INFORMATION AND COMMUNICATION TECHNOLOGIES (ICTs) FOR POVERTY REDUCTION?

DISCUSSION PAPER

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I am hungry … if we had a computer we could have ordered food through a website …

PREFACE

When I phone to talk to our development partners in the West African country Benin, we are billed one Swiss Franc per minute. If our partners phone from Benin to Switzerland, the same call costs more than four Swiss Francs per minute, although the monthly income in Benin is much lower than in Switzerland. This is only one example of the dramatic digital divide that discriminates against poor countries and limits the access of poor people to information and communication technologies (ICTs). The digital divides, however, are also a reflection of underlying deeper social, economic and political divides.

An analysis of the economic and social – in addition to the technical – implications of ICTs is desperately needed. The new information and communication technologies have caused a revolution for whom? If the Millenium Development Goals 2015 are to be taken seriously, the contribution of ICTs to poverty reduction must become a major issue in the forthcoming international debate. This paper attempts to analyse the problems and potentials of ICTs used by people living in poverty, such as illiterate people, unskilled labourers, self-employed micro-entrepreneurs, subsistence farmers, women, people speaking minority languages, populations living in remote areas. We need more knowledge about the most conducive conditions for making ICTs an effective instrument for those in poverty to improve their own standard of living.

We share the vision of an inclusive global information society where everybody, without distinction, is empowered freely to create, receive, share and utilise information and knowledge for their economic, social, cultural and political development. This vision is shared by many participants in the World Summit on the Information Society (WSIS) preparation process. In order to translate the rhetoric of the information and communication revolution into equitable growth and sustainable development on a global scale, and to realise the potential of ICT to empower people, all stakeholders need to embrace fully new roles and responsibilities. The WSIS in Geneva, December 10–12, 2003, and in Tunis in 2005 are opportunities to take up this challenge.

Switzerland is prepared to mainstream ICTs in its poverty reduction efforts in international cooperation.

Walter Fust

Director-General of the Swiss Agency
for Development and Cooperation (SDC)

Front cover
Radio is by far the most popular and cheapest modern ICT. A woman in a longhouse of Sarawak (Malaysia), working and listening radio.

Back cover
Hammock and handy hardly have any meaning in the daily struggle of survival for this woman carrying firewood in rural Burkina Faso.

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Poverty is seen as the opposite of well-being. Beyond a lack of income, the multidimensional concept of poverty also refers to disadvantages in access to land, credit and services (e.g. health and education), vulnerability (towards violence, external economic shocks, natural disasters), powerlessness and social exclusion.

Information and Communication Technologies (ICTs) facilitate the creation, storage, management and dissemination of information by electronic means. This definition includes radio, television, telephone, fax, computer and the Internet. Four characteristics describe these modern ICTs: (1) Interactivity: for the first time ICTs are effective two-way communication technologies. (2) Permanent availability: the new ICTs are available 24 hours a day. (3) Global reach: geographic distances hardly matter any more. (4) Reduced costs for many: relative costs of communication have shrunk to a fraction of previous values.

Access to information is determined by (1) Connectivity: are the services available? (2) Affordability: can potential clients afford the access? (3) Capability: have the potential users the skills required for access? The users' skills relate to technical abilities, language and literacy. These requirements highlight the concern of gender equality in access, as in many countries women are among the most disadvantaged. The users' capacities matter, of course, not only when accessing information but also when transforming it into practical opportunities.

Information can be seen as a *Global Public Good (GPG)* in contrast to the attempt to restrict the access to, and use of, information by intellectual property rights (IPRs). Developing countries usually own little protected information; they mainly import information to modernise their economy and society. Such, IPRs lead to a tacit "taxation" of the developing countries in favour of the developed countries that runs counter to efforts at poverty reduction.

ICT applications in developing countries are often part of an overall strategy for economic growth, relying on the trickle down effect to those in poverty. The limitations of this approach are well known. Effective poverty reduction requires a more targeted approach. Four *alternative strategies for poverty reduction,* and their capacity to make use of ICTs are discussed:

- a production oriented growth strategy, including pro-poor corrective measures;
- the sustainable livelihoods approach, putting people first;
- a distribution oriented strategy, emphasising the redistribution of assets;
- a rights and empowerment strategy, promoting knowledge about basic rights and empowerment of people.

Main *challenges* in ICTs application for poverty reduction include:

- ICT applications are technologies and as such cannot solve political or social problems that are often at the roots of poverty;
- due to the requirement of "connectedness" (roads, power, telephone) most of the ICTs have an urban bias and discriminate against rural areas;
- the potential poor beneficiaries of ICTs are often unskilled, illiterate people, mainly women, who may also speak a minority group language.

The *impact of ICTs on poverty* differs greatly, depending on which technology is used. Radio and telephony are rather cheap; their use requires few skills while in terms of context and language, they enjoy great flexibility. Access, through radio, to relevant and timely information can make a difference in the sustainable livelihoods of people living in poverty. Empirical evidence about the fast developing modern ICTs, mainly the Internet, however, is still quite limited. The added value of the Internet to the poorest has yet to be conclusively demonstrated.

Basic *lessons learnt related to the use of Internet* are: (1) Those who live in poverty must define their information needs themselves in order to get relevant answers. (2) The information provided should be in the local language and, even better, originate from local sources. (3) The ICT component should be embedded in a broader effort of self help or external support. (4) Successful Internet applications for development often depend on individuals and their enthusiasm, competence and motivation.

The Internet has *indirect potential* for poverty reduction:

- ICTs can enhance the transparency and accountability of governments, contribute to an enabling environment of good governance and support the mobilisation and empowerment of people in poverty;
- well-embedded and targeted ICT applications, particularly in the export sector, may create additional jobs and revenues for those in poverty;
- the radio, particularly in rural areas, may function as an intermediary to facilitate access to the Internet, overcoming barriers of infrastructure, language and skills.

There can hardly be any doubts about the poverty reducing impact of NGO-led *global advocacy campaigns*. The impact of civil society as a countervailing power and the changing perceptions of poverty in the North may be less obvious. But the global campaigns, the upsurge of civil society as well as poverty perceptions are "children" of the Internet age and as such deeply influenced and stimulated by the medium of the Internet.

Recommendations for SDC's way ahead regarding *international cooperation involving ICTs*:

- SDC should intensify the *stock taking exercise* to identify ICT components in the current bilateral and multilateral programmes;
- based on the experience gained, SDC should start giving *mainstream attention* to the information and communication components of poverty and the appropriate use of ICTs in the bilateral operations;
- in *policy dialogue* with partner countries, SDC may consider insisting on an enabling environment (overall and ICT specific, including Poverty Reduction Strategy Papers, PRSPs) in view of pro-poor outcomes;
- beyond mainstreaming, SDC should continue to *strengthen the voices of those in poverty* in the international arena (multilateral negotiations, NGO advocacy, media) and to *support the empowerment of local institutions and networks;*
- in the framework of the World Summit on the Information Society, WSIS, and other multilateral negotiations, Switzerland should enhance *multilateral rules empowering developing and transition countries as well as people in poverty, strengthening their self determination* and enhancing their opportunities.

An antenna forest in Sousse (Tunisia)

2.1 Poverty

What is our understanding of poverty? For a long time poverty has been approached purely from an income-based perspective and has therefore meant lack of income. In recent years, however, the concept has been enlarged. Today, mainstream understanding of poverty goes beyond a quantitative and one-dimensional approach. A *multidimensional concept of poverty,* based on the voices of those living in poverty,[1] has emerged. Poverty is seen as the opposite of well-being, which includes more than income. Therefore, apart from the inability of poor people to meet basic needs, such as nutrition, clothing and shelter, the concept of poverty also refers to phenomena such as disadvantages in access to land, credit and services (e.g. health and education), vulnerability (to violence, external economic shocks, natural disasters), powerlessness and social exclusion[2].

- *Income gap:* This remains one of the core issues in the reduction of poverty. 1.2 billion people live on less than US$ 1 a day and 2.8 billion on less than US$ 2. Raising the level of income is the main goal in many efforts to reduce poverty. ICTs projects are very often seen as providing additional sources of income. This can lead to diversification of sources of income, which again may be relevant for a reduction of vulnerability.
- *Lack of assets*: "Lacking assets is both a cause and an outcome of poverty [… and] low assets and low income are mutually reinforcing […]. There are powerful complementarities across assets – the benefits of one asset can depend crucially on access to another"[3]. In practical terms, assets include a variety of physical and intangible things like land, infrastructure, services. The denial of access to assets leads to a low level of productivity, missed opportunities, weak health and a low level of skills. Regarding ICTs this means, access to technical equipment and structures – such as electricity, phone lines or computers as well as to markets, information and knowledge.
- *Vulnerability*: "Vulnerability" refers to external shocks, as well as internal conflicts. It includes the risk of being subjected to physical violence because of low social status, gender or ethnic identity. Poor people are more likely to be affected by economy-wide shocks and health- and nature-related risks. In this context, information can not only prevent exposure to risks (e.g. weather information for fishermen) but, in case of disasters, it might also help to get aid to the people more efficiently. When looking at vulnerability from an ICTs perspective, data protection and intellectual property rights, as additional dimensions of vulnerability, should be mentioned.
- *Powerlessness*: Powerlessness, in a national context, means that poor people often have neither a voice nor bargaining power in economic and political processes. It is, however, also a relevant issue on a global level: "International bodies make decisions which also affect developing countries – sometimes having major implications. However these bodies do not always consider developing country needs and take them into account […]. Often it is because developing countries – although present at meetings – lack the capacity to analyse issues, prepare positions, and advance their interests"[4]
- *Social exclusion*: Social exclusion has its roots in, and includes, marginalisation, isolation, alienation, humiliation. It may be aggravated by the deprivation of social capital, i.e. dislocated networks of trust and co-operation. Especially with modern ICTs, such as the World Wide Web, the term "networks" has gained new meaning. They facilitate the exchange of information among like-minded people and institutions enormously; one aspect of Internet-based projects is certainly the establishment of such networks. However, they not only satisfy needs for specific knowledge, they also cater for some of the personal needs for communication, which everybody has.

