

# TAKE FIVE: A HANDFUL OF ESSENTIALS FOR ICTs IN DEVELOPMENT

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## INTRODUCTION

### **The point of the lance**

New Information and Communication Technologies (ICTs), especially the Internet, have shown a very rapid development during the past ten years. Internet users have been duplicating every year since 1995. No other information and communication technology in the past has, by comparison, developed so fast. Radio took several decades to be adopted in the isolated and poor rural areas of the world until it became the most important means of communication for many marginalized communities. Television is still struggling to reach the periphery, through a combination of cable and an array of satellites, although portable video has proved its efficacy for educational purposes. Internet, in its own right, has become fashionable and its receiving an impressive support both from the private and the public sector, to become the “point of the lance” of a technological revolution that also claims to be a social revolution. We will see in what extent.

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## **Symbiosis**

The most important and interesting issue relating to the rapid expansion of new information and communication technologies in Third World Countries<sup>1</sup> is not Internet by itself, but the potential of its interaction with other electronic media, such as radio and eventually television. This convergence is, no doubt, the best option for the future, considering that the new ICTs are here to stay. Internet based technologies will benefit from the 50-year-long experience of community radio, if they are to become the tool for social change that is hoped they might. Likewise, radio and television will certainly benefit from the speed and reach offered by the new ICTs. This symbiosis is already changing the approach to technology development in industrialized countries, but the social concepts that should be embedded are lagging behind.

Radio is largely the most impressive communication tool for development, especially in the rural context. It is not only an important mechanism for the diffusion of development information in local languages and over widespread and remote geographical areas; it is also a great tool for reinforcing and strengthening cultural expressions and ethnic identities. Moreover, it can become a platform for democratic discussion and pluralistic expression of ideas and aspirations of rural communities, as well as a means to raise awareness on social issues and to collect data on local development issues. It can contribute to build up local pride through the reinstatement of community memory and history.

Can the new ICTs do alike? They should and they must, if they are to be sustainable and to contribute to social change and development.

## **ICTs Field of Dreams**

The new information technologies are hailed as the long-awaited solution for the poor of the world. Some organizations, too optimistic or not very conversant with actual experiences in the field, are even talking about the “dramatic opportunity to leapfrog into the future, breaking out of decades of stagnation and decline”<sup>2</sup>. The argument is that ICTs can easily

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<sup>1</sup> I rather stick to “Third World” rather than to “developing countries”, a fashionable way to call many countries that have actually been going backwards in terms of economic and social development.

<sup>2</sup> The World Bank: “Increasing Internet connectivity in Sub-Saharan Africa”, 1996.

convey to the marginalized, poor and under-developed, the truth about development and the information that will enlighten them to take, on their own, the steps that will improve their condition.

ICTs are seen as the fire of knowledge graciously brought to the damned of the world by the wise Prometheus of industrialized countries.<sup>3</sup> However, these modern Prometheus should know that their attempt is too similar to the failed “diffusion of innovations” trend that was fashionable in the sixties, especially in the world of agricultural development. The concept is the same: provide the technological means to marginalized communities and people will be liberated from poverty. It simply didn’t work like that. As Kunda Dixit wrote:

“Like the fashion business, the Third World development debate seems to go through fads and styles. Mantras come, and mantras go. The latest buzzword is *knowledge*. The world is now a Knowledge Society, we are told, and the global gap between know and know-not is growing, therefore the only way to give the poor the chance to catch up is to pump in more knowledge with computers and through the Internet”<sup>4</sup>.

Among the risks. Adds Dixit, is that “the knowledge hype may tempt us to regard only formal modern knowledge systems as worthy of attention.”

A bit of historical perspective could help to avoid the same old mistakes and better understand the deep roots of poverty: the real causes of underdevelopment are social injustice, exploitation of poor countries by rich countries as well as the poor within each country by the rich upper classes that control government, financial institutions, services and the productive sector. Knowledge alone will not change that situation.

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<sup>3</sup> Gumucio Dagron, Alfonso: “Prometheus riding a Cadillac? Telecentres as the Promised Flame of Knowledge”. *Journal of Development Communication*, Number 2, Vol 12, December 2001: 85-93.

<sup>4</sup> Kunda Dixit: “Exiled in Cyberia”.

*"If you build it they will come"*<sup>5</sup>. In the field of dreams of ICT promoters the picture is rather simple: ICTs and Internet connectivity are *per se* the solution for poverty and underdevelopment. Place computers and connectivity at the reach of the poor and they will magically defeat poverty. Some international consultants feel good when they arrive to the most isolated villages of Mali or Bolivia with a laptop under their arm, just to show the magic screen in action, the same way the Spaniards used shiny mirrors to subdue the Incas or the Aztecs during the Conquest of America.

In the process of generating ideas -or appropriating them- academics, commercial wizards and development managers in Europe and North America love to invent new acronyms and buzz words, often to name what already exists. Now we are in the middle of a fashion of placing an "e" -for "electronics", before almost every substantive word: "e-commerce", "e-care", "e-learning", "e-support", "e-government", "e-mail", "e-forum", "e-groups"... They have gone as far as to introduce "e-development". Peter Ballantyne suggests that the "e" should stand for "effective", "empowered" and "efficient":

"Instead of thinking about eDevelopment as something electronic - development that's digital - we should see 'eDevelopment' as a different, and a better, approach to doing development, in which: E means effective - 'Effective development' results from the use of ICTs to improve the quality and demand responsiveness of a development activity, ensuring that goals and objectives are actually achieved."<sup>6</sup>

Development is much more complex than planting the seeds of ICTs in poor rural areas or marginalized urban neighbourhoods. If it were so simple, we wouldn't have seen the dramatic events in Argentina early in 2002. A well developed country, in the frontline of the adoption of ICTs and with a good telephone system and electricity service, is in the midst of a deep economic and social crisis, going backwards instead of "leapfrogging" into the future. ICTs are no magic solution for anything, even less in the globalised world we are being dragged into.

