



INTERNATIONAL TELECOMMUNICATION UNION

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Multi-Stakeholder Partnerships for
Bridging the Digital Divide**

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**MULTI-STAKEHOLDER PARTNERSHIPS FOR
BRIDGING THE DIGITAL DIVIDE**

BACKGROUND PAPER

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This paper, together with the others that have been prepared for the WSIS Thematic Meeting, can be found on the website at www.itu.int/wsisbridges. The views expressed in this paper are those of the authors, and do not necessarily reflect those of the ITU or its membership.

1 WSIS AND THE DIGITAL DIVIDE

1.1 From “Missing Link” to “Digital Divide”

The origins of the digital divide can be dated quite precisely to May 24 1844 when the first electronic telegraph route was opened between Washington D.C. and Baltimore, and when Samuel Morse sent the historic first message “What hath God wrought?” That first link privileged the two end-points of the circuit, but every other point on the globe suddenly found itself on the wrong side of a newly-opened digital divide. However, by the time the original telegraph circuit was extended to reach Philadelphia and New York, the digital divide was already starting to be reduced. Indeed, one of the missions of ITU, founded 21 years later, was to “*extend the benefits of the new telecommunication technologies to all the world’s inhabitants*”.

As the telephone, invented by Bell in 1876, began to supersede the electronic telegraph, the telecommunications industry started upon a century-long detour during which the majority of communications was transmitted via analogue rather than digital circuits. But the digitisation of public telecommunication networks, which began in the 1980s, is now almost complete and the analogue divide has once again given way to a digital divide.

Some twenty years ago, at the start of the second “digital” era in telecommunications, ITU published a report it had commissioned from a panel of renowned international experts, the Independent Commission (“Maitland Commission”) on Worldwide Telecommunication Development, entitled “The Missing Link”¹.

The “Missing Link” refers to the gap in telecommunications development, within and between nations; what we now call the “digital divide”. The report called for “*decisions at the highest political level*” to bring “*all of mankind within easy reach of a telephone by the early part of the next century*”. Although, as can be seen from the data presented in chapter four, the international community missed this original target, the “*decisions at the highest political level*” are now closer to fruition with the holding of the World Summit on the Information Society (WSIS), which is the first time this issue has been discussed at the level of Heads of State and Government. The WSIS Declaration of Principles, adopted by the first phase of the WSIS in December 2003, contains the following commitment (para 10):

“We are also fully aware that the benefits of the information technology revolution are today unevenly distributed between the developed and the developing countries and within societies. We are fully committed to turning this digital divide into a digital opportunity for all, particularly for those who risk being left behind and being further marginalized”.

The WSIS process represents a new departure because it has been based, right from the start, on a multi-stakeholder process. In this background report, prepared for the WSIS Thematic Meeting held in Seoul, 23-24 June 2005, we examine how multi-stakeholder partnerships can help in bridging the digital divide.

1.2 The digital divide: More than just infrastructure

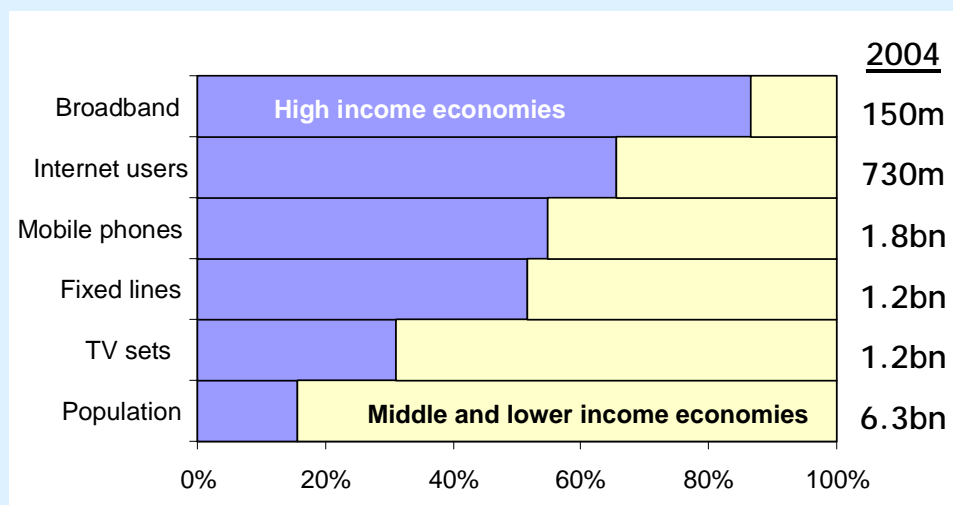
One of the reasons the telephone became popular as an alternative to the electronic telegraph was because it required no special skills, like learning Morse code. The original digital divide of the mid 19th century had been marked by a gender divide (most telegraph operators were women), but the simplicity of the telephone helped to make telecommunication much more widely available to end-users, including men.

With the new digital divide, which has opened up since the digitisation of telephone networks, the issue of skills has once again come to the fore. The new generation of ICTs requires literacy, manual dexterity and no small measure of technical knowledge, for instance to configure a broadband connection or open an Internet

¹ The original report of the Maitland Commission, in English, French and Spanish, can be found on the ITU website at: <http://www.itu.int/osg/spu/sfo/missinglink/index.html>.

Figure 1.1: The newer the technology, the less even the level of global diffusion

Diffusion of major networks and global population between high-income economies and middle and lower income ones, 2004



Source: ITU World Telecommunication Indicators Database.

service account. Even the mobile phone can sometimes confound and frustrate. Thus the digital divide now reflects a plurality of different divides: of gender, of age, of educational ability, of disability, urban/rural etc, as well as other divides that are closely related to disparities in wealth, such as class, ethnic origin, affordability etc.

The term “digital divide” itself was coined to characterise differences in access among different social classes, and different regions within a single country: the United States.² The WSIS process has helped to focus attention on the plurality of different divides and on the requirement for a multi-stakeholder approach in tackling them effectively.

How much progress has been made in reducing the digital divide? Although it is not sufficient just to measure the diffusion of infrastructure and services to gauge the digital divide, measures of the number of users, and their geographical distribution, still provide the best way to judge the extent of the digital divide. As a rough rule of thumb, the older and more popular a particular technology, the greater its diffusion and the less the effect of the digital divide.³

The most diffused ICT in common use today is radio, followed closely by television. Their penetration is close to universal, although it is quite hard to measure simply because radio and television are so widespread that they rarely feature in official statistics. As shown in Figure 1.1, the spread of television sets between high income economies and lower and middle-income ones is coming close to that of the global population.

Television sets have a sixty-year head start over broadband, and although broadband is growing faster in its early years than any previous ICT⁴, nevertheless, there were only 150 million or so broadband subscribers at the start of 2005, compared with over 1.2 billion television sets. More than 86 per cent of broadband users are found in the high income economies which account for only 16 per cent of the world’s population.

² One of the earliest usages of the term “digital divide” was in the report of the US National Telecommunications and Information Administration in its 1998 report *“Falling through the Net II: New Data on the Digital Divide”*.

³ Indeed, some of the oldest information and communication technologies (ICTs), like telex and telegraph, now exhibit a “reverse digital divide” in that they are still in use in low income economies whereas in high income countries they are found only in museums.

⁴ See, for instance, the analysis in Ypsilanti, Dimitri (2005) “Tokyo Ubiquitous Network Conference: Digital Divide Session”, at: http://www.wsis-japan.jp/doc_pdf/S3-7MrYpsilanti.pdf.

1.3 Structure of the report

In this report, the emphasis is not so much on assessing the reasons for the digital divide, but rather on looking at innovative ways to reduce and eventually to bridge the divide, in particular through the use of multi-stakeholder partnerships.

- Chapter two looks at **the role of multi-stakeholder partnerships in bridging the digital divide**;
- Chapter three presents a series of mini case-studies of **multi-stakeholder partnerships in action**;
- Chapter four considers the challenges of **measuring the digital divide**;
- Finally, Chapter five looks at strategies for **overcoming barriers and enhancing partnerships**.

2 THE ROLE OF MULTI-STAKEHOLDER PARTNERSHIPS IN BRIDGING THE DIGITAL DIVIDE

2.1 Defining multi-stakeholder partnerships

Partnerships can be conceptualized as alliances of different stakeholders created as means to an end that would otherwise be difficult to accomplish based only on the capabilities and resources of a single entity or stakeholder category. Although there is no unanimously accepted definition of multi-stakeholder partnerships (MSPs), existing definitions⁵ emphasize those characteristics that tend to make these partnerships successful in the long term. According to these definitions, well-structured partnerships bring together stakeholders from the different sectors, such as the public sector, businesses, civil society and international organisations, in a manner such that the different partners:

- collaborate towards the achievement of a *well-defined common goal or project*;
- fulfil a specific role or responsibility; that is, its *core competencies match a specific need* not already covered by other partners;
- *complement each others' capabilities and resources* (human and capital), making the partnership stronger through the sum of its parts;
- *share equally the risks, costs and benefits* of the partnership and of implementing the project;
- are able to reach consensus, deal with discrepancies and have *available mechanisms for dispute resolution*.

2.1.1 An evolving concept

Establishing alliances with other partners to deal with a common problem or, to strengthen one's own weaknesses, is a strategy as old as humankind. What has given a new meaning to the concept of partnerships in recent years, particularly when dealing with the social and economic issue of the digital divide, is a change in its scope.

The processes of liberalisation and privatisation of the telecommunication sector around the world, together with the introduction of new technologies, brought new players into an arena traditionally restricted to governments and international organisations. Until the early 1980s, in most countries, government entities were, for the most part, exclusively in charge of planning and implementing telecommunication policies involving network expansion, the promotion of universal service goals and the introduction of advanced information and communication technologies (ICTs) and services. In the last two decades, private sector service providers have been gradually increasing their participation in the telecommunications market, focusing initially on privatisation opportunities and more recently on the introduction of wireless

⁵ See Business for Social Responsibility, (2003) "Community Partnerships" (*BSR Issue Briefs*, December 2003); ESG International, (no date) "Multi-Stakeholder Engagement for Project Planning and Delivery" (*Services Spotlight*); Global Knowledge Partnership, (2002?) "Multi-Stakeholder Partnerships: Issue Paper."

Box 2.1: Global Commitment towards Development: The Millennium Development Goals (MDGs)

The Millennium Declaration adopted at the fifty-fifth General Assembly of the United Nations represents the commitment of 147 Heads of State and Government to collaborate towards development and the improvement of people's livelihoods through the eradication of poverty, hunger, major diseases, as well as the amelioration of education, gender and environmental issues. The MDGs cover:

Goal 1: Eradication of extreme poverty and hunger

Goal 2: Achieving universal primary education

Goal 3: Promotion of gender equality and empowerment of women

Goal 4: Reduction of child mortality

Goal 5: Improving maternal health

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

Goal 7: Ensuring environmental sustainability

Goal 8: Developing a global partnership for development

Source: Resolution adopted by the General Assembly (2000, September 8). Available from: <http://www.un.org/millenniumgoals>; <http://www.un.org/millennium/declaration/ares552e.htm>; accessed June 15, 2005.

communications, Internet and other advanced services. Together with national governments, the private sector has become the key player for network expansion, for the introduction of new technologies and services and, in many countries (see Box 5.2), private companies also share the burden of financing universal access programs.

International initiatives, such as the World Summit on Sustainable Development or the Millennium Declaration, adopted by leaders of 147 Member States of the United Nations in September 2000, have also contributed towards a more expansive view of partnerships, in which the participation of multiple stakeholders, particularly from civil society and non-governmental organisations (NGOs), is seen as essential to achieving sustainable development. Resolution III. 20 of the Millennium Declaration specifically states the commitment of the Member States *"to develop strong partnerships with the private sector and with civil society organizations in pursuit of development and poverty eradication"*.⁶

The commitments contained in the Millennium Declaration can be expressed in eight Millennium Development Goals (MDGs: see Box 2.1), which included targets and indicators to guide their implementation and evaluation. As shown in Box 2.1, Goal 8 underscores the role that the international community has given to multi-stakeholder partnerships in achieving internationally-agreed development goals.

The inclusion of members of civil society and NGOs in international fora dealing with development issues and the digital divide brings new voices and perspectives to the debate and policy-making arena. Taking into consideration the concerns and expectations of those who represent the general population is expected to increase the legitimacy of the policies and strategies resulting from the consultation. It can also improve the sense of ownership and involvement of these organisations during the implementation process.

In a similar inclusive and collaborative process, the World Summit for the Information Society (WSIS), through its Declaration of Principles and its Plan of Action, is promoting the use of ICTs for the achievement of the MDGs and the reduction of the digital gap (Box 2.2). The Plan of Action calls upon the governments of Member States to engage in open dialogue with the private sector and civil society, encouraging the formation of partnerships to devise and implement national and regional e-strategies.⁷ Section C.8.b of the

⁶ Two indicators were agreed upon to monitor progress in achieving Target 18: Indicator 47, "Telephone lines and cellular subscribers per 100 population," and Indicator 48, "Personal computers in use per 100 population and Internet users per 100 population". According to ITU's World Telecommunication Development Report 2003, of the 48 indicators included in the MDGs, these were the two areas, in which the most progress was probably made over the last decade.

⁷ To ensure that the different entities under the civil society and NGO umbrella were represented and able to participate actively in the WSIS process itself, a new civil society bureau was created to coordinate their contributions.

Box 2.2: The role of ICTs in achieving the MDGs

One of the targets included in MDG #8 indicates the commitment of member states to develop partnerships “in cooperation with the private sector, to make available the benefits of new technologies, especially information and communication”. A recent OECD report on the impact of ICTs on development and pro-poor strategies points out that, even though access to ICTs tends to be pursued as an end in itself, ICTs are better conceived as means towards the achievement of development goals, including poverty reduction. ICTs can impact development, for instance, through:

- *Access and diffusion of information across traditional barriers:* Access to information, such as market prices, weather, emergency situations and health issues, reduces transaction costs related to economic activities; it also increases the awareness of different populations to the existence of development programmes and the benefits of ICTs.
- *Networking:* Providing connectivity among people is one of the most valuable characteristics of ICTs. The higher the number of people reachable through a network, the higher its value to its users. Providing access to ICTs is just a first, necessary step for connectivity. True access means not only being able to receive information, but also being capable of using ICTs to produce content and participate in decision-making processes, implying a need for training. By giving voice to previously unheard groups, ICTs can improve the livelihood of the population as a whole.
- *Improving the efficiency of other economic sectors:* ICTs can play a role in sector-specific areas, such as agriculture health and education, by providing tools for measurement and evaluation, as well as access to resources and information, and job creation.

Source: Adapted from Batchelor, S. & Scott, N., (2005) “Good Practice Paper on ICTs for Economic Growth and Poverty Reduction”. OECD.

Plan of Action encourages each country to “*establish at least one functioning Public/Private Partnership (PPP) or Multi-Sector Partnership (MSP), by 2005 as a showcase for future action*”. To ensure that the different entities comprising civil society were represented and able to participate actively in the WSIS process itself, a new Civil Society Bureau was created to coordinate their contributions (mirroring the WSIS Bureau created by governments), and a series of “families” were created to work on different WSIS-related issues.