Who are the poor? We know quite a lot about who is more likely to be poor than others. When considering the potential and limitations of ICTs for poverty reduction, people who are part of one or several of the following groups, or who share their key characteristics, are to be targeted:

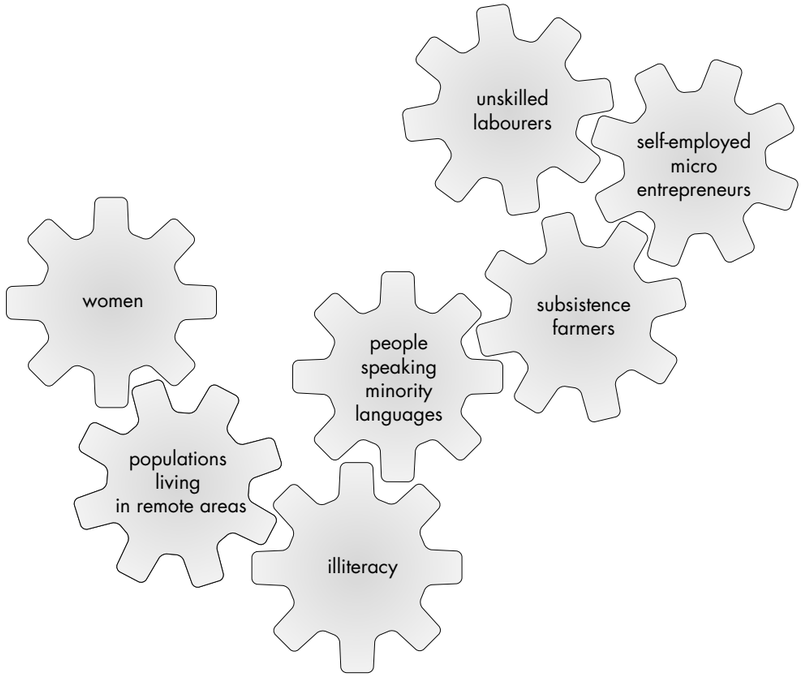

Figure 1: Key characteristics and typical groups of people living in poverty.

2.2 Information and communication technologies

As with poverty, there is not one agreed definition of ICTs. In the *ongoing discussion,* three different approaches can be identified:

- a *technical* one (i.e. the production and provision side);
- a *content* based approach (referring to the industries and organisations that create the information);
- the *user* side (focusing on diffusion and utilisation).

In 1998 the Organisation for Economic Cooperation and Development, OECD, adopted an activity-based definition of the ICT sector and defined it as an industrial sector[5]. This definition allows for international comparison, but is too restrictive in the development context, since it focuses exclusively on the technical approach and "excludes the industries which create the information, the so-called "content" industries [and is] limited to those industries which facilitate, by electronic means, the processing, transmission and display of information"[6].

Very often people associate ICTs with computers, the World Wide Web and the Internet. While the term certainly attracted attention because of these, ICTs still *refer to any artefact, technique or knowledge used to create, store, manage and disseminate information,* it is simply "lending old technologies new relevance"[7]. It therefore includes such things as radio, television, video cameras and telephones. "In principle, ICT has always been available. The only difference is that in this era, rapid advances in technology have changed the traditional ways in which information was processed, communications conducted, and services that are available"[8]. In line with with the UK's Department for International Development's, DFID's, definition of ICTs, this paper will focus on ICTs that use electronic means for information creation and handling. Therefore, traditional print media are also included, though they generally do not get very much attention. However they are "vital both to the spread of information and to fostering participation and diversity of views in society"[9].

What is new? Four characteristics describe the modern ICTs: (1) *Interactivity*: for the first time ICTs are effective two-way communication

technologies. The flow of information can be interacted with, information is no longer only received, but it can be created and offered more easily. (2) *Permanent availability*: the new ICTs are available 24 hours a day. (3) *Global reach*: geographic distances hardly matter any more. (4) *Reduced costs*: for many people, costs of communication have shrunk to a fraction of previous values and are relatively cheap.This allows for new opportunities for networking and new options for reaching set goals in a more efficient way[10]. Besides changing the ways of processing and exchanging information, the recent technical developments have also increased the available quantity of information enormously and created mechanisms for (re)distribution of information, which are mutually reinforcing. These mechanisms have also influenced the processes in, and the role of, print media. While, in many instances, the print media gather their information from the Internet, they nevertheless view their websites "not merely as an extension of the newspaper, but as separate entities with their own corporate culture and often a more progressive mode of operation"[11]. There are even instances when an on-line edition of a newspaper is the only way to disseminate information[12]. However, especially in a political context, the origin and quality of information presented on the Internet also has to be considered carefully[13].

In recent years, there has been an enormous *product diversification*, as well as *restructuring of the market* (privatisation, liberalisation, introduction of independent regulation[14]). "These technological advances […] have changed business operations and the way people communicate. […] Through this ICT has assumed an important place in the development of businesses, countries, and in the quality of life of people around the world"[15].

Since all this progress was much stronger in developed countries, ICTs are accelerating the differences, which are felt by rich and poor alike, opening up the *"digital divide"*. "ICTs disparities usually exacerbate existing disparities based on location (such as urban – rural), gender, ethnicity, physical disability, age, and, especially income level and between "rich" and "poor" countries"[16]. These differences can be felt within a single country (between different segments of the population) as well as between developing and developed countries. The term is therefore not limited to the differentiation of information "haves and have nots", but refers to a "complex, multifaceted set of issues that encompass information and technology issues as well as social and economic issues"[17].

Thousands of second hand spare parts for radios can be found on many markets as in Nampula (Mozambique)

As mentioned in the first paragraph of this chapter, there are different approaches to defining ICTs. The aspects discussed above are rather technical; they do not, therefore, do full justice to the "C" in the acronym. After basic physiological and safety needs, the "need to affiliate with others"[18] is considered to be among the basic human needs. The need to communicate, which can be assigned to this category, is certainly a key issue when looking at the use of ICTs, though it might sometimes be difficult to account for in quantitative terms. The other two core issues, as mentioned in the introductory paragraph of this part are questions surrounding the quality of the information transmitted, as well as the user side – will be discussed in more depth in the following chapter.

2.3 ICTs and poverty reduction

The role of ICTs in poverty reduction is not limited to reducing income poverty, but also includes non-economic dimensions. Therefore, both the *quantitative and qualitative aspects of poverty* are highlighted again: On the one hand, the lack of ICT equipment itself presents another quantitative criterion for measuring poverty (e.g. number of mobile phones or telephone lines), even though such indicators do not say how the existing infrastructure is used. On the other hand, the consequences of this lack of physical assets (which in practice means being isolated both from receiving and giving information in a modernising society) illustrate the qualitative sides of poverty. The lack of information is very prominent, due to its far-reaching implications: "poor people need among other things affordable access to information that is vital to their livelihoods"[19].

Access to information is determined by:
(1) Connectivity: Are the services available? (2) Affordability: can potential clients afford the access? (3) Capability: have the potential users the skills required for access?[20] The users' capacities are not only essential when transforming information into practical opportunities, but also when accessing it. The skills relate to technical abilities, language, and literacy. These requirements illustrate the potential gender inequality in access, as in many countries women are among the most disadvantaged. Depending on the type of information technology and their distinctive characteristics (resulting from the combination of the above mentioned criteria for access), barriers to access will vary greatly[21]:

- *radio*: by far the cheapest technology; requires little skills for the user; despite vast differences, it still has the highest penetration[22]; allows one-way communication only;
- *telephone*: higher costs, depends on functional network; requires little skills from the user; allows two-way communication;
- *Internet*: high costs; depends on infrastructure, such as a telephone network and software; requires numerous skills for the user (literacy, knowledge of relevant languages); allows two-way communication[23].

Apart from the technical criteria, the *mode of communication* is of great importance. Some people see the need for communication as a basic function of social interaction, therefore this need can be seen as a driving force for the development of ICTs. This also explains the use of, or preference for, different ICTs: "with regard to the Internet, email still is the "killer" application and functions in much the same ways as the telephone for basic human communication[24]."

Therefore, "ICTs are not just about technologies, but more about information transfer and communication"[25]. First of all they provide access to information; the technology employed is of secondary importance. This information has the potential to be used in changing the living standards of poor people and communities. In practice this may mean the creation of earning opportunities or improvement of access to basic services, for example in health or education. Hence questions surrounding the creation, the quality and relevance of information (i.e. what can be done or is done with new information, who created it[26]) are essential when looking at the possibilities of ICTs for the reduction of poverty. *Information*

becomes knowledge when a local context is added, i.e., if a link can be established between the information and the user's environment. At the moment, this link very often has to be made by the user him/herself[27]. Increasing sophistication of technical information is, however, starting new processes in this respect. *Local content* is a key issue in knowledge creation[28]. It is defined as "locally owned and adapted knowledge of a community – where the community is defined by its location, culture, language or area of interest"[29]. It is interesting to note that a community can also be held together by a joint interest; it is not limited to a geographical region. This is particularly relevant for new forms of networking, as they happen in discussion forums or online communities.

The *use of ICTs in poverty reduction, therefore, does not end once information is transmitted.* It needs to look at an individual's or a community's livelihood as well as their perceived needs and determine which information is relevant to poverty reduction. "The role of information in social and economic relations, how knowledge is acquired and people learn, and how knowledge can become an asset or economic commodity"[30] is not to be underestimated when looking at the use of ICTs. Technologies are not gender neutral. Therefore, the problems and potentials of ICTs for women merit special attention[31]. This social dimension tends to be neglected when dealing with complex technical matters. It has even been observed that, in projects where initially technology is used as an enabling tool, it becomes the core of the project[32]. This is mainly due to specific characteristics of ICTs, such as technological obsolescence and the increasing importance of software.

