social and political aggrandizement of the elite and the powerful.

If ICTs' use in education is to be seen in terms of reaching the benefits of education across geographies, across social strata and across time, to our near as well as the far future, it has to be planned within informed and effective public policies. The fact that the blinding tide of the ICT opportunity has mostly been powered by private sector enterprise cannot be allowed to undermine the role of policy, and a general development, oriented approach to education. Access to education is a right, beyond the play of market forces, and as ICTs become a central plank of knowledge and education processes, access to these ICTs needs to be seen in the same framework as access to schools for everyone.

Issues of equity and access can not be postponed to a later period in our obsession with the new and the innovative. In fact, it is because of the important aspects of ICTs as a key enabler that access to ICTs is today increasingly conceptualized by many as a public good. If education and sustainable development are viewed in a public goods framework, the key infrastructure for education and thereby for sustainable development need also be seen in the same perspective. Such an approach is the crucial connector between ICTs, education and sustainable development.