2.2 Who are the stakeholders?

Multi-stakeholder partnerships can involve two or more of the following main stakeholder groups:

- *Public sector*—composed of central ministries, telecommunication regulatory entities, parliaments, sector line ministries, ministries of Finance, as well as regional and local governments and in some countries state-owned or city-owned network operators. The public sector plays a major role in establishing national policies and e-strategies aimed at bridging the digital divide. Historically, governments have been linked to the development of fixed-line telecommunication networks, and as such, still retain some level of ownership in incumbent providers of basic telephone services in many countries.
- *Private sector*—composed of firms and private sector associations. The business sector is increasingly seen as the major force in the deployment of advanced ICT networks, technological development and the provision of telecommunication services, content and applications.
- *Civil society and Non-Governmental Organisations (NGOs)*—a broad sector which is usually conceived as an intermediary between the State and the general population, giving voice to the diverse interests and demands of a host of communities and theme-oriented organisations before the State and, increasingly, before international organisations. In the context of the WSIS, Civil Society is delineated based on the definition of the UN Joint Inspection Unit:

“movements, entities, institutions autonomous from the State which in principle, are non-profit-making, act locally, nationally and internationally, in defence and promotion of social, economic and cultural interests and for mutual benefit.”

In contrast to civil society, NGOs are usually more structured entities with legal status and official recognition, such as youth, women, disabled, and indigenous organisations, among others. Entities grouped under civil society include trade unions, the media, academia and educational entities⁸, cities and local authorities, the science and technology community, faith-based groups, social movements, parliamentarians and individuals.

- *International and regional organisations and financial institutions*: These multi-lateral organisations facilitate the coordination of national policies and standards to facilitate homologation, promote the exchange of experiences and knowledge and provide resources and expertise for sustainable development programs.

2.3 The complementary role of stakeholders

Partnerships are established under the expectation that the different stakeholders will receive mutual benefits as a result of investing their competencies and human or financial resources, and sharing risks for the general benefit of the multi-stakeholder relationship. These benefits may be connected directly to the expected outcomes of the MSP project or to intended consequences of the stakeholder's participation in the partnership. Many businesses, for instance, engage in MSPs not only for the value of the project, but also as a way to improve their public image, expand their political influence, gain tax incentives or promote awareness of their products and services on potential customers. Whatever the benefit expected by the partner, it is important for the long-term sustainability of the partnership that all its members develop a sense of ownership in the project, through either financial or in-kind contributions, to strengthen their commitment.

The commitment towards MSPs has also been emphasized by the realization that the scope of the issues included in the Millennium Declaration and the WSIS process is so large that it cannot be undertaken without the active participation of all the different stakeholder groups. In this sense, the MDGs and WSIS are contributing to the development of stronger interdependence and collaboration among these groups (Figure 2.1).

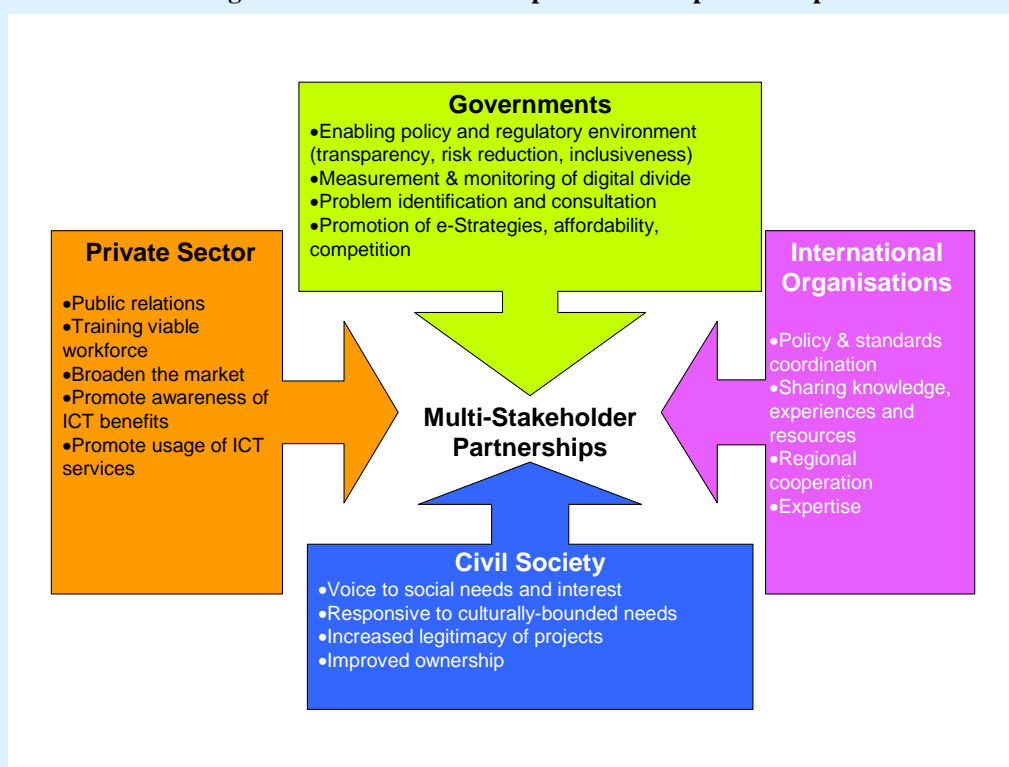
Governments, the private sector, international organisations and civil society depend on each other for the successful implementation of their partnerships and projects. From the government perspective, for instance, the multiple demands on public resources have increased its reliance on the financial resources, expertise and administrative capabilities of businesses and corporations to extend the network and provide advanced services to rural and underserved urban areas; their participation as member states in international organisations allows them to collaborate with other countries and organisations in the pursuit of common goals. Finally, the inclusion of civil society in national e-strategies initiatives ensures the legitimacy of the projects and that the policy-making process is truly representative.

Similarly, businesses require governments to provide an enabling regulatory environment, in which principles of transparency, non-discrimination and neutrality are put into practice clearly. Transparency and clear rules reduce the risk of regulatory capture and promote investment in the ICT sector. Local and national governments can also benefit businesses and communities by stimulating demand and attracting the supply of ICT services in rural areas when acting as an anchor tenant in broadband initiatives. In the United States, these types of project are being used increasingly by municipal governments to promote the deployment of advanced services in their areas.

For small businesses and grass-root projects developed by civil society, the commitment of government entities and international organisations to participate in partnerships acts as a de facto endorsement of their programmes and empowers them in their search for alternative sources of funding to facilitate long-term sustainability. These endorsements also encourage the participation of the private sector. The collaboration of each of partner will thus be necessary if the goals of development and of bridging the digital divide are to be achieved by 2015.

⁸ In some definitions of stakeholder groups, the media and the academic community may be defined as separate stakeholders in their own rights.

Figure 2.1: Stakeholders bring different interests and capabilities into partnerships



Source: ITU.

3 MULTI-STAKEHOLDER PARTNERSHIPS IN ACTION

3.1 Stocktaking of WSIS-related activities

In the framework of the WSIS process, since October 2004 the WSIS Executive Secretariat, assisted by ITU, has been undertaking a stocktaking exercise of WSIS-related activities⁹, leading to the creation of an inventory database on the projects that have been carried out by diverse stakeholders throughout the world. As of 8 June 2005, the database contained details on more than 1'873 WSIS-related activities, including project descriptions, supporting documentation and URLs, which are searchable by WSIS action lines, the development goals contained in the Millennium Declaration (MDGs), geographical coverage, keyword, etc. Just under half of the projects submitted were carried out in multi-stakeholder partnerships, which demonstrates the importance of collaboration in the process of information society development. As the WSIS stocktaking is a continuous process and the database remains open for all new submissions, the statistics and conclusions below reflect the situation as of the beginning of June of 2005. However it is expected that the number of entries on MSP projects will increase in the near future.

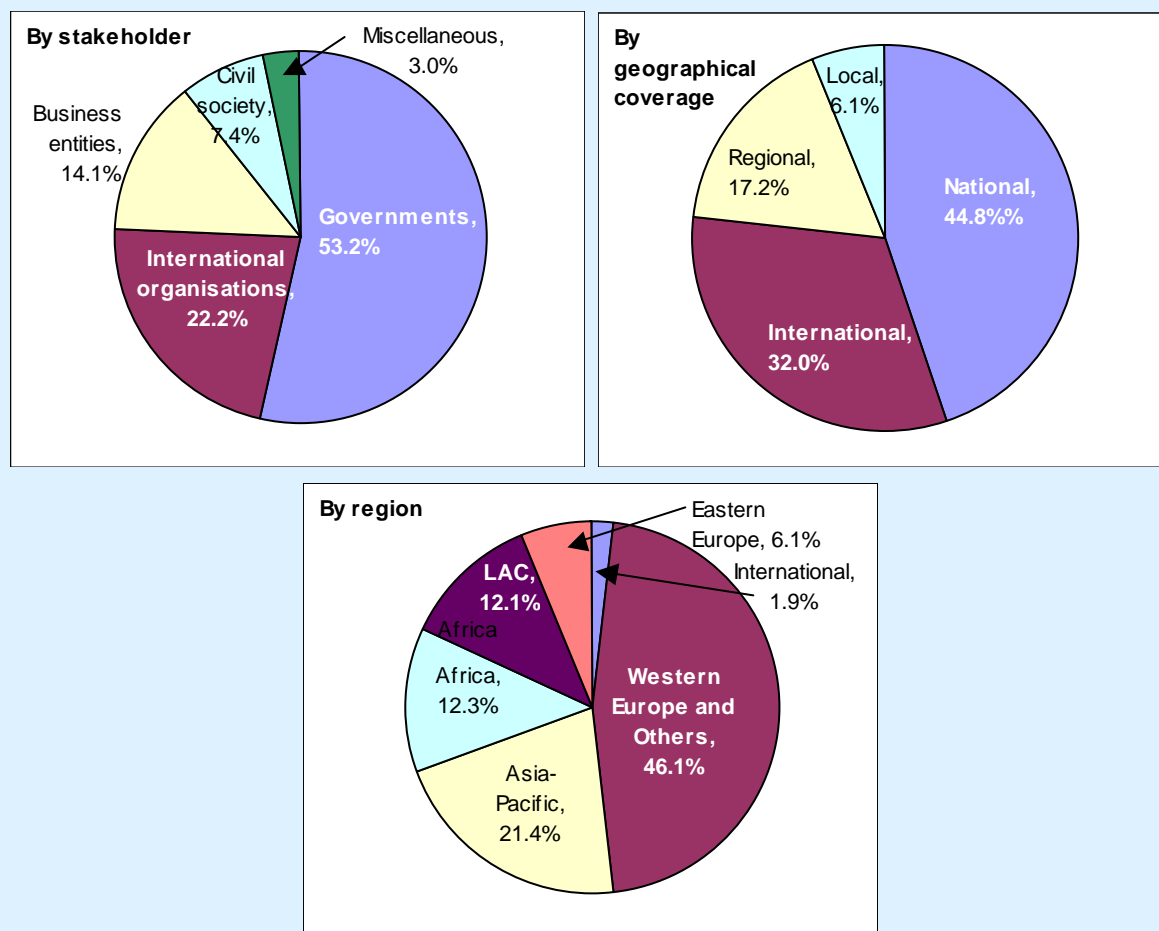
3.2 Stocktaking of multi-stakeholder partnership activities

As of 8 June 2005, the total number of activities in the database based on multi-stakeholder partnerships was 891, of which just over half had been submitted by governments and a further 22 per cent from international organizations. The remaining activities were submitted by civil society, business entities and other entities (see Fig. 3.1). More than half of the activities were national in scope and a further third were international.

⁹ For more information see the <http://www.itu.int/wsis/stocktaking>.

Figure 3.1: Breakdown of multi-stakeholder partnership projects in the WSIS stocktaking database

By stakeholder, by geographical, and by region



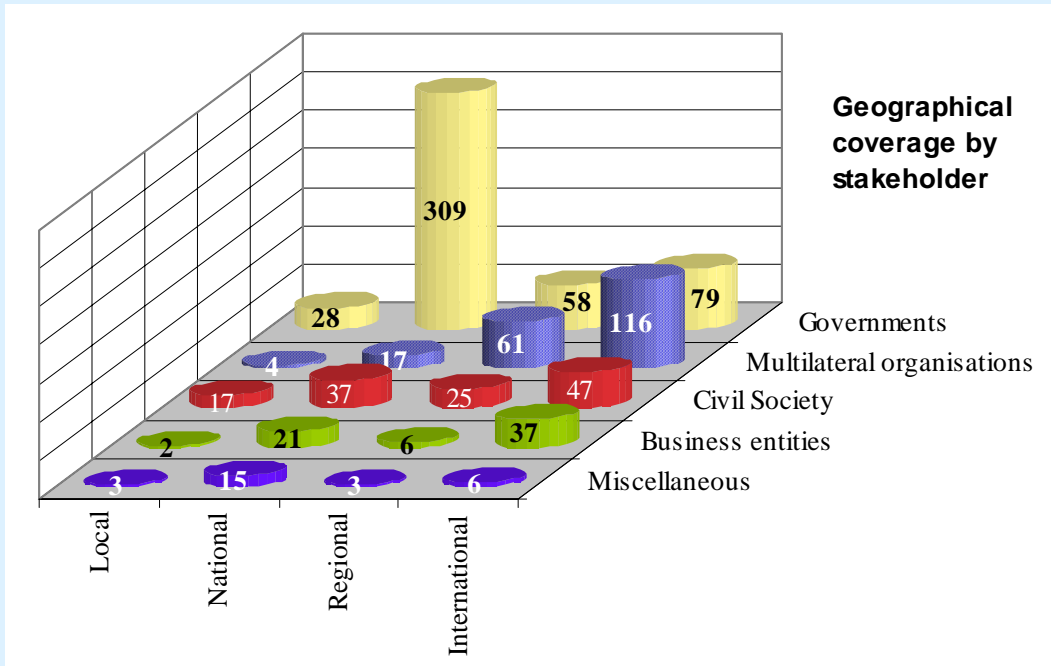
Source: WSIS Stocktaking Database, based on 891 multi-stakeholder partnership projects submitted at 8 June 2005, from a total of 1,873 activities submitted by this date. Please note, LAC = Latin America and Caribbean states. UN regional groupings have been used in the analysis.

Western Europe and Others Group (including North America, Australia and New Zealand) accounted for just under a half of all submissions by country of origin (47%), with the next most important region being Asia-Pacific (21%). Eastern Europe is the region with the smallest number of MSP projects (6%).

Taking into consideration that three-quarters of the MSP projects have been submitted by governments and international organisations, one may suppose that other stakeholders, (civil society and business entities) still face problems in setting up links with the other stakeholders in order to join forces to develop the Information Society. From this perspective, any kind of assistance in fostering development of cooperation among stakeholders, other than public ones, should be promoted.

