

United Nations Activities Addressing the Digital Divide: Building "Digital Bridges" for the 21st Century

August 2000



**Prepared by the Centre for Global Studies at the University of Victoria
with the assistance of the International Development Research Centre**

Table of Contents

FORWARD	3
EXECUTIVE SUMMARY	4
THE CHALLENGE: THE GROWING DIGITAL DIVIDE.....	8
INTRODUCTION	8
BACKGROUND ACTIVITIES.....	9
<i>UN Commission on Science and Technology for Development</i>	<i>9</i>
<i>"We the Peoples, The Role of the United Nations in the 21st Century", a report by the Secretary-General of the United Nations.....</i>	<i>9</i>
<i>UN High-Level Panel of Experts on Information and Communication Technology.....</i>	<i>9</i>
<i>Economic and Social Council (ECOSOC) High-Level Segment.....</i>	<i>10</i>
<i>G8 Okinawa Summit.....</i>	<i>11</i>
CONNECTIVITY	11
<i>International Telecommunications Union (ITU).....</i>	<i>12</i>
<i>United Nations Development Programme (UNDP)</i>	<i>12</i>
<i>United Nations Educational, Scientific and Cultural Organization (UNESCO).....</i>	<i>12</i>
<i>Food and Agriculture Organization (FAO).....</i>	<i>13</i>
<i>International Fund for Agricultural Development (IFAD).....</i>	<i>13</i>
CAPACITY	14
<i>United Nations Development Programme (UNDP)</i>	<i>14</i>
<i>United Nations Educational, Scientific and Cultural Organization (UNESCO).....</i>	<i>15</i>
<i>United Nations Economic Commission for Africa (UNECA).....</i>	<i>15</i>
<i>United Nations Economic Commission for Latin America and the Caribbean (ECLAC).....</i>	<i>16</i>
<i>United Nations Development Fund for Women (UNIFEM).....</i>	<i>16</i>
<i>International Labour Organization (ILO).....</i>	<i>16</i>
<i>United Nations Information Technology Service (UNITeS).....</i>	<i>17</i>
<i>United Nations Volunteers (UNV).....</i>	<i>17</i>
<i>United Nations Institute for Training and Research (UNITAR).....</i>	<i>17</i>
<i>United Nations Research Institute for Social Development (UNRISD).....</i>	<i>17</i>
<i>United Nations University (UNU).....</i>	<i>17</i>
CONTENT.....	18
SUBSTANTIVE AREAS.....	18
<i>International Fund for Agricultural Development (IFAD).....</i>	<i>18</i>
<i>Food and Agriculture Organization (FAO).....</i>	<i>18</i>
<i>World Health Organization (WHO).....</i>	<i>19</i>
ENABLING FACTORS	19
<i>World Intellectual Property Organization (WIPO).....</i>	<i>19</i>
<i>UN Conference on Trade and Development (UNCTAD)</i>	<i>19</i>
RELATIONSHIPS.....	20
INTERNAL RELATIONSHIPS	20
<i>Administrative Committee on Coordination (ACC)</i>	<i>20</i>
<i>United Nations Task Force.....</i>	<i>20</i>
<i>World Bank Group</i>	<i>20</i>

EXTERNAL RELATIONSHIPS	21
<i>World Trade Organization (WTO)</i>	21
<i>Netaid</i>	22
<i>Global Network Readiness and Resource Initiative</i>	22
<i>The Private Sector</i>	22
CONCLUSIONS	23
<i>ICTs Have Entered the "Mainstream" of Development Discourse</i>	23
<i>A "Digital Funding Divide" May Be Emerging</i>	23
<i>Building on Experience</i>	23
<i>Internal Use of ICTs within the UN System</i>	24
<i>Input from the South</i>	24
<i>New Modalities for Inclusiveness</i>	24
<i>The UN as a "Knowledge Union"</i>	25

Forward

The power of information and communications technologies (ICTs) to reshape old and enable new information flows, social interactions and economic transactions surrounds us in the media, our workplaces and our homes. If put in the service of social and economic development, this same power can play an important role in improving human welfare throughout the world. A tremendous barrier exists, however, as these technologies remain inaccessible to the vast majority of the world's population, a situation referred to as the "digital divide".

The United Nations and its agencies have recognized the potential of ICTs for development and, as a result, have initiated numerous programmes to address the digital divide. To assist the Secretary-General as he prepares for the upcoming UN Millennium Assembly, the UN Foundation has provided funding for the Centre for Global Studies to map out the UN's activities in this area.

The Centre for Global Studies would like to take this opportunity to express its gratitude for the assistance of the International Development Research Centre (IDRC) and, in particular, Robert Valantin, the IDRC's Senior Scientific Advisor.

Gordon S. Smith, Executive Director
Graham Reed, Research Associate

*Centre for Global Studies
University of Victoria, BC
August 2000*

Executive Summary

The Growing Digital Divide

There is now widespread consensus within the development community that information and communication technologies (ICTs) can play an important role in poverty reduction, health care, food security and many other social and economic development areas. The majority of the world's population, however, does not yet have access to these ICTs. This is commonly referred to as the "digital divide". As ICT adoption continues unabated in more developed countries the divide continues to expand, putting a vast body of information, innovation and technology further out of reach for those on the "wrong" side of the divide.

