

A global overview of e-strategies – making the link with poverty and the Millennium Development Goals

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Executive Summary

This paper is about the connection between strategies to reduce poverty (and thus promote progress towards the achievement of the Millennium Development Goals) and strategies to maximize ICT benefit.

It reviews the evolution of ICT strategies region by region and analyses the connection between e-strategies and poverty reduction strategies. Many e-strategies recognize a social dimension but do not systematically address poverty and MDG goals. There is room to reinforce communication and connection between the two policy communities, dealing on the one hand with ICTs and on the other with poverty. One way is to ensure that organizations with a good appreciation of both poverty and ICT issues are involved in stakeholder consultation processes. But the review of e-strategies shows that action is also required on three fronts in order to move the ICT/MDG agenda forward through more comprehensive approaches and to add substance to the debate on ICT and development:

- Tools that can be used to measure the impact of e-initiatives on poverty targets;
- Addressing gender as of cross cutting importance to the achievement of most of the MDGs and therefore an essential component of MDG-focused e-strategies; and
- Research to identify the types of ICT investments that can best contribute to both growth and the alleviation of poverty.

A number of regional and international initiatives are identified that help make the connection between ICTs and the MDGs. The World Summit on the Information Society offers an unprecedented opportunity at the global level to focus the attention of ICT policy-makers and practitioners on the critical need to address the poverty agenda embodied in the Millennium Goals.

The paper concludes with a number of recommendations – in connection with the three issues highlighted above and others that emerge from the paper – to reinforce the ICT/MDG link.

A Global overview of e-strategies – making the link with poverty and the Millennium Development Goals (MDGs)

1. Introduction

The success of development initiatives in the first decades of the 21st century will be judged largely in terms of progress towards the eight Millennium Development Goals (Annex 1) adopted by all 189 UN Member States at the Millennium Summit held in New York in September 2000. Without denying the importance of economic growth, the MDGs place increased equity firmly at the centre of the global development agenda by targeting poverty, hunger, disease, illiteracy, environmental degradation and discrimination against women. More and more governments are adopting poverty reduction strategies (PRSPs) under the tutelage of the World Bank and the IMF and reporting progress to their own people and to the international development community.

A decade or more of experience with information and communication technology (ICT) for development initiatives, ranging from telecom policy reform, to health and education applications, to empowerment and governance, has produced many individual success stories. ICTs¹ can indeed help leapfrog development barriers on a small scale²; but replication has proved more difficult in the face of traditional constraints of human and institutional capacity and the lack of long term finance. Industrialized countries were the first to implement strategies to guide their transformation into information societies. Increasingly developing countries are adopting similar e-strategies in an attempt to obtain more development benefit from an increasing investment in ICT through focused and coordinated actions. The trend is growing, with the countries that led the way in adopting telecommunications and ICT strategies now revising their plans to take advantage of new opportunities (Korea, Malaysia, Singapore) and countries that were slower to appreciate the pervasiveness of the new technologies engaged in the preparation of their first plans (25 countries in sub-Saharan Africa are implementing their first e-strategies).

This paper is about the connection between strategies to reduce poverty (and thus promote progress towards the achievement of the Millennium Development Goals) and strategies to maximize ICT benefit. ICTs, like other new technologies, were valued initially in terms of their impact on economic growth. The contribution of Internet-based technologies to private sector growth, locally and globally, through increased productivity and innovation, will certainly help reduce poverty over time. But the search must be mounted for more direct and immediate ICT impacts on poverty reduction through strategic approaches that address policy, infrastructure, capacity, enterprise and content issues, in a coordinated fashion and linked to national policy goals³.

Today's generation of integrated e-strategies incorporates or builds on the restructuring and liberalization of the telecommunications sector and recognizes the social as well as the economic dimension of the ICT revolution. While the economic dimension will always be important, the challenge that the Millennium Development Goals pose to all

ICT actors, national and international, is to bring more balance to the e-strategy process by creating space for pro-poor ICT perspectives that can make a difference to poverty and quality of life within a defined time period: new thinking needs to be focused on how best to exploit ICTs to promote equity without sacrificing growth.

2. Outline

This paper explores the link between e-strategies on the one hand, and poverty reduction and MDG agendas on the other.

It uses the term e-strategy as a shorthand for policies and strategies intended to exploit information and communication technologies to promote national development. Other terms used to capture this phenomenon include ICT policy and IT policy.

The paper opens with a brief review of e-strategies in Asia, Africa, Western Asia and Latin America. It then focuses on the poverty dimension and looks at the connections that exist between e-strategies and poverty reduction strategies; the question is posed as to whether there is sufficient awareness among those working on poverty of the potential of ICTs to support poverty reduction goals, and, conversely, whether there is awareness in the ICT community of the need to direct thinking to pro-poor ICT frameworks?

The paper next identifies three issues as targets for further work to reinforce the connection between ICTs and poverty: measurement of impact; the gender dimension; and the contribution of ICTs to growth.

E-strategies often incorporate only limited approaches to monitoring and evaluation. Without the capacity to measure the impact of ICT initiatives on poverty reduction and equity, on health, education and other quality of life outcomes, arguing in favour of a poverty or MDG focus for e-strategies – or for the incorporation of ICT instruments in poverty reduction strategies - will be difficult.