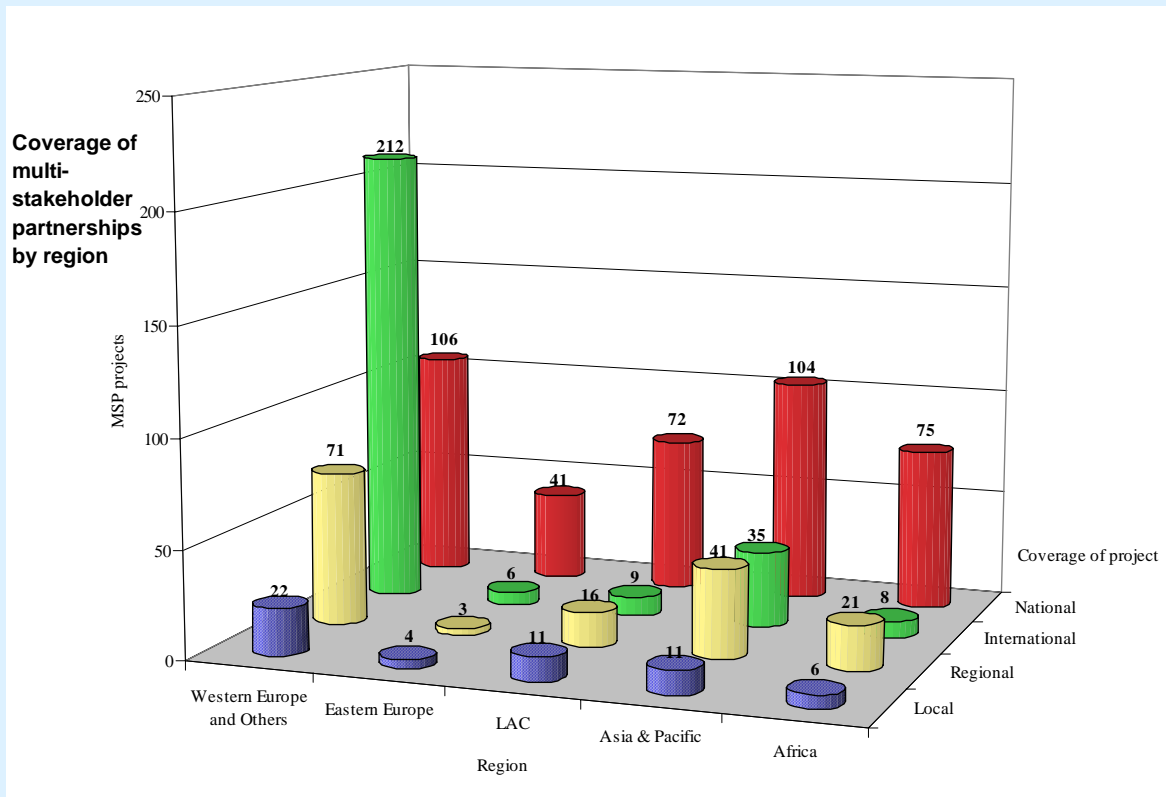
Figure 3.2 summarizes the breakdown of geographical coverage by type of stakeholder. More than third of all MSP projects, i.e. 309, have been submitted by governments on activities carried out at the national level. However, governments have also succeeded in setting up partnerships for projects with international and regional coverage as well. International organisations had a high number of MSP projects with international and regional coverage, although the amount of the projects on local and national level was more limited. In general, there are a relative small number of MPS projects at the local level. Either, business entities and international organisations do not appear to demonstrate much interest in investing in this type of projects, or more likely the information is being submitted on their behalf by other stakeholders.

Figure 3.2: Geographical coverage by stakeholder and coverage of MSP projects by Region



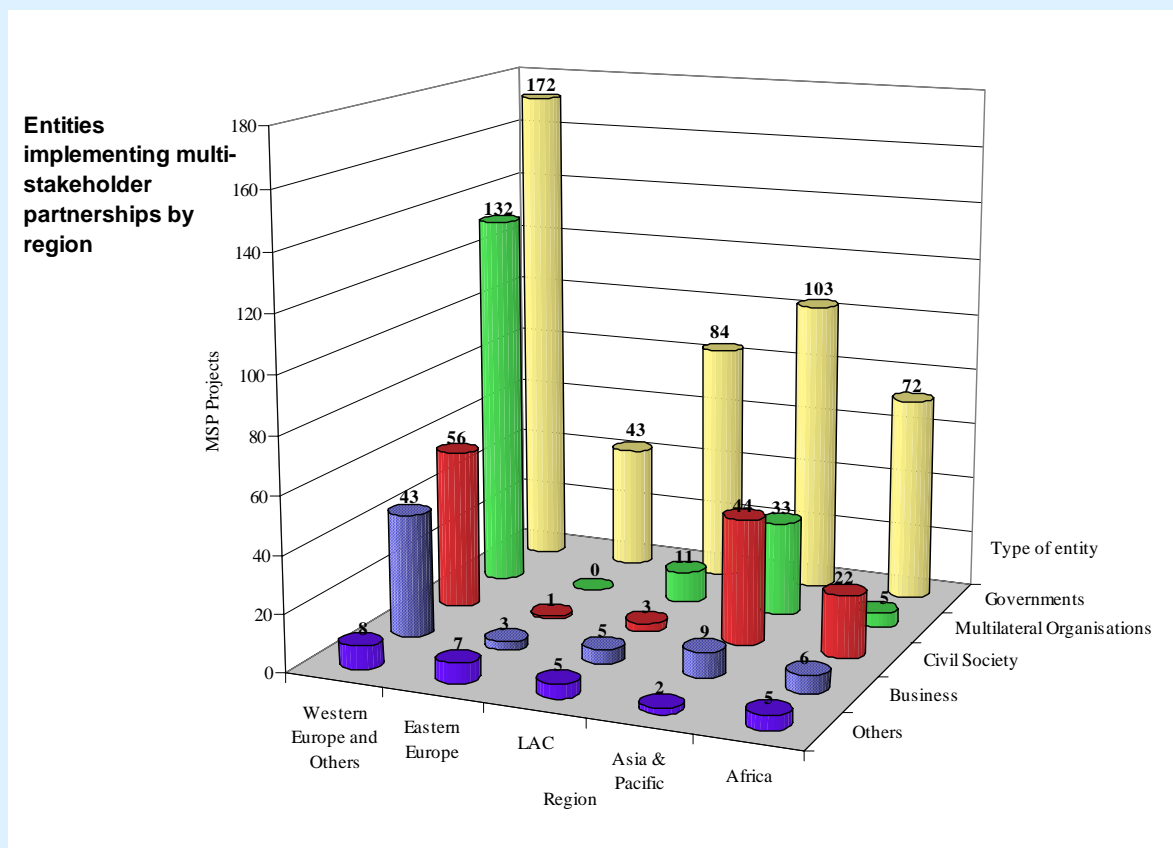
Source: WSIS Stocktaking Database, based on 891 multi-stakeholder partnership projects submitted at 8 June 2005.

Figure 3.3: Coverage of MSP Projects by Region



Source: WSIS Stocktaking Database, based on 891 multi-stakeholder partnership projects submitted at 8 June 2005.

Figure 3.4: Entities implementing MSP projects by region



Source: WSIS Stocktaking Database, based on 891 Multi-stakeholder partnership projects submitted at 8 June 2005.

The Figure 3.3 summarizes the coverage of MSP projects by region. In general one observes a significant majority of national projects, even in Eastern Europe, the region with the smallest number of MSP projects in total. Western Europe is an exception here, however. In spite of high number of national MSP projects the amount of international ones was double. In the Latin America and Caribbean (LAC) region, Asia & Pacific and Africa, the number of regional MSP was relatively high.

Figure 3.4 demonstrates the breakdown of entities implementing MSP projects by region. The dominance of governmental MSP projects is visible in each region. In particular Western Europe and North America demonstrates a very high number of MSP projects, many of them submitted by international organisations and financial institutions. The Asia & Pacific and Africa regions have a particular focus on MSP projects submitted by civil society, which underlines the positive role of these stakeholders for the process of information society development in these regions.

Multi-stakeholder partnerships are being used in the implementation of national e-strategies, for the promotion of access and capacity building and in application projects, which employ ICTs to improve the efficiency of other economic sectors' activities or for the benefit of particular social groups. The following section provides a brief overview of these three different types of projects.

3.3 Multi-stakeholder partnerships projects

3.3.1 National Policies

The main goal of most national ICT policies is to provide their population with access to basic and advanced telecommunications infrastructure, while developing an enabling environment for applications in fields such as commerce, education and health. As stated above, governments are a key force in the planning and implementation of projects aimed at bridging the digital divide. Although the majority of government

Box 3.1: Making Asia a global information hub

On the basis of the “Asian Broadband Programme”, since 2002, an initiative of the Government of Japan, a wide range of measures have been deployed to bridge the digital divide, to bring the benefit of ICT to all the people in Asia and to seek their further social, economical, cultural development. Setting 2010 as the target year, a common goal in Asia is to invigorate information flows within the region to make Asia a whole global information hub. The Programme aims both at enhancing technical and infrastructural capacities and diversifying digital content. The goal of the joint efforts is to increase the volume of information flows between Asia and the rest of the world, improving at the same time the quality of the information and knowledge shared.

The ambition of the partners involved is manifest—making Asia a leading region in the field of ICTs, particularly in the development of next-generation mobile communications technology, paying special attention to strengthened security and other beneficial features. A cultural and grassroots subset of specific goals is also developed to digitize and archive major cultural assets in Asian countries.

Fostering the relationship among Asian countries, this Programme’s goals go beyond technical cooperation and the pure ICT benefits. In the project concept is reflected the awareness of the vital importance of building network infrastructure so as to enable all peoples in Asia to access broadband platforms at an affordable price level in the future. The partnerships formed including ten Asian economies (namely China, Indonesia, Japan, Republic of Korea, Lao PDR, Malaysia, Philippines, Singapore, Thailand and Vietnam) are a catalysing agent in the process of enabling all people in Asia to take advantage of the digital opportunities, while paying special attention to the needs of developing countries.

Source: WSIS Stocktaking Database at <http://www.itu.int/wsis/stocktaking>.

policies have a national focus, limitations in local human and financial resources, as well as the interest of expanding the impact of ICT projects beyond national borders, has prompted governments increasingly to work together with their neighbours in establishing regional and international strategies that address different aspects of the digital divide. Even where the characteristics of each country’s populations differ, there are still enough similarities in their needs, interests and concerns to justify regional and international efforts in this area. The *Asian Broadband Project*, an action initiated by the government of **Japan**, is a clear example of this type of collaborative effort (see Box 3.1).

International organisations and financial institutions are interested in promoting collaboration among countries within the same region and between regions to extend the impact of ICT projects to larger populations and make the most out of scarce financial resources. To achieve this goal, however, it is necessary also to put emphasis on developing the capacity of stakeholders in developing countries to participate effectively in international decision-making processes related to ICTs and development. The Department for International Development (DfID) of the United Kingdom is promoting such an initiative in East and Southern Africa. The *Collaboration on International ICT Policy for Eastern and Southern Africa (CIPESA)*, based in **Uganda**, is part of the *Catalysing Access to Information and Communications Technologies in Africa (CATIA) Initiative* and it aims to build multi-stakeholder policy-making capacity in African countries, particularly in areas related to ICT and poverty reduction.

National ICT policies and access strategies are increasingly collaborative efforts. Establishing ICT-related policies is no longer the exclusive responsibility of Information and Communication Ministries. Ministries of Education, Finance, Commerce, Health, Interior and Culture are becoming involved in the planning of implementation of different aspects of these policies, including e-commerce, e-literacy, and e-health projects.

In **Hungary**, for instance, the Ministry of Informatics and Communications is partnering with the Ministries of Education and of National Cultural Heritage, as well as with public libraries, public education institutions and other government bodies in the implementation of four national programmes related to ICTs: the *Public Net Programme*, *eSignature/ePreserve*, the *National Digital Data Archive* and the *eHungary* programme. While the Public Net Programme focuses on the provision of an IT-network to connect public institutions and communal access points (local public administration organisations falling outside the scope of government IT, public institutions, schools, other organisations bearing public functions and non-government organisations), the National Digital Data Archive intends to preserve and diffuse in a digital form the cultural heritage of the country. The eHungary project also highlights the importance of public-private collaboration, as a strategy to rapidly expand the access of the population to public Internet access

points. To this end, the Ministry supports various organisations and institutions that already operate, or are committed to establishing and operating, new communal Internet access points as eHungary points. Finally, the eSignature/ePreserve programme aims to increase the level of security in the use of electronic signatures for electronic commerce and public administration business.

Similarly, in **Egypt**, the Ministry of Communications and Information Technology, in collaboration with financial institutions, telecommunications operators, Internet service providers, content providers and civil society, among others, are implementing a comprehensive E-Readiness Plan. This Plan includes initiatives aimed at increasing the penetration and use of advanced telecommunication services in Egypt through the expansion of ADSL services, the establishment of telecentres, the provision of affordable broadband, subscription-free internet connection schemes, as well as access to affordable personal computers and software.

In order to foster multi-stakeholder partnerships, very often governments include in their national policies strategies for the establishment of incubators and research programmes that encourage stakeholders to join forces with them and build an environment propitious for the development of the information society. In other cases, the stakeholders are invited by the governments to participate in the development of the ICT strategy plans themselves.

For instance, in **Samoa** the 2002 National ICT Steering Committee, established to develop ICT policies and a National ICT Strategic Plan, opened consultations with the broader community composed of representatives of the private sector, NGOs, mayors at the village level and presidents of all the woman's committees. The National ICT Strategic Plan that resulted from this consultation project was adopted by the national Cabinet in August 2004. Cooperation and consultation processes between governments, business, industry and civil society have also been used in New Zealand and the Philippines in the development of their *Digital Strategy* and *Information Systems Strategic Plan* respectively.¹⁰

Finally, it is important to point out that although most national policies initiatives are based on a trickle-down approach, that is, the benefits of the programme are expected to go from the top down and eventually reach the general population, some bottom-up ICT initiatives have been so successful that were later on adopted as national policies and supported by the government. This is the case of the *Window to the Future* alliance in **Lithuania** (see Box 3.2), a telecentre and capacity training project that exemplifies two areas in which collaborative strategies of different stakeholders have been particularly successful, as discussed in section 3.3.2.

3.3.2 Promoting access: Telecentres and capacity building

Fostering access to infrastructure should be among the priorities of all governments. In particular, developing countries look for appropriate measures that would let them enlarge the number of ICT users. Very often the costs of access to the ICTs significantly exceed the financial possibilities of the citizens, thereby relegating them to the background of the emerging Information Society. Telecentres are one popular measure to extend access to ICTs for all, helping to bridge the digital divide. ITU research has demonstrated that shared access to ICT infrastructure has rapidly gain popularity among users, in particular in developing and transition economies facing poor ICT penetration rates. For instance some 83% of Peruvian, 42% of Bulgarian and 36% of Polish Internet users reported to regularly attend cybercafés in 2002.