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<sup>5</sup> Now a classic phrase from the Hollywood film "Field of dreams".

<sup>6</sup> Peter Ballantyne: "e-Development: What's in a name?". [www.icconnect-online.org](http://www.icconnect-online.org), Dec. 14, 2001.

This is not the first time we are confronted to the idea that technology is the panacea for economic and social change. Those who have been active in development during the past 30 years know very well the previous wave of *diffusion of innovations*, by which the underdeveloped countries would magically join the industrialized world through the use of modern technology graciously provided by international agencies. Behind this recipe was the assumption that knowledge is the privilege of industrialized nations, and that countries in the South just didn't have enough of it. It could only be that simple in the field of dreams of those who know little about the reality of Third World countries, but think they know what is best for them.

With the risk of repeating something that everyone already knows we should remind ICTs pushers that when we deal with technology we are only handling instruments, and we are not *per se* affecting the social, economic or cultural environment. A knife is just a knife, a tool that can be used to hurt someone or to carve a beautiful wood sculpture. Content and patterns of utilization make the difference. A few organisations, such as the IDRC, recognise this and promote a *social vision* of ICTs:

“It is clear that ICTs are neither a sufficient nor a necessary condition for development. However, it is also evident that ICTs, primarily driven by commercial interests, are here to stay. It is therefore urgent that a social vision that puts the Internet at the service of development be strengthened. The social vision proposed rests on four central elements: 1) Going beyond connectivity; 2) Promoting enabling environments; 3) Minimizing threats and risks; and 4) Maximizing positive results. In the social vision proposed, ICTs are not inherently necessary or beneficial. The challenge is, precisely, to be able to tell when, and under what conditions, the Internet can contribute to development.”<sup>7</sup>

Even Bill Gates knows that it is not a matter of pushing computers to the developing countries; in 2001 the boss of Microsoft Corporation

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<sup>7</sup> Ricardo Gómez and Juliana Martínez: “Internet... for what?” IDRC and Fundación Acceso, 2001. [www.idrc.ca/pan](http://www.idrc.ca/pan)

publicly acknowledged that basic health care services and immunization are by far a larger priority than computers and Internet connectivity.

In spite of the above, let's not forget that most of the ICT experiences at the grassroots level are less than 5 years old. It is too soon to claim victory and too soon to discard them, but not too soon to question them and to make sure that they will be sustainable -for the benefit of communities, after the external inputs withdraw.

Development priorities are to be analysed -hopefully by the *beneficiaries*- before deciding which technology is appropriate, where and how. Communities should adapt technology to their needs and to their culture, not the opposite. As of today, the ICTs in Third World countries are only experiments with a potential. One thing is what is written in well-intentioned project proposals and triumphant reports to donors, and another thing is what is really happening at the community level.

### **Digital (wars) divide (and rule)**

Digital divide: the ones separated from the zeros... North and South? Who are the zeros? Are we zeros on the left? Rich and poor? Where exactly is the crack of the divide? Is it really digital? How deep is the divide? Which digits are ruling the world? For who is really essential to end the digital divide? Who will really benefit from it?

Almost everyone agrees now that the so-called "digital divide" is a false problem, just a flashy manifestation of other divides that have been around for decades. Panos formulated this question already in 1995 when they asked, "Has information poverty been added to the many other gaps which separate developing countries from the rich North?"<sup>8</sup>.

Much more thinking is needed on the topic. Thinking and research with a purpose: research as a process, in constant dialogue with the participants in the development of new ICT experiences, thus contributing to learning and timely correcting problems.

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<sup>8</sup> "The Internet and the South: Superhighway or Dirty-Track?", Panos Media Briefing No. 16, October 1995.

For digital wars -as for the real wars, small countries spend more than they can afford to buy modern technology (or weapons) from industrialized countries interested in keeping the wars going forever. It's good for the economy (theirs, of course).

The World Wide Web has more than one billion pages. Eleven billion e-mails are sent every day. How impressive, isn't it? However, 60% to 80% of world's population never made a phone call<sup>9</sup>. Is it a mere coincidence that 80% of world population lives in "developing" countries?

The divide has never been only a "digital" or technological divide. It is a social, economic and political fracture. Quick look at some postcards from the south<sup>10</sup>:

- About 20% of the world's population lives on less than US\$ 1 per day.
- Cities occupy 2% of the world landmass, contain 50% of its population, consume 75% of its resources, and produce 75% of its waste.
- In 1996, one US citizen was responsible for producing as much greenhouse gas as 19 Indians, 30 Pakistanis, or 269 Nepalese.
- About 2.4 billion people live without basic sanitation. Two million, mostly children, die each year of diarrhoea. One million die of malaria.
- 70% of the 1.2 billion people living in poverty are female. On average, women are paid 30-40% less than men for comparable work.
- Women produce 60 to 80% of the food in most developing countries and this percentage is growing. Women farmers receive only 5% of agricultural extension services offered worldwide.

In that context of economic, social, gender and political injustice, it is not surprising that:

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<sup>9</sup> As usual with worldwide statistics the percentages differ depending on the sources.

<sup>10</sup> Main sources: The Communication Initiative: <http://www.comminit.com/BaseLineArchives>; UNDP Human Development Report, African Development Forum.