United Nations "Digital Bridges"

There is already considerable activity both within and outside the United Nations system to attempt to bridge this divide. In the past few years a variety of workshops, conferences, pilot projects and research activities have been initiated on ICT-related issues by UN agencies. The Centre for Global Studies has been commissioned by the UN Foundation to map out current ICT initiatives of the UN and its agencies. The resulting survey is intended to assist the UN Secretary-General in preparations for the upcoming UN Millennium Assembly in September 2000.

Three Themes For ICT Development: Connectivity, Capacity, Content

UN activities are organized and discussed in the main report according to the three themes of *Connectivity*, *Capacity* and *Content* that were identified in the Ministerial Statement released at the ECOSOC High-Level Segment on ICTs in July 2000.

Connectivity refers to communications infrastructure and related computer, satellite, cellular, telecommunications and digital technologies. The recent emphasis in development terms has been on the rapid growth of the Internet and its potential as a flexible communications network connecting people and institutions around the world. At present, however, there are more Internet hosts in New York city than in all of Africa. The staggering increase in Internet usage still represents activity by less than 5% of the world's population.

Capacity refers to the ability to make effective use of ICTs. This includes ensuring that the knowledge, skills, expertise and resources are available to individuals, organizations and communities. Education and training are the cornerstones of capacity building. This means not only developing specific expertise in the use of the technologies themselves, but in some cases also supporting basic education and literacy initiatives. For the purposes of this report, however, the discussion has been limited to ICT capacity-building programmes and initiatives.

Content refers to the information and knowledge that is stored on and transmitted by the ICT networks. To be useful for developing countries, ICT-based systems and networks must provide content that is relevant to their conditions as well as enable users there to develop and share their own information resources.

ICTs Have Entered the "Mainstream" of Development Discourse

One of the problems faced by actors working in the field of ICTs and development has been the perception that this is not "real development". This area has, however, been receiving increased attention within UN agencies in recent years: by specialized agencies which are directly involved with ICTs and ICT-related issues, such as ITU and UNESCO; by agencies involved with infrastructure and capacity building, such as the UNDP; and by agencies that are utilizing ICTs as part of their specific mandates, such as WHO, UNCTAD and IFAD. These activities have increased recognition of the fact that ICTs are both an important economic and social force in their right (with all the attendant policy, regulatory, impact and related issues) and also an important tool for development. The UN, and in particular the Secretary-General and the recent ECOSOC process, have already made a significant contribution to closing the digital divide by making this whole area a "legitimate" part of the development discourse.

A "Digital Funding Divide" May Be Emerging

With the recent Japanese aid announcement, and with growing interest by other bilaterals and multi-laterals in this area, and with the growing number of private sector foundations, the funding community is finally starting to invest in ICTs and Development. There is still, however, a significant gap between the promise and the reality. As a result, there is a very real danger of a new kind of "divide" opening up between the donor community and its clients if the intentions, statements and plans do not result in action. Now that ICTs are on the agenda, resources must be committed to back up the plans and reach the goals identified. This momentum must be focused and built upon so that the potential of ICTs to enable growth and development is realized.

Building on Experience

One of the prerequisites for the effectiveness of ICT efforts is that the UN system makes use of the expertise that already exists. As called for in the ECOSOC Ministerial Declaration, the UN can and must determine what it and its member agencies are doing in this area. This will require comprehensive information collection agency-by-agency, mapping this against an agreed set of programme goals/areas, such as those indicated in the Ministerial Declaration, followed by an ongoing assessment of progress towards individual programme objectives.

One of the factors contributing to donor reluctance to invest in ICT has been a lack of empirical evidence on the impact of ICT projects. Case studies from past and current initiatives should be evaluated and lessons learned from previous projects must be shared.

Experiences with telecentres may provide a promising test case for the development of knowledge-sharing within the UN system. Several agencies have been involved in this area and have already collaborated on and evaluated these projects to varying degrees. Given the vast diversity of regional, cultural and economic variables, the goal should not be to find a magic set of "best practices" but instead to identify and share "good practices". The emphasis should be on an "open" architecture for collective learning, rather than on "control" (much like the architecture of the Internet itself).

Internal Use of ICTs within the UN System

As with any large organization, the UN will need to develop comprehensive, efficient, and interconnected ICT-based systems. These will enable more effective knowledge sharing and collaboration throughout the UN system. For example, by tracking past and current activities and building a knowledge base of results, the UN will be better able to avoid wasting scarce resources on "reinventing the wheel" when initiating new ICT programmes. If the UN does not act quickly to organize itself in terms of internal ICT usage, it also runs the risk of not being taken seriously as a credible development partner in ICT campaigns.

Input from the South

There is a need to consult with and involve a broad range of stakeholders in the South. Of course, the member states in the South are represented in all of the formal UN mechanisms, and the High-Level Panel of Experts included people from both private and public sectors in the South. Information on Southern needs should inform the next steps. One starting point might be to collect and analyse existing national strategies and programmes in this area (e.g. UNECA has been doing a lot of work on National Information and Communication Infrastructure plans in Africa). Another would be to carry out broad-based consultations with selected countries, at the regional level, as well as globally, both face-to-face and electronically.

New Modalities for Inclusiveness

The private sector has the resources and expertise to be a valuable partner in improving access to ICT for the developing world. Already the private sector has been selectively investing in the expansion of infrastructure, in e-businesses, and in applications where these can be shown to be economically viable (along various time-scales). Obviously businesses are "for profit" entities, motivated to get involved with development-related issues by what might be called "enlightened self-interest". Promising new fora for participation and partnership between the public and private sectors are emerging. Civil society groups are cautious and sometimes hostile towards the increasing private sector participation in traditionally public spheres. The Secretary-General's Global Compact, while criticized for not being strong enough, is an example of the new concepts that need to be developed to improve and expand these relationships.