All activities undertaken at the interface of poverty reduction and the use of ICTs need to consider implicitly assumed sets of *values and beliefs*. "Technologies developed in the West incorporate particular social and cultural assumptions that may not apply in developing countries"[33]. However "for an information service to be sustainable, it needs to arise out of the socio-economic and cultural conditions of the country"[34]. This means that national, as well as organisational, realities need to be discussed by all stakeholders and be built into the project design[35]. If the three cultural competences are seen to be reading, writing, calculating (and aspiring to have computer literacy as the fourth)[36], information systems will be based on these. However, if they are seen to be something very different (e.g. healing skills, farming knowledge), information systems will have very different characteristics: "The poor rely mostly on the informal networks that they trust, such as family, friends and local leaders"[37]. Such fundamental differences are not only reflected by different information systems: "The poor use their limited resources in ways that reflect their reality […] The result is what often seem counterintuitive economic choices. In the Mumbai shantytown of Dhravi, for example, 85 per cent of households own a television set, 75 percent own a pressure cooker and a mixer"[38]. The influence of values is not only reflected in attitudes towards technology or the way economic priorities of poor people are seen, but also in the way the poor are viewed: "the poor have traditionally been seen as a problem for the government and aid agencies, not as an opportunity for business[39]."

An interesting question, in the context of values and information, is that of the value of information (and how this assigned value is expressed!)[40]. With the advent of the computer it became possible to make an unlimited number of copies of information without changing or destroying the original[41]. "For there to be a free society, any published data ought to be freely shareable – contrary to current copyright law and assumptions of "intellectual property" "Copyleft", in the popular usage of the term, means a copyright notice that permits unrestricted redistribution and modification, provided that all copies and derivatives retain the same permissions"[42]. In such a way, information is treated as a Global Public Good (GPG).

In contrast to the handling of information as a GPG is the attempt to restrict access to, and use of, information by *IPRs*. Societies that rely on imports of protected information pay royalties to the information exporters. Developing countries usually own little protected information; they mainly import information to modernise their economy and society. Such IPRs lead to a tacit "taxation" of the developing countries in favour of the developed countries that runs counter to efforts at poverty reduction. IPRs may provide a useful instrument to trade information among economically comparable countries. Less developed countries, however, should have the right to opt out of their Trade Related Intellectual Property Rights (TRIPs) obligations as members of the World Trade Organisation (WTO).

3.1 Overview

New strategic partnerships that cut across global, national and local boundaries are required to address the multidimensional challenges and opportunities of leveraging ICTs for development. The three main actors in the ICTs arena are the *government, NGOs, and the private sector,* plus new forms of partnerships among them. This has been recognised at the 56th General Assembly of the United Nations. In their two-day session on "ICTs for Development" the meeting "recognised the significance of *multi-stakeholder partnerships* for leveraging development with the use of ICTs"[43]. For these to be used for the benefit of the poor, a collaborative effort is required. The government, the NGOs and the private sector may act at the international as well as at the national level. Mapping the actors and levels of activities identifies key areas for the use of ICTs in poverty reduction:

Actor & level	International policies	National environment
Government	- multilateral negotiations - bilateral development cooperation - defining international standards	- setting/implementing regulations - managing flow of information - transparency and accountability to citizens
Civil society	- finding an identity as emerging global civil society - global advocacy networking - asking for multilateral forms of accountability	- participating in shaping national strategies and rules - national networking - promoting transparency and accountability of governments and corporations
Private sector	- lobbying multilateral negotiations - offering niches in production - defining international standards	- participating in shaping national strategies and rules - creation of income in ICTs production - corporate governance

Mapping actors and levels of ICTs & poverty related activities

Many of the activities can take place on all levels, depending on the main role that the respective actor assumes on a certain level (regulator, supplier or user of ICTs). For an *enabling environment,* the international policies and the national level are the most influential. For the Government of Bhutan – to quote a specific example[44] – a key element of an enabling environment to make use of the internet is to have the possibility to communicate in Dzongkha, the national language. The local level is that of use and implementation. It is important to note that the definition of the term "enabling environment" depends largely on the user. For certain stakeholders from the private sector, an enabling environment means something entirely different (free markets, international technical standards etc.), than for the government or an individual. (Refer to paragraph 4.1, which briefly discusses the support and demand driven approach, that also has implications for understanding the practical details of an enabling environment.)

3.2 The global level: multilateral institutions, rules and processes

Visions of an information (or knowledge!) society and their implications for strategies are as important as technical questions regarding bandwidth and international coordination in technical standards. "If the surrounding context for proposed innovation is not sufficiently analysed, and remedies for pressing economic problems addressed, many well-meaning efforts will have short lives and minimal results"[45]. In this context, not only the national governments are responsible for creating an enabling environment, also "the actions of developed countries and multilateral organizations will be crucial. Many forces affecting poor people's lives are beyond their influence of control"[46]. The multilateral institutions and networks

(such as the International Telecommunication Union, ITU, the United Nations Educational, Scientific and Cultural Organization, UNESCO, or the WTO) should offer a *platform and decision making processes that protect the interests of the economically and technically weaker countries*. This also applies to the Internet Corporation for Assigned Names and Numbers (ICANN) being a private corporation which is organising and surveying the Internet domain name system on behalf of the US Department of Commerce. The forthcoming World Summit on the Information Society, WSIS, in 2003 and 2005 are opportunities to improve the multilateral environment for harnessing ICTs for poverty reduction. Negotiations should include targeted support measures for remote regions and poor people in an overall enabling context that goes beyond mere liberalisation and deregulation.

The key issue for such an enabling environment is *awareness building*. Governments, as well as the civil society, need to be aware of the opportunities that ICTs can offer. In their study of international ICT decision-making, CTO (Commonwealth Telecommunications Organisation) and Panos Institute found that to "strengthen participation of developing countries in international ICTs decision-making fora without first strengthening their capacity to make and implement ICT policy at the national and regional level"[47] would not be meaningful. One example of an initiative that targets *capacity building* among leaders from the developing world is the Nonprofit Technology Leadership Program at the University of Washington. This enables senior officials – from the non-profit as well as the public sector – to study for a year in Washington together with students who will be going overseas with development organisations after graduation[48]. Indirectly, this also supports the third pillar of building developing country ICTs policy capacity: *strengthening national policy institutions and processes*[49].

There is a *variety of institutions* that take part in global decision making. Among these are long-established bodies, which usually consist of government representatives. However, a large number of new actors, representing the changes that have been taking place recently, such as ICANN, are increasingly influencing the debate. Their relevance depends not only on their functioning mechanisms and efficient delivery of contributions to the discussions, but also on their legitimacy. Furthermore, their field of interest and their members determine their standpoints. For a detailed discussion of international decision making processes and actors, refer to the CTO/Panos study, "Louder Voices", as listed in the bibliography (Annex 3).

3.3 Pro-poor elements for national ICTs policies

National ICT policies started to be developed in the early 1980s. The global network economy gave this process additional momentum and in the mid-1990s some countries adopted deregulation and privatisation policies that have enabled rapid growth and an increase in the communication network. National ICT strategies are based on a *national vision* of challenges, approaches and priorities[50]. They integrate the insight that liberalisation and market forces alone are not sufficient to have ICTs serve development goals. Depending on a country's view of the role of ICTs in their society, their strategies pursue objectives like making information technology accessible to the general public, increasing employment, building a knowledge-based society, establishing knowledge-based industries, or creating employment by ICT production.

Two basic overall approaches can be identified: *ICTs as a production sector or as an enabler of socio-economic development*. Within these, an external or internal focus provides a second set of strategic choices: export market focus or national capacity/domestic market focus; global positioning focus or development goals focus.)[51]. A number of issues derive from these approaches:

– in a globalised economy, a *global positioning focus* is needed in the long term. ICTs serve as enablers to take on opportunities and participate in the global economy. Networks and South-South cooperation are integral parts thereof. Furthermore, cooperation is necessary to achieve shared goals, for example in environmental issues;
– in order to achieve a holistic approach to poverty reduction, the *development goals focus* is of primary importance. National strategies need to be linked and an integrated approach, as it is promoted by Poverty Reduction Strategy Papers, PRSPs, is imperative;
– under favourable preconditions (such as a skilled labour force, high standard of education) an *export focus* can produce economic growth (as in India or Costa Rica); however, it has a limited impact on the domestic infrastructure and capacities. As illustrated in the pro-poor growth approach in paragraph 42, gains from national growth do not necessarily trickle down and benefit the poor;
- a national *capacity focus* creates diversified producer capabilities and is potentially better suited to local needs. If favourable elements such as a transparent legal framework, liberal entry, and reasonable pricing policies are created, the private sector has been found to be the "most effective in providing commercially viable communications services"[52].

For the purpose of this paper, a development goal focus is favoured and the other focuses will only be mentioned marginally.

As a second step, *strategies and instruments* should be defined for the implementation of these objectives. There need to be more specific guidelines, which can be verified by a set of indicators (such as the number of people receiving training, number of villages having Internet access). Following from these focuses, national ICT strategies usually cover issues like universal access to information, ICT infrastructure, human resources development, software production and applications, electronic commerce, and electronic governance. Options for strategies may focus on different areas:

- universal access to information: promotion of access on a community basis;
- ICT infrastructure: special provisions for remote regions;
- human resource development: promotional measures targeting women;
- software/applications: a framework to stimulate local language and content websites; to promote open source software, and low cost devices, suitable for users with low educational background;
- electronic governance: a commitment by government to respect the right to privacy (non-surveillance) of dissenters.

These focuses define the framework and the underlying approach to national ICT strategies. In addition to these more conventional objectives, *explicit pro-poor objectives*, such as the following, *should be included*:

- the creation of a pro-poor environment in ICT applications;
- the promotion equal opportunities for men and women.

Developing and transitional country governments – co-funded by donors – could consider the creation of a national *ICT fund for poverty reduction and gender equity*, as a support measure to enhance implementation of pro-poor objectives. Pro-poor elements should not only take a "do not harm" approach to ICTs strategies, but be proactive[53]. "If private industry were to be the starting point in the telecommunications sector, strong conditions and commitments would be required to ensure that supply also goes to rural districts and to the poor"[54]. It is up to the governments not only to provide a positive regulatory framework conducive to poverty reduction but also to actively promote opportunities for ICTs adaptation to local conditions (languages, content etc).

Ultimately, all successful efforts in the reduction of poverty are strongly influenced by the political will and the strategic framework of governments at the local and national levels. They create an enabling environment with the economic, legal and political framework they put into place. A pro-poor enabling environment cannot be limited to specific elements in the ICT strategy; it requires an *overall conducive environment for economic and political governance*, like

- rules and regulations favourable to micro-, small and medium enterprises (SMEs);
- freedom of expression and right to information[55];
- plurality of independent media;
- promotion of open source software for cost and security reasons[56].