Usually telecentres are created under the initiative of public institutions. However, more and more often, one finds increased participation by the private sector and civil society stakeholders in setting up of this kind of access infrastructure. The purpose of telecentres can be diverse. Very often, apart from providing access, the centres provide e-education, foster e-business expansion, or encourage e-government development, like for instance in the examples from Latin America, Eastern Europe and Africa presented in Box 3.3.

¹⁰ For further information on these projects see WSIS Stocktaking Database at <http://www.itu.int/wsis/stocktaking>.

Box 3.2: Lithuania's bottom-up approach

In some countries, national strategies are created using a bottom-up approach. For instance, in Lithuania the multi-stakeholder partnership *Window to the Future alliance*, consisting of Lithuanian mobile and fixed telecommunications companies, the largest banks, as well as the largest Lithuanian IT companies, has achieved success in the development of public Internet centres. In 2002, Window to the Future established 72 public Internet centres (PICs). The alliance's success encouraged the Lithuanian government to join the alliance and in late 2002 the Ministry of Interior of the Republic of Lithuania concluded an agreement of cooperation for the creation of an integral strategy to coordinate the establishment of Internet centres in different locations in Lithuania. The Consortium worked together with the authorities in approving the allocation of funds for the establishment of PICs in 2003 and in the selection of 100 PIC from applications received. They also have announced two open tenders for Internet connection services and the procurement of hardware.



By May 2004, 175 public Internet access points had been established in cooperation with local government institutions all over Lithuania. In the meantime, the alliance launched, in cooperation with the Ministry of Education and Science, a teaching project and a computer-training programme, to promote the use of the Internet. Within nine months, some 20'000 people had been trained.

Source: WSIS Stocktaking Database at: <http://www.itu.int/wsis/stocktaking> and alliance website <http://www.langasiateiti.lt>

Increasing access to ICTs is also an important target of international initiatives, such as the Millennium Declaration and the World Summit for the Information Society. As part of the international commitment to promote development and connectivity, the **International Telecommunication Union (ITU)**, together with around 20 other partners, launched on 16 June 2005 the “*Connect the World*” partnership.¹¹ The initiative is specifically designed to encourage new projects and multi-stakeholder partnerships to bridge the digital divide. Connect the World provides a showcase to promote them and in particular to meet the WSIS commitments, which include connecting all villages with ICTs and reaching one half of the world's inhabitants by the year 2015. There are currently an estimated 800'000 villages worldwide with no form of ICT connection.

Connect the World is a true MSP in that the partners cover all the main categories of stakeholder:

- Governments: The initial partners include France, Egypt and the Korean Agency for Digital Opportunity (KADO);
- Business entities: Alcatel, Huawei, Intel, Microsoft, KDDI, Telefónica, Infosys and WorldSpace;
- Civil Society: Télécops Sans Frontières, the MS Swaminathan Research Foundation and Child Helpline International;
- Intergovernmental organisations: ITU, UNESCO, UPU; and other international and regional organisations: European Commission, the International Telecommunication Satellite Organization, RASCOM and the United Nations Fund for International Partnership (UNFIP).

¹¹ For more details see the “Connect the World” website at: <http://www.itu.int/partners/>

Box 3.3: Establishing telecentres around the globe

Brazil demonstrates significant experience in fostering the creation of telecentres. Through its Digital Inclusion Program, the Ministry of Social Development and Fighting Hunger (MDS) promotes the creation of Telecentres Network requiring installation of telecentres in almost 6'000 Brazilian municipalities, precisely in institutions representing or supporting the micro-enterprise and small-enterprise segment, with the purpose of improving competitiveness of the Brazilian enterprise and the employment and income condition of the population.¹

MDS's other programmes encourage Brazilian NGOs and other non-profit civil society stakeholders in setting up the telecentres in areas with low IT penetration. Interested institutions and organizations fulfilling required conditions may receive a donation in the form of 10 computers each. In 2004, there were 137 applicants that met the conditions.

Moreover, the Brazilian Ministry of Development, Industry and Trade (MDIC), in cooperation with the Brazilian Army, is equipping 34 posts along Brazil's Amazon border zone intends to trigger self-sustainable development of telecentres in order to provide the people of these communities access to the Web, as well as IT training. The Brazilian government encourages the private entities from this region to donate hardware in exchange for becoming a partner institution of Brazil's Hunger Zero Program, thus becoming tax-exempt and contributing to fostering social mobilization within the business and industrial sectors.³

The **Republic of Colombia** sees the creation of telecentres as an effective way for enlarging the Colombian Information Society. In the framework of Compartel (Social Telecommunication Programme), the Ministry of Communications, inter alia, intends to install 1'097 telecentres in metropolitan areas and 309 telecentres in rural areas with more than 1'700 inhabitants. In this way, once the programme is complete, approximately 4.7 million citizens will benefit from access to ICTs. The development of the new infrastructure requires an investment of USD 58 million, which is being covered by public funds, as well as the Communication Fund.⁴

Also, **Romania** recognises the great importance of telecentres for bridging digital divide. In 2004 the National Regulatory Authority for Communications developed the "Multipurpose Community Telecentres" (MCTs) project in order to foster availability of affordable electronic communications throughout the territory of Romania. Nowadays the telecentres are financed through contributions of the operators and ITU. However for each of the MCTs, it is planned that financial self-sufficiency should be reached within three years. Over time, the responsibility of the operation of the telecentres should be gradually taken over by local communities.⁵

Sudan's experiences demonstrate that the initiative of setting up telecentres can also come from the private sector. SUDATEL, Sudan's incumbent telecom company, in cooperation with many public and private institutions, international donors, and community organizations, has developed telecentres to provide access to ICTs, particularly in remote and rural areas. Telephony is overwhelmingly the main service, however, other services are offered, especially fax, Internet, telemedicine, tele-education as well as photocopying.⁵

Note: 1) For more details see <http://www.telecentros.desenvolvimento.gov.br/>; 2) For more details see <http://www.desenvolvimentosocial.gov.br/>; 3) For more details see <http://www.telecentros.mdic.gov.br/>; 4) For more details see <http://www.compartel.gov.co/>; 5) For more details see <http://www.mcti.ro/>; 5) For more details see <http://www.sudatel.net/>

The partners are all active in one of three broad fields: Enabling environment, infrastructure and readiness, as well as applications and services.

It is important to remember that connectivity is just the first pre-condition for access. Once the ICT tools are within the reach of previously unconnected communities, it is necessary to build local capacity and heighten awareness of their potential capabilities so that they are customised to the benefit of those communities. Training and capacity building are thus necessary practices to attain true access to ICTs.

Training and capacity building activities tend to be more successful when cultural and language issues are taken into consideration. Some capacity building projects, such as eLang Viet (see Box 3.4), have realized that the provision of content and training in the local language fosters the sense of ownership of those who participate in them. Capacity building thus helps not only to raise the level of know-how knowledge in these communities, but also motivates them to produce their own content.

There are however social barriers that need to be addressed in order to improve the ability of many communities to have true access to ICTs. One of these barriers is illiteracy. In many developing countries, the level of literacy in rural communities and among certain groups especially targeted for ICT training, such as women, youth, disabled and indigenous peoples, among others, can be very low, thus limiting their ability to make use of certain ICTs, like the Internet. This is one reason why, in many countries, e-literacy

Box 3.4: Capacity building with a local flavour

eLangViet (e-Vietnamese Village)

Vietnam is one of the Asia-Pacific economies experiencing both the development divide in relation to economically advanced countries and an internal digital divide. The complex ethnic mosaic of the country as well as the wide gap in revenues sets forth a premise for traditional social fragmentation. Disparities between rich and poor, between rural and urban population as well as between grass roots communities are tangible in terms of educational level, health status, quality of life, access to resources, and respectively to job opportunities and high income.

In order to intervene efficiently in this difficult context, UNCTAD and UNDP, under the Global Programme on Globalisation, Liberalisation and Sustainable Human Development have taken up the challenge of addressing the issue of overall social development through the creation of an online network based on easy-to-understand Vietnamese-language know-how in health, education, agricultural production, crafts and trade. Information and knowledge can be accessed by the poorest sections of Vietnamese society through computers based in specially developed community telecentres. In addition, the local grassroots community is provided with relevant IT training in order to awaken their curiosity and enhance their creativity and potential of autonomous action. The beneficiaries of the project are urged to take advantage of the facilities offered while bringing them the awareness of the value of the skills learnt to make their own decisions and choose their future personal and professional development. This approach can assure a sustainable and fruitful outcome of the project activities.

eLangViet operates initially in eight pilot villages with population of about 70'000 persons spread across six provinces. This pilot stage will last for two years before the network is rolled out across the provinces and then the country, based on the lessons learned. A further goal of the future deployment of the project at the national level would be to strengthen Vietnam's domestic markets, contribute to the improvement of the general welfare and lead targeted coherent action for poverty reduction.

REACH Afghanistan (Radio Education for Afghan Children)

Developed to help address the educational needs of Afghan children aged from 6 to 16 who, due to conflict, have received little or no education for many years, REACH Project is designed to bridge the considerable educational gap. It is hoped that, by listening to the weekly radio programmes on BBC World Service's Persian and Pashto Services at home, children will be exposed to Afghanistan's traditions, culture, and history, as well as receive information about present-day concerns such as mine awareness and health education. The 15-minute *Our World, Our Future* series are designed to broaden children's horizons and encourage them to become active learners, by giving them tasks to do during and after the programmes that will stimulate learning. Without having the role to replace formal education, the programme series are conceived to complement it and stimulate young listeners to go further in their studies as well as in their active understanding of their immediate and global environment. Partners of BBC's Afghan Education Project (AEP) in this initiative are the UK Department for International Development, UNICEF and the Canadian International Development Agency (CIDA).

Source: Selected from WSIS Stocktaking Database entries, at: <http://www.itu.int/wsisis/stocktaking>.

programmes are being implemented hand-in-hand with projects to increase the level of literacy of the population. In this sense, ICTs can be used to promote literacy, while at the same time improving the e-literacy of the population.¹² Finally, it should be emphasized that many MSP projects focused on capacity training are targeting specific social groups in an effort to reduce existing inequalities in their access to ICTs; eLang Viet and REACH Afghanistan are just two examples of this trend.

3.3.3 ICT applications

In line with technological progress as well as broadening connectivity, ICTs offer more and more application opportunities (see Boxes 3.5 and 3.6). In this way the scope of possible social and economic benefits to be reaped from ICTs increases over time, often transforming ICTs into one of most important determinants of sustainable development. Many ICT applications have no commercial character and from the very beginning require fully or partial involvement of the public institutions as well as public funds to thrive. The potential benefits and positive spill-over effects of these applications in other sectors of the economy have encouraged governments to foster their development through initiatives such as e-government, e-learning, e-health, e-employment, e-environment, e-science. Sometimes even e-business or e-agriculture, belonging to the main

¹² A similar situation exists at the infrastructural level. The impact of programs to increase access to ICTs depends on the availability of other infrastructural networks in the targeted communities, in particular for the provision of electricity.

Box 3.5: ICT Applications in selected economies

In **Azerbaijan**, the Ministry of Communication and Information Technologies (MCIT) in partnership with United Nations Development Program (UNDP), has developed the *National e-Governance Network Initiative*. It supports efficiency, transparency and accountability in the public sector through the rapid and coordinated expansion of e-governance systems, and policies that enable them, to contribute to the delivery of services and protection of rights. The project consist of four key outputs: a) the creation of a National Internet Infrastructure and e-Government Network; b) establishment and adoption of a Civil Service Code of Practice on privacy and protection of data, and security of state computer systems; c) appropriate training of trainers to ensure widespread compliance with the Civil Service Code of Practice throughout all levels of governments; and d) the creation of a top level government information portal, and pilot Citizen-to-Government information access kiosks in six regions of the country.

In **Egypt**, the ICT Trust Fund, in cooperation with UNDP as well as other partners including private companies sponsoring the portal and NGOs using and it and supplying content, have developed *The Community Knowledge Generation E-Library Initiative* (CKGeL). The objective of this project was to create electronic libraries and establish a mechanism that will enable information gathering, validation and maintenance that is relevant to local communities and can be provided in digital format. This facilitates its dissemination to end users digitally and, when necessary, in printed format, using traditional or "print-on-demand" techniques. Additionally, this project defines a strategy for stimulating local knowledge generation, fostering research capabilities using ICT at the school or community level. It will also provide tools for machine translation and text-to-speech in Arabic language, in order to enable access to information stored in the E-Library to the illiterate, blind and physically impaired.

In **Pakistan**, the Ministry of Information Technology IT & T Division, in partnership with many stakeholders, has developed the portal *Pakistan Health Information Online* (Health Information Resource Centre). The purpose of this project is to establish an online repository of reliable, timely and easily accessed health information generated within the country and abroad to all health professionals, researchers, policy-makers and planners through one website. This health information includes the directory of health research, health studies and databases of hospitals and doctors of Pakistan, full text of 29 Pakistani journals, surveys and reports etc. It also aims to promote IT knowledge to the health professionals through training on specially designed computer software for data compilation and its electronic conversion. All this information is envisioned to be disseminated through a web portal. It is also planned that major libraries within the country will be linked to this portal.

In **Romania**, the Ministry of Communications and Information Technology in partnership with the Ministry of Health has created a health portal that provides a unique entry point in terms of information related to health sector services, and is available both to patients and medical staff. It secures the online presence of institutions in the medical field and facilitates communication between medical staff both within the country and abroad. Through providing for basic information on diseases, treatment, medicines etc, the project will increase the importance of preventive medicine and will contribute to the reduction of administrative and social costs of diagnosis and offering treatment.

In **Thailand**, the National Electronics and Computer Technology Centre in partnership with the Japanese Centre of International Cooperation in Computerization (CICC), is working on *Automatic Web Translation Services*. This project aims to develop English-to-Thai and Thai-to-English computer-based translation service on the Internet. Since 1996 NECTEC has been developing a language translation system with the CICC. This project serves as a lab model and provides information on studies related to language translation machines.

Source: Selected from WSIS Stocktaking Database entries, at: <http://www.itu.int/wsis/stocktaking>.

potential fields for commercial applications, are funded by the public sector on a seed funding basis, leading to eventual self-sustainability.

Nevertheless, it is difficult to deny the importance of multi-stakeholder partnerships for the development of ICT applications, particularly in the case of developing countries, where MSPs are possibly one of the most important drivers of their implementation. The heightened importance of MSPs in developing countries is due to several factors:

- Firstly, public funds may be too scarce to bear all costs of implementation of innovative applications. In particular in developing countries, confronted with high expenses for development related matters, governments may be motivated to rely on private capital in order to fulfil the tasks entrusted to the state. From this perspective, each participation of multilateral organisations or private sector in development of ICT applications may be highly appreciated.
- Secondly, the development of ICT applications, particularly in developing countries, sometimes involves high **investment risk** that may exceed the financial potential of local innovators. Involvement of governments and multilateral organisations in the ICT application related projects may lead to the diminishing the investment risk and can have tangible impact on sustainable development of ICT application sector.
- Thirdly, the multi-stakeholder partnerships foster **knowledge diffusion**. One should expect that international MSPs, in particular, should be fruitful in terms of the import of best practices from the foreign countries and should contribute to accelerated human-capacity building. However the role of

Box 3.6: ICT applications in selected inter-governmental organisations

FAO (Food and Agriculture Organization of the United Nations), in close cooperation with many regional partners, has created the *Farmer Information Network* (FarmNet), which is a conceptual model for using the new ICTs for agricultural and rural development. It aims at creating a network of rural people, supported by intermediary organizations such as extension services, using ICTs and conventional media to facilitate the generating, gathering and exchanging of knowledge and information. FarmNet projects are ongoing in Bolivia and Namibia with projects in the pipeline for East Africa and Latin America.