The UN as a "Knowledge Union"

The UN has moral authority and powers of persuasion and legitimization; it has access to information on developing country needs and programs on the ground; it can get information on what resources and technologies are available; it has a growing number of networks, geographically and sectorally-based (many now knowledge-based and e-connected and becoming more so); and it has subject expertise in a wide-variety of key development-related disciplines. In the ECOSOC Ministerial Declaration, it was proposed that the UN could step into the role of an international "knowledge bank", as the World Bank now considers itself. As the UN has the benefit of many members and agencies, it could go somewhat further towards becoming a "knowledge union" to coordinate and build upon the expertise of its many entities.

The UN could, for example, maintain a clearinghouse containing information on ICTs and Development programmes and their funding, with details of specific funding opportunities open to different groups, perhaps even a programme funding "matching" service. It could also work with the private sector to set up (at arms-length) a mechanism to pull together examples of non-proprietary case studies and financing strategies, showing the viability of investment in ICT in developing countries. This could lead to providing information on specific demands (procurement requests) and available financing for private-sector suppliers. It could set up and support research and policy networks to learn from the experiences of UN agencies and others and to translate this learning into policy and action. These are just a few of the specific ideas which could be investigated further as the UN considers how best to respond to the challenges of the Digital Divide as we enter the 21st Century.

The Challenge: The Growing Digital Divide

The majority of the world's population does not have access to what industrialized countries now consider to be commonplace, even essential, information and communication technologies (ICTs). This is commonly referred to as the "digital divide". Those on the "wrong" side of the divide have little or no ability to participate in the social and economic transactions which these technologies enable, nor to access the information and knowledge that they carry. As a result, they are being further marginalized and excluded, while industrialized economies continue to adopt new technologies that accelerate economic development.

In March 2000, an estimated 276 million persons worldwide were users of the Internet, with a growth rate of roughly 150,000 persons per day, 220 million devices were accessing the worldwide web and almost 200,000 devices were added each day. Web pages totalled 1.5 billion with almost 2 million pages being added each day. E-commerce, or business conducted over the Internet, totalled \$45 billion as recently as 1998 and an estimate in January 2000 projected it could explode to over \$7 trillion as early as 2004.

These are astonishing figures, unprecedented by any measure, but they reflect activity by less than 5% of the world's population.

*Report of the High-level Panel of Experts on
Information and Communication Technology
New York, April 2000*

Introduction

There is already considerable activity both within and outside the United Nations system to attempt to bridge this divide. The Centre for Global Studies has been commissioned by the UN Foundation to map out current ICT initiatives of the UN and its agencies. The resulting survey is intended to assist the UN Secretary-General in preparations for the upcoming UN Millennium Assembly in September 2000.

This report maps out major UN initiatives according to the three themes of *Connectivity*, *Capacity*, and *Content* which were identified in the Ministerial Statement released in July 2000 at the ECOSOC High-Level Segment on ICTs. While in most cases agencies or their programmes are listed under only one of these themes, they may also have aspects associated with one or both of the other themes. Where available, some programmatic and operational detail is provided. Budget information is generally not included due to the difficulty of disaggregating budget information and isolating ICT-related expenditures. The programme information contained in this report has been gathered from public sources, primarily from agency web sites. Since there is a great deal of activity in this area at present and things are changing rapidly, the information presented may not be fully up-to-date. Where appropriate, a number of key organizations or initiatives outside the main UN system have also been presented.

Background Activities

ICTs have been moving steadily up the development agenda during the past few years. A variety of workshops, conferences, pilot projects and research activities have been initiated on ICT-related issues by UN agencies during this period. Without detracting from the importance of any of these activities, a few selected events have been highlighted in this section to illustrate the growing momentum and urgency for defining and acting upon a UN strategy for ICTs and development.

UN Commission on Science and Technology for Development

In 1998, the Commission concluded two years of study on ICTs by presenting a report entitled "Knowledge Societies: Information Technology for Sustainable Development" to ECOSOC. This was the first attempt to consider how the UN should address ICTs as a variable in the development equation on a system-wide scale. The report identified the growing digital divide and emphasized the need for the UN to respond to it. Many of the issues now being highlighted by ECOSOC were initially identified in this report, including the need for capacity and infrastructure development, strong leadership and regulatory reform.

"We the Peoples, The Role of the United Nations in the 21st Century", a report by the Secretary-General of the United Nations

The Secretary-General's report brought focus and direction to the momentum that has been building in the area of ICTs and Development. In it, he pointed out that the start of the new Millennium is an opportunity to reconsider development, including the assumptions, objectives and enabling factors, as well as the UN's role in addressing them. The report recognized how pervasive and influential ICTs have become in most economic and social spheres. A number of new initiatives were announced, including a new *Health InterNetwork* and the *UNITeS* high-tech volunteer corps. The report confirmed that ICTs and their role in development will be a key theme in the upcoming UN Millennium Assembly.

UN High-Level Panel of Experts on Information and Communication Technology

In April 2000, the High-Level Panel of Experts on ICT met to discuss the UN's role in this area. Members from developing or transitional economies which have successfully pursued aggressive ICT development strategies took this opportunity to synthesize their experiences and draw lessons. The panel's report was presented at the High-Level Segment of ECOSOC in July. It identified a number of key conclusions and recommendations on ICTs and Development, including:

- Strong political leadership is essential for a successful ICT campaign; ICT initiatives must be part of a clear national strategy for development.