Very often, however, macro-level policies of the governments work against effective use of ICTs (e.g. tariff structure on imported equipment, investment policies, restrictions in the publication of information). Furthermore, ICTs induce changes at a fast pace. Therefore, in order to work with them successfully, flexible and agile structures are needed. Apart from appropriate framework conditions, this can also mean new and frequently changing forms of partnership. A key experience is that "policy is vital. There are countless recommendations, but implementation is needed"[57].

4.1 Overview

When considering poverty reduction from the ICT perspective, either of the two issues can be at the heart of initiatives. Depending on the starting point (i.e. ICTs and using it to reduce poverty or poverty reduction using ICTs), two basic approaches can be identified: a *supply or a demand driven* approach[58]. These emerge from the different interests of the actors and are often closely linked to the core tasks of the respective organisations and institutions. Generally, technical institutions, such as the ITU, have a more supply driven approach. This focuses on providing the technology; the key issues are connectivity and access. On the other side, some donors and NGOs favour a more demand driven approach. Key issues in this approach are capacity development and knowledge sharing. This is a rather crude division, however it is reinforced by the fact that a number of private sector initiatives, which bring together various stakeholders, still reflect either of the two approaches, depending on their partners[59].

In very weakly populated Namibia wireless communication is of great significance

It has to be said, however, that *demand driven* efforts, which put the needs of the poor at the centre, can also have a very technical focus. In such cases, the needs that are formulated by developing countries' governments can look like "shopping lists". Therefore, it is important to be aware of the fact that sustainable poverty reduction is not achieved by short-sighted miracle cures, such as country-wide Internet access. The demands need to be worked out carefully, so as to be credible and useful over a long period of time. In order for this to happen, the people need to be aware of the possibilities that ICTs offer – also in "traditional" development sectors such as education, good governance, health, livelihood opportunities (especially agriculture) and environment"[60]. Many community telecentres have been started in rural Africa, with a high number of failures because they were too much technology driven to bridge the digital divide and not based on an analysis of demand[61]. On the other hand, the commercial and necessarily demand based cyber-cafés spread like mushrooms in urban areas of Africa.

Eradication of extreme poverty and hunger is the first of the *Millennium Development Goals* (MDG). The eight goals, which are commonly accepted as a frame of reference for measuring development progress, also target social and health issues. Most of them are mutually reinforcing and focus on reducing poverty in all its forms[62]. However "promoting opportunity – by stimulating economic growth, making markets work better for poor people, and building up their assets – is key to reducing poverty"[63]. This priority is also reflected in the percentage of ICT projects that focus on activities to strengthen access to markets and to improve the economic wealth of poorer populations. Thus they are direct means for achieving income poverty alleviation. Besides the promotion of opportunities, it is equally important to make use of ICTs to facilitate empowerment and enhancing security.

The multidimensional approach to poverty, as it is described in part 11, not only refers to the concept of poverty, but also to poverty reduction strategies. All of them are based on the vision of peoplecentred sustainable development, and *pro-poor human resource priorities*. The international dimension, in the sense of the integration of developing economies into the globalised economy, both enhances and limits the poverty reduction efforts. Poverty is found in a certain context (local, national or global) and as such reflects the respective beliefs and values. Poverty reduction strategies are intimately linked to the underpinning visions of economy and society and the differences among them reflect their respective points of view[64]. The various approaches to reducing poverty differ in their relevance for ICT based strategies. Market-based, *pro-poor growth* still puts creation of income at its centre, whereas sustainable livelihood approaches put people first. "A *sustainable livelihood* strategy means adapting to new circumstances – an essential part of this adaptation is identifying essential information. This may be [...] finding other people in the same circumstances to band together to become a movement that will lobby the government, or re-training to fit a completely new livelihood context. While ICTs are not set apart from any other development activity, they can be a tool to help create an informed livelihoods strategy"[65]. Projects targeting poverty reduction and involving ICTs may also influence the use and distribution of assets (*resources and redistribution*) as well as redistribution of political power and empowerment (*rights and empowerment*).

These four approaches to poverty reduction are now first described on a general level, then their relation to ICTs is illustrated with more specific information and finally some practical experiences are introduced. The basic *differentiation* in these approaches lies in the focus they have. They focus on growth, people, rights and resources respectively. Furthermore, the first two have a more integrated approach, while the latter contain some conflict potential. The different approaches can be viewed from both a complementary (e.g. when looking at their relevance in a knowledge based economy) as well as a competing perspective. However, keeping in mind what has been said before, they should merely be seen as *opportunities* for policy improvement and not as blueprints for success.

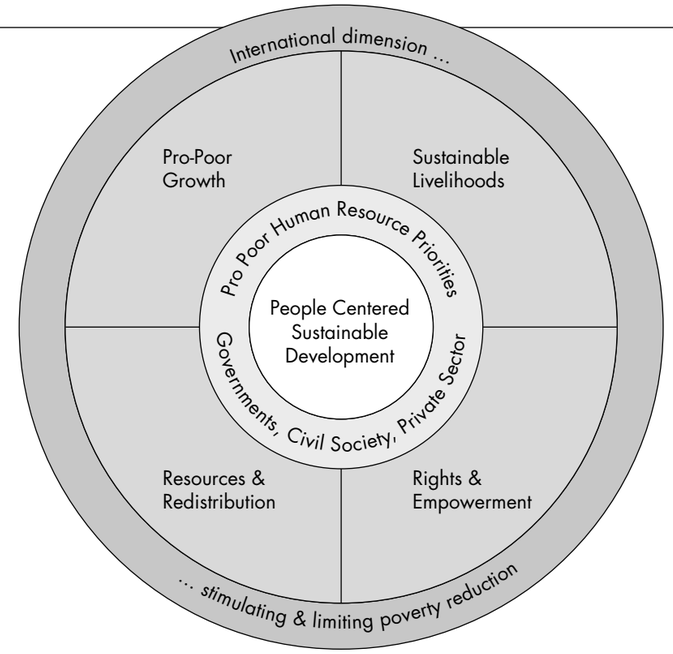

Figure 2: Alternative Approaches to Poverty Reduction Strategies

4.2 Pro-poor growth strategy

This strategy provides a modified version of the "orthodox" model of economic mechanisms, in which the growth process itself is seen to contribute towards reducing poverty and creating well-being. It puts *creation of income* at its centre and is very much an income-based approach to poverty reduction. In addition to (mostly labour intensive) growth, it includes social services, and safety nets, as well as a focus on women, rural development, and pro-poor tax structures, since it has been proven that the trickle-down effect alone is not enough to reduce poverty; poor people need to be supported with additional measures. This approach can be seen as a technical answer to a political problem.

Associated with ICTs: Developing country governments often prioritise access to ICTs as the background to their development strategy, which is oriented towards maximum economic growth. Despite some success stories[66], it must not be overlooked that these are rooted in special conditions (high educational level etc.) and that the trickle down effect of overall growth strategies to those living in poverty is limited. Therefore, an explicit and targeted pro-poor strategy in ICT applications is indispensable for tangible results. For this purpose, the national ICT strategy with pro-poor components, discussed above, is of crucial importance. On a more individual level, the potential use of ICTs for growth is as *marketing tools*, providing access to markets (e.g. information on prices, and promoting goods), leading to increased demand as well as enabling direct feedback for customers about offered products and their quality. Additionally, in the trend towards *knowledge based* economies, intangible assets gain importance and ICTs support their globalised, decentralised corporations. Furthermore, the ICT industry itself (i.e. the *production of hard- or software*) can create substantial economic growth, if skilled labour is available. In this case, the national strategy often focuses on ICTs as a production sector.

Practical experiences: Many successful stories that fall into this category of poverty reduction worked well for small enterprises, based on their specific needs. They mainly use the Internet as an additional marketing tool, giving them access to wider markets. The key field is the service industry. There are examples in the tourist industry (e.g. in the Kyrgyz Republic), which uses the Internet to provide information about a destination and offer its services[67]. Other examples are the selling of specific products, such as sandals. The initiators of this project highlight one of the core issues: "Our formula to effective use of ICTs is structuring the Project offline so that going online

will be of greater use"[68]. The Internet can also be used by groups to offer a number of similar products to a wider circle of customers. Part of such undertakings is ensuring quality among all the providers, as is done in the Virtual Souk[69], where all participants have to receive basic training in managerial, logistic, and technical skills: "Without the guarantee of sound services, the Souk will not be able to sustain a sound relationship with far-away markets[70]." However, many projects in this category have faced conflicts with restricting factors such as credit card facilities or reliable shipping service. It is important that these supporting infrastructures work or that alternative solutions, such as wire payment guarantees by local banks, can be found. Up-to-date market information on soaring cocoa prices is reported to have boosted farmers income in North-Western Cameroon. Within a short time, access to mobile phones and Internet spread in Mayuka, the heart of the Cocoa area, which turned into a knowledge economy[71].

4.3 Sustainable livelihoods strategy

Contrary to the previous approach, the sustainable livelihood strategy *puts people first*: people in rural areas, their assets, their needs, their aspirations, and also their constraints. The fundamental difference lies in the idea of a *radical departure from economic growth*. The approach is non-sectoral and reflects the cross-sectoral nature of survival strategies. The starting point of any analysis is the, usually underestimated, complexity of rural life. A few core building blocks like agricultural production, income diversification, or rural infrastructure are so far targeted in development cooperation. Furthermore, relational roots of deprivation, such as social exclusion, including marginalisation, isolation, alienation and humiliation gain special attention. Other issues are vulnerability (to external shocks and internal conflicts) and insecurity (the risk of being subjected to physical violence because of low social status, gender or ethnic identity).

Associated with ICTs: Since this approach focuses on people and their needs, the use of ICTs here is much more diversified, representing the widely varying needs of poor people. The key is to determine the crucial *information needs that have a significant impact* on the quality of the lives of the poor. Therefore, local content is the basis of this strategy. It goes without saying that the use of local languages has high priority. As well as using ICTs as a community (e.g. linking radio and the Internet or the construction of telecentres that facilitate access to vital health information), they can be used to satisfy personal information needs (such as keeping in touch with friends and relatives abroad). Furthermore, ICTs provide the opportunity to *raise the value of indigenous/local knowledge*, including new forms of IPRs.