The third millennium goal calls for the promotion of gender equality and the empowerment of women. Since women are widely acknowledged to be key also to the achievement of the other goals related to poverty, universal primary education and health it is difficult to escape the conclusion that e-strategies will impact only marginally on the MDGs unless they incorporate a strong gender dimension. The importance of gender is already widely recognized within the PRSPs.

More research is needed to identify the types of ICT investments that can contribute to growth; most ICT for development research has focused on socio-cultural issues rather than on economics. Some current research seems to suggest that ICT applications of broad public use may be one road to growth – strategies that promote applications of this kind also offer good opportunities for impacting on the MDGs.

Following consideration of measurement, gender and growth issues, the paper returns to a broader international and regional perspective to identify programs that provide promising opportunities for partnerships in support of ICT expansion or that encourage ICT attention to core MDG concerns.

It concludes with some specific recommendations to help overcome barriers to a stronger MDG dimension in the e-strategy process.

3. E-strategies in the regions

...Asia and the Pacific

Asia is home to about 75% of the world's poor most of whom, like the poor in all developing regions, live in rural areas. Asia is also home to the tiger economies which have led the developing world in harnessing ICT to national goals. Hong Kong, China; Macao, China; Singapore; and Korea have all reached the globally recognized universal service target, with 90% of households possessing a telephone⁴.

Singapore is implementing its fourth "e-strategy". From 1980 to 1985 it instituted a national computerization plan as part of a national strategy to overcome its shortage of natural resources and exploit its human resource base. This first plan focused on building capacities within the civil service. The second National IT Plan (1986 to 1991) used the network technologies that emerged in the mid-80s to spread connections to the private sector and professional groups through trade, law and health services. The vision was transformed in 1992 into a global vision of an intelligent island – IT 2000. The fourth strategic plan – Infocomm 21 – is intended to ensure that Singapore stays ahead of the technology competitiveness curve with a pervasive infocomm-savvy e-society.⁵

The lessons to be learned from the Singapore experience are as much of process as of substance. It is easy to forget now that in 1965 – when it split from Malaysia – Singapore was a poor developing country and today it is in a very different situation.

Korea, with its larger land mass and population, also applied policy measures to leverage information technology to transform its economy and raise living standards. Its current Third Master Plan for Informatization Promotion - e-Korea vision 2002-2006 – has a strong focus on information have-nots through the promotion of e-learning and e-work.⁶ In 1997, 1.6 million Koreans were on-line; today the figure stands at ten million.⁷

India⁸ has had substantial success in building its software capacity in high tech islands within the country to meet international market demand; it has implemented a number of State-level IT plans to encourage the spread of the new technologies. The government recognizes the challenges it faces in extending ICT facilities to all facets of human life and is thus engaged in a revision of its policies to spread the benefits to its domestic market by transforming public phone services into multimedia information centres, expanding training and the development of rural applications and promoting IT literacy.

The Asian region encompasses a wide range of e-strategy experience and is well positioned to begin to exploit that experience on behalf of an MDG agenda.

... Africa

E-strategy development in Africa began in the mid-90s under the leadership of the Economic Commission for Africa through its National Information and Communication Infrastructure (NICI) Policies and Plans (e-strategies) work. The NICI programme⁹ is part of a broader African Information Society Initiative implemented in collaboration with other development partners.

Plans have been developed in 25 countries and are underway in at least 12 others.

NICI is an iterative process involving determination of national development priorities, the preparation of a policy framework, the identification and detailed planning of appropriate programmes, resource mobilization and deployment, implementation, monitoring and evaluation, adaptation and further planning.

NICI plans are not limited to infrastructure but place equal emphasis on social and economic development applications. ECA promotes linkages between NICI processes and programmes aimed at the reduction of poverty – NICIs are to be based on PRSPs and supportive of efforts to achieve the MDGs.

Rwanda provides an example of one of the most comprehensive e-strategies developed within the AISI framework. The policy covers a twenty year period and contains three sections: the first identifies key development challenges and the global vision aimed at improving the quality of life of all citizens by enriching their social, economic and cultural well-being; the second identifies objectives in the main socio-economic sectors; and the third sets out key government commitments and programmes of action.¹⁰

While ECA has been instrumental in promoting an e-strategy framework in Africa strong national leadership is also evident in a number of countries including Mali, Senegal and South Africa.

...Latin America and the Caribbean

Some countries have managed to make strides towards the development of knowledge-based economies without putting in place an e-strategy framework. Costa Rica is a case in point. It has succeeded in positioning itself as an important location for ICT production and is the leading exporter of software per capita in Latin America.¹¹ It predicated its success on long term, sustained commitment to education, its political and economic stability and economic liberalization and its strategic approach to encouraging foreign investment. Responsibility for information society development is spread widely among different actors in society which it is thought will help maintain the strategic thrust.

Brazil instituted its information society programme in 1999 by a presidential decree which set aside funds within the national plan (2000 – 2003) to be managed by the Ministry of Science and Technology. The resulting Green Book – Information Society in Brazil – argues that it is government's responsibility to promote universal access and policies of social inclusion so that technological progress will have both quantitative and qualitative results in terms of human, ethical and economic development.¹²

The Organization of Eastern Caribbean States has commissioned an ICT Policy and Strategic Plan which aims to balance the short term requirements of expanding ICT applications to support connection to the global digital economy with longer term needs to build a local knowledge society. The nine policy areas identified include culture and national identity, citizenship and participation and quality of life issues as well as an enabling environment for business.¹³

Outside the Caribbean, regional frameworks do not appear to be as prominent as in Africa or, increasingly, in Asia. But some work is now underway to address the key challenges of the global information society for all developing countries in the region. A recent ECLAC document suggests attention, inter alia, to: national and regional information society programmes that integrate the interests of all stakeholders at local, national, regional and global levels; the promotion of tacit knowledge as a decisive competitive advantage; and targeted e-initiatives for the business sector, government, health, culture and education.¹⁴

... Western Asia

Countries in this region are moving quickly to expand access to the Internet and develop strategic approaches to connecting to the global information society.