The **International Trade Centre** (UNCTAD/WTO) in partnership with local chambers of e-commerce, is promoting the *e-Business Forum*. Regional e-Business Forums concentrate on exploiting emerging e-business opportunities and applying new technologies to promoting trade. E-Business Forums establish dialogue between export managers and strategy makers with responsibilities to promote international e-business. They combine learning, expertise sharing, interactive dialogue, networking, and business matching in a unique manner.

ITU (International Telecommunication Union), in cooperation with many regional partners from developing countries, has been promoting *Electronic Commerce for Developing Countries* for more than five years. ITU provides technical assistance in the implementation of e-business. Projects have been implemented in Africa, Asia, Latin America and Arab Region. Five regional seminars on e-business have been organized to address regional technology policy issues and strategies for e-business. ITU also provides direct assistance to developing countries in e-business technology policies and strategies.

UNCTAD (United Nations Conference on Trade and Development) is conducting consultations with key players of the tourism sector in order to create a *Partnership on E-tourism*. As tourism is an information-intensive service, the UNCTAD e-tourism initiative is designed to give developing countries the technical means to promote, market and sell their tourism services online.

UNESCO (United Nations Educational, Scientific and Cultural Organisation), in partnership with the National Informatics Centre (NIC) and Indian Open Knowledge Network (OKN), has developed a new software tool—*Open eNRICH*—which is a free and open source software programme for the creation and exchange of locally relevant knowledge within and between communities in developing countries.

The **UN Economic Commission for Africa** (UNECA) has developed the project *VARSIYNET: Enabling Innovations in the Information Society through Research and Development*. VarsityNet programme builds fosters cooperation in R&D programmes and exchange of know-how. Projects supported by the Ford Foundation are taking place in the Inter-University Council for East Africa (IUCEA) and the Addis Ababa University (AAU). These are E-government Services and African Language Development. The former aims to contribute to improving efficiency and effectiveness in managing data and information within the administration of a regional institution, the IUCEA. The latter is based on the use of an African language in enabling greater access by to government services at a grassroots level. Both are using open source as a key element.

Source: Selected from WSIS Stocktaking Database entries, at: <http://www.itu.int/wsis/stocktaking>.

national MSPs should not be undervalued. In this way the international MSPs can contribute to development of the digital sector in developing economies.

- Fourth, fostering MSPs that focus on the development of ICT applications contributes to the **enhanced innovation dynamics**. Since the MSPs bring together parties of different origin, very often well informed about local needs, the ICT applications can achieve a higher rate of successful implementation.
- Fifth, development of ICT applications by MSPs that involve international partners, such as multilateral organisations, international business entities, or even international civil society stakeholders, fosters the **internationalisation process**. Very often the national partners will go beyond purely national approaches.
- Sixth, MSPs foster development of the **local e-content**. In particular, in the case of developing countries, the question of the preservation of national culture and heritage is an important issue as together with the accelerating internationalisation process the influence of the other cultures can be pervasive.

As shown in all the examples above, the use of multi-stakeholder partnerships strategies in projects aiming at bridging the digital divide is already making a difference around the world. Although the partners and their contributions may differ from one project to another, all of them have in common the interest of sharing knowledge, resources and competencies to increase access to ICTs. It is clear that the ultimate goal of promoting development and fulfilling the MDGs can only be achieved through collaboration. The following chapter discusses the advances made in achieving such goals.

4 MEASURING THE DIGITAL DIVIDE

4.1 Digital divide trends

One of the main challenges in bridging the digital divide is to quantify its extent; this includes monitoring change over time and tracking *qualitative* changes in the nature of the divide. However, there are difficulties in achieving international consensus on an evaluation approach; this is the subject of Chapter four.

In assessing the extent of the digital divide, it is useful to look at the “bearer” ICTs, or those networks, services and hardware that provide a platform for the development of other information and communication services. Figure 4.1 shows the progress in reducing the digital divide among the four key bearer ICTs:

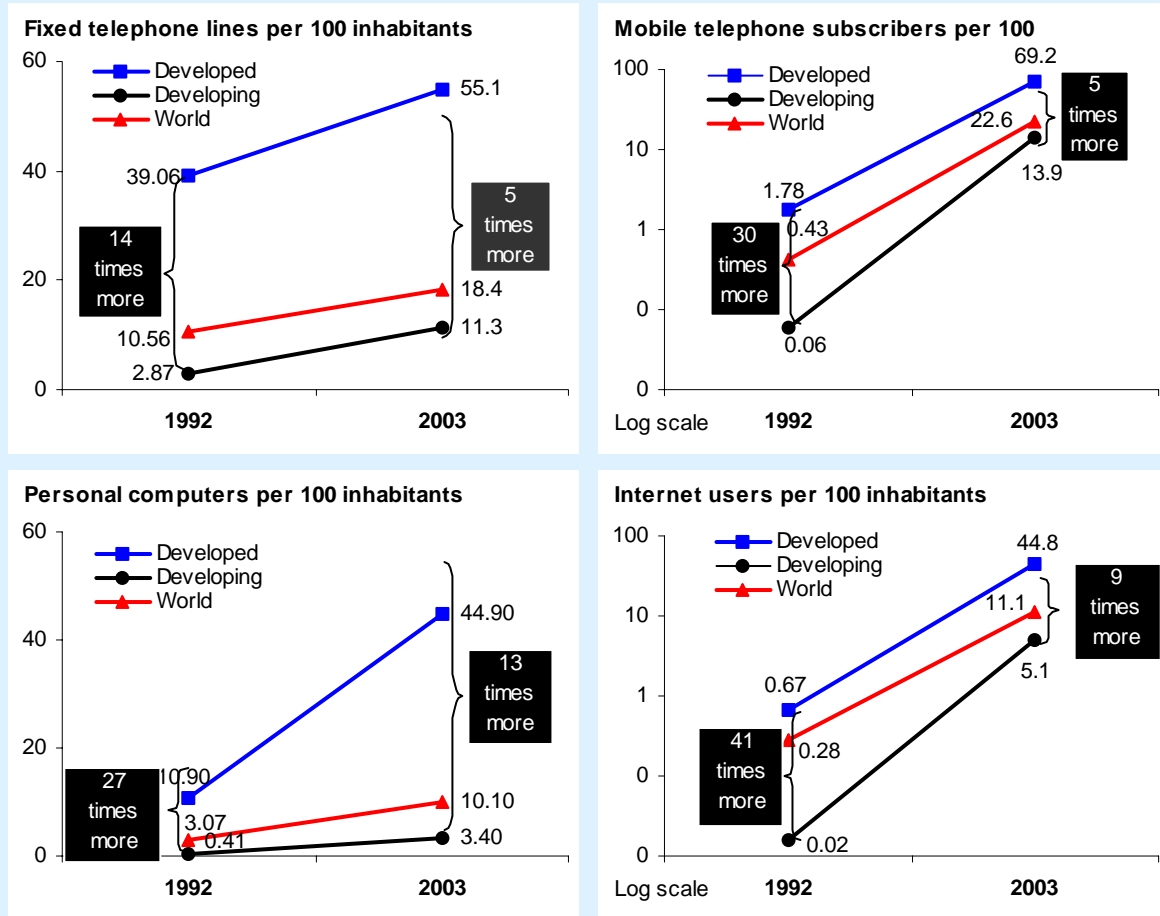
- For **fixed line telephone networks**, which form the main telecommunication infrastructure, the digital gap fell from 14 times to 5 times greater, in the decade between 1992 and 2003, as economies such as China and Viet Nam greatly expanded their fixed-line networks.
- For **mobile telephones**, the reduction is even more dramatic. Mobile phones began in commercial service in the early 1980s, and took around twenty years to reach their first billion users. But the second billion was reached in just four years, between 2002 and 2005. During the decade, the digital gap was reduced from 30 times to five times. Since 2002, mobile phones have outnumbered fixed-lines and will soon be more diffused than them. Indeed several developing countries—like Cambodia, Morocco, South Africa and Uganda—already have many times more mobile phones than fixed line telephones.
- **Personal computers** are one area where the digital divide is not narrowing quite so quickly. Although the level of penetration in developing countries has risen from one PC for every 243 inhabitants in 1992 to one for every 29 in 2003, this is still a long way behind the rate of one PC for every 2.2 inhabitants in developed economies. The digital divide is wider in PC ownership than any of the other indicators tracked here. One reason for this is because of the high cost of acquisition and of ownership (e.g., upgrading memory, software etc) of a personal computer. The advent of low-cost computers and laptops, together with the widespread adoption of free and open-source software, may help to reduce the digital divide for PCs.¹³
- But the most dramatic reduction of all in narrowing the digital divide has come in **Internet** use, where, between 1992 and 2003, the gap between developed and developing narrowed from 41 times more to 9 times more. Interestingly, although there are fewer estimated Internet users than PCs in developed countries (44.8 and 44.9 per 100 inhabitants respectively), in developing countries there are more Internet users than PCs (5.1 and 3.4 per 100 inhabitants). This suggests the significance of Internet access from cybercafes, post-offices, schools, universities and other public Internet access centres (PIACs) in the developing world.

As the evidence shows, for the main bearer networks the digital divide is *narrowing* as diffusion spreads, and in most cases at an accelerating pace. Nevertheless, because technological change is also accelerating, and ICT innovations are being introduced on an almost daily basis, the popular impression is that the digital divide is *expanding*, because each succeeding ICT innovation starts the diffusion process all over again. Innovations tend to start in the richer countries and spread to the poorer ones.

¹³ A number of efforts have been launched to bridge the digital divide by developing low-cost, “thin-client” equipment to substitute for personal computers. These include the [Nivo](#) and the [Simputer](#). One recent project is the “US\$100 laptop” announced by the MIT Media Lab and United Nations University during the WSIS Thematic Meeting on Ubiquitous Network Societies (see: http://www.unu.edu/hq/rector_office/press2005/mre12-05.doc). The partnership aims to have working prototypes available for demonstration at the Tunis Phase of the [World Summit on the Information Society](#) (WSIS), from 16-18 November 2005. The initial specifications for the laptops are 500 MHz processor, 1 GB hard drive, wi-fi enabled, and running LINUX. Over time, it is planned that the laptops would become more powerful, but not more expensive.

Figure 4.1: The digital divide is narrowing, but faster for some than others

The pace of reduction in the digital divide, between developed and developing countries, between 1992 and 2002, for fixed telephone lines, mobile phones, personal computers and Internet users per 100 inhabitants



Note: A logarithmic scale is used in the right-hand charts. “Developed” includes Western Europe, Australia, Canada, Japan, New Zealand and the United States. “Developing” refers to all other economies.

Source: ITU World Telecommunication Development Report 2003: Access Indicators for the Information Society.

4.2 Visualising the digital divide

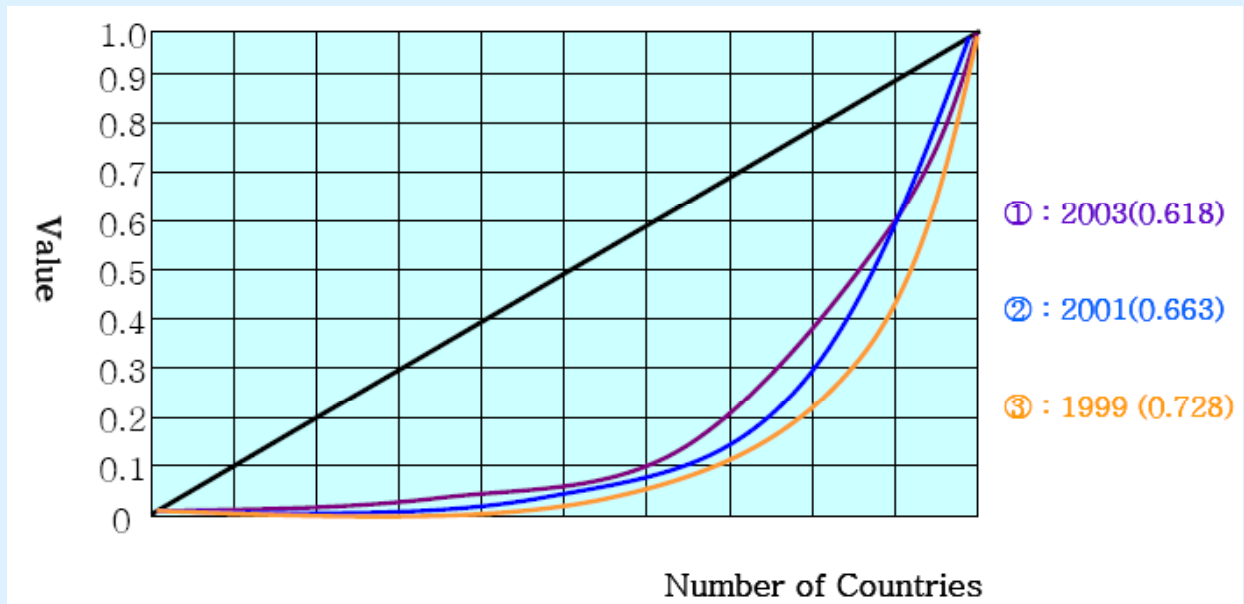
One way of visualising this process of diffusion is to use a Lorenz curve, which is a measure of how closely a distribution of a particular innovation or service resembles an idealised one. The Lorenz curve is typically used alongside a Gini coefficient, which is a statistical measure of the gap between the ideal curve (total equality) and the actual Lorenz curve for a particular distribution. By measuring the transition in the Gini coefficient over time, it is possible to gauge the extent to which the digital divide is being reduced. For instance, as Figure 4.2 shows, the Gini coefficient for the global divide in Internet users has been reduced from 0.728 in 1999 to 0.618 in 2003.¹⁴ However, other evidence suggests that the progress in reducing the digital divide has occurred mainly through the process of middle-income countries catching up, whereas some of the least developed countries (LDCs) have actually been falling behind.¹⁵ This can be seen, for instance, in the lower chart in Figure 4.2B where the progress at the high and middle end of the scale is much greater than at the bottom end of the scale, in the countries ranked at 150 and below.

¹⁴ See Cheong-Moon CHO (2004) “How to measure the digital divide?” Paper presented at ITU/MIC/KADO “Digital Bridges Symposium”, 10-11 September 2004, Busan, Republic of Korea, at: <http://www.itu.int/digitalbridges/docs/presentations/02-Cho-Background.pdf>.