- To be effective, ICT initiatives require a competitive telecommunications environment.
- Decision-makers in the public sector need to recognize the valuable contribution the private sector and civil society can make in the area of ICTs.
- Prominence of local content is necessary to ensure wide diffusion of use of ICTs. In this regard, development of local language character sets for computer interface is critical.
- Legal and regulatory frameworks, including intellectual property rights and telecommunications acts, must be established.
- Early support for ICT initiatives can be gained through the use of entry points such as education, health, public administration and e-commerce.
- The provision of public access points such as cybercafes, community centres and telecentres has proven very successful and should be part of ICT campaigns.
- There must be identification and eradication of factors that restrict equal participation and education of traditionally marginalized groups such as women and youth.

The panel's report called for the UN to form an ICT Task Force to lead a campaign for universal access to ICTs (especially through community-level access points) by 2004. It called for the UN to raise \$500 Million to be matched by the private sector and foundations and then again by developing countries themselves.

Economic and Social Council (ECOSOC) High-Level Segment

From 5-7 July 2000, ECOSOC held a High-Level Segment with the theme of "Development and international co-operation in the twenty-first century: the role of information technology in the context of a knowledge-based global economy". Opening statements emphasized the need for strong governmental leadership and the creation of favourable regulatory and legal environments for ICT infrastructure investment. Speakers called for the development of national, regional and global strategies for ICT development. World Bank President James Wolfensohn emphasized that the Digital Divide is growing and action must be taken; ICTs should be placed at the centre of the development agenda to improve market performance. Deputy Secretary-General Louise Frechette called for all communities to be connected through telecentres or cell phones as a near-term milestone in the campaign for universal access.

A Ministerial Statement on the role of ICTs in development was issued at the end of the segment. This statement confirmed that ICTs have become a central issue on the development agenda. There was consensus that ICTs have an important role to play in sustainable development, poverty reduction and economic growth. The Declaration took official note of the Secretary-General's reports, the report of the High-Level Panel of Experts and the upcoming G8 Okinawa Summit. It also identified connectivity, capacity and content as cornerstones of ICT development.

The Ministers envisioned the UN working towards becoming a "knowledge bank" for ICT expertise. This would necessitate building networks of learning communities, synthesizing case studies and compiling lessons learned and "best practices" for ICT

development. The Declaration identified a potential leadership role for the UN in the development of norms and standards as well as providing a global forum to promote universal access to knowledge and information. It also stressed the need for public and private sector partnerships and new modalities for private and civil sector inclusion and participation. It noted with approval the recommendation from the High-Level Panel of Experts to create an ICT task force. The Ministers also stated that ECOSOC should conduct a review of the mandates and activities of its subsidiary bodies dealing with ICTs. An *Ad Hoc Working Group on Informatics* was struck to make recommendations for follow-up.

G8 Okinawa Summit

This summer's G8 Summit in Okinawa, Japan is important to note here because of its timing and its focus on ICTs. The Summit took note of the ECOSOC recommendations in its consideration of how to address the growing Digital Divide. The *Charter on the Global Information Society* issued at the Okinawa Summit placed emphasis on regulatory reform to enable market liberalisation, competition and increased e-commerce. The WTO was seen as critical to this process. The G8 also agreed to establish a *Digital Opportunity Taskforce* ("dot force") to facilitate international discussion and cooperation, policy development and private sector participation. The dot force will report on its progress before the next G8 meeting in Genoa.

At the G8 Summit, Japan announced \$15 Billion of ICT development funding over the next 5 years. It intends to collaborate with the World Bank, UNDP and ITU on activities including policy development, infrastructure building and training programs. In the first phase, Japan will establish 30 IT centres, and will provide assistance, mainly in the form of technical co-operation, for the training of over 10,000 individuals during the next five years. The funds will be provided through a combination of ODA ("Official Development Assistance") and non-ODA funding.

Connectivity

Connectivity refers to communications infrastructure and related computer, satellite, cellular, telecommunications and digital technologies. The recent emphasis in development terms has been on the rapid growth of the Internet and its potential as a flexible communications network connecting people and institutions around the world. At present, however, there are more Internet hosts in New York city than in all of Africa. The staggering increase in Internet usage still represents activity by less than 5% of the world's population.

Many infrastructure and network development initiatives have already been undertaken. In working towards the goal of universal access, several agencies have used telecentres as a means of establishing community-level ICT access points. Telecentres generally take the form of small Internet-enabled computer centres providing telephone, FAX, and Internet access along with training in the use of ICTs.

International Telecommunications Union (ITU)

The ITU utilizes multi-year action plans to set the priorities and strategy for the agency's development work. The Valetta Action Plan (VAP), covering 1999 to 2002, focuses on rural development and universal access to ICTs. Under VAP Programme 3, the ITU's development programme (ITU-D) is developing replicable, "best practice" models for providing ICT access in rural areas (e.g. through telecentres). ITU study groups have also been formed to look into Internet and rural development issues; they seek to provide **policy advice** and implementation strategies for developing countries. This is combined with evaluation of pilot projects to feed into regional **seminars** and **workshops**. In addition, VAP Programme 5 seeks to promote private sector partnership and VAP Programme 4 focuses on economic and regulatory factors related to ICT development.