- Teledensity in China is 1.7 per 100 persons, in India 0.8 -just to mention two very large countries.
- In rural areas of the developing world, teledensity is lower than 0.1%.
- Only 6% of world population uses Internet.
- 90% of all Internet users are in industrialized countries.
- Internet users in Africa & the Middle East together account for only 1% of global Internet users.
- There are more Internet accounts in London than in the whole of Africa.
- The United States has more computers than the rest of the world combined.
- South Asia, with 23 per cent of the world's people, has less than one per cent of the world's Internet users.
- More 40% of households in the US have access to Internet.
- Only 0,005 % of the population of Bangladesh uses Internet.
- As many as 52% of Internet world users are non-English speakers.
- In many Third World countries it takes a year or more to get a phone line, and they are only available in urban areas.
- The cost of an hour's use of the Internet in Chad is US\$ 10.50 (and the Gross Domestic Product per person is US\$ 187).
- The average monthly cost of Internet service in Africa is the equivalent of US\$ 240. In the USA, it is about US\$ 20.
- A computer costs the average Bangladeshi more than eight years' income, compared with one month's wage for the average US citizen.

### **Sustainability: let's draw the line**

The "S" word<sup>11</sup> is a bad word in the mouth of everyone these days and makes some very uncomfortable. I'm one of those who is tired of

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<sup>11</sup> Steve Cisler has been using the expression for a couple of years already.



listening bureaucrats demanding proof of sustainability from young ICT projects. Suddenly sustainability is an issue for hundreds of independent initiatives, while the same agencies continue to support huge development projects that have swallowed millions during several decades with very little results: white elephants giving birth to blind mice. If we come to think of it, those though development organizations that often are hard critics of small NGOs projects are not sustainable either: they exist because of the constant flow of funds from elsewhere (generally taxpayers) that support and sustain their bureaucracy. On what right does anyone exact a certificate of sustainability from ICT projects that are only two or three years old?

I would like to suggest a completely different approach to sustainability; one that goes beyond exclusively financial criteria. The concept of financial sustainability, to the exclusion of other forms of sustainability, is being imposed on us by the same forces that push the privatisation of education and health, the pushers of neo-liberal policies who consider that no social service should be provided free of charge and be a responsibility of the State, and that all human activity should be regulated by market laws.

For many the criteria for evaluating telecentres until now seem restricted to the financial "success". The bottom line being if a telecentre or radio station makes money, then it is sustainable. No consideration about social sustainability or the impact on social change. Why do we measure social communication projects established to contribute to community development with the same criteria we measure commercial cyber-cafes?

That a telecentre or a community radio station is self-sustainable in terms of funding does not tell us anything about its contribution to social change and development. I do not admire a community based communication project just because it is making money.

Sustainability deals with a wider range of issues. Lets look at ownership, for example: community ownership is key to the sustainability of a community communication project. However, this ownership can have multiple facets. Having a legal title to the facility is one of these, but it is not sufficient to guarantee sustainability. Having managerial responsibility, control over content, and a say in the project's future are equally important. Sustainable community ownership requires that the community has legal

ownership, but that also is prepared to take responsibility for the project because it has internalised the sense of ownership.

This may be a longer process, like the process of development itself. The ICT component, as any communication component, should develop along with the development process, not in isolation from it. The interaction between community participation, the technical inputs for development and the communication and knowledge tools will define the success or failure of a particular development communication effort. The understanding of this process is lacking in many of those who insist on urgent proof of economic sustainability. We need to recognize the pace of development in a particular context, instead of imposing the pace of the institutional agendas of funding agencies.

We must be coherent ourselves. If we want development and social change to be a main thrust of ICTs, then we should include them in the same category as cultural and educational institutions that are the responsibility of society as a whole and governments/states in particular. Like the roads that link places and countries, the *information highways* are also a responsibility of states. The same way governments maintain public libraries they should do with ICTs whenever these aim to provide useful knowledge for development and education. Not even the most enthusiastic proponents of privatisation insist that public libraries should be self-sustainable. Community ICT projects are our modern public libraries, so they should receive the same type of support.

Let's look at our fistful of non-negotiable conditions for ICTs in development:



## COMMUNITY OWNERSHIP

### Problems

A rapid assessment of the large numbers of Internet based experiences that have been developed in the past five years,

namely the so called “telecentres”, “public cabins”, “telecottages”<sup>12</sup>, “telehuts”, “digital centres”, “information kiosks”, “infocentros”, “infoplazas”, “informations shops”, “community multimedia centres”<sup>13</sup>, “village knowledge centres”<sup>14</sup> -among other names<sup>15</sup>- shows that most of them were initiated with little regard for community participation and ownership. The contest between organizations, both from public and private, to “connect” under-developed countries has resulted in the parachuting of thousands of computers into areas where safe water and electricity are not even available.

An assessment on ICTs for development conducted by FAO in 2001 revealed that most of the projects are implemented without any consultation with the community. Among the findings:

- only a limited number of cases of community-driven ICT initiatives were found and these had scarce visibility;
- participatory needs assessments are rarely performed prior to the creation of telecentres;
- the emphasis is more often on providing access than on innovative ways of applying ICTs to the specific needs of communities and local groups;
- the priorities of many ICT projects tend to be influenced more by the interests of external organisations rather than community-based organizations;
- the thematic sectors applied often reflect an economic, market-related focus;
- there is a lack of local participation in the creation of content and selection of ICT tools;

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<sup>12</sup> Telecottages emerged initially during the eighties in Scandinavia. The term is currently used in some countries of Central and Eastern Europe.

<sup>13</sup> These have been developed with support from UNESCO in Eastern and central Europe, and various countries of Asia and Africa.

<sup>14</sup> This is the name given to their telecentres by the M. S. Swaminathan Research Foundation (MSSRF) in Chennai (India).

<sup>15</sup> Many of them are mere cyber-cafes, commercial ventures.

- there are many telecentres where computers are available but where a lack of awareness, ICT skills, and literacy hinder the process of local appropriation.<sup>16</sup>

Certain governments in Third World countries have initiated a “crusade” for establishing nation-wide connectivity to Internet, as a short cut to modernization. It is sad to note that the same governments conducted no crusade in the past to provide safe water or roads to the same very isolated and poor communities. However, ICTs are fashionable, and governments can capture external funding to push forward their electronic crusade, with the argument that connectivity is the key for development.