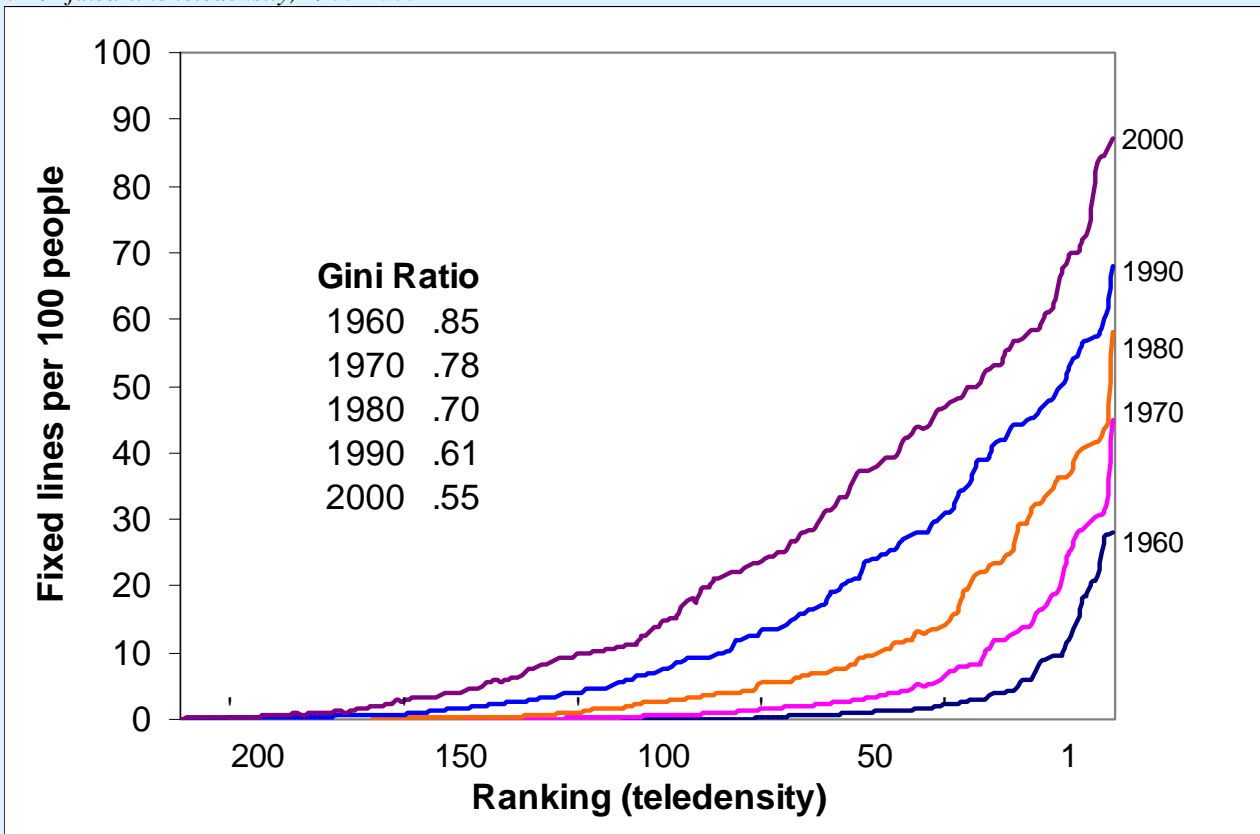
¹⁵ See, for instance, Sciadas, George (ed. 2003) “Monitoring the digital divide ... and beyond”, available at: http://www.orbicom.uqam.ca/projects/ddi2002/2003_dd_pdf_en.pdf. See also the analysis presented in ITU (2002) “World Telecommunication Development Report: Reinventing Telecoms”,

Figure 4.2: Using Gini coefficients to show progress in reducing the digital divide

A. For Internet Users, 1999-2003



B. For fixed-line teledensity, 1960-2000



Note: The Gini coefficient varies between 0 and 1 where 0 reflects absolute equality.

Source Upper chart, Cheong-Moon CHO (KADO), based on data from ITU World Telecommunication Indicators Database. Lower chart, ITU.

Because of this problem of the long “tail” of the teledensity curve (in other words, countries with the lowest teledensity exhibiting the slowest growth), it can sometimes be more meaningful to look at progress in crossing particular thresholds. Consider the following:

- At the time of the publication of the Maitland Commission report, in 1985, some three billion people, or around half of the world’s population, lived in economies with a teledensity (telephone lines per 100 inhabitants) of less than one. The global average teledensity was around seven. There were fewer than one million mobile phones worldwide and only a few tens of thousands of Internet users (the World Wide Web did not yet exist).
- Now, in mid-2005, only eight economies¹⁶, with a population of less than 160 million, or around 2.5 per cent of the world’s population, have a total teledensity (fixed and mobile combined) of less than one. The global average total teledensity is around 50. There are some two billion mobilephones worldwide and around 750 million Internet users.

The examples of the two most populous economies, China and India, illustrates the progress that has been made since 1985:

- In China, where, in 1985, the fixed-line teledensity was just 0.3 per cent, it reached 20.9 per cent in 2003, while mobile density had reached 21.5 per cent.
- in India too, fixed-line teledensity increased significantly, from 0.4 per cent in 1990 to 4.6 per cent in 2003, while mobile telendensity reached 2.5 per cent.

Thus, it is now possible to demolish some of the myths that have persisted about the digital divide. For instance:

- “*There are more telephones in Tokyo than in the whole of Africa*”. WRONG. Although this was true at the time the Maitland report was written, it was already false by the late 1990s. As of the start of 2004, there were around 25 million fixed lines and more than 50 million mobile phones in Africa, which is several times more than the total population of Tokyo.
- “*Half of the world’s population have never made a telephone call*”. WRONG.¹⁷ This particular sound bite, which is still repeated by some of those who should know better, is frozen in time. It may have been correct around 20 years ago, but now it is almost certainly false. Although there are still large segments of the world’s population that do not have access to a telephone, and probably could not afford to make a call, this is far less than half the world’s population. ITU estimates, based on the number of households and villages that have telephone access, suggest the number is close to one-fifth of the world’s population that have no telephone access (see Figure 4.3).
- “*There are more Internet users in Iceland than in Africa*”. WRONG. This particular soundbyte came from ITU’s 1999 report “Internet for Development,” and again was true at the time, but has long since been overtaken by technological progress. At the start of 2004, there were an estimated 12.4 million Internet users in Africa, which exceeds by around 40 times, the total population of Iceland.

In reality, it is often more politically correct and convenient to stress the downside of the digital divide rather than reflect the reality of rapid growth and diffusion of ICTs that is currently going on in the developing world. Furthermore, to focus on the extent of the digital gap downplays the excellent efforts that are going on across the globe to bridge the digital divide, efforts that are the focus of this report.

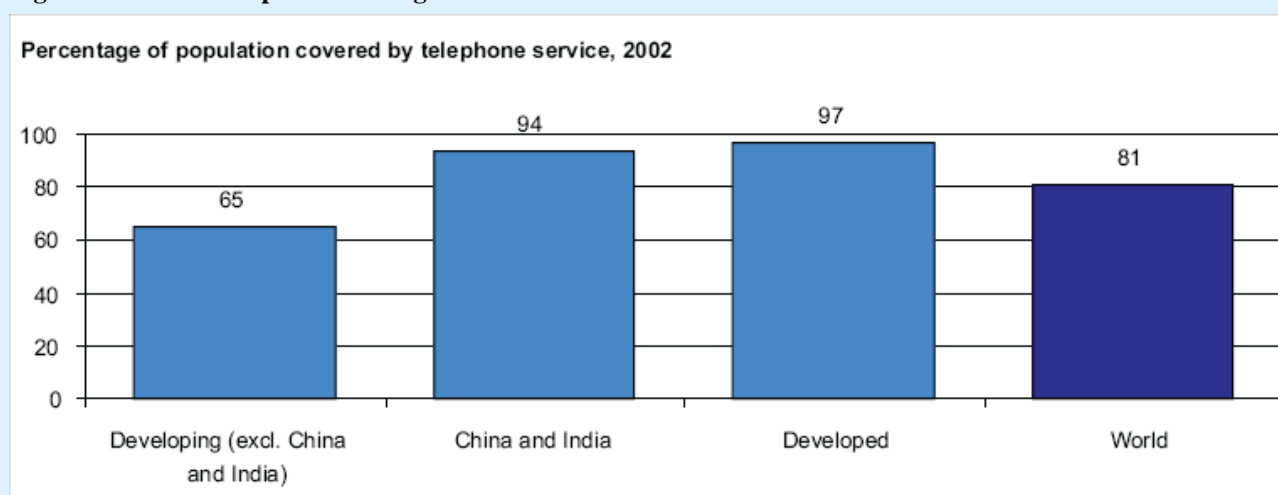
4.3 Using composite indices to measure the digital divide

As shown above, there is not a single digital divide, but rather a plurality of divides, related to factors like wealth, development, age, gender, education, etc. Furthermore, for each of the different bearer ICTs, which are at different stages of their product life-cycle, there are different degrees of digital divide. For these

¹⁶ The eight economies with a total teledensity of less than one, at the start of 2005 were: Central African Republic, Chad, Eritrea, Ethiopia, Guinea-Bissau, Liberia, Myanmar and Niger.

¹⁷ This particular factoid was effectively debunked by Clay Shirky in his 2002 article “Sorry, wrong number” which appeared in Wired Magazine, see: <http://www.wired.com/wired/archive/10.10/view.html?pg=2>.

Figure 4.3: World telephone coverage



Source: ITU World Telecommunication Development Report 2003: Access indicators for the information society.

reasons, it is appropriate to use a composite index, or “basket” approach, to measuring the extent of the digital divide. This is what is called for in the WSIS Plan of Action, which specifically calls for (para 28a):

“In cooperation with each country concerned, develop and launch a composite ICT Development (Digital Opportunity) Index. It could be published annually, or every two years, in an ICT Development Report. The index could show the statistics while the report would present analytical work on policies and their implementation, depending on national circumstances, including gender analysis.”

In order to initiate this work, consultations were launched at the WSIS Thematic Meeting on Measuring ICT for Development, held in Geneva on 7-9 February 2005. Although several composite indices already exist, notably those from Orbicom, ITU, UNCTAD, GTR and others, it was felt necessary to take a fresh approach, based on the core list of indicators adopted at the WSIS Thematic Meeting.¹⁸ Accordingly, a “straw-man” document on a possible methodology was developed (see document WSIS-BDB/6), and applied to 40 leading economies. It is presented at the WSIS Thematic Meeting on multi-stakeholder partnerships for bridging the digital divide, Seoul 23-24 June 2005, for further consultations and comments. The initial results from the “straw-man” document are encouraging, in that the new digital opportunity index appears to be:

- relatively **robust**: for instance, adding in new factors likely to affect the digital divide, such as variations in knowledge, does not appear to change the rankings greatly;
- **flexible and modular**: because of the design principles used, new indicators, or groups of indicators can be added relatively easily, meaning, for instance, that it could be combined with existing composite indices (like the UNDP Human Development Index), or extended or adapted for specific purposes;
- easily **disaggregated** into its component parts, for instance to distinguish between mobile and fixed-line networks and services;
- easily **adapted** for use within countries (e.g. between regions or between urban and rural areas), as well as between countries;
- **strongly-correlated** with the main factor underlying the digital divide, namely wealth (see Figure 4.4). This means that further policy analysis can be carried out to exclude wealth as a predictive variable, and to focus on other variables more amenable to policy change. For instance, as Figure 4.5 shows, certain Asian economies, like the Republic of Korea; Taiwan,China; Singapore and China are doing much better than would be predicted by their level of wealth, whereas other economies, like the United States or Austria, are doing much worse.

¹⁸ This is an important methodological step, because the alternative approach (beginning with the index and then deciding upon the component indicators) lays itself open to the criticism that the indicators are chosen to achieve certain results.

Figure 4.4: Relationship between the digital opportunity index (DOI) and national wealth

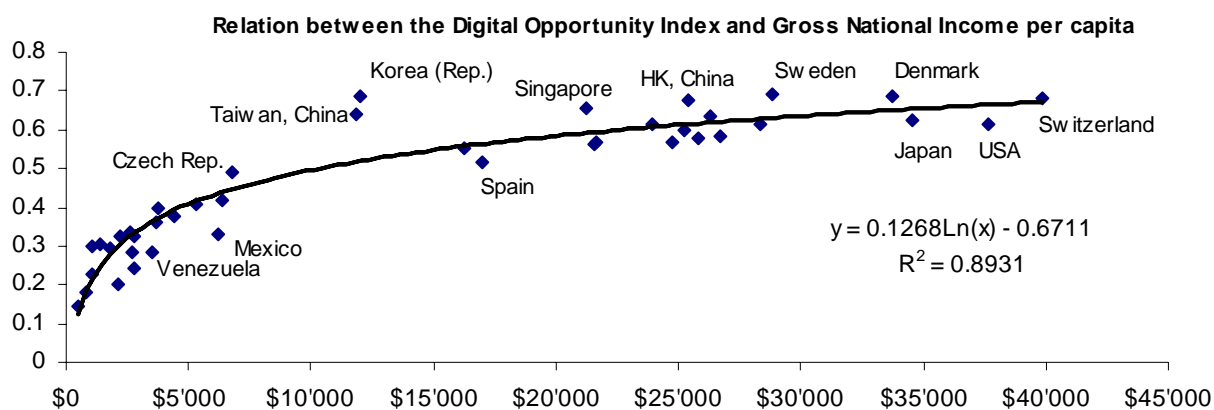
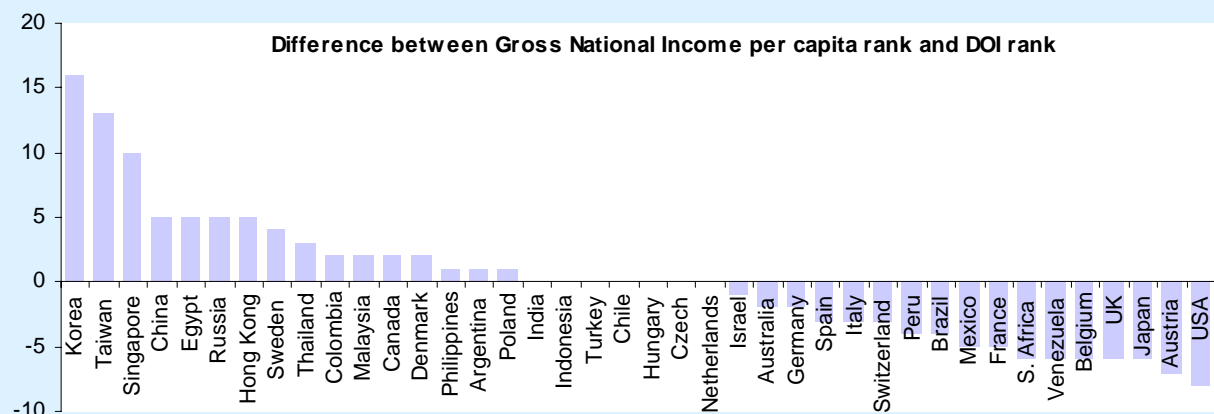


Figure 4.5: Countries whose DOI ranking is affected strongly by factors other than national wealth



Source: Minges, Michael (2005) *Measuring Digital Opportunity*, paper commissioned for WSIS Thematic Meeting on multi-stakeholder partnerships for bridging the digital divide, Seoul, 23-24 June 2005, at www.itu.int/wsisbridges.