Jordan places ICT firmly at the centre of national development. In 1999 the King launched an ambitious strategy aimed at positioning the country as the ICT hub of the region.¹⁵ The strategy gives priority to strengthening the human capacity base and the capacity of business to exploit it for economic, social and cultural development. The Ministry of Information and Communications Technology's Connecting Jordanians Initiative will create the conditions for Jordanians to go on-line. A first step is broadband access to the Internet for all learning institutions. The Government has made the innovative decision to opt – on cost effectiveness grounds – to build a private learning network rather than licensing existing services to deliver voice and data connections. The network will link initially the country's eight universities and subsequently schools and IT community centres. The Connecting Jordanians Initiative is part of a broader reform of the educational system aimed at creating more innovative and entrepreneurial skills.¹⁶

Yemen provides another example¹⁷. Although its present Information Technology Master Plan focuses mainly on the infrastructure and institutional issues in the ICT sector it also identifies a number of key government applications and proposes training mechanisms to meet the needs of the unemployed and high school dropouts. It marks the beginning of a process to formulate appropriate policy, legislative and regulatory frameworks.

The Economic Commission for West Asia has been working on the identification of priority issues in the region including the need for standardization measures to facilitate the wider use of Arabic on the Internet.

...Europe

Albania, Rumania¹⁸ and other South Eastern European countries are working to align their e-strategies with norms established by the European Union. Out of the e-Europe initiative has evolved an action plan, e-Europe+, tailored to the circumstances of countries that are candidates for EU membership. E-Europe+ requires political commitment from candidate countries to reduce the information society gaps that separate them from the rest of Europe.

Other examples of e-strategies will be identified later in the report in connection with specific issues. The important point to note here is that e-strategy work is expanding in all regions ; while poverty and MDG goals are not addressed systematically there are signs that social goals aimed at inclusiveness gain in importance as experience accumulates. Opportunities can then open up for regional action to reinforce the link. The penultimate section of this report looks specifically at regional mechanisms that stimulate the spread of ICT applications and tools to help achieve the MDGs, including the final target of intensified partnerships to expand access. The next section looks more directly at the link between e-strategies and poverty reduction processes and goals.

4. Exploiting ICTs for poverty reduction

A selection of poverty reduction strategies, national plans and e-strategies are reviewed here to seek signs of cross fertilization between thinking on ICT and on poverty.

...an ICT dimension in poverty reduction strategy papers?

Although they are still relatively few in number, nationally-owned poverty reduction strategies (PRSPs) are increasingly complementing national development plans to provide the framework for loans, grants, debt relief and technical assistance from the international community.

OECD¹⁹ recently reviewed existing PRSPs and national plans in order to identify the extent to which they included reference to ICTs as development tools.

IT and telecommunications are recognized in most of the national plans – often as instruments of industrial modernization (China) and economic growth (Cambodia) but also as tools for public service delivery (Chile), the reduction of corruption (Bolivia) or literacy and education (India). Of the 23 national plans reviewed only one (Uganda) made no reference to ICT.

The link is less widespread with respect to the 23 PRSPs in the study although an update completed in August 2003 suggests encouraging signs. Only four PRSPs covered by the initial study identified ICT as a strategic component of poverty reduction and addressed it independently: Albania, Gambia, Mozambique and Rwanda. The focus in the Albania strategy is on telecommunications reform; in Gambia, it is on service delivery to rural areas. Mozambique emphasizes the role of technology in enhanced productivity and the expansion of computers and Internet access to rural areas. Rwanda sees ICT as a means of transforming the country into a service-sector driven, knowledge-based economy. The ICT language is not always very specific and may not provide the basis for clearly defined activities – but it does recognize that ICTs can have useful application in poverty reduction – a necessary step towards detailed planning.

ICT – a cross cutting tool in the fight against poverty in Gambia

Research and development on information and communication technology applications in development is a major priority of government and has resulted in the setting up of a Department of State to that effect. ICT applications in health, government and communication in rural areas will be systematically explored as an adequate strategy to improve service delivery through the introduction of telemedicine, e-government opportunities and development of rural telecentres.

The Republic of Gambia, Strategy for Poverty Alleviation (SPAIL, PRSP), Department of State for Finance and Economic Affairs, April 2002

Of the other 19 countries covered by the study four include no reference at all to ICT in their PRSPs – Niger, Tanzania, Uganda and Yemen. Most of the others mention the telecom sector as an engine of growth or a factor for rural and agricultural development but do not explore broader social applications of ICTs. The concept of ICT as opposed to telecommunication is not much in evidence.

The updated study found that almost all recently completed PRSPs (in Azerbaijan, Cambodia, Cameroon, Chad, Ghana, Mali, Niger and Sri Lanka) did incorporate ICT as a strategic instrument in the poverty reduction process. Human resource development, transparency of government decision-making and monitoring of progress towards PRSP goals are widely recognized as areas in which progress can be made through the application of ICT.