As of October 1998, the ITU had participated in six **telecentre projects** in Africa, three in Latin America, four in Asia and one in Europe. A number of these have been undertaken in partnership with other UN organizations including the UNDP, UNESCO, WHO, and the FAO. The ITU typically provides partial **funding** as well as advice on the strategic, regulatory and technical aspects of the projects.

United Nations Development Programme (UNDP)

UNDP Administrator, Mark Malloch Brown, has announced plans to set up a trust fund to evaluate "e-readiness" on a national level. Country **assessments** would be conducted in the areas of connectivity, skill levels, regulatory and policy frameworks. UNDP would then follow up with the appropriate **policy assistance**. Speaking at the ECOSOC High-Level Segment, World Bank President James Wolfensohn identified fear of technology as a factor inhibiting ICT adoption and suggested UNDP as a possible candidate to lead an initiative to address this on a country-by-country basis.

Within the UNDP, the *IT for Development Programme (ITDP)* has been establishing **telecentres** called "Technology Access Community Centres" (TACCs) to connect remote and rural communities. TACCs are community centres with computers and Internet access. ITDP has launched TACC projects in Egypt, South Africa and the Ukraine. In South Africa, ITDP partnered with the *South African Universal Service Agency (USA)*, **funding** several telecentres and providing **training** for the USA to improve their strategic and technical capacity. ITDP is also networking between the USA and the UNDP's *Sustainable Development Networking Programme (SDNP)* to provide access to technical training and expertise.

UNDP regional offices have also provided funding support for pilot projects with UNESCO and ITU.

United Nations Educational, Scientific and Cultural Organization (UNESCO)

The *Communications, Information and Informatics Sector (CII)*, which coordinates UNESCO's communications development activities, has established several ICT **pilot projects**. It has provided financial, technical and training support for telecentres, virtual libraries, museum websites and telemedicine projects, often in partnership with other UN agencies including UNDP, ITU and WHO. UNESCO has also established telecentre projects in five African countries as well in Brazil and Azerbaijan. In keeping with its mandate, UNESCO focuses on the content and capacity-building components of such projects through the provision of **training** and **technical assistance**.

Food and Agriculture Organization (FAO)

Through the *Communications for Development* section of its *Sustainable Development Dimensions* programme, the FAO organizes **research** and **workshops** on rural connectivity issues. In June 2000, the FAO held a workshop on "The Role of Information Technologies in Rural Development and Food Security". Several research papers were presented on rural access issues such as ICT factors and conditions in Africa and a study of lessons learned from past ICT projects. This workshop ran parallel to the *First Consultation on Agricultural Information Management (COAIM)*. The objective of the Consultation was to increase the capacities of decision-makers, professionals and the public in accessing and using agricultural information. The FAO also provides research and reports on ICT development topics including telecentres, the position of rural stakeholders, technology options and the role of information in food security.

International Fund for Agricultural Development (IFAD)

IFAD has **funded** three regional networks linking projects based in poor rural communities to the Internet: *FIDAmerica* in Latin America and the Caribbean; *Electronic Networking for Rural Asia/Pacific (ENRAP)* in Asia; *FIDAFrique* in Western and Central Africa. Operating through and connecting the beneficiaries of 76 ongoing IFAD programs, the networks will soon cover areas with more than 1.2 million households.

FIDAmerica has been online since 1995, and now links 34 IFAD projects covering approximately 550,000 poor rural households in 16 countries. ENRAP was established in 1998 and links 12 IFAD projects in 6 countries to cover an area with nearly 250,000 poor rural households. FIDAFrique is currently being launched and is planned for an area with approximately 500,000 households linked to 30 IFAD projects. The projects are financed by IFAD and implemented by development agencies, local NGOs and farmers associations.

Capacity

Capacity refers to the ability to make effective use of ICTs. This includes ensuring that the knowledge, skills, expertise and resources are available to individuals, organizations and communities. Education and training are the cornerstones of capacity building. This means not only developing specific expertise in the use of the technologies themselves, but in some cases also supporting basic education and literacy initiatives. For the purposes of this report, however, the discussion is limited to ICT capacity-building programmes and initiatives.

United Nations Development Programme (UNDP)

The *Sustainable Development Networking Program (SDNP)* provides **seed financing** to countries to create sustainable development websites owned and operated by nationals. Launched in 12 pilot countries in 1992, SDNP has typically provided \$150-200,000 in seed funding over the first three years of the project. SDNP further supports projects with services including **training, technical assistance, Internet connectivity and web hosting**. SDNP has also received software and hardware donations from companies including Corel, Red Hat and Hewlett Packard. The resulting sites serve as foundations for regional networks for training, education and knowledge sharing within and among developing countries. There are currently 53 operational sites, 36 of which are now financially independent of SDNP. An additional 44 countries are seeking SDNP support.

The *Special Unit for Technical Cooperation between Developing Countries (SU/TCDC)* fosters networking and cooperation among southern countries. This unit does not deal specifically with ICTs, but supports technical knowledge sharing projects in all areas. For the 1997-2000 cycle, \$1.5 Million in **funding** has been committed to information system projects. Resources from national budgets, UN agencies' regular programme budgets, and the UNDP/IPF (Indicative Planning Figure) funds are available for launching projects which utilize TCDC, while SPR (Special Programme Resources) are available for specifically promotional, catalytic support for TCDC. Bilateral assistance and support from international financial institutions such as regional banks also may also be used.