We have all heard of ICT projects that have folded after one or two years because the computers were stolen or deteriorated so quickly that needed to be replaced. This is more likely to happen in communities that do not have the sense of ownership over the project and do not feel that the installations are essential to their social and economic development. It is not a matter of external supervision (although it may help), but a matter of community awareness and social appropriation of the project.

### **Challenges**

The involvement of communities in ICT projects that are set up for their benefit -or any other project aiming social and economic development- is the first non-negotiable pre-condition.

In this area there is much to learn from the experience of community radio. We can not claim social change without community participation, and this should take place from the first discussions about the potential of providing ICTs support to a particular region. It is certainly not enough to discuss with government authorities and even with local authorities. This may seem a good short-cut to get things rolling, but the “short-cut syndrome” that characterizes some of the ICTs pushers may do more harm than good. This is not a 100 meters race where speed is everything you need. This is more like a marathon, and you will never

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<sup>16</sup> Michiels, Sabine and van Crowder, Loy: “Local appropriation of ICTs”, FAO 2001.  
[http://www.fao.org/sd/2001/KN0602a\\_en.htm](http://www.fao.org/sd/2001/KN0602a_en.htm)

finish if you spend all your energy in the first 100 meters. In the words of Simon Batchelor:

“It has now been recognised by many people that working from the outside towards the centre is a recipe for unsustainable programmes. Programmes that consider local capacity start at the centre and plan outwards. Yet it seems that many ICT programmes and projects start at the outer edge of the ‘onion’, and with an acknowledged general need for information and communication, outside agencies put in significant resources. Computers are installed, infrastructure is established and some salaries are given to kick start the cost recovery process.”<sup>17</sup>

As for any other development program, an ICT or community radio project should be first discussed and analysed with representatives from the communities. A good start would be to ask them if they are interested or not. Many rural and even urban communities may prefer to have safe water and electricity first, rather than computers<sup>18</sup>. If community leaders, representing a wide range of social sectors (youth, women, traditional leaders, service providers, local authorities, etc) believe that ICTs are important, the discussion should focus on how to develop the project and particularly, what will be the role and responsibilities of the community.

The community may donate the land and take the responsibility for building and maintaining the premises to house the computers and/or the radio station; and may provide volunteers to run the project. We have seen this happen in the past with community radio stations in both rural and urban areas. If we look at the perspectives of sustainability from a point of view that is not restricted to income generation, we will find that community involvement and the development of a sense of ownership over the project, will also be the best guarantee to keep the equipments safe and in running condition.

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<sup>17</sup> Simon Batchelor: “ICT capacity development issues” at <http://www.gamos.demon.co.uk/sustainable/tfoa2/tfoa2.htm>.

<sup>18</sup> In North-western Romania, CREST -a local NGO, has established as a principle not to start a new telecottage unless the community really wants it and is ready to participate with some human and/or financial investment.

There is an opportunity to contribute to the process of community organization through an ICT & radio project or any other communication project that truly aims to ignite the process of social change. A local committee composed of representatives from the various social sectors could be formed to oversee the activities of the multimedia centre<sup>19</sup>. Appropriate attention should be given to prevent that this new board clashes with any other existing one, which may have been formed around another development project.

The local committee or could also assume responsibility for conducting certain content-related tasks, as often happens with community radio stations, where the nurse is in charge of a health program, the teacher prepares a series on education issues, rural cooperative leaders arrange to find useful information for farmers, the youth leaders deal with music and topics that interest their peers, and so on.

Simon Batchelor rightly criticizes “planning like an onion” and establishes the difference between development programs that are planned from the outside layers of the community, instead of from the centre. The arrogant attitude of planners that are convinced that they know better about community needs derives in decades of failures in development.

This is not to say that communities are always right and their word is divine. In development we usually learn the difference between the real needs of a community and the “felt needs”. For example, communities may easily identify the need of water and roads, but not of immunization or education (let alone ICTs!). The key word is dialogue between the community and the planners. Communities are seldom homogeneous or fully democratic; as any human group or society, they are fractured in groups of economic and social interests. The challenge is to support dialogue through a democratic process of participation.

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<sup>19</sup> The Community Audio Towers (CATs) in The Philippines, are managed by a Community Media Council made of representatives from the various sectors of the community: women, youth, teachers, nurses, traditional authorities, elders, etc, and it works well. For more information see the chapter in my book: “Making Waves: Participatory Communication for Social Change”, The Rockefeller Foundation, 2001.



## LOCAL CONTENT

### Problems

It has been said many times: the 90% of the content of the World Wide Web is totally alien to 90% of the world's people. In terms of "providing knowledge to the poor", the purpose is defeated, unless the whole perspective changes. This contradiction is more obvious when we consider the usefulness of the web for rural communities in the Third World. High school students, teachers or professionals in Islamabad, Rio de Janeiro or Dakar may find the web very useful (particularly if they are fluent in English), but how about a woman that works in a factory or a poor farmer? What in the web will interest them? Where is the knowledge they can use for their own benefit?

Such as it is now shaped, the content that can be accessed through Internet is irrelevant for most of those that have been recently put in front of a computer. They can play around, as any kid will do with a new toy<sup>20</sup>, and learn how to use the machine, but in terms of knowledge useful for their daily lives, very little is available.