...a poverty dimension in e-strategies?

Awareness of ICT potential to support PRSP goals appears to be growing. On the other side of the coin, are ICT strategists aware of the poverty dimension?

ICT, in the development context, is a means to an end, with the end defined in terms of national development goals. It is through integration within broader strategies that ICT programs have the highest chance of demonstrating value and establishing potential for replication. Because of the enabling or instrumental nature of the technologies, the responsibility lies with those developing e-strategies to demonstrate how their tools can be applied to pressing national priorities, including poverty reduction.

Benin, Kyrgyzstan and Sri Lanka are three countries where ICT strategies attempt to respond to poverty reduction goals and poverty strategies acknowledge a role for ICTs.

The Benin e-strategy²⁰ - Politique et Strategie Nationales NTIC – is positioned firmly within the context of Benin’s long term plan (Benin 2025 – ALAFIA) and the 2002- 2004 poverty reduction strategy. At the same time, Benin’s PRSP²¹ identifies ICTs as one of four areas of economic activity that will drive economic growth through the engagement of the private sector. Training programs and micro-credit will help the poor participate in ICT production. The Strategy also foresees an ICT role in increasing the quantity and quality of health and education services available to the poor.

The main objective of the National ICT Strategy in Kyrgyzstan²² is the establishment of an information society and the implementation of the National Poverty Reduction Strategy. Priority areas for action include public administration and local self government, education and e-commerce. The poverty reduction strategy²³ calls for the introduction of new technologies to promote government transparency. The privatization and restructuring of the telecom sector is expected to lead to expanded infrastructure and services throughout the country.

The e-Sri Lanka roadmap²⁴ presents a comprehensive vision for a five year period during which measures will be put in place that will permit the country to use ICTs as a lever for both economic and social development. It has a strong social reconstruction focus. The PRSP – Regaining Sri Lanka – Vision and Strategy for Accelerated Development²⁵ - includes sections on improving access to telecommunications facilities and Bringing Internet into the Countryside in a chapter entitled Creating Opportunities for Pro-poor growth.

In these countries poverty and e-strategies reinforce each other. Elsewhere e-strategies make reference to poverty alleviation as one issue to be targeted (Bangladesh’s strategy, for example, contains a section on agriculture and poverty) but most do not define broad-based strategies to incorporate ICTs into programmes aimed at poverty reduction or to the achievement of the Millennium Development Goals.

There are therefore cases where the ICT agenda is aligned to national poverty goals, and some planners addressing poverty issues are aware of the instrumental qualities of the new technologies; but there is room for closer connection between the poverty and the ICT communities working at the national planning level.

...connecting the communities

The problem of aligning different national strategy instruments is complicated by timing, organizational responsibilities and a host of other issues related to national priorities and competing demands on resources. In the best cases both poverty and e-strategies are developed through extensive consultative processes that aim to surface the interests of all sectors of society. The process of establishing complementarities needs to begin during

the processes of stakeholder consultation through deliberate attempts to incorporate civil society organizations working at the intersection of poverty and technology into both poverty and ICT planning processes. The Women of Uganda Network is one example of the kind of organization that could contribute to both sides of the discussion.²⁶

Within the e-strategies that have a poverty focus there is generally little recognition of the MDGs. The Foreword to the UNDP's 2003 Human Development Report asserts that the Millennium Development Goals are transforming development and that governments, aid agencies and civil society organizations are reorienting their work around the Goals.²⁷ More work is needed to make this a reality in organizations responsible for ICT policies and programs.

One way to make progress is to connect the communities, national and international, that are promoting information society programs with those, often within the same institutions, addressing poverty issues. This connection must be made in order to create fertile ground for the innovative solutions that ICTs might offer. The following sections suggest further work on measurement of impact, the integration of gender in ICT strategies and the economic dimension in order to strengthen the foundation for a more effective connection between thinking on poverty and ICT strategies.

5. Measuring progress towards e-strategy goals

Understanding of the impact of e-initiatives on poverty targets or growth will only improve when effective monitoring and evaluation mechanisms are incorporated in e-strategies. Many strategies pay only passing attention to the identification of indicators through which results can be measured.

There are exceptions. Brazil's Green Book – Information Society in Brazil - devotes considerable space to defining a methodology for the measurement of achievement. But even best monitoring and evaluation cases focus mainly on technology indicators rather than on indicators of impact of ICT initiatives on poverty, education, health, gender equity and environmental sustainability. Brazil proposes to adopt the INEXSK (infrastructure, experience, skills, knowledge) approach²⁸ which rates countries on 8 indicators: personal computers per capita; telephone lines; electronic product share of GDP; electronic consumption; technical graduates; literacy; Internet hosts per population; and TVs per population. The INEXSK index can be used to build country IT profiles and thus allow countries to situate themselves in relation to the rest of the world. Indicators that are primarily technological allow for easy comparison between countries that have reached a certain threshold of economic development. They are more useful to a country with a large economy like Brazil than to Malawi, Bolivia or Samoa. Their exclusive use within e-strategies may tend to mask the digital divide and draw attention away from pockets – which may be large - of information poverty. The Brazil strategy recognizes that more work is needed on indicators to measure the impact of changes in technical infrastructure, experience and skills on broader information society issues.