As an example of a regional UNDP initiative, the *Asia-Pacific Development Information Programme (APDIP)* offers **training** and technical information for government and NGO staff. The programme also provides **seminars and technical consulting** on the development of ICT systems. It runs the APDIP-Cisco Networking Academy Programme as a joint venture with Cisco Systems. This is a complete, four-semester programme on the principles and practice of designing, building, and maintaining networks capable of supporting large organizations. APDIP provides mentoring and technical assistance, while Cisco designs the curriculum and provides technical support, hardware and software.

UNDP is collaborating with the Ericsson Corporation and the International Red Cross on a Disaster Response Programme. Initiated in May 2000 with visits to Turkey, Thailand

and Vietnam, the programme teams are conducting **assessments** of communications systems for disaster response. The programme seeks to improve the mobile and satellite communications capacity for disaster response efforts.

United Nations Educational, Scientific and Cultural Organization (UNESCO)

As indicated above, UNESCO has several ICT programmes under the umbrella of the *Communications, Information and Informatics Sector (CII)*. As of 1998, CII was implementing 254 projects with a total budget of approximately US\$40 million. CII also operates a **portal site** for ICT information entitled "Webworld". The *Communication and Development Programme (CDP)* supports projects that strengthen the communications capabilities of the developing world. CDP provides **technical assistance** in the design and implementation of projects as well as **training** in communications and the technical aspects of ICT use. Wherever possible, it will train local trainers with the objective of establishing local training capacity. It accesses **project funding** through UNESCO's *International Programme for Development of Communication (IPDC)* which finances developing world communication projects. In 1999, IPDC provided \$2.2 million in funding for more than 60 projects around the developing world. This programme focuses on communication which includes, but is not limited to, technology implementation.

UNESCO has also been active in the area of "infoethics", looking at ethical, legal and societal issues related to the development and use of digital technologies and information networks. UNESCO hosted the *INFOethics '97* and *INFOethics '98 conferences* to provide fora for discussion and debate on a variety of issues including multilingualism, cyber-crime, privacy and security on the Internet.

In the ECOSOC High Level Segment, UNESCO Director General Koichiro Matsuura emphasized education as well as cultural and linguistic diversity as priorities in ICT activities. He also proposed the creation of a "World Education Portal" site to provide access to educational materials.

UNESCO is currently launching a new programme, "Information For All". This programme is an aggregation of the former *General Information Programme* and *Intergovernmental Informatics Programme*. The objective of this new initiative is to promote universal access to information and education. It is designed to have a strong intersectoral component in recognition of the fact that ICTs cut across all areas of UNESCO's activities. With this programme, UNESCO is hoping to create the primary framework for it to address the digital divide as well as cultural and linguistic diversity. The Draft Programme is currently under review and is scheduled to be approved in the Fall of 2000.

United Nations Economic Commission for Africa (UNECA)

UNECA has worked to design African-owned and African-led ICT strategies to achieve development objectives. It led the *African Information Society Initiative (AISI)* with

UNESCO, ITU, and a number of non-UN partners to provide a focal point for ICT development in Africa. AISI includes national ICT plans, **regulatory reform** and **policy development**. To this end, AISI partners have organized regional **workshops** and sought to raise awareness about the potential applications of ICT in development.

UNECA's *1999 African Development Forum (ADF '99)* also focused on ICTs. ADF '99 provided a venue for creating a shared vision for ICT development in Africa. Four critical areas for ICT development were identified: youth and education, health care delivery, commerce and trade and policy and regulatory reform. Participants also worked on national strategies to pursue this vision and to democratize access to information in Africa.

United Nations Economic Commission for Latin America and the Caribbean (ECLAC)

In June 2000, ECLAC convened a Regional Meeting on Information Technology for Development. This **meeting** resulted in ECLAC preparing an agenda for public policy development outlining numerous goals and priorities to guide ICT development in the region. The Executive Secretary of ECLAC, Jose Antonio Ocampo, also made a summary statement on ICTs at the ECOSOC High-Level Segment in July.

United Nations Development Fund for Women (UNIFEM)

The *Fourth World Conference on Women (FWCW)* in Beijing carried a strong message that access to information is key to improving participation of women in political and economic life. The resulting *Beijing Declaration and Platform for Action* called on organizations to increase women's participation in and access to new technologies as a tool for strengthening women's economic capacity and democratic processes. As part of its efforts to improve the economic capacity of women, UNIFEM undertakes **research** and **advocacy** to address the barriers to ICT access that currently hinder participation by women in many regions. UNIFEM has compiled a set of case studies on *Women Making a Difference in Science and Technology*. It is also partnering with governments and the private sector to develop programmes that will improve employment conditions, **training** and access to ICTs for women. UNIFEM is seeking commitments from governments to engender ICT policies and remove barriers to women and girls receiving appropriate training.

International Labour Organization (ILO)

In the past, the ILO has addressed ICTs primarily through support of selected **research** initiatives into the impact of ICTs on specific employment sectors. It is now planning, however, to conduct a more comprehensive analysis of employment issues related to ICTs. To this end, it will be devoting its next *World Employment Report* to the theme of ICTs and employment.

United Nations Information Technology Service (UNITEs)

In the "We The Peoples" report, the Secretary-General announced a plan to create a consortium of high-tech **volunteers** called the *UN Information Technology Service (UNITEs)*. This initiative will be coordinated by the UNV with the intent to involve UN agencies, civil society groups, governments and the private sector. Net Corps Canada and Net Corps America have already been identified as members.