Practical experiences: Reflecting the priority given to people, ICT projects using the sustainable livelihood approach often *target an entire community*. In Nepal, an Internet Radio Programme, which was designed to serve as an information resource to provide information about newer means of information to the public at large, succeeded in creating the feeling of a network without personal contacts[72]. In another project in India the entire community was involved from the beginning, illustrating the importance of the poor themselves defining their information needs[73]. This project succeeded in combining the poor's information needs with another crucial aspect – creating and *valuing local information*[74]. There are also some stories of success in which a specific group of the population have been targeted, such as young people and their need for health information[75].

4.4 Rights and empowerment strategy

When poor people have rights and choices, they are able to become engines of development. The rights based approach to development and poverty reduction emphasises the basic right of the individual to lead a decent life in dignity. In this sense, *development is about the fulfilment of entitlements and rights*. Both the rights-based and the sustainable livelihood approach are bottom-up strategies and insist on participation and local ownership. However, participation also imposes an often significant burden on the poor, which may be outweighed by benefits but is not necessarily. The redistribution of political power and empowerment aims at introducing social change, which puts a long-term perspective on poverty reduction, ensuring that it is sustainable. Such social change does not only need knowledge in order to happen, what is equally important is the organisation: "While basic legal knowledge is helpful, often the disadvantaged cannot assert their rights unless they are organised. Thus the notion of "knowledge is power" does not carry as much weight as that of "organisation is power"[76]. As has been said , ICTs do have a lot of potential for increasing the efficiency of organisations. This potential needs to be realised.

A Swiss TV-team filming an African worker digging ditches in Tanzania.

Associated with ICTs: ICTs have a key function in facilitating *transparency* and accountability (e.g. in public procurement procedures, in view of transparent allocation of resources, in electoral processes, or regarding environmental data)[77]. Furthermore, *consultation processes* can include a broader public (e.g. when setting out national strategies such as PRSPs). The former hierarchical structure of such consultation processes can be flattened and decentralised with ICTs. In this sense, ICTs can also support good governance not only with the transparency it makes possible but also by *facilitating decentralisation* and giving civil society the means to form *advocacy networks*. This enables people to gain access to decision making processes and to put crucial issues on the agenda of the decisions makers. Moreover, new possibilities for ensuring gender equity and equal access to education are opened up with *distance education*. However, ICTs can also be a powerful tool for *political disempowerment*. They can be used, for example, to survey political opposition and central control makes censoring or manipulation of information easier[78].

Practical experiences: It is not always the Internet that needs to be at the core of an ICT project, as is powerfully demonstrated by newspapers in Mozambique which are distributed by fax and, in Kenya, where a group of women used videos to raise their voices and *inform the decision makers about their needs*[79]. This experience also demonstrates that a project can develop its own dynamics and expand its initial goal – from informing others about their living situation to creating income by submitting information to television networks. Another promising example is how community radio broadcasters raised their voice against widows' oppression and other inequalities in Nepal[80]. There are also projects that show that *poor people are prepared to pay for some services*, if these substantially improve their situation. There are information needs that can generate income[81], though the fees may not always be adequate. Many other ICT projects focusing on rights and empowerment are long-term projects, especially when they are located in the *education sector*[82]. Such projects illustrate that, in spite of some promising ICT initiatives, it is still rather early to draw conclusions, because not many projects have been running for more than two years.

4.5 Resources and redistribution strategy

Such poverty reduction approaches aim to influence the use and distribution of assets (for more details on assets refer to paragraph 11). It has been found that *initial inequality is directly negatively related to economic growth*. A better distribution of assets to include the poor would not only increase their income, reducing poverty

directly, but would also increase aggregate growth. The *efficient management of resources* is as important as (re)distribution efforts. Especially when external circumstances, such as emergencies, demand an efficient distribution of goods, it is important that poor people are considered.

Associated with ICTs: The main goal of using ICTs in this poverty reduction approach is *economic empowerment* (for the individual as well as for the community). ICTs can be used to increase government revenues (to reduce aid dependency), by computer aided tax collection and administration[83]. Apart from increasing revenues, the ICTs' relevance lies in *managing resources* much more efficiently (e.g. humanitarian aid in emergencies) as well as in providing information about *access to resources* (such as micro credit, credit schemes, land allocation[84]). In an information based economy, where information is the most important asset, the distribution of information via ICTs is especially interesting, since it overcomes geographical obstacles. In this area, the resource and redistribution strategy overlaps with pro-poor growth, being one example that the various approaches do complement each other.

A modernized administration of the Value Added Tax (VAT) increases revenues for the Government of Mozambique

Practical experiences: Not all stories of ICTs for poverty reduction are successful. One failure was in Mozambique, where the attempt to install a more transparent process in land allocation failed completely[85]. This illustrates how closely the *question of power* and enabling environments is linked to this approach of poverty reduction. There are some lessons to be learnt: in all project strategies one should *look for win-win situations* for all stakeholders. Instead of causing open confrontation, more subtle approaches should be preferred. Open discussions are needed and one should not try to address power issues under the cover of technology. Power issues and questions of an administration's *efficiency* are also at stake when dealing with emergencies. There was one instance of a hurricane in Asia that devastated large areas, killing many people. The population was informed, by modern media, that a comparable incident in the USA caused not half as much havoc, due mainly to their government's inefficient alarm and aid management. Such emergency management is more complex when several providers of help are involved, as was the case after the earthquake in El Salvador. There an Internet site helped to coordinate resources provided by a number of international agencies and to keep everybody updated on the various activities[86].

4.6 International dimension

The form and depth of the integration of developing economies into the world economic order are causes of major policy debates and disputes, which will not be reviewed here. However, as described in paragraph 33, the focus of a national ICT strategy can be both national or global, both from a production point of view and from a development point of view. It is, therefore, to note that the nationally conceived poverty reduction strategies are also implemented in a globalised economic environment that both stimulates and limits the national efforts.

Worth mentioning in relation to ICTs and poverty reduction are the numerous *global advocacy campaigns on poverty focused issues* that NGOs have been running since the early 1990s. Campaigns on structural adjustment, on investment rules, on the trade regime, and on quite a number of projects (Narmada dam, Ilisu Dam etc.) were usually clearly poverty related and aimed at preventing a further deterioration of the living conditions of poor countries and the poor segments of their population. These campaigns, linking Southern and Northern NGOs and allowing targeted, timely and broad based interventions with worldwide media backing, could never have taken place in such a global manner without ICTs. NGOs often voiced concerns on behalf of the poor, having consulted them through their working relationship with community based organisations. In other cases, the NGOs of the poor were themselves leading the campaigns and using the Internet facilities extensively[87].

The rise of a *global civil society as a countervailing power* beyond single campaigns, which found its positive expression in the Porto Alegre Meeting, is again a consequence of the use of ICTs. Those NGOs of developing countries that have access to modern ICTs and sufficient analytical and research capacity, play a leading role in this global movement for justice and change. But it is still a rather small elite in the South, as it is in the North. It should be a concern to broaden the capacity for research and policy analysis in NGO partners of developing countries. An integral part of such capacity building would have to be the use of ICTs. For any NGO working in the advocacy area, the extensive use of ITCs is a *sine qua non* of efficiency and effectiveness.

Profound changes are taking place in the North in regard to its *perception of poverty in the South*. Whereas years ago authentic voices from developing countries were rarely heard in the media, today they are part of everyday life (television, radio, print media). "A broader range of views and voices from developing countries can be brought into the international debate on poverty and development, including the voices of the poor"[88]. This broadening of communication is largely based on the use of ICTs. It is difficult to evaluate, however, what is or will be the impact of these changing perceptions: stimulating solidarity or causing indifference due to the increased presence and masses of information[89]?

4.7 Interim assessment

In a number of countries, an *ICT industry sector* in hardware and software has emerged and contributes to economic growth and job creation. In so far as the benefits of growth trickle down to the poor, this phenomenon is relevant for poverty reduction. More important in relation to poverty reduction policies, however, is the *enabling potential* of ICTs for poor beneficiaries who are often – as mentioned above – unskilled, illiterate women, who may also speak a minority language. ICTs are tools for development and poverty reduction, not ends in themselves. As such, ICTs have an enabling potential,

- in political terms: they can enhance the transparency and accountability of governments, contribute to a positive environment of good governance and support the mobilisation and empowerment of the poor;
- in economic terms: well-embedded and targeted ICT applications, particularly in the export sector, may create additional jobs and revenues for the poor.

The impact of ICTs on poverty greatly differs according to the way in which *ICTs* are used. The positive impact of the radio and telephony for the poor is well documented[90]. These more traditional ICTs are rather cheap, their utilisation requires few skills and, in terms of context and language – they enjoy great flexibility. Access to relevant and timely information, through radio, can make a difference to the sustainable livelihoods of the poor beyond jobs and income.

The High-Tech City in Hyderabad (India) symbolises the hope for ICT-led job creation and growth.

Empirical evidence on the fast developing modern ICTs, the Internet, however, is still quite limited, leading us to speak of an "interim" assessment.

There are a few success stories of Internet use with a directly positive impact on the poor[91]. Basic *lessons learnt* related to the use of Internet are: (1) The poor must define their information needs themselves in order get relevant answers. (2) The information provided should be in the local language and, even better, originate from local sources. (3) The radio, particularly in rural areas, may function as an intermediary to facilitate access of the poor to the Internet, overcoming barriers of infrastructure, language and skills. (4) The ICT component should be embedded in a broader effort of self help or external support. (5) Personal issues have to be considered as part of the success, since it often depends on individuals and their enthusiasm, competence and motivation.