The Pacific Islands Information and Communication Technologies Policy and Strategic Plan²⁹ elaborates a set of indicators that goes beyond technology dimensions to include, for example, the number of parliamentarians using the Internet once a day, number of articles on ICT issues in the local press, number of community centres involved in ICT activities, number of ICT user group meetings, curricula reviewed for ICT content, teachers trained in ICT etc. It does not directly address poverty impacts but it goes well beyond technical indicators.

The definition of and agreement on ICT impact indicators in the areas to which the MDGs apply may well be urgently required as a prerequisite of serious attention to the MDGs within ICT strategies. Relatively developed countries – for example the countries of South East Europe (Albania³⁰, Rumania³¹) – can adopt benchmarks and indicators coming from the North, for example the regional guidelines developed within the e-SEE programme.³² Countries looking at using ICTs to tackle poverty as a core component of their e-strategies have as yet no point of reference with respect to data collection and the measurement of results. Buried in existing e-strategies are signals of the way forward that need to be put on the table as part of a concerted international effort.

6. Gender in e-strategies

The World Bank recently commissioned a study to examine the extent to which gender considerations were incorporated into Bank-supported ICT projects³³. One dimension of this study examines gender focus in national ICT policies with a view to identifying impact on employment, entrepreneurial opportunities and political participation by women.

Policies were characterized as infrastructural (telecommunications), horizontal (the social aspects of ICTs – freedom of information, pricing, privacy, security) and vertical (education, health, tourism, labour, industry). Little evidence was found that gender concerns had been taken into account.

The study concluded that if gender was largely invisible at the policy level it was unlikely to be dealt with at the implementation stage.

The e-Korea Vision is an exception to this somewhat discouraging picture. As well as many initiatives to provide ICT opportunities to disadvantaged groups it includes measures directed specifically at women.

Korea: Taking measures to raise the participation rate of women in economic activities to meet the average level of OECD member countries

The government will provide support for employment and small business startups in the IT field, and complete the online IT education system for women by 2006 by developing programs which can be readily applied to the IT industry. To promote the startup of small businesses by women, the government will develop new training programs and search for new industries and knowledge-intensive fields.

e-Korea Vision 2006, p29

The message of the World Bank study is that e-policies and strategies that do not focus on the gender issue are not gender neutral in their implementation – they tend to reinforce existing social and economic structures which inhibit the full participation of women, as the following example demonstrates.

Grameen Telecom's Village Phone – Case Study

The concept of "universal access" is not gender neutral. In the case of Bangladesh, the gender of the Village Phone operator and the physical placement of the phone within a gendered village context can either inhibit or improve women's access to phones. A woman's home provides a space that is acceptable for other village women to access. From the standpoint of revenue generation and profitability, it is important to ensure that the Village Phone is fully accessible to the entire village population: if 50% of the user base faces obstacles to phone use, then a significant revenue stream is lost.

<http://lists.isb.sdnpk.org/pipermail/cyberclub-old/2000-March/001367.html>

Engendered e-strategies require data. Systematic use of the ITU Gender Aware Guidelines for Policy-making and Regulatory Agencies will increase recognition of gender as a legitimate cross cutting principle in ICT strategies rather than as a subset of disability and marginalization which is how it is often addressed today.³⁴

In arguing in favour of the incorporation of gender in e-strategies, the importance of gender equity to the achievement of the Millennium Development Goals needs to be emphasized more than it is at present.

7. ICTs, poverty and growth

Social science research on ICTs has tended to address application level issues rather than strategic ones and to focus on cultural and social rather than economic impacts. Research, across countries and regions, is needed to clarify the implications of the ever-widening application of ICT and to identify the policies that determine the most important ICT-development-poverty reduction linkages.³⁵

Even in the North, it has taken time to establish with certainty that the IT revolution has been the source of higher productivity and growth, as a result not so much of the

introduction of new systems per se as of the organizational changes that they entailed.³⁶ Given the relative paucity of data, the relatively small size of the IT sector in many developing countries and the time it takes for organizational change to take hold, it is not surprising that we do not yet have a clear picture of the economic contribution of ICT to development.

But examples of relevant research are beginning to emerge.

A draft World Bank study³⁷ indicates that the production and diffusion of ICTs has had a positive impact on economic growth, including in some developing countries. There are differences in degree of impact both within OECD countries and within East Asia where the studies were carried out. Cross-country findings elsewhere are rare because of lack of data or because ICT investments are too small to measure their impact on economic growth.³⁸ The study draws a distinction between countries that are ICT producers and those that are ICT consumers. It asks who are the actual winners in the ICT revolution and concludes that welfare gains are higher for consumer countries. It suggests, among other policy prescriptions, the need to develop information services for local use, matched to existing human capacity, institutional structures and policies.

This direction would seem to accord broadly with the conclusion of the Final Report of the Digital Opportunity Initiative³⁹ favouring strategies to capture the enabling qualities of ICTs and with the OECD position which favours spreading the benefits of ICT across the economy, in particular to service sectors which represent the biggest concentration of users, in order to garner network benefits.⁴⁰

Evidence is limited and by no means conclusive but there may be the beginnings of a consensus that it is time to focus more on content and applications, tools and services that meet broad popular demand – to develop the kind of technologies and applications that could support programs in the areas of education, health and women's empowerment and thus drive progress towards the achievement of the MDGs. The situation within and between countries varies enormously. Successful examples of the use of ICT to directly address poverty have not developed in isolation and carry their own conditions. Many countries that have been successful in their e-strategy approaches – Costa Rica, Korea are examples – have developed their ICT capacities on the foundation of substantial investment in education. The economic and social impact of the Grameen cell phone programme in Bangladesh was predicated on the widespread existence – prior to the introduction of the phones - of a micro credit network.