United Nations Volunteers (UNV)

UNV has arranged **volunteer** staff for ICT projects undertaken by several UN agencies. They are also helping to coordinate both UNITEs and Netaid, discussed separately.

United Nations Institute for Training and Research (UNITAR)

UNITAR runs the *Information Society and Development Programme*. This consists of a series of small **training programmes** on technical, legal and social issues surrounding the use of ICTs. Target audiences include politicians, diplomats, university professors and IT professionals. UNITAR has also staged several **workshops** and **seminars** on ICT issues.

United Nations Research Institute for Social Development (UNRISD)

UNRISD provides **research** capacity on the social dimensions of technology adoption. The 2000-2003 research agenda includes a study programme on *Information Technologies and Social Development*. Launched in 1998, this programme will continue into 2001 with the preparation of reports on issues including the cultural implications of ICTs, private sector responsibilities and the value of ICTs as a tool for social development. The programme is also designed to provide a forum for debate and exchange among the public sector, civil society and the scientific community.

United Nations University (UNU)

The UNU develops **research** capacity within member countries and the UN system itself. Two UNU institutes focus directly on ICTs. The *Institute for New Technologies (INTECH)* explores issues surrounding technological change and innovation in developing countries. Recent ICT research includes a project on "Telework" (distance working using ICTs) in India and Malaysia. INTECH also offers PhD **internships** for researchers in developing countries and promotes networking among southern institutions. The *International Institute for Software Technologies (IIST)* collaborates with universities in developing countries to develop their computer science curricula, **train** staff and students and conduct **research** projects. The UNU institutes have programme staffing levels of approximately 20-30 people with students numbering in the same area. Both institutes are building alumni research networks.

Content

Content refers to the information and knowledge that is stored on and transmitted by the ICT networks. To be useful for developing countries, ICT-based systems and networks must provide content that is relevant to their conditions as well as enable users there to develop and share their own information resources.

Many UN agencies are initiating ICT-based programmes to help them to more effectively pursue their development mandates. These can be classified into two groups: programmes covering a wide range of substantive issues, including health, food security and rural development; and programmes dealing with “enabling” factors, issues and tools for developing economies, including intellectual property, regulation and e-commerce related issues.

Substantive Areas

The following section is merely illustrative, and does not fully cover the range of uses of ICTs by UN agencies.

International Fund for Agricultural Development (IFAD)

The IFAD-funded networks discussed in the *Connectivity* section have several mechanisms to facilitate the development of local content. These networks use **chat rooms, online conferences** and **e-newsletters** to facilitate knowledge sharing and information exchange among rural communities. IFAD has also developed an online **database** of lessons learned from its projects undertaken since 1990, the *Evaluation Knowledge System (EKSYST)*. This database contains information on a range of issues such as microcredit, women in development and farm technologies.

IFAD programmes are aimed specifically at improving rural access to information and knowledge. In a statement at the ECOSOC High-Level Segment on ICT, the Director of IFAD, Ms. Vera P. Weill-Halle, said that the digital divide should not be conceived only as a gap between the rich and poor, but also between urban and rural populations. She pointed out that rural communities have much to share about their own conditions but are often unable to do so. They can also benefit greatly from access to the experiences of comparable communities as well as external knowledge and innovations.

Food and Agriculture Organization (FAO)

The FAO has initiated the *Global Information and Early Warning System on Food and Agriculture (GIEWS)* to utilize ICTs to improve food security. This system comprises regional **databases** with information on food supply, weather information and other related data. There are currently databases for Western and Central Africa, Eastern Africa, Southern Africa as well as satellite images for the Caribbean and Latin America.

World Health Organization (WHO)

WHO has collaborated on **telecentre projects** with other UN agencies including the ITU, UNESCO and UNDP to develop health-related content and telemedicine services. WHO also maintains electronic networks and **databases** with information on the spread of drug resistance, pollution levels, reactions to toxic chemicals and the adverse side-effects of pharmaceutical substances. The *WHO Statistical Information System (WHOSIS)* provides access to statistical information to inform policy development on health issues.

In his report "We The Peoples, The Role of the United Nations in the 21st Century", the Secretary-General announced the creation of the *Health InterNetwork* for developing countries. The network will establish 10,000 online sites in health facilities throughout the developing world. The goal is to provide access to up-to-date health and medical information for developing communities. WHO will coordinate this project, with the UN Foundation having been identified as an external partner.

Enabling Factors

World Intellectual Property Organization (WIPO)

The World Intellectual Property Organization (WIPO) is leading the development of an international system for the protection of intellectual property. WIPO provides **technical aid** and **policy advice** to designated Least Developed Countries (LDCs) to assist them in developing strong intellectual property systems. WIPO is also working on international **dispute resolution mechanisms** with input from the private sector and government representatives.

UN Conference on Trade and Development (UNCTAD)

UNCTAD conducts **research** into policy and regulatory issues related to e-commerce for developing countries.

In addition, as part of their work in other substantive development areas, they have also developed several **software** packages that allow developing countries to utilize ICTs for debt and trade management. The *Debt Management and Financial Analysis System (DMFAS)* assists developing countries in creating appropriate administrative, institutional and legal structures for effective foreign and domestic public debt management. The *Automated System for Customs Data (ASYCUDA)* helps governments reform and modernize customs procedures and management. ASYCUDA is currently used by more than 60 countries. The *Trade Point Programme* creates trade facilitation centres to provide small and medium-sized enterprises with better access to trade-related information, services, and global networks, using modern information technology. 114 countries currently participate in this programme.