One of the illusions of the Internet is that because it has no central management, everyone is free to shape it according to their own needs. In fact, the Internet it is very much controlled by commercial rules. The World Wide Web today looks very much like cable and satellite television in terms of contents. Years ago some thought that satellite and cable TV would bring a better choice of programmes and more diversity of information to the world. Today we know it only helped to impose the mainstream points of view, one image of how life should be, and a very narrow way of looking at society and reality. The rest of the world only appears as exotic images in adventure or scientific documentaries. The same corporations that regulate the flows of information in industrialized and peripheral countries have captured Internet. To land into a small oasis of difference in the web, one must navigate through the most implausible labyrinths.

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<sup>20</sup> See the interesting experiment of "The hole in the wall", in India: children exposed to a computer screen and a joystick, with no leading information to start using it.

Several reports of telecentres or multimedia centres in countries of Africa, Asia and Latin America indicate that the main users are students or teachers, not the poorest of the community. They also indicate that the main services that are used in a multimedia centre are the telephone, the newspapers, the photocopier, the fax and the computer, not the Internet or the World Wide Web. In fact, many of Africa's telecentres do not even offer Internet access. They are actually telephone call centres, perhaps with a computer or two available for word processing. When available, rural students and teachers may use Internet to chat or send e-mail messages (if they have correspondents), but other social sectors, which account for the vast majority, approach the telecentre mainly to use the other services offered. In Bangladesh, the Grameen Bank implemented a very extensive program of village cellular phones to benefit the most isolated communities, rather than establishing computer-based booths.

### **Challenges**

The development of local content is the single most important non-negotiable condition for the development of ICTs for social change and material progress in urban or rural communities.

The web ocean of "knowledge" does not correspond to the needs of the majority of the population. Different countries have different needs, and within each country -particularly in the Third World- the diversity of cultures and problems calls for specific approaches. We need to invent and multiply mini-networks, small geographical webs or "local community networks" to make the "world wide web" really wide and really useful for the majority of people in the planet.

Again, community radio can teach us much about local pertinence. Only the development of local contents can establish a radical difference between the telecentres for social uses, and the cybercafes that cater customers that already know what, where and how to look for the information they need. Cybercafes do not need to make an effort to develop specific content because their customers correspond to the typical Internet user worldwide: male, under 35 years old, with a university education and



high income, urban based and English speaking—a member of a very elite minority<sup>21</sup>- for which the Internet is shaped.

Cybercafes only offer Internet access, while telecentres for development generate local and regional information, making it available to the community. “A telecentre may well become a key auxiliary to the school and clinic, offering continuing education for local teachers and nurses (and doctors, if any).<sup>22</sup>”

To cater their users -and following the example of community radio- several community based ICT projects have been producing local content, appropriate to the specific population of peasants, fisher folks or any other groups that are seldom taken into consideration by the commercial cybercafe model. Relevant examples include the Village Knowledge Centres in Chennai, India<sup>23</sup>.

“The poor need access to new locally-contextualised information more than access to existing information from an alien context. The information needs of the poor will be met more by informal, ‘organic’ information systems than by formal, ICT-based information systems. The poor lack, and need, information of relevance to their local context. This may come more from interaction between communities and community members rather than from the typical ICT-based pattern of data transfer from North to South.<sup>24</sup>”

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<sup>21</sup> UNDP Human Development Report, 1999.

<sup>22</sup> Scott Robinson: “*Rethinking Telecenters: Knowledge Demands, Marginal Markets, Microbanks and Remittance Flows*”, On The Internet magazine, Vol. 6, No. 2 (Fall/Winter 2000), a publication of the Internet Society.

<sup>23</sup> More information on Village Knowledge Centers in “Letters from the field” (below); Balaji.V., K.G. Rajmohan., R. Rajasekara Pandey and S. Senthilkumaran: “Toward a knowledge system for sustainable food security . The information village experiment in Pondichery.” Fall/Winter, e-OTI: On the Internet, An International Electronic Publication of the Internet society. March- April, 2001, 32-37. <http://www.isoc.org.oti> ; “Making Waves: Participatory Communication for Social Change”, by Alfonso Gumucio Dagron; “Connecting Rural India to the World”, by Celia W. Dugger, in The New York Times, 28 May 2000.

<sup>24</sup> Heeks, Richard: “Information and Communication Technologies, Poverty and Development”. Development Informatics, Working Paper #5, Institute for Development Policy and Management, 1999.

It is not difficult to anticipate the symbiosis between community radio and the Internet. A handful of community based radio stations have taken the lead in taking advantage of the technological convergence. The Kothmale Community Radio, in Sri Lanka, is one of these that uses Internet to respond to requests for information from its constituency. The station receives the requests, searches the Internet, stores information with content relevant to the local communities, and broadcasts the information, translated to local languages.



## APPROPRIATE TECHNOLOGY

### Problems

When we think that one in every three people globally lacks of electricity and that safe water is a scarce resource in large parts of the world, we are reminded that computers are still a luxury.

Fashion is always expensive, Versace or Microsoft. The fashion of planting computers all over the world is a very costly one (and is making very few very rich). How much or how sophisticated technology do we need, for example, in a rural public telecentre? In Central America I've seen rural schools with less than 100 students equipped with five or six state-of-the-art computers, that are only used at 5% of their capacity (and I'm being generous). I always wonder what criteria, if any, are used to determine what hardware and software to buy.

Radio and television has also known -and hopefully learned from- the distortions caused by planners that were mechanically applying their experience in Europe or North America to countries in Africa or Asia. My personal symbol of waste and distortion in development aid for a communication project, are the huge OBVs -Outdoor Broadcast vans, that I saw often in Burkina Faso and other countries of Africa in the 1980s and 1990s, abandoned in the backyards of radio and television stations, with the tires flat and almost swallowed by surrounding vegetation. A few were still in working condition, not as mobile units, but as fixed transmission cabins. The whole purpose of mobility was defeated. Did those vans ever travel through the unpaved roads of rural areas? There is some kind of megalomania in the minds of both politicians and consultants who impose

inappropriate technology on countries that cannot afford to maintain and sustain it.