The Grameen experience has demonstrated that the strategic introduction of ICT can impact on poverty. Many more examples of innovative applications that work for the poor are required – and more effort to incorporate them into a broader framework through which to address the MDGs. If more investment can be drawn to applications of mass use (in primary education, in local languages, for example) more evidence will be available through which to evaluate the economic and social benefits of e-strategies and related programmes.

Such evidence from the ground will be necessary to further the debate between the ICT skeptics and those who are convinced that ICT can be a key ingredient of poverty reduction.

8. Regional and international foundations for an ICT focus on the MDGs

... regional initiatives

Perhaps because of the longer history in Asia of addressing ICTs systematically within a national development framework, regional vehicles exist there to exploit the region's knowledge and experience to promote partnerships and address the ICT/MDG link.

The e-ASEAN framework⁴¹ agreement was formulated by a high level private-public sector task force to facilitate interconnectivity and interoperability among telecommunications systems in the region thus promoting market integration and expansion. It has approved a number of private sector funded projects to demonstrate the benefits of the use of ICT particularly by small and medium size enterprises and by individual entrepreneurs.

The UNDP's Asia-Pacific Development Information Programme is engaged in a activities to assess the results of ICT experience in the region, to facilitate the integration of the millennium development goals, and to build a platform from which successful projects can be scaled up. Key among them are:

- A multi- country study to assess how to harness ICTs to address the key human development issues embodied in the MDGs (www.apdip.net/rhdr/overview.asp); and
- A study of community ICT projects in India aimed at defining approaches that will address poverty reduction and quality of life issues in the short term (www.apdip.net/projects/india.asp).

Promoting ICT for human development in Asia

The principal objective of this project is to reinstate human development at the heart of ICT deployment and initiatives. The project seeks to examine the following questions: how best can ICTs be used to bring about social transformation and development? What are the ways in which ICTs can be harnessed to best address the key critical concerns and sectors of human development - poverty eradication, healthcare, education, human resources and environmental management and economic development.

<http://www.apdip.net/rhdr/objectives.asp>

Africa too hosts programmes open up opportunities for expanded access to ICTs through partnerships that focus on areas addressed by the MDGs.

Operating as a network and based on local demand, Connectivity Africa will support research, development and innovative uses of information and communication technologies, particularly in education, health, economic and community development. The program will increase access and support the creation of local content for African communities, schools, health centres and libraries. Connectivity Africa will be managed at IDRC's African regional offices in partnership with ECA⁴².

The African Connection, NEPAD's communications arm, has instituted a host of services aimed at encouraging private sector involvement in ICT programs in the region. These include databases on laws, regulations and market trends and information on best practice technologies and services, investment and job opportunities and events.

In Latin America the Institute for Connectivity⁴³ is developing a series of case studies aimed at surfacing issues and lessons that are important for the region as a whole. The studies will document processes, projects and policies and their impacts. They will be designed to provide sufficient detail to facilitate the replication of specific activities and be written in language that is accessible to a wide range of practitioners. The results should lay the foundation for further work on the poverty impact of policies and strategies.

An innovative partnership model has evolved from Jordan's ICT experience⁴⁴. The recently-established Information Technology in Emerging Markets Initiative joins Jordan, the United Arab Emirates and Bahrain with Taiwan (China), Ireland, Bulgaria, Croatia, Estonia and Costa Rica in a network to exchange knowledge and experience in the ICT sector. The network hopes to exploit the similarities among the countries to help them build from each other's experience.

...global leadership from the United Nations

The United Nations family of organizations has since its inception provided technical assistance and advice to member States in their efforts to apply available information and communication technologies to strengthen administrative processes and improve both access to and dissemination of development information. These efforts intensified during the 1990s as the use of the Internet spread; they have accelerated further following the High Level ECOSOC Session in 2000 which debated the role of information technology in the context of a knowledge-based global economy. ECOSOC recognized both the potential of ICTs to advance development and the dangers of an increasing digital divide if ICTs were not placed squarely at the service of development. The sense that the global information revolution could be an innovative and powerful force for development encouraged the Secretary General to establish the United Nations ICT Task Force in 2001.

The UN ICT Task Force is itself a novel mechanism within the UN family of organizations. It draws its members from governments, civil society, the private sector and the UN all of whom are equal participants in decision-making processes. Members are supported by a panel of expert advisors drawn mainly from the private sector and

academia. The Task Force has significant convening power which enables it to focus attention on key ICT issues ranging from promising new technologies to broad poverty alleviation strategies to knowledge management needs within the UN itself. It operates through working groups and regional networks which extends its reach considerably. It is centrally placed to lead the UN in the development of partnerships to extend knowledge and understanding and encourage progress towards the global development agenda framed by the Millennium Development Goals.

UN organizations are members of the UN ICT Task Force – through the Task Force they share information and experience – but they also implement ICT programmes that respond to their particular mandates.

UNDP is the UN's main operational arm with respect to ICTs and development – a role supported by its decade-long history of involvement with Internet technologies, its network of national and regional offices, and its coordinating role at the country level. It is only relatively recently that UNDP has elevated ICT as one of its core practice areas. It too works through partnership with a multiplicity of stakeholders, including UN organizations, to mainstream ICT into sectoral programmes – with UNIFEM on gender, for example. UNDP focuses its efforts at the policy level; it delivers its programme through a network of global and regional ICT policy advisors most of whom are located in the field. UNDP co-chairs of the UNICT Task Force working group on e-strategies and has a particular contribution to make to ensure an MDG or poverty focus.