Relationships

The ECOSOC Ministerial Declaration cited the need for consistent and coherent actions to improve the effectiveness of programmes. This requires coordination, awareness-raising, information exchange, knowledge sharing, ongoing learning and evaluation. While the Declaration was referring to specifically to activities within the UN, the same can be said of the external partnerships and coalitions in which the UN participates.

Internal Relationships

Administrative Committee on Coordination (ACC)

In 1997, the ACC issued a formal statement recognizing the need for universal access to ICTs. The statement called for increased initiatives to build capacity and improve coordination among UN bodies to achieve these objectives. In May 2000, the ACC reiterated this statement to ECOSOC as it prepared for the High-Level Segment. The ACC's subsidiary body, the *Information Systems Coordinating Committee (ISCC)* provides an internal resource for development and coordination of UN information technology systems. This group's 1998-99 work programme included the development of **guidelines** and **standards** for electronic document management, Internet technology adoption as well as website development for the ACC and all its subsidiary bodies.

United Nations Task Force

An *Ad Hoc Open-Ended Working Group on Informatics* has begun laying out the framework for the UN Task Force on ICTs recommended by the High-Level Panel of Experts and endorsed by the ECOSOC Ministerial Declaration. A **trust fund** is to be established to raise \$1 Billion. This is to be comprised of \$500 Million in voluntary contributions from the UN System and public sector sources with the private sector matching the funds.

World Bank Group

The World Bank sees ICTs as a key factor for development and has accordingly launched several significant ICT-related initiatives. Although led by the World Bank, these initiatives are in fact partnerships that include private and public agencies.

The *Global Development Gateway (GDG)* is intended to become the pre-eminent **portal site** for development issues. The GDG is designed to facilitate knowledge sharing and offer up-to-date information on projects, resources, "best practices" and expertise on such subjects as poverty, governance, gender, the environment, and IT and development. The project seeks to raise an initial budget of about \$60 Million. Initial reactions within the development community have been mixed. The World Bank is organizing formal consultations with private, public and civil society actors.

In 1995, the World Bank launched the *Information for Development (infoDev)* programme to provide **grants** for ICTs and Development. As of June 1999, infoDev was supporting more than 100 active projects in development areas such as health care, regulatory reform, employment, e-commerce and the environment. According to the 1999 Annual Report, program activity spiked that year due to Y2K initiatives, tripling the level of the previous year's disbursements to \$14.8 Million.

The *Global Knowledge Partnership (GKP)* is intended to foster collaboration among public, private and civil society organizations. GKP membership includes aid agencies, governments, civil society groups and leading technology companies. Numerous UN agencies are members including the UNDP, UNESCO, ITU, ILO, UNICEF, UNCTAD, UNIFEM, UNECA, UNFPA, UNIDO, WHO, FAO and IFAD. The GKP is designed to operate as a catalyst for partnership among public, private and civil society actors to pursue ICT initiatives ranging from **workshops** and **conferences** to **training, infrastructure development** and **pilot projects**. In March 2000, the GKP held the second *Global Knowledge Conference* in Malaysia. An *Action Summit* was convened during the conference to discuss the three themes of Access, Empowerment and Governance and to produce a draft *Action Plan*. One key initiative will be the *GKP's Learning and Evaluation Action Program (GK-LEAP)* designed to foster a comprehensive and coordinated learning culture within the GKP and its constituent community.

The *Global Development Learning Network (GLDN)* was officially launched in June 2000 with the opening of sixteen **Distance Learning Centres (DLCs)** in Asia, Africa, Europe, Latin America and the Middle East. GLDN now comprises a growing number of independent DLCs and links together learning institutions around the world. By the end of this year another 20 centres will be on board. Programmes for the network are being provided by a wide variety of public, private and "not for profit" organizations in both the developing and developed world.

External Relationships

World Trade Organization (WTO)

The World Trade Organization is collaborating on multiple initiatives with the United Nations and the World Bank for trade promotion. The *Trade and Development Centre* is a website established in partnership with the World Bank to provide public and private decision makers with access to information and **training** for strategy and **policy development**. One of the Centre's initiatives, *Wiring Up Africa, Information Technologies for Development* provides **software** and **online databases** to increase access to WTO trade information. WTO also operates the *International Trade Centre* in partnership with UNCTAD. ITC works with developing countries and economies in transition to set up effective trade promotion programmes. The Centre has implemented ICTs to improve access to trade information through the *World Tr@de Net* programme. This programme provides **advice** and **training** for the business community on WTO issues. It also establishes interactive networks among the public and private sectors to

exchange information on multilateral trade issues. The ITC also has **publications** and **databases** available with information on trade-related issues.

Netaid

Netaid is an Internet-based organization run in partnership between UNDP, Cisco Systems, United Nations Volunteers and others. Cisco is underwriting the main costs of Netaid, managing the overall program and leading the development and coordination of its technology and marketing. Netaid solicits donations online for its development **grants** programme. To date, it has granted over \$1.4 million for projects on human rights, governance, health, human security and the environment. It also recruits **volunteers** for web-based activities, such as technical assistance for organizations, translations, data analysis, research on a particular topic, technology advice, graphic design, computer programming and web design.

Global Network Readiness and Resource Initiative

The newly announced *Global Network Readiness and Resource Initiative* is an example of the development community's response to the G8 Charter on the Global Knowledge Society. The founding partners of this initiative are the Markle Foundation, World Economic