Despite being a powerful medium in developed conditions, the Internet faces serious *limitations* in broad based poverty reduction efforts. Even a collective access to Internet in village telecentres[92] shows low relevance and use of the Internet compared to other ICTs, particularly radio. Many forms of poverty may not originate from a lack of information but rather be a consequence of power relations in society. Moreover, access to relevant information is only part of the story; the road to income generation also requires enhancement of the skills and capacities of people. Charles Kenny expresses his scepticism that "the scale of the additional utility of the Internet to the poorest, above and beyond that which can be garnered through more basic ICTs, has yet to be conclusively demonstrated. … This must raise questions as to the advisability of embarking on large-scale Internet direct access as a tool of poverty relief"[93]. Because "in our rush to wire every village, we sometimes forget that already wide-spread technologies (such as community radio) could do a lot more to empower people with information and knowledge if we only encouraged their broader use. … Bearing this in mind helps to focus our attention on those areas where the international community can be most effective"[94].

In marked contrast to this cautious assessment[95], there can hardly be any doubts about the *poverty reducing impact of global advocacy campaigns*. The impact of civil society as a countervailing power and the changing perceptions of poverty in the North may be less obvious. But the global campaigns, the upsurge of civil society, as well as perceptions of poverty are "children" of the Internet age and as such deeply influenced and stimulated by the medium of the Internet. Using the Internet in such international coalitions has the advantage of operating in a context without barriers to its effectiveness.

5.1 SDC's commitment to poverty reduction

Poverty reduction is the *overarching goal* of Swiss development cooperation. It is anchored in the federal law on development co-operation and international humanitarian aid of March 19, 1976. The priorities are explicitly stated in Art. 5 of the law on development co-operation, as: "The development of rural areas; the improvement of the nutritional situation, especially through self-sufficiency in agricultural production; handicrafts and local, small-scale industries; the creation of new jobs; the restoration and protection of ecological and demographic balance".

There is, however, *no formal poverty reduction strategy.* Operational activities are based on dispersed provisions laid down in various policy papers, in reports of the government to parliament, and in country programme planning[96]. The thematic division "Social Development" is about to develop a mid-term strategy, 2002–2007, that focuses on the poverty reduction objective.

In its statement for the preparation of the World Summit on the Information Society[97], Switzerland *clearly linked ICTs and poverty reduction.* The WSIS should focus on:

- "ICT infrastructure for disadvantaged areas and people,
- large scale, poverty focused ICTs for development programmes,
- mainstreaming ICTs into national poverty reduction, health and education strategies".

"ICTs for Poverty Reduction" is the first thematic priority in the Annual Programme 2003 of the SDC ICT4D Division.

5.2 SDC's current ICT for development-programme

SDC has always considered knowledge as a core resource for development[98]. The rapid development of ICTs added a new dimension. Due to the drastically increased speed, interactivity and lower costs of communication, unprecedented potential for networking and information exchange emerged. Therefore, in 2000 *SDC created a new priority area* that deals with "ICT for development" (ICT4D)[99].

The SDC approach to ICT4D is based on the following three *key dimensions* regarding the role of ICTs in development:

➜ **providing access to relevant information**
ICTs can help improve the economic and social situation of people in poverty by enabling them to
- obtain relevant information on market prices, weather conditions, medical assistance, land and political rights as well as welfare or credit schemes;
- increase their competitiveness and market access;
- train themselves via e-learning, thus making them responsible for their own development.

➜ **giving a voice**
As a consequence of their poverty, people often lack an effective voice in public life and policy. ICTs help:
- to increase the voice and participation of the poor in the decision-making processes;
- to communities express their cultural identity;
- people assert their own rights and interests and pressure decision-makers to be more responsive to their needs;
- to increase the efficiency, transparency and accountability of governments and institutions;
- to promote local cultures and cultural diversity through local content.

➜ **facilitating communication and network building**
By facilitating a new level of "many-to-many" information, ICTs offer an interactive and decentralised platform that enables people to
- share knowledge and build networks;
- promote their interest and rights more efficiently;
- influence more effectively, rapidly and collectively political decisions that affect their lives;
- communicate more effectively, thus enhancing intercultural understanding.

The SDC ICT4D Division[100] (www.sdc.admin.ch/4d), focuses the support on four key areas[101]:

- strengthening the institutional and organisational basis for effective use of ICTs, especially by strengthening suitable networks and initiatives;
- using ICTs as powerful tools to be integrated into a broader development perspective as crosscutting concerns;
- strengthening the voice of developing countries in global policy dialogue and promoting the influence of disadvantaged groups and areas in national, regional and sectoral policies and strategies;
- empowering local institutions, networks and organisations in developing countries, facilitating South-South Cooperation enhancing local knowledge, capacities and local content on the Internet.

There is a considerable and rapidly growing number of SDC projects with ICT4D components in Latin America, Africa, Asia and Eastern Europe and in arrangements like, the Partnership with the Francophonie.

SDC also supports, for example , the UNESCO Multimedia Community Centre Programme, the Diplo Foundation (Internet Guide for Diplomats, Internet Training for Diplomats of Less Developed Countries (LDCs) etc.).

Beyond these programmatic dimensions, it may be worth mentioning that SDC makes extensive use of ICTs as a tool in its everyday work[102]: ICTs improve internal communication by easing the relationship between the headquarters and the great number of field offices, as well as among the coordination offices themselves. ICTs facilitate and broaden the processes of consultation and coordination and permit more rapid responses to needs of partners. SDC benefits from more efficient experience sharing with its collaborators scattered throughout the world.

5.3 Mainstreaming ICT4D-attention in SDC

At the international level, there is a growing emphasis on "mainstreaming" i.e. integrating ICTs into development programmes. SDC is involved in an OECD-DAC (OECD-Development Assistance Committee) key event dedicated to this theme, the OECD Conference in Paris, March 4–5, 2003. Within SDC, the ICT4D Division has started an effort to take stock and intensify the dialogue with general SDC programmes that have an ICT4D component. Based on a request by the Director–General at the 2002 Meeting of SDC Resident Coordinators, the SDC Operational Departments have compiled a list of the names of the ICT4D Focal Points at all SDC Offices worldwide. The ICT4D Focal Points will facilitate effective communication about mainstreaming ICT4D, enhancing synergies between the ICT4D related activities of SDC.

As a first step, SDC should intensify the ongoing *stock taking exercise* at the country and the institutional level:

- which of the current and planned bilateral and multilateral programmes have an ICT4D (radio, TV, telephone, fax, computer, Internet) component contributing to the programme goals?
- what are the respective objectives, who are the partners, what technologies are used, what experiences are made, upon whose initiative and ownership?
- what are the lessons learnt?

As a second step[103], using this issue paper as one of the tools, an SDC-internal process can be launched on the relevance, potential and limitations of ICTs for poverty reduction. Based on the experience gained, SDC may decide to start *mainstreaming attention to the information and communication components of poverty and the appropriate use of ICTs* in the bilateral operations and policy dialogue. In line with the existing SDC ICT4D Division Policy, mainstreaming ICTs concerns does not mean that ICTs should be used as a panacea in all the programmes but rather implies a crosscutting perspective to make sure that no ICT related opportunities are missed. Where applicable, this may include an ICT related analysis of PRSPs. As far as there are expressed needs by the partners and an attractive, *integrated context exists* in comprehensive cooperation programmes, SDC should be particularly open to:

- promote protection of indigenous knowledge;
- contribute to education, capacity building and connectivity for marginalised areas and groups;
- build bridges between supply and demand oriented approaches by ensuring information flows about innovative and appropriate (cheap, low skills requirements, low energy consumption, other) ICTs – like the simputer[104] – to SDC supported programmes;
- favour collective approaches and indirect/combined access to the Internet, using radio or phones as intermediaries.

International networking is core for NGOs. Photo: Ricardo Meléndez-Ortiz, Executive Director of the International Centre for Trade and Sustainable Development (ICTSD)

SDC should continue to:

- strengthen voices of people living in poverty (multilateral negotiations, NGO advocacy, media);
- support the empowerment of local institutions and networks in order for them to be aware of the possibilities ICTs offer and to participate in the (international) debate;
- contribute to the integration of development issues in "international organizations like the ITU, WIPO (World Intellectual Property Organisation) and the WTO. A development focus is notably lacking in most of these technical debates, yet their outcomes directly affect conditions of access to, and use of, information technologies across the globe"[105].

5.4 Building a coherent Swiss position

In international negotiations referring to ICTs leading up to the WSIS that will take place in Geneva on 10–12 December 2003, the Federal Office of Communications (OFCOM) in the Federal Department for the Environment, Transport, Energy and Communications (DETEC) takes the lead within the Swiss Government. As a member of the Swiss Delegation and of the Host Country Steering Committee (Comité Directeur) SDC provides development related inputs on Swiss positions.

SDC and the State Secretary of Economic Affairs, seco, share responsibilities in development cooperation. Their activities are both based on the law of development cooperation and humanitarian aid. They follow the same principles and implement identical legal objectives, in particular concerning poverty reduction. Whereas SDC as the lead agency and part of the Ministry for Foreign Affairs works on a broader set of development related areas, seco as part of the Ministry for Economic Affairs focuses particularly on economic issues. In order to arrive at a comprehensive picture of the Swiss experience in development cooperation, SDC should approach seco to share their experience to date and to support the forthcoming effort in mainstreaming attention for ICTs in development cooperation for poverty reduction.

A close coordination and cooperation between SDC and OFCOM as the WSIS lead agency and official ITU partner is required to promote a pro-poor Swiss position. An NGO coalition created a "Swiss Platform for the Information Society" with pertinent proposals for the WSIS declaration and action plan[106]. SDC should make sure that poverty concerns as outlined above become a priority for Switzerland and are part and parcel of a coherent Swiss position.

Case Study 1: Community based tourism in the Kyrgyz Republic

Summary:
Since 1999, seven local groups in rural Kyrgyzstan have started to offer services to visiting tourists, an activity promoted by the Swiss NGO Helvetas. The primary aim of this Community-based Tourism (CBT) is to improve living standards by generating income and jobs from CBT. Moreover, the CBT groups aim at cultural exchange and preserving the natural environment. In the promotion of the Kyrgyz Republic as a tourism destination, the Internet plays an increasing role. For the potential Western customers, ICTs are part of their everyday live. The Kyrgyz tour operator, Novi Nomad, (and others) places a particular focus on CBT to attract tourists from Europe and uses the Internet systematically, to complement other channels. Some of the seven CBT groups have a computer and are looking for access to the Internet to facilitate relations with tour operators, to inform them about their products, and to facilitate bookings for bed & breakfast tourists and other services they offer. The more remote the group is located, the greater the potential relevance of the new communication technologies.