Computer equipment has a limited life span; much more limited than radio equipment which can last 10 or 15 years, if not more. In less than five years computers have to be replaced, but long before that time is up their software has to be upgraded. Not because it doesn't work anymore, but because the market pressure is organized in such way that new software versions –often with very little changes in terms of actual functionality- require more sophisticated hardware, forcing changes of computers that otherwise wouldn't be necessary. Older computers become obsolete from one year to the next just because they can't handle the new software or they can't handle the new software or they can't communicate with other more recent models. How sophisticated should computers that are placed at new telecentres be, especially in rural areas with very little history and experience in handling ICTs? What percentage of the hardware and software capacity will be really utilized during the two or three years of lifespan of the equipment? Can the computers be repaired locally? Are spare parts available? Where can one buy a computer designed to last rather than to be replaced?

Unfortunately, the politics of development aid does not follow any critical path or reasonable criteria. Once funds have been allocated to a project, they have to be spent; even if it means buying inappropriate equipment. With major players in the development world, such as the Open Society Institute (Soros), the World Bank or USAID competing for territory and influence, we may not see things getting better soon; unless other international players such as IDRC, APC, IICD or OneWorld -better known by their substance than their funding resources- can positively influence the general trend.

“The Internet is now being driven strongly by commercial forces and the Internet sector in developing countries is now highly competitive, profitable and likely to flourish, with or without the help of donors. Sufficient demand for the Internet exists even in the poorest countries to make it a viable, indeed highly profitable, venture. If the market is ensuring rapid Internet growth, donors

and NGOs need to focus on ensuring access and benefits for the less advantaged<sup>25</sup>”.

### **Challenges**

The third non-negotiable condition for ICTs aiming at social change is the use of appropriate tools. Technology that is adequate to the needs of communities, not in terms of technical standards alone, but in terms of utilization, learning and adoption.

The tools are appropriate when the community develops a sense of ownership through a continuous process of “appropriation” of the project. This appropriation should not be understood as mere adoption of technology or the development of skills to handle hardware and software. The acquisition of skills is a very important step, but not final. Other issues are important: management, production of local content, research methods, training and outreach activities, to name a few.

Why use a Rolls Royce to drive to the corner store for bread when a bicycle will do the job just as well and be more sustainable? ICTs pushers do not seem to get this concept, in spite of the fact that it has been around since the fifties in the development world. The terminology of “appropriate technology” was born after decades of failures in huge development installations that became white elephants -useless and empty structures that were never put to work for the benefit of communities. There is a wealth of literature on the missed opportunities for development, and most has to do with top-down planning and large investments.

As a small community radio station would do, it may be reasonable to start a telecentre or a multimedia centre with the basic hardware and software, and observe within the following year or two if there is a real need to upgrade either the software or the hardware, or both. One advantage of new technologies is that you get a wider range of choices. Unfortunately very few planners or external advisors seem to look at them. Most are hooked to Microsoft and expensive Intel-based computers, and do not even consider, for example, the Simputer –a computer developed in India to sell

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<sup>25</sup> “The Internet and Poverty: Real help or real hype?”, Panos Media Briefing No. 28, April 1998.

under 200 US\$, or Linux –the free operating system which can make any computer perform as a server.

Nevertheless, for community radio stations converging with Internet, the needs might be more sophisticated. More speed, better connectivity and more memory and storage capacity are needed. It is now more convenient to edit and store radio programs digitally. Computers are of enormous help for laying out program grids and for limiting the manual handling of cassettes, tapes and CDs. Many small community radios in the Third World have already added computers to their equipment, thus improving the technical quality of their work. Others already have homepages with information on programming and even offer stored or live programs over the web.

Appropriate training for telecentre managers is at least as important as the establishment of a new community technology hub. Looking beyond hardware, Royal Colle and Raul Román found that most training offered to telecentre staff did not address the important issues:

“Training for staffs of telecentres is, to a large extent, focused particularly on operating the hardware and software of computers and telecommunications networks. Yet training can help telecentre personnel reach out to the community and strategically build a clientele that can make a telecentre demand-driven, which may be a key to sustainability. Skills like needs analysis techniques, marketing, methods for training potential users, production of software, and “value-added” practices address the kinds of access issues noted.<sup>26</sup>”



## LANGUAGE & CULTURE PERTINENCE

### Problems

Only five years ago, about 90% of the total web pages

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<sup>26</sup> Colle, Royal D, Román, Raul and Yang, Fang: “Access is more than hardware: building a constituency for telecentres”. Cornell University.

accessible through the Internet were in English. Today, according to some studies, this proportion has been reduced to 50%. Of the 6 billion people in the world, only about 341 million speak English as first language<sup>27</sup>. Spanish is the mother tongue of 358 million people, but is represented in only 5,62% of web pages<sup>28</sup>. Though English is clearly not the most spoken language in the world, it is by far the most represented among the 500 million users of Internet, to the point that websites in many non-English speaking countries of Europe and the Third World are often in English.

However, the situation is quickly evolving. The Internet has been growing faster in Latin America than in the United States and Europe and over the past five years there has been a significant growth in the amount of Spanish' language content. This may be an optimistic signal for major modern languages, but what about the rest? Where in the web are the rest of the world's more than six thousand languages, and how many will disappear from the Earth before they appear in cyberspace?

In its present shape the Internet is a new form of Apartheid and has to change<sup>29</sup>. When I first used the word "Apartheid" for Internet around 1998 during an e-mail discussion, I received some interesting feedback. One participant bluntly asserted that anyone wanting to be part of this technological revolution had to learn English, because English was "the fluid" – the right blood that made Internet possible. It was his response to my statement that "the official language of Internet has become the new skin colour of cultural supremacy, cultural domination at its best". Things have been getting better since, but not to the point of making the World Wide Web a place for dialogue among cultures. It is still a very closed club, with privileged membership.