Following a further period of online consultations, the methodology will then be further refined and extended to cover a greater range of countries. It is hoped that the digital opportunity index will be one of the lasting legacies of the WSIS process, and will provide a useful tool in measuring national and international progress towards bridging the digital divide.

5 OVERCOMING BARRIERS AND ENHANCING PARTNERSHIPS

While it is relatively easy to establish multi-stakeholder partnerships (MSP), and to issue press releases and build websites and the like, it can be harder to keep them going and to ensure that all partners keep their promises. The key word is “sustainability”. In this chapter we look at some of the challenges faced by multi-stakeholder partnerships and at their success in overcoming barriers and establishing sustainable models of operation.

5.1 Ensuring financial support

Probably the biggest initial barrier to the success of an MSP, as well as the greatest long-term challenge, is to secure financial support. In the long-term, perhaps the only sustainable business model is one in which users pay for the services they receive and the amount they pay covers the cost of providing the service. This is the

market model and it is the basis for virtually all telecommunication operations worldwide. But the examples covered in this report are those at the *margin*, where either a particular community or category of customer would not normally attract sufficient infrastructure investment by an operator, or they may not be able to afford to pay. In other words, the projects described here apply primarily in areas of *market failure*.

A further element to this is that, although private investment, including foreign direct investment, in telecommunications has boomed during the 1990s—a period which coincided with many privatisation of incumbent network operators, as well as the licensing of mobile operators—this “investment now” boom seems to have slowed down. For private investment in telecommunications in developing countries (see, for instance, Figure 5.1), the volume fell to less than US\$ 2 billion in 2002, compared with a peak of US\$ 70 bn in 1998, while for bilateral ODA (overseas development assistance) for ICTs, investment fell from a peak of US\$1.4 bn in 1992 to US\$200m in 2002. It is too early to tell whether this marks a definitive shift, or just a temporary blip.

Typically, there have been a number of different responses to market failure and strategies for reaching the “unphoned” in the telecommunications sector:

- Historically, a **cross-subsidisation** of prices between more profitable long-distance and international services to loss-making local services helped keep the cost of ownership (installation and subscription charges, as well as local call charges) down to a minimum. However, as shown by ITU research,¹⁹ this usually resulted in long waiting lists, because the rich few that had access to the service were not paying sufficient to cover the costs of service they received, which meant that there was little investment in new capacity for the rest of the population.
- As competition in the fixed-line network became more prevalent, operators were increasingly obliged to move to cost-oriented pricing, and regulators began to favour **targeted price discounts** for specific groups within society. Examples include 150 units of call charge for blind subscribers in Greece, or special schemes for low consumption users in Italy. Other variations on this include the “lifeline” services, which are never disconnected, even if the subscriber is unable to pay.
- As mobile phones become more popular, so **pre-paid cards** have become the accepted way of providing service to low volume users. Indeed, in parts of Africa and other developing regions, more than 90 per cent of mobile phone users are on pre-paid schemes.²⁰ Although pre-payments can often turn out more expensive than a subscription, they are popular for users with low or unpredictable incomes, because they allow expenditure to be controlled. Pre-paid cards also lend themselves to direct subsidy schemes. For instance, in the United Kingdom, job seekers were given pre-paid cards under a pilot scheme to help them to find work. The pre-paid concept can also be used for fixed-line telephones, as is the case, for instance, in the Philippines.
- During the 1990s, an idea much in vogue was the creation of **telecentres**, or public centres providing access to a wide range of ICTs. Although there are many variations (e.g., telecottages, multi-purpose telecentres, digital community centres etc), the basic principle is the same; namely to provide funding for a certain period, and thereafter to let them become self-sustaining. The experience of telecentres is recorded in more detail in section three of this report. The relatively high failure rate of telecentres, and their perceived high cost, has meant that they have sometimes been overshadowed as a policy tool by entrepreneur-driven initiatives, such as those discussed below.
- The **liberalisation of payphone markets** is a relatively simple, cost-free step that governments can take, which often has a dramatic impact on extending access and creating employment. Probably the two most cited examples in the literature of how this can work are the examples of private teleshops in Senegal²¹ and village phones in Bangladesh. In Senegal, more than 2’000 privately-owned

¹⁹ See ITU (1998) *World Telecommunication Development Report: Universal Access*, especially chapter two, at: http://www.itu.int/ITU-D/ict/publications/wtdr_98/index.html.

²⁰ See, for instance, ITU (2004) “Shaping the future mobile information society: The case of Morocco, available at: <http://www.itu.int/osg/spu/ni/futuremobile/general/casestudies/Moroccocase.pdf>. Around 96 per cent of Moroccan users are on pre-paid schemes.

²¹ See, for instance, Zongo, Gaston Télécentres au Sénégal, at: <http://ariane.mpl.ird.fr/textes/enjeux/g-zongo/g-zongo.htm>.

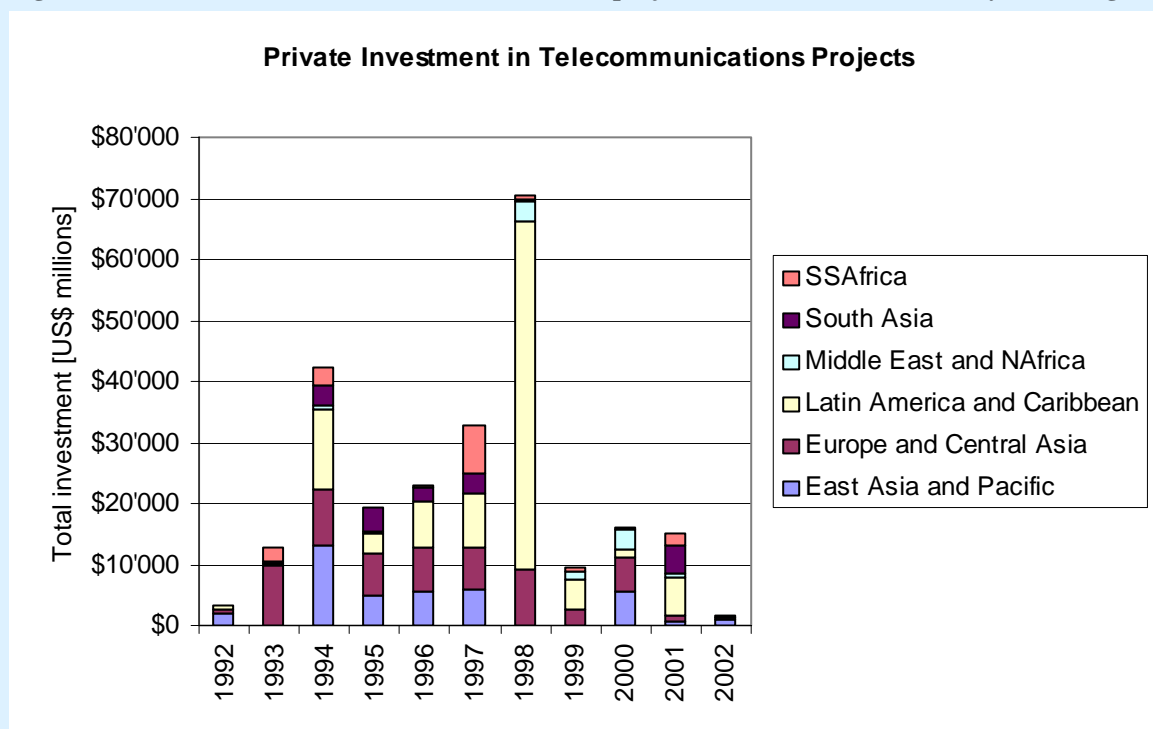
Box 5.1: The VillagePhone Initiative in Uganda

The Uganda VillagePhone Initiative is intended to create opportunities for poor rural individuals, especially women, to become “Village Phone Operators,” operating a payphone. The project is based on the well-known VillagePhone project pioneered by Grameen in Bangladesh, which has provided services to over 39’000 villages, and employment to some 45’000 women phone operators (“VP ladies”). Grameen Foundation USA is one of the partners, along with cellular operator, MTN Uganda—which provides special airtime rates—Uganda Women’s Financial Trust and Uganda Microfinance centre. Profiles of some of those who have been provided with an income include:

- Ms. Sophia Nalujja has been a successful borrower from Uganda Women’s Finance Trust Limited (UWFT) for many years and is currently on her fifth loan cycle. Married with seven children, she runs a small eating establishment in the village of Kiwangula in the Kayunga district. Through all of her business ventures, she now earns around 280’000 Ugandan Shillings (US\$ 157 per month). Previously, working as a farmer, she earned less than a fifth of that amount.
- Ms. Josephine Namala owns a small retail shop in the remote village of Lukonda in the Kayunga district. Before she began operating her VillagePhone business, people in her community had to walk more than 5km to make a phone call. In the evenings, large groups of people gather in front of her store with FM radios to listen to call-in radio shows; they use her village phone to call the radio stations and make their opinions heard nationally.

Source: [Uganda villagePhone initiative](http://www.mtnvillagephone.co.ug) at www.mtnvillagephone.co.ug.

Figure 5.1: Private investment in telecommunication projects worldwide, 1992-2002, by world region (US\$m)



Source: World Bank PPI Database, cited in report of UN Task Force on Financial Mechanisms, at: <http://www.itu.int/wsis/tfm/final-report.doc>.

telecentres had been created within a few years of liberalisation of this market in 1992, providing an estimated 4’080 jobs. In Bangladesh, the Grameen Telecom’s Village Phone programme provided micro-credit loans to women in Bangladeshi villages to provide telephone service to their fellow villagers.²² The model has now been successfully exported elsewhere in the world (see Box 5.1).

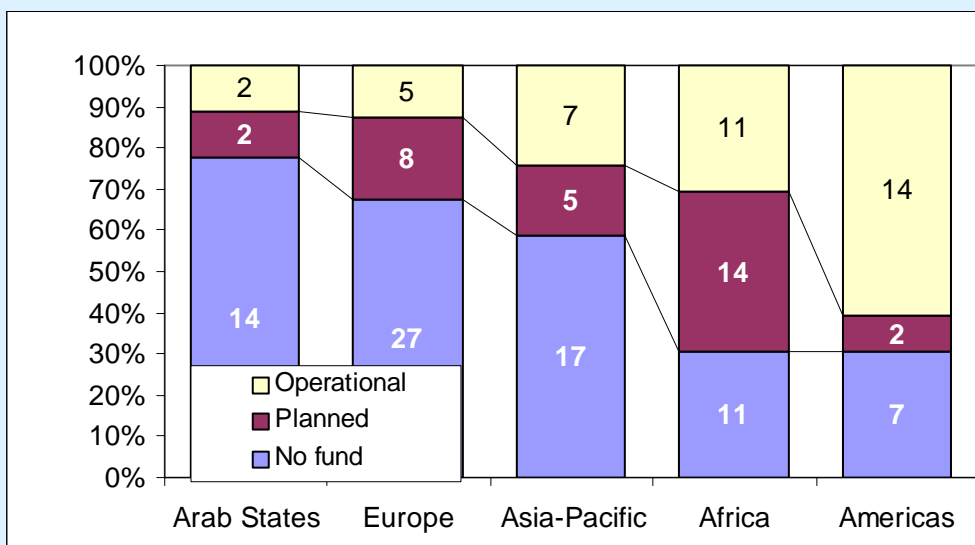
²² See, for instance, Grameen Telecom’s Village Phone Programme: A Multi-Media Case Study, online at: <http://www.telecommons.com/villagephone/section1.html>. A more recent study *Grameenphone revisited: Investors reaching out to the poor*, is available at: <http://www.oecd.org/dataoecd/36/6/33962074.pdf>.

Box 5.2: Universal Service Funds

For many years, policy-makers struggled with the conundrum of how to reconcile the desire to increase the level of competition with the desire to continue to oblige the incumbent operator to sustain universal service obligations (USOs). In some countries, notably in Europe, the approach has been to try to estimate the costs of maintaining the USO. In most cases where this approach was followed, the USO was found to be relatively small compared to the inherited advantages and dominant position that the incumbent usually still holds. In some countries, an approach based on access deficit charges was used, whereby the new entrants would subsidise the USO through their interconnection charge. However, this has proved to be a political football and has sometimes been dropped almost as soon as it was adopted. Other countries allow the incumbent to cross-subsidise their loss-making operations, for instance through the tariff structure, or have direct government subsidies made available to cover the USO. One of the more innovative approaches has been adopted in Guatemala, which was the first country in the world to adopt secondary spectrum trading, and uses 70 per cent of the funds obtained from spectrum sales for subsidising USOs.²³

However, another approach to meeting USOs, which is gaining popularity, is to establish a Universal Service Fund. By 2004, some 39 countries had established Universal Service Funds, and a further 31 were planning to do so. Universal Service Funds appear to be most popular in the Americas, perhaps following the long-standing models established in Canada and the United States. Although funding models differ, the typical approach is to require all carriers (sometimes just new entrants; or sometimes only telephony service providers) to contribute a share of their revenues (or their profits) to the fund. They would then be able to draw upon the funds available when investing in areas designated as being economically marginal or under-supplied. In the case of South Africa, for instance, some 0.16 per cent of all operators' revenues were contributed to a fund established in 1997 and administered by a Universal Service Agency.²⁴ Most of the funds have been used for Telecentre projects and more recently to help establish local network operators in designated under-served areas (who are permitted to use Voice over IP to reduce their costs). Another innovative approach to USO adopted by South Africa was to oblige GSM mobile licensees to install some 250'000 cellular payphones as part of their license award.

Box Figure 5.2: Current status of universal service, by region, 2004



Source: Based on analysis of responses from 146 ITU Member States to the ITU Regulatory Questionnaire, 2004.
Note: Some of those considered “planned” in 2004 might now be operational.

²³ See Iburguen, Giancarlo (2004) “Spectrum management for a converging world: Case study of Guatemala”, available at: <http://www.itu.int/osg/spu/ni/spectrum/guat-rsm.pdf>.