Key issues:
- Pro-poor growth strategy for poverty reduction: targeted effort.
- ICTs, more specifically the Internet is used as additional mean to broaden income generation and strengthen existing initiatives.
- It shows the potential and relevance of new communication technologies in remote areas.

Source:
Communication from Richard Gerster.

Case Study 2: Information for development: The Pondicherry experience

Summary:
In southern India, ten villages have been connected by a hybrid wired and wireless network (PCs, telephones, VHF duplex radio devices etc.) in order to deliver knowledge electronically to people living in poverty. In so-called knowledge centres, which are provided by the community, timely and needed information is provided to all. The crucial issue is the quality and the creating of the information. Volunteer teams polled villagers to find out what information they wanted. Consequently, most information is collected and fed in by volunteers from the local community. It is in the local language (Tamil) and multimedia (to facilitate illiterate users). The people developed web pages and databases, with locally specific and relevant information regarding agricultural issues (seeds, fertilisers, crops etc.), market, entitlement, health care, weather etc. As a by-product they also publish a newspaper, which has become so popular that the Government uses it to publicise their schemes.

Key issues:
- Sustainable livelihoods approach in poverty reduction: Shows the relevance of local content, valuing local knowledge by giving it a platform.
- Is based on participation and local ownership by involving the local population from the beginning. They were asked to define their information need and the skills of the targeted population (language, content) were considered.
- Provides community access.

Source:
Subbiah Arunachalam, Swaminatham Foundation.

Case Study 3: Women's voices

Poor urban women using video to communicate their challenges, struggles, aspirations and their dreams

Summary:
The project strove to create a two-way information flow system between urban poor women and policy makers. In its pilot phase, it was implemented in three countries, Peru, Zimbabwe and Kenya; this analysis focuses on Kenya. In the pilot phase, a literature search (to understand the empowerment potential of ICTs for poor urban women) and the production of two short videos, "Telling Our Story", by two groups of previously selected women were carried out simultaneously. These videos were shown on several occasions, including a workshop that brought together key-organisations to discuss ICTs and poverty alleviation. The women are now actively involved in the documentation of their activities and participate in key events, such as Women's Day. Furthermore, they supply broadcasting stations with news items and development video clips.

Key issues:
- Rights and empowerment approach to poverty reduction: Significant short-term impact on both the powerlessness and social exclusion of the women involved.
- Women as specific target group.
- Adequate choice of technology, adapted to the women's education.
- Acquisition of new skills, which can be turned into income opportunities.

Source:
IICD stories; http://www.itdg.org

Case Study 4: A land licensing and planning system for Beira City, Mozambique

Summary:
Land Registry in Beira consisted of an incomplete and inconsistent paper-based collection of dusty volumes, detailing plot usage dating back over a century. No definitive map existed. Some showed groups of plots with duplicate or non-contiguous numbering systems and plots overlapp with others shown on different maps. These plots needed to be linked with information in the Registry (zoning: open space, industrial, residential; and their status: vacant, under development, built on). This process was sometimes difficult, providing insufficient information for both routine licences and long-term strategic planning. The aim was to digitalise the maps and computerise the Registry, speeding it up and providing better quality information. External consultants were responsible for the software development.

Key issues:
- Resource and Redistribution approach to poverty reduction: Land is owned by the state and is divided into plots according to a pre-determined plan and the political leadership found that this processing system was in its favour.
- Apathy of, and resistance from, vested interests.
- No transparent information was provided to all stakeholders.
- The external consultants never quite managed to rid the application of its bugs and operational shortcomings (e.g. quality of data that needed to be entered uniformly).

Source:
eGovernment for Development,
http://www.egov4dev.org/beira.htm#title

Accenture, Markle Foundation, UNDP:
Creating a Development Dynamic, Final Report of the Digital Opportunity Initative,
http://www.opt-init.org/framework/pages/contents.html, 2001

BDO	Building Digital Opportunities
CBT	Community Based Tourism
CTO	Commonwealth Telecommunications Organisation
DAC	Development Assistance Committee
DETEC	Federal Department for the Environment, Transport, Energy and Communications
DFID	Department for International Development
GKP	Global Knowledge Partnership
GPG	Global Public Goods
ICANN	Internet Corporation for Assigned Names and Numbers
ICT/s	Information and Communication Technology/-ies
ICT4D	ICT for Development
IICD	International Institute for Communication and Development
INASP	International Network for the Availability of Scientific Publications
IPRs	Intellectual Property Rights
ITDG	Intermediate Technology Development Group
ITU	International Telecommunication Union
LDC	Less Developed Country
MDG	Millennium Development Goals
MIBD	Multilateral Initiatives and Bridging the Digital Divide
NGO	Non-Governmental Organisation
OECD	Organisation for Economic Cooperation and Development
OFCOM	Federal Office of Communications
OKN	Open Knowledge Network
PC	Personal Computer
PRSPs	Poverty Reduction Strategy Papers
SDC	Swiss Agency for Development and Cooperation
seco	State Secretariat of Economic Affairs
SME	Small- and Medium-sized Enterprises
TRIPs	Trade Related Intellectual Property Rights
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNDEP	United Nations Development Program
VHF	Very High Frequency
WIPO	World Intellectual Property Organisation
WSIS	World Summit on the Information Society
WTO	World Trade Organisation

SDC-MIBD June 27, 2002

Consultancy Mandate for a Study and an Issue Paper on "ICTs for Poverty Reduction"

1 Introduction

SDC MIBD is in a process of reviewing and reflecting on the role of ICTs in poverty reduction. There are studies on this topic mainly from the ICTs or "ICTs for Development (ICTs4D)" perspective. The most prominent and recent example is the DFID Paper on ICTs and Poverty Reduction.

The consultancy study is intended to build on the existing studies and policy papers. However, the topic should be approached from the SDC context and perspective and using the poverty dimension rather than the ICTs focus as departing point. The main basis will be the *multidimensional poverty reduction approach*, including dimensions such as (as summarised in the poverty study by R. Gerster, mentioned below):

- *Income* poverty
- *lack of assets*, inducing a low level of productivity;
- *vulnerability* to external shocks and internal conflicts;
- *insecurity*, the risk of being subjected to physical violence because of low social status, gender or ethnic identity;
- *powerlessness*, having neither a voice nor bargaining power in economic and political processes;
- *deprivation of social capital* meaning torn networks of trust and co-operation;
- *social exclusion*, including marginalisation, isolation, alienation, humiliation, which highlight the relational roots of deprivation.

Therefore, a mandate will be given to Gerster Consulting. Richard Gerster has published several books on poverty and development issues. He was Executive Director of the Swiss Coalition of Development Organisations from 1992 to 98 and Coordinator for Development Policy from 1981 to 92.

The consultant will cooperate with the International Institute for Communication and Development (IICD). SDC has a partnership agreement with IICD for joint learning and activities in poverty focussed ICTs for Development. The consultant will also contact the related BDO (Building Digital Opportunities) Alliance through IICD, in order to promote synergies (especially with DFID).

GKP is in the process of analysing the ICTs and Poverty experience and approaches in the Asia Region. The consultants will contact the GKP Secretariat and the consultant of the Asia study. In addition, the July Issue of the GKP Newsletter July 2002 will focus on ICTs and Poverty. The publication will provide further useful information and links for the study.

The main cooperation partner at MIBD for this study is Gerolf Weigel.

2 The Mandate

A recent study of R. Gerster for SDC and the World Bank was the Study "Alternative Approaches to Poverty Reduction Strategies". Departing from core elements of this study, R. Gerster and his Project Manager Sonja Zimmermann will study the relevance, potentials and risks related to the ICTs in poverty reduction efforts in close cooperation with SDC-MIBD. The preparation for the Issue Paper will include the following steps:

- June-July 2002 — *Desk Study*: summarise, structure and prioritise information on latest studies, lessons and key programmes on ICTs and Poverty.

- August 30 — Review and discuss results in an *internal workshop* to be arranged in cooperation with MIBD. Joint development of key elements especially with regard to ICTs4D.

- September — Prepare a *Draft Issue Paper* as contribution to the SDC-IICD-BDO Workshop of the last week of October 2002 in cooperation/consultation with MIBD.

- October 21/22 — Presentation and Discussion of the results and questions at the SDC/IICD/BDO Workshop (1 Session of 2–4 hours within a broader workshop). Documentation of the discussion and conclusions (in cooperation with IICD/SDC, division of labour to be decided later).

- November — Finalise the SDC Issue Paper considering the results of the SDC-IICD-BDO in cooperation with SDC/IICD

- January 2003 — Printing the Issue Paper

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[1] Narayan et al 2000/2002; World Bank 2000

[2] SDC 2000; Gerster 2000

[3] World Bank 2000, p. 77

[4] CTO/Panos 2002, p. 5

[5] Voorburg Group on Services Statistics, Internet

[6] OECD, Internet

[7] Hewitt de Alcántra 2001, p. 8

[8] Adu, Internet

[9] DFID, p. 13

[10] e.g. budgets for the dissemination of information can be cut considerably when changing to e-mail as the main mean for information sharing within an organisation.

[11] Kalathil 2002, p. 1

[12] See also Kalathil, Boas 2001; Bieber 2001

[13] The Internet has had a clearly negative effect within the countries of the former Yugoslavia when it has been used to spread rumors and conspiracy theories […] The Internet also encouraged the distribution of unconfirmed reports, see Bieber p. 128

[14] CTO, Internet

[15] Adu, Internet

[16] bridges.org, p. 4, Internet

[17] American Library Association, Internet

[18] Atkinson 2000, p. 471

[19] The Courier 2002, p. 34

[20] ITDG, Internet; see also the more detailed criteria of "real access" to technology in bridges.org, p. 5, Internet

[21] Kenny 2002

[22] In 26 countries in South Asia and sub-Saharan Africa, on average, radios are found in 38% or rural and 65% in urban households and radio penetration has the lowest variation. Pigato 2001, p. 20

[23] Another interesting factor for the differentiation could also be the percentage of local content. Television has been found to "suffer from a lack of local content and is increasingly dominated by international programming", see Pigato 2001, p. 19

[24] Richardson, p. 6

[25] ITDG, Internet

[26] In addition to the above mentioned instances in a political context, it is interesting to note that in authoritarian states the promotion of the Internet is often closely linked with their motivation to promote certain information, see Kalathil and Boas, 2001.