Language is only the tip of the iceberg. Culture is the hidden mass of it. The rich diversity of cultures in our world is not represented in

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<sup>27</sup> "Ethnologue" lists 6,800 living languages in the world. Chinese Mandarin comes first with over 960 million first language speakers, Hindi is second with 366 million, Spanish is third with 358 million and English is fourth with 341 millions speakers. (2002)

<sup>28</sup> Daniel Pimienta and Benoit Lamey: "Lengua española y culturas hispánicas en la Internet: comparación con el inglés y el francés", October 2001. At <http://funredes.org>

<sup>29</sup> Alfonso Gumucio Dagron: "Internet: the new Apartheid?". At <http://www.devmedia.org/Papers.cfm?docid=225>

Internet and the World Wide Web. Moreover, the expansion on Internet under its current shape may be contributing to the annihilation of under-represented cultures. As a report from IDRC points out:

“The content, language, class, and culture that dominate the Internet can have negative effects by generating a uniformity of ideas, preferences, and world visions. The illusion of increased democracy and plurality produced by the interactive capacity of the Internet may be misleading if it, in fact, reinforces existing relationships of centralized control and domination in society.<sup>30</sup>”

It is difficult to measure the presence of diverse cultures in Internet, and some recent attempts are misleading and too subjective. For example, the fact that very popular *latin* singers or entertainment stars have an outstanding presence in Internet can't be an indication of cultural diversity. How much Ricky Martin, Antonio Banderas or Santana, artists known because of their success in the United States, contribute to cultural diversity?

The Third World is also inheriting a *culture* of the use of Internet. Currently, the “user culture” remains the same that has been popularised – or globalised, through the prevailing system. The following questions – which were formulated in respect to Latin America but could apply to any other context, remain unanswered:

“Beyond local content, is there anything ‘Latin American’ in the way the Internet is used? Are there designs, layouts, or links indigenous to Latin America? Are there particular Latin American navigation or surfing patterns? Is there anything special in the kinds of users, their age, gender, interests, or motivations that sets them apart from the community of users worldwide? In sum, is there any indication that the style of Internet usage is different in Latin America than in the rest of the world?<sup>31</sup>”

In fact, as Giovanni Sartori suggests, “despite its great potential to broaden access to knowledge and to further understanding, the Internet is becoming

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<sup>30</sup> *ibid.* Ricardo Gómez and Juliana Martínez: “Internet... for what?”

<sup>31</sup> Ricardo Gómez: “The hall of mirrors: the Internet in Latin America”. Published in *Current History*, Vol. 99 No. 634, p.72., 2000.

the place where small clusters of people get together to discuss shared hobbies or interests. In short, for some users, cyberspace is mainly a terrific way to waste time.<sup>32</sup>

The language of Internet is not our language. Take for an example the English word “free” which has been corrupted and then projected by Internet to worldwide dimensions: *fat free food, free gift if you click here, free access...* As if the word had been created by merchants. Much better would be to use the word *free* for freedom. Freedom to take advantage of the potential of Internet for development and social change, freedom to choose the contents and the use...

If culture is in the soul of development and social change, how much more beautiful would be, for example, to witness the “Eight Art” emerge from Internet, something so new and innovative and culturally adaptable that can repeat the extraordinary feat of the other seven arts and truly help advance human values.

### **Challenges**

The fourth important non-negotiable condition for ICT projects in the context of development and social change is, therefore, language and culture pertinence.

Without the presence of local cultures, including local languages, there can be no possibility of ICTs contributing to the progress of communities. Language and cultural identity are at the core of any successful intervention with information and communication technologies.

History has taught us that it is healthy for cultures to mix and evolve through a process of dialogue and interaction. No great culture has ever remained “pure” and uncontaminated. Cultural interactions are responsible for some of the highlights of the advancement of humanity. However, the electronic age has made the terms of “cultural exchange” far too unbalanced, so uneven as those that characterise modern commercial exchanges. The rules of the game are dictated unilaterally. Cultures already weakened and divided are easily wiped out by the tidal waves of open

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<sup>32</sup> Giovanni Sartori, *Homo Videns* (Rome: Laterza, 1997). Quoted by Ricardo Gómez, *ibid.*



market. The vision of a world where everyone will have *access* to the same hamburgers and the same sweet brown bottled water is frightening, but it is also a determined trend.

To balance cultural interaction in cyberspace is not an easy task. Even if we get to a point where more web pages are produced with contents that are representative of our cultural diversity, we will have to make them “visible”. The web is more an ocean than a library. It takes a lot to “fish” the appropriate information, because the majority of the most popular search engines only bring up the pages that recently had many hits, not really the best pages on a particular topic. Many of the web pages that pop up first in the lists are commercial sites that have paid the search engines to appear in a better position. It is not easy for a website using a “marginal” language to be found, even by those who share the language, much less if the subject of it is culturally irrelevant to the current mainstream.

This situation will only improve if more and better local content is produced. We need hundreds of thousands of new web pages reflecting the diversity of cultures and languages, web pages that revive the memory of communities, their collective history, their artistic expressions, past and current. Community radio has had this role during the past decades, and that is why it is so important for new ICTs to piggyback on its experience. The convergence between radio and Internet provides useful examples on how to create local content, relevant to local needs but also to local culture, and provide this content in local languages. The Village Knowledge Centres in India, Kothmale Community Radio in Sri Lanka and Pulsar en Latin America, are a handful of experiences from which to learn.



## CONVERGENCE & NETWORKING

### Problems

Out of the blue, ICT projects are parachuted in places where there is no previous history of local participation in development initiatives, no convergence with other programs for development and social change or with existing community organizations or local grassroots media, and no networking with other ICT projects that share similar goals. Would it not be far more reasonable to always search for institutional alliances with

local organizations, with existing community media, with public libraries and schools, with projects that are already affecting the social, political and economic tissue of the society?