The World Bank Group has also recently reorganized its ICT activities into a Global Information and Communication Technologies Department (GICT) which brings together the private sector investment capabilities of the International Finance Corporation, the public-sector advisory and financing expertise of the World Bank, and the experience of the global donor-funded program InfoDev. It is thus well positioned to ensure that poverty reduction strategies take advantage of the instrumental quality of ICTs.

The specialized organizations within the UN system - in particular the International Telecommunications Union (ITU), UNESCO and the World Intellectual Property Organisation (WIPO) have all expanded their activities in response to the information revolution and the higher profile given to ICTs within the UN system. ITU for example is engaged more than it was in the past with social issues related to access to communications and telecommunications policy; UNESCO has always had strong programmes in support of the development of national information infrastructure and capacities but through ICT initiatives it has become more directly concerned with local issues; WIPO is now required to deal with urgent challenges related to intellectual property in an electronic age.

The Food and Agriculture Organisation, FAO, has also responded actively to the challenge of the new technologies. Because of its rural mandate and experience it brings valuable insights to the discussion of ICT and poverty.

Within this context of heightened attention to ICTs – globally and within the UN - the World Summit on the Information Society provides an unparalleled opportunity to concentrate the world's attention on the MDG/ICT connection. The UN ICT Task Force and UNDP are convening preparatory e-strategy meetings in Africa (Mozambique) and Asia (Kuala Lumpur) which will highlight the poverty dimension of e-strategies. With the UN Regional Commissions a WSIS side event will also focus on e-strategies and could be used to help countries incorporate an MDG dimension into their national ICT planning processes.

9. Conclusions

The international community clearly recognizes the importance of developing a stronger poverty focus in e-strategy work. A number of steps can be taken to strengthen the link at the national level.

- Civil society organizations, working directly on poverty issues and increasingly appreciative of both the benefits of working with the Internet and the constraints imposed by national ICT policies, can be actively engaged in both poverty and ICT policy processes.
- The ICT dimension of regional cooperation and integration programmes can be enhanced – regional integration can be a powerful motivator of appropriate e-strategies, and can be used to promote a poverty focus – at the same time integration will contribute to the development of larger markets and increase the prospect that some countries will realize their e-strategy visions of becoming ICT hubs in their regions.
- International organizations commissioning national ICT policy advisors can be more explicit about the importance of connecting with PRSP processes and reflecting the MDGs by including relevant language in the terms of reference that govern the work.
- Work on indicators of the impact of ICT on education, health, gender equity and other issues critical to the achievement of the MDGs needs to be speeded up and translated into tools that can be used by national ICT planners.
- The importance of gender as a cross cutting issue with respect to the MDGs needs to be clearly articulated and reflected in e-strategies.
- More research on the economic impact of ICTs in developing countries is required to support more feasible and achievable strategies.

Twenty years ago gender was at the margins of development thinking. It has moved closer to the centre through patient attention and through the establishment of mechanisms to ensure that a gender dimension was integrated in strategies and plans. The same kind of systematic and sustained approach will be required today to place poverty squarely at the forefront of the ICT for development agenda and e-strategy development processes. ICT policies that do not explicitly address poverty will not be poverty-neutral but will tend to reinforce existing divisions within society.

End Notes

¹ ICTs include traditional computers (and other devices like personal digital assistants and the simputer), telecommunications devices (like telephones, fax, satellite, radio, TV), and networks (like the Internet, private data networks, satellite communications, and fixed and mobile telephone networks)

²“Information and Communication Technologies (ICTs) have repeatedly demonstrated their potential for alleviating poverty in developing countries. In many instances, poor people have experienced benefits in the form of; increased income; better health care; improved education and training; access to job opportunities; engagement with government services; contacts with family and friends; enterprise development opportunities; increased agricultural productivity, and so on. However, in probably all cases, these experiences have arisen from highly focused and locally intensive pilot projects that were experimental in nature.” Information and Communication Technologies for Governance and Poverty Alleviation: Scaling up the Successes <http://www.apdip.net/projects/india.asp>

³ See for example Creating a Development Dynamic, Final Report of the Digital Opportunity Initiative, Accenture, Markle Foundation, UNDP, 2001

⁴ Broadband Korea – Internet Case Study; ITU March 2003 www.itu.int/ITU-D/ict/cs/korea/material/CS_KOR.pdf

⁵ William Hioe, National Infocomm Strategy and Policy: Singapore’s Experience, ICA Information No 74, June 2001

⁶ e-Korea Vision 2006, Third Master Plan for Informatization Promotion, Ministry of Information and Communication, Republic of Korea, April 2002

⁷ Jim Rohwer, Neel Chowdhury, Louis Kraar, The New Net Tigers, Fortune, 05/15/2000, Vol. 141 Issue 10, quoted in Randy Spence, ICTs, the Internet and Poverty Reduction (Draft), Background Paper: Discussion, Research and Collaboration, IDRC, April 2003, p24

⁸ www.indianembassy.org/special/itplan/itplan-intro.htm

⁹ www.uneca.org/aisi/nici/strategies.htm

¹⁰ www.uneca.org/aisi/nici/Documents/rwanpap2.htm

¹¹ Andres Rodriguez-Claire, Costa Rica’s Technology Strategy: Roots and Outcomes, Cooperation South, 2002