- Another type of initiative for providing subsidies to marginal social groups or rural communities is to use **universal service funds**. Although there are many different variations, these basically involve imposing a tax either on the operators in the market, or alternatively on consumers, and contributing this to a fund which can be used to cross-subsidise those projects which would not receive funding under the operation of the free market. The concept was pioneered in the United States,²⁵ where it was originally used to provide funding for telecommunications in rural communities, and more recently for projects such as providing Internet access in public libraries and schools (“e-rate”). Now it is used more widely, especially in the Americas (see Box 5.2).²⁶
- A further mechanism, particularly popular in Latin America, is that of **least-cost subsidies**, or reverse auctions²⁷. The basic concept is that those regions of the country that would not otherwise be profitable to serve can be designated by a regulatory agency, which then invites bids to serve the order, with the winning bidder being the one that proposes the lowest level of subsidy. In Australia, when the incumbent operator, Telstra, was invited to designate certain areas for competitive tendering, it chose to continue to serve all areas itself, without a subsidy, thereby reducing the universal service obligation. But reverse cost auctions have been conducted successfully in a number of other countries, including Chile, Peru and the Seychelles.
- Perhaps the newest innovation in tackling market failure is the establishment of **digital solidarity funds**. At the global level, the creation of the [Digital Solidarity Fund](#)²⁸, established in Geneva, as an innovative financial mechanism of a voluntary nature open to interested stakeholders with the objective of transforming the digital divide into digital opportunities for the developing world by focusing mainly on specific and urgent needs at the local level and seeking new voluntary sources of “solidarity” finance. The Fund itself was launched in Geneva on 14 March 2005 and initial contributions have been received from a number of sources, including the cities of Geneva, Lyon and Turin. One of the initial funding mechanisms for the fund has been a tax (levied at 1% in the City of Geneva) on public sector procurement of ICT networks and services. Another example of a digital solidarity fund at a local level is that established by non-governmental organisations in Hong Kong, China,²⁹ with support from the government of the special autonomous region (see Box 5.2).

The key to sustainable funding is to move beyond the pilot project stage towards full operation.

5.2 Establishing partnerships

Choosing to undertake a particular project through a multi-stakeholder partnership, rather than through the direct actions of one organisation, brings diversity and potentially dynamism to a project, but it also brings management challenges. The complexity of the management challenge rises with the addition of each new partner, and especially when adding new categories of stakeholder to the relationship. By definition, the interests of, say, the private sector, will be different from those of, say, civil society. But the coming together of different interests, when successfully executed, means that the whole can be greater than the sum of the parts. Furthermore, because of the creative tension between different interests, the process of negotiation and information-sharing is often a valuable part of the overall collaborative experience.

One of the longest-standing partnerships in the ICT field is the **Global Knowledge Partnership**,³⁰ which describes itself as a “worldwide network committed to harnessing the potential of ICTs for sustainable and

²⁴ See www.usa.org.za. A description of universal service funds around the world is available at: <http://www.inteleconresearch.com/pdf/ua%20funds%202004%20update.pdf>.

²⁵ See the FCC’s Universal Service Homepage, at: http://www.fcc.gov/wcb/universal_service/welcome.html.

²⁶ See Townsend, David (2003) *Creation and operation of universal service funds*, chapter four in ITU Trends in Telecommunication Reform 2003, and also available at: http://www.itu.int/ITU-D/treg/Events/Seminars/2002/GSR/Documents/07-USModel_part1_doc.pdf.

²⁷ See Sepulveda, Edgardo (2003) Minimum-subsidy auctions for public telecommunications access in rural areas, chapter five in ITU Trends in Telecommunication Reform 2003, and also available at: http://www.itu.int/ITU-D/treg/Events/Seminars/2002/GSR/Documents/08-USModel_part2_doc.pdf.

²⁸ See: <http://www.dsf-fsn.org/>.

²⁹ See: http://itrc.hkcss.org.hk/services/other_project/DSF_e.asp.

³⁰ See: <http://www.globalknowledge.org/>.

Box 5.3: An example of a digital solidarity fund (in Hong Kong, China)

The voluntary Digital Solidarity Fund, launched in Geneva on 14 March 2005, is seen as an innovative way of bridging the digital divide at the global level. But a digital solidarity fund (DSF) had already been launched in Hong Kong, China around 18 months earlier and now has a strong track record in funding projects aimed at digital inclusion.

The original idea for the Hong Kong DSF came from the Hong Kong Council for Social Service (HKCSS), a department of the Hong Kong Government, as a way of handling requests from Non-Governmental Organisations for financial support of digital inclusion projects. It was approved by the Legislative Council in November 2003 and received initial funding of HK\$ 1 million (around US\$130'000). Some of the first projects to be funded include:

- Assistance for the development of a Mobile Phone Location Estimation System, thought to be one of the most accurate non-satellite-based location systems in the world, and a study of their use in social services (e.g., to locate the whereabouts of visually-impaired people);
- The Cybersenior network development association; which aims to look at how the rapid development of IT has affected the elderly, both psychologically and socially. Cybersenior was established in 2001 and aims to promote computer usage among elderly people. Their work has included training classes, awareness raising events and the establishment of a portal, www.hk1001.com, to provide a platform for elderly people to share their IT experiences;
- Other projects, including the CTU Education Foundation, the Tung Wah Group of Hospitals and Caritas HK Services for the Elderly.

One interesting aspect of the initiative is the definition of ICT disadvantaged groups, which include, but are not limited to, the elderly, people with disabilities, single-parent families, low income families, new arrivals and women

Source: http://itrc.hkcss.org.hk/services/other_project/DSF_e.asp

equitable development". It was founded in 1997, with initial funding from the World Bank and the Government of Canada, and its headquarters are located in Kuala Lumpur, Malaysia. It now boasts some 100 members in 40 countries. One of the partnership principles is that the different stakeholders come together as equals. Its main public activities are annual Global Knowledge Conferences, the most recent of which took place in Egypt in May 2005, as well as an ICT4D web portal.

But partnerships can go wrong, and sometimes spectacularly so. An example of this was the partnership set up to manage the **Digital Opportunity Initiative**, which was established in 2000 following the G8 Okinawa Summit. The partners included an international organisation (UNDP), a private company (Accenture) and a non-governmental organisation (Markle Foundation),³¹ The partners contributed considerable sums of money to the partnership, and although it produced a glossy final report, it did not generate any lasting new projects and by the end, the partners were barely speaking to each other.

Nevertheless, the spirit of partnership underlying the Digital Opportunity Initiative was carried forward, notably in the **Digital Opportunity Task Force (DOT Force)**, the **UN ICT Task Force** and latterly the **World Summit on the Information Society (WSIS)**. A quick view on the diversity of partners involved in information society related projects could be gained from looking at the range of these projects submitted to the WSIS stocktaking database (see analysis in chapter two).³²

The WSIS stocktaking questionnaire also solicits information on the relationship between the activities submitted and the Development Goals expressed in the Millennium Declaration (MDGs). Around two-thirds of the projects submitted were considered relevant to the MDGs, and around half of these were particularly relevant to Goal #8, "Build a Global Partnership for Development," which includes Target #18, "in cooperation with the private sector, make available the benefits of new technologies, especially information and communications" (see Figure 5.2). Thus the multi-stakeholder partnerships for bridging the digital

³¹ See: <http://www.opt-init.org/>.

³² The WSIS stocktaking database can be found at www.itu.int/wsisis/stocktaking. The stocktaking activity was launched in October 2004 and will be reported to WSIS PrepCom-3 in September 2005.

divide can be seen as part of a wider development effort to create a new approach to social, economic and human development.³³

A further impetus to the concept of multi-stakeholder partnerships has come from the Report of the Cardoso panel of experts on UN-civil society relations, commissioned by UN Secretary-General Kofi Annan³⁴, which highlights the value of multi-stakeholder partnerships for tackling both operational and policy challenges. In their recommendations, they specifically call upon the United Nations to foster such partnerships. One initiative to take this concept further is the **UN Multi-Stakeholder Partnerships** proposal³⁵, which proposes the formation of a new “overlay” specialised UN agency to allow stakeholders and their constituencies to interact efficiently, using web-based ICTs. A drafting committee has been established under the patronage of the chairman of the first phase of the PrepCom process, H.E. Adama Samassekou (Senegal). But the requirement for such a new UN agency is as yet unproven.

5.3 Achieving sustainability

Although some projects are intended to have a limited lifespan, in most cases the aim is to go beyond the pilot project stage and to achieve sustainability. For instance, in the case of telecentres, over time, subsidies might be removed and user fees used to cover costs. Or to take another example, in the case of a project to digitise a library archive, after the initial project to digitise the backlog is complete, new acquisitions should be digitised automatically. However, the path from pilot project to full implementation is often littered with failures. Similarly, it seems part of human nature to follow what is new rather than sustain what is old. In some cases, it is actually preferable to close a project formally once some of the stakeholders have moved on, than to try to sustain it artificially.

But many partnerships do succeed in achieving sustainability over a long period (like the GKP) and, indeed, can replicate themselves, as the example of the VillagePhone initiative in Figure 5.1 shows. Some more examples of relatively long-standing multi-stakeholder projects include the following:

- The **African Virtual University** (www.avu.org) was established in 1997 with original funding from the World Bank. It is intended to provide access to high-quality tertiary education across the continent of Africa, harnessing the potential of ICTs (e.g., satellite television, Internet, videoconferencing etc). Following a proof-of-concept phase in 1997-1999, some 33 AVU learning centres were established across the continent in 2000-2001 and since 2002 has been now operational in 18 countries, with over 3'000 students enrolled. In addition to the World Bank, other partners include the Canadian International Development Agency (CIDA), the UK Department for International Development, private sector organisations (including Microsoft, H-P and Netsat), and overseas partners universities, like MIT (USA), Carleton University (Canada) and Royal Melbourne Institute of Technology (Australia).
- The **Digitization of Recordings of Traditional Chinese Music** project (<http://portal.unesco.org/ci/en>), which has been running since 1997, is aimed at making field recordings of Chinese music held by the Music Research Institute (MRI) of the Chinese Academy of Arts in Beijing digitally available. Seed funding was made available from UNESCO and other partners include the Austrian Research Sound Archives.
- The **Satellite Global HealthNet** network (<http://www.healthnet.org/>), established in 1991, provides a network of some 10'000 members with e-mail access and a library of web-based health information. The original technology used was low-earth orbit satellite, but this has since moved on to make use of the best connectivity available in the different countries where it is established, which include Eritrea, Ethiopia, Kenya, Nepal, Uganda and Zimbabwe. HealthNet's list of partners is impressive, including charitable foundations (like the Digital Partners Foundation and the Lewinson Family Fund), individuals (like Princess Catherine Aga Khan), private companies (like

³³ A progress report on achieving the MDGs is available at:

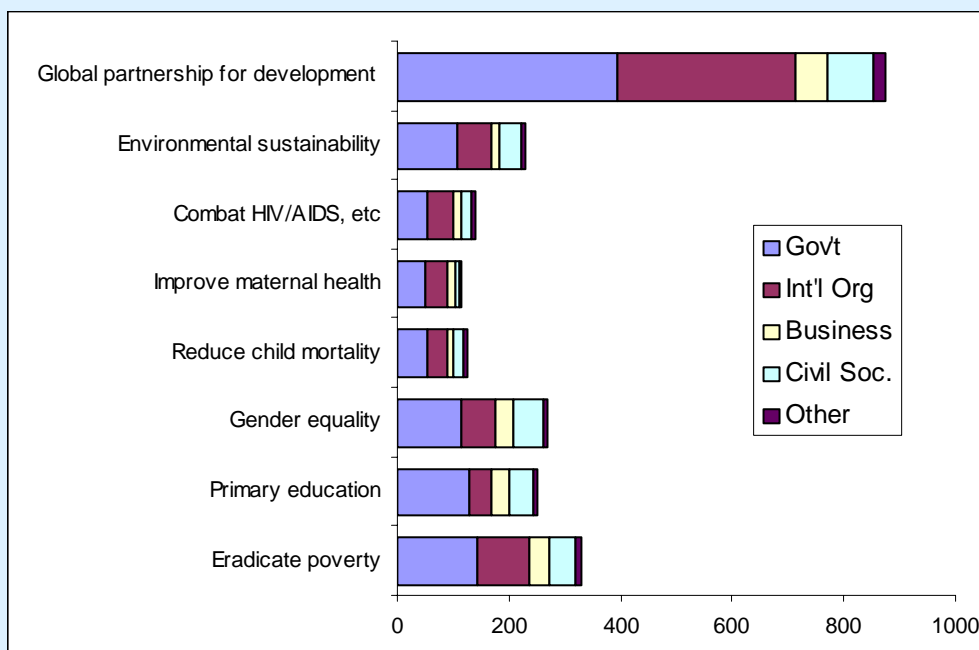
http://millenniumindicators.un.org/unsd/mi/mi_dev_report.asp.

³⁴ The report is available at: <http://www.wtis.org/DOCS/CardosoPanel2004.pdf>.

³⁵ See: <http://www.unmsp.org/>.

Figure 5.2: WSIS stocktaking activities related to the Goals expressed in the Millennium Declaration (MDGs)

Number of projects relevant, broken down by organisation submitting the activity



Note: The percentages total more than 100 per cent, as some projects are relevant to more than one MDG. Based on 1'674 activities submitted by 30 May 2005

Source: WSIS Stocktaking Database, at www.itu.int/wsisis/stocktaking.

PalmOne and Skyscape) and medical publishers. In addition, HealthNet works with the government health departments in the countries in which it is established.

- **World Links eLearning for Development** (www.world-links.org) was established in 1997 with a mission “to improve educational outcomes, economic opportunities, and global understanding for youth through the use of information technology and new approaches to learning”. It claims to have provided training to some 1.8 million students and 22'000 teachers through online teaching methods.

What are the secrets to long-term sustainability? Key elements in the examples quoted in this report include accommodating a broad range of partners and being able to anticipate and adapt to technological change. Another important element is long-term commitment from the partners, and their ability to focus on longer-term goals rather than being distracted by the latest passing fads. Among different donor organisations, the **Canadian International Development Research Centre (IDRC)** has a particularly good reputation in sustaining partnerships through to long-term viability. Examples of IDRC's successful projects include the **Institute of Connectivity of the Americas**, **BellaNet**, the **Acacia Initiative** and **Pan-Asia Networking**. IDRC's success may, in part, be due to its own longevity, having been founded in 1970, and the fact that it is involved in the development process more broadly, not just ICT for Development.

5.4 Conclusion

This background document, for the WSIS Thematic Meeting on multi-stakeholder partnerships for bridging the digital divide, held from 23-24 June 2005 in Seoul, Republic of Korea, has provided an overview of an exciting new approach to tackling a long-standing problem. As stated at the start of this report, the digital divide is now more than 160 years old. But most of the different multi-stakeholder partnerships highlighted in this report are only a few years old, at most. Progress towards bridging the digital divide has, at times, seemed painfully slow, but it has speeded up markedly in the last decade, since the arrival of mobile phones and the Internet. But just when it seems that one particular ICT is on the verge of reaching a mass market, another one comes along which creates a whole new divide. So 3G mobile will supersede 2G mobile and broadband will take over from dial-up Internet, creating potential new digital divides.

Multi-stakeholder partnerships will not replace the technology cycle and will not necessarily assist in reaching the masses; this will, hopefully, be achieved by the market. But at the margins, where markets are not so effective or are too slow in delivering facilities for community-based access, then multi-stakeholder partnerships have a crucial role to play.