The establishment of ICT kiosks or telecentres as a vertical activity with no connexion with other initiatives has been questioned numerous times, but it continues to happen. "It is more beneficial to use ICTs to enhance existing practices than to promote new activities for the primary purpose of using ICTs. In this light, the creation of telecentres that are disconnected from existing community organizations and initiatives is unlikely to contribute to development.<sup>33</sup>"

The isolation of many ICT projects from others that are similar in their aims and perspectives may be one of the reasons for so many failures. We need to break the western concept of the isolated and closed relationship between the individual and the computer, and evolve towards the collective use of ICTs. Often, telecentre projects are just reproducing the pattern of individualism. There may be several computers and people in the same room but it does not change anything. From the point of view of sustainability it is crucial to think in terms of a larger community of networks of users with similar interests.

Various authors and organisations have evoked the risks of building networks that separate human beings and to establish patterns of communication that are mediated only by technology and not values, has been also evoked by several authors and faith organizations. "*Might the web of the future turn out to be a vast, fragmented network of isolated individuals – human bees in their cells- interacting with data instead of with one another?*" asks the Pontifical Council for Social Communication.<sup>34</sup> "*We must be sure that the virtual community is at the service of real communities, not a substitute for them*" adds the Anglican Archbishop of Canterbury, Dr. George Carey.

### **Challenges**

Convergence and networking are non-negotiable conditions for long-term sustainability. ICT projects that are converging towards other

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<sup>33</sup> ibid. Ricardo Gómez and Juliana Martínez: "Internet... for what?"

<sup>34</sup> Jim McDonnell: "Virtual Communities – a comment". Cine&Media, 3/2001.

communication projects such as community radio have better chances to succeed, because they will be inheriting a vast quantity of accumulated experience and a whole history of development and participation.

Similarly, initiatives of information and communication technologies that complement existing social development projects, for the same reasons above, are more likely to be accepted by the community and to strengthen ongoing activities aiming at social change.

This brings to mind several important examples of convergence between ICTs and existing local institutions or media. In Peru, ITDG is supporting the InfoDes project, which is converging with rural public libraries.<sup>35</sup> *Pulsar* in Latin America used the Internet to feed with news hundreds of community and indigenous radio stations. We have also mentioned Kothmale Community Radio in Sri Lanka, and the Indonesian network of twenty local radio stations linked via e-mail.

Convergence between radio and Internet is the most promising, however it will face different challenges in the Third World and in industrialized countries. As Bruce Girard sees it:

“It is clear that convergence will impact on broadcasters in developing countries in a very different way than in Europe and North America. While in the developed world there are predictions that new media and the Internet may soon become substitutes for broadcast services and distribution systems, in the developing countries this will not happen in the foreseeable future. Radio will continue to be the most important medium for the vast majority of the world’s inhabitants and television will continue to have a recognisable form in the first years of the 21<sup>st</sup> century.<sup>36</sup>”

Schools are another important platform for ICT development, not only because they exist even in the most remote rural areas of our countries, but also because in terms of skills, teachers and students are more likely to

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<sup>35</sup> More information on InfoDes in “Making Waves: Participatory Communication for Social Change”, by Alfonso Gumucio Dagron; and [www.infodes.org.pe](http://www.infodes.org.pe)

<sup>36</sup> Bruce Girard: “Converging Responsibility, Broadcasting and the Internet in Developing Countries”. [www.comunica.org](http://www.comunica.org)

adopt the new technologies. It is important, however, to ensure the interaction with the community as a whole, to avoid creating a closed structure for a small privileged group.

If what we are looking for is the strengthening of development for social change, the convergence between ICTs and development NGOs has enormous potential. Many have realized this and are already developing a handful of valuable experiences. We are not referring to NGOs equipping themselves with computers and connectivity to better perform their tasks; there is no major feat there. The real challenge is to use ICTs as another tool in the development work, as the M.S. Swaminathan Research Foundation (MSSRF) is doing in Chennai, India. The project goes far beyond providing computers and connectivity to poor communities: it has an important component of developing local contents in “value addition” centres, and enabling the users to easy access the information that really matches their needs. The Village Knowledge Centres is a good example, both of converging tools and networking on the local level.

These networks are being called “citizen networks”, though they may include much more than urban areas or citizens of a particular nation. This is how Steve Cisler defines them: “What are citizen networks? Internet technology projects that benefit people as citizens rather than as consumers; projects that help marginalized groups have more control over their existence and even give them a stronger sense of identity. Citizen networks are about inclusion and how the technology can be used for democratic goals and for economic development.”<sup>37</sup>

In the same article Cisler mentions Manuel Castells, who believes that in our increasingly globalised world community networks are a key element in building social institutions; Castells is positive about the growth of community/citizen networking in the 90's and envisions a global civil society interacting and acting through networks.

### **Last but not least**

I am aware of the potential of Internet for development because I am one of those privileged people in the world that: 1. Have electricity, 2.

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<sup>37</sup> Steve Cisler: “II Global Congress of Citizen Networks, Buenos Aires, Argentina.” December 2001 at [home.inreach.com/cisler/ba.htm](http://home.inreach.com/cisler/ba.htm)

Have a phone line, 3. Have a computer, 4. Have enough to pay for the service provider, and 5. Reads and writes English. However, I don't need just *any* kind of Internet, and that is precisely what we have now, any kind with little to do with the vast majority of people of the world. The same as for television, quantity seems to reign over quality.

It is becoming increasingly crucial to define communication projects for development and social change and to prevent the reigning confusion with commercial ventures. The five non-negotiable conditions above may facilitate the task.