¹² www.socinfo.org.br/livro_verde/ingles

¹³ GOPA-Consultants, Final Report, ICT Policy and Strategic Plan, OECS, June 2002

¹⁴ Martin R Hilbert, Jorge Katz, Toward a Conceptual Framework and Public Policy Agenda for the Information Society in Latin America and the Caribbean, Division of Production, Productivity and Management, ECLAC, Santiago, Chile, October 2002

¹⁵ www.mop.gov.jo/page.php?menu_id=41

¹⁶ www.jordanembassyus.org/02022003004.htm

¹⁷ Sameer Mohsen, Information Technology Master Plan for Yemen, Yemen Telecommunication and Information Technology; Western Asian Preparatory Conference for the World Summit on the Information Society, Beirut, February 2003, E/ESCWA/ICTD/WG.1/CRP.14

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- ¹⁸ Government of Romania, Ministry of Communications and Information Technology, National Strategy for the Information Economy and the Implementation of the Information Society
- ¹⁹ Information and Communication Technology (ICT) in Poverty Reduction Strategy Papers (PRSPs) as of January 2003 (CCNM/GF/DCD/KE/A(2003)1/RD1); Examples of Information and Communication Technology (ICT) in National Development Plans as of February 2003
CCNM/GF/DCD/KE/A(2003)RD1/RD2 both prepared for the OECD Global Forum on Knowledge Economy, Paris 4-5 March 2003
- ²⁰ <http://www.strategiesntic.org>
- ²¹ <http://www.worldbank.org/poverty/strategies/index>
- ²² Information and Communication Technologies for Development in the Kyrgyz Republic, Bishkek 2002
- ²³ see endnote 21
- ²⁴ <http://www.esrilanka.lk>
- ²⁵ see endnote 21
- ²⁶ www.wougnet.org
- ²⁷ UNDP, Human Development Report 2003, Oxford University Press 2003, p. v
- ²⁸ Brazil Green Book, Annex ii, p 49
- ²⁹ Pacific Islands Information and Communication Technologies Policy and Strategic Plan, 2002
- ³⁰ <http://www.ictd.org.al>
- ³¹ Gov't of Rumania, Ministry of Communication and Information Technology, National Strategy for the New Economy and Implementation of the Information Society, 2002
- ³² http://europa.eu.int/information_society/eeurope/benchmarking/text_en.htm, <http://www.stabilitypact.org>
- ³³ Nancy Hafkin et al, Engendering ICT: Ensuring Gender Equality in ICT for Development, Draft for World Bank, 2003
- ³⁴ Gillian Marcelle, World Bank Digital Seminar Series, Washington DC, October 8, 2002
www.worldbank.org/gender/digital_divide/digitaldivide22.htm
- ³⁵ Randy Spence, ICTs, the Internet, Development and Poverty Reduction, Draft Background Paper, IDRC, April 2003, p. 5
- ³⁶ Jason Dedrick, Vijay Gubaxani, Kenneth L. Kramer, Information Technology and Economic Performance: A Critical Review of the Empirical Evidence; University of California Irvine; ACM Computing Surveys, Vol 35, No 1, March 2003, pp 1-28
- ³⁷ Contribution of ICT to Growth, Global ICT Department, The World Bank Group, June 2003
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- ³⁹ Creating a Development Dynamic, Final Report of the Digital Opportunity Initiative, July 2001

⁴⁰ Seizing the Benefits of ICT in a Digital Economy, Meeting of the OECD Council at Ministerial Level, OECD 2003

⁴¹ www.aseansec.org/11499.htm

⁴² www.acdi-cida.gc.ca/cida_ind.nsf/

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⁴⁴ Correspondence between Mustafa Nasereddin (Talal Abu-Ghazaleh & Co) and the UN ICT Task Force, July 2003

Annex 1

Millennium Development Goals and Targets

Goal 1: Eradicate extreme poverty and hunger

Target 1: Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day

Target 2: Halve, between 1990 and 2015, the proportion of people who suffer from hunger

Goal 2: Achieve universal primary education

Target 3: Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling

Goal 3: Promote gender equality and empower women

Target 4: Eliminate gender disparity in primary and secondary education, preferably by 2005, and to all levels of education no later than 2015

Goal 4: Reduce child mortality

Target 5: Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate

Goal 5: Improve maternal health

Target 6: Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio

Goal 6: Combat HIV/AIDS, malaria and other diseases

Target 7: Have halted by 2015 and begun to reverse the spread of HIV/AIDS

Target 8: Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases

Goal 7: Ensure environmental sustainability

Target 9: Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources

Target 10: Halve, by 2015, the proportion of people without sustainable access to safe drinking water

Target 11: By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers

Goal 8: Develop a Global Partnership for Development

Target 12: Develop further an open, rule-based, predictable, non-discriminatory trading and financial system

Target 13: Address the Special Needs of the Least Developed Countries

Target 14: Address the Special Needs of landlocked countries and small island developing States

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- Target 15:** Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term
- Target 16:** In co-operation with developing countries, develop and implement strategies for decent and productive work for youth
- Target 17:** In co-operation with pharmaceutical companies, provide access to affordable, essential drugs in developing countries
- Target 18:** In co-operation with the private sector, make available the benefits of new technologies, especially information and communications