[27] Some definitions explicitly include the receipient, e.g. Pigato "information becomes knowledge when it has been processed and understood by the recipient in a way that is useful and it is adapted to the existing knowledge base", see Pigato 2001, p. 3. In this case there are often key-people who act as "translators" of the information: Individuals who have specific skills (technical or language) search for information which they then feed back into a community. However this function can also be fulfilled by mediation organisations, which link community needs with technology, funding etc. Important is that the process is guided by the users.

[28] This is reflected by the fact that many organisations, such as the Global Knowledge Partnership, GKP, the Open Knowledge Network, OKN, feature local content as one of their key concerns.

[29] Ballantyne, p. 3

[30] ITDG, Internet

[31] See for many data and analysis Development Gateway on ICT & Gender
- http://www.developmentgateway.org/node/133831/browser/?keyword%5flist=277008&country%5flist=0
- http://www.itu.int/ITU-D/ict/WICT02/doc/
- http://www.wougnet.org/WSIS/genderstatement.html

[32] Baark 1998

[33] Baark 1998, p. 5

[34] Rosenberg, Internet

[35] One of the few organisations which explicitly states its values is oneworld.net – OneWorld values:
- human rights for all as enshrined in the Universal Declaration of Human Rights;
- sharing the world's natural and economic resources fairly;
- simple and sustainable ways of life;
- the right of every individual to inform and be informed, with access for all to the benefits of new technology;
- participation and transparency in decision-making;
- social, cultural and linguistic diversity.
See oneworld.org, Internet

[36] Helvetas 2002

[37] Pigato 2001, p. 5

[38] Prahalad 2002, p. 7

[39] Prahalad 2002, p.7

[40] E.g. when Helvetas says that "New date processing methods and representation techniques allow to present facts in a comprehensible way […] thus allowing for better founded decisions", it implies that decisions based on information are of greater value.

[41] Some go as far as saying without disadvantage for the creator of the information, however this is a rather controversial issue, as the ongoing discussion regarding intellectual property rights illustrates.

[42] Stutz, Internet

[43] SDC Internal note, June 2002

[44] On behalf of the Royal Government of Bhutan, the Orient Foundation and Swiss Development Cooperation an interdisciplinary team has been working for more than two years to make the Dzogkha script Windows compatible. See SDC, Eine Welt 1/2003, p. 24

[45] Hewitt de Alcantára 2001, p. 7

[46] World Bank 2000, p. 7

[47] See CTO/Panos 2002, p. 6

[48] Partners are: Ministry of Population Welfare, Pakistan; Naguru Teenage Information and Health Center, Uganda; Community Health and Midwife Department, Nepal; Tata Energy Research Institute, India; Provincial Social Welfare and Development Office, Philippines For more information about the programme refer to: http://www.cis.washington.edu/projects/edevelopment/ntlp.asp

[49] CTO/Panos 2002

[50] ICTs relevant policies go far beyond a national ICTs strategy. An in-depth analysis identified 25 policies of key relevance, ranging from telecommunication (de-)regulation to brain drain counter measures. See bridges.org, pp. 114–128, Internet

[51] Accenture, Markle Foundation, UNDP, Internet – examples of national strategies can be found in Appendix 3 of the document.

[52] Pigato 2001, p. 28

[53] It is well known that in the pharmaceutical field private industry is not investing in research for the poor due to lack of a relevant market. A similar question arises in the ICTs field: Why should ICTs industry invest in adaptations for developing countries?

[54] Adu, Internet

[55] In accordance to Articles 19 and 28 of the Universal Declaration of Human Rights

[56] China and India promote local software based on Linux, see: http://economictimes.indiatimes.com/cms.dll/articleshow?artid=24598339

[57] bridges.org, p. 9, internet

[58] An interesting correlation to the same question of supply or demand is also raised in the context of knowledge management. Thomas has found that one of the key factors of success in knowledge management systems is a demand driven approach. See Stewart 2002 for details

[59] For example Digital Partners, which emerged from the technology side, states the following: "We believe successful poverty-alleviation initiatives will be Internet-focused, scalable, catalytic, bottom-up and collaborative." Further information: http://www.digitalpartners.org/ideas_model_init.html#five

[60] IICD, Internet

[61] See Development Gateway http://www.developmentgateway.org/node/133831/

[62] Millenium Development Goals, Internet

[63] World Bank 2000, p. 1

[64] Gerster 2000

[65] Batchelor, Internet

[66] E.g. the software outsourcing industry in India employs some 100'000 Indian professionals developing US$ 3 bn of software a year for foreign clients (http://www.id21.org/society/s4brh1g1.html). Also the knowledge based economy of Singapore is a success story.

[67] For an elaborate description of Community Based Tourism in the Kyrgyz Republic refer to the first case study in Annex 1.

[68] See http://www.ecosandals.com/ for more details on the successful example is from Kenya, where a sandal production has developed into an educational environment.

[69] On the Virtual Souk a number of craftsmen from the Middle East offer handicrafts http://www.southbazar.com/

[70] IICD stories, Internet

[71] Jo Forster, BBC Correspondent, on Cameronn Cocoa Farmers' Sweet Profits, 25.10.2002

[72] The first programme was broadcast in March 2000 and consisted of different parts (talking about a web-site, explaining technical jargon and talking to experienced Internet users). Over time the format of the programme changed, live broadcasts were introduced and a radio quiz added. This increased direct feedback to the producers of the radio programme. It shows that two way communication (i.e. involving local people and giving them the possibility to influence a process) is also possible with less advanced technologies. It raises awareness and shows possibilities of modern ICTs without putting a computer into every village. For more information see: IICD stories, Internet

[73] See Annex 1, case study 2: Information for development: The Pondicherry experience.

[74] Another project which is based on the principle of valuing local knowledge it the Honey Bee Network, where information is collected, "ensuring that people don't become poorer after sharing their insights." Over the years a 10'000 entry database has been created by documenting innovations, traditional practices and outstanding examples of contemporary knowledge. For more information see: http://www.honeybee.org/

[75] Auntie Stella is an interactive website for young people of 13-17 years which aims to engage them in discussion and problem solving on issues related to reproductive health, covering issues such as pregnancy, HIV/AIDS as well as emotional changes in adolescence. It was originally designed as an activity pack and uses the question and answer format of problem page letters written to agony aunts. The questions are discussed in groups or worked on individually with the help of a series of discussion points. The website also includes detailed information, a glossary and a bulletin board. So far the site has been used by students at telecentres around the region, as well as a resource for teachers. For more information see: http://www.tarsc.org/auntstella/index.html

[76] id21, Internet

[77] ICTs offer options in particular in the fight against corruption as Transparency International has highlighted.

[78] China may be the most prominent example. Amnesty chronicles how the Chinese authorities have introduced scores of regulations, closed Internet cafes, blocked e-mails, search engines, foreign news and politically-sensitive websites, and recently introduced a filtering system for web searches on a list of prohibited key words and terms. 30'000 state security personnel are monitoring websites, chat rooms and private e-mail messages. See Amnesty International, State Control of the Internet in China, ASA 17/007/2002, November 2002

[79] For a full description of the project refer to case study 3 in Annex 1

[80] The Fight of community radio for widows' rights was theme of a conference in Kathmandu, February 21–March 2, 2003, hosted by AMARC, the World Association of Community Radio Broadcasters.

[81] Legalpyme in Chile offers legal protection to SMEs through prepaid legal services. For more information about their services see: http://www.legalpyme.cl/

[82] For example a joint project between Albania and Macedonia, which aims at "raising cross-cultural awareness, fostering cultural outreach, and building network of young citizens in Macedonia and Albania that are cherishing cross-cultural understanding." For more information see: http://www.imor.org.mk/programmes/bridges/teenlife/

[83] For example the introduction of value added tax in Mozambique; technical assistance financed by Switzerland (seco).

[84] One example of the variety of such information on can be found under: http://gyandoot.nic.in/gyandoot/intranet.html

[85] Refer to case study 4 in Annex 1 for more details

[86] For more information refer to: www.terremotoelsalvador.org.sv

[87] E.g. Narmada Bachao Andolan, see: http://www.narmada.org

[88] See DFID 2002, p. 14

[89] Another feature is the seeming belief of knowing the phenomenon of poverty through so called second-hand knowledge from media, which at the same time promotes simple solutions – such as clicking on an Internet banner, which initiates payment from a global enterprise in order to fight famine.

[90] Kenny 2002

[91] See e.g. Arunchalam 2002

[92] For an evaluation of telecentres see: http://www.idrc.ca/telecentre/evaluation/nn/22_Buw.html

[93] See Kenny 2002, pp. 12–13

[94] McNamara, Internet

[95] For another critical interim-assessment refer to the article "The digital delusion", by Gaurab Raj Upadhaya as it has distributed in the AgBioIndia Mailing List on September 9, 2002.

[96] Gerster 2000

[97] WSIS Prepcom 1, Geneva, 1–5 July 2002. See http://www.itu.int/wsis/docs/themes/switzerland-e.doc

[98] SDC 2000 A

[99] SDC actually defines the focus as "Knowledge for Development through the use of ICTs", but calls the focus "ICT4D" for easier communication.

[100] The former SDC organisational unit "Multilateral Initiatives/Bridging the Digital Divide" has been replaced by the ICT4D Division (ICTs for Development)

[101] SDC 2003

[102] Mentioned as well in SDC 1999

[103] Similar recommendation in DFID 2002, p. 28

[104] The Simputer is a low cost portable alternative to PCs, developed in India, by which the benefits of ICTs can reach the common man. It ensures that illiteracy is no longer a barrier to handling a computer. The key to bridging the digital divide is to have shared devices that permit truly simple and natural user interfaces based on sight, touch and audio. See http://www.simputer.org

[105] Hewitt de Alcántra 2001, p. v

[106] Swiss Platform for the Information Society, http://www.comunica_ch.net


TARIFS EN BAISSE
-25%*
telecel
STRESS
en H.C et à partir du 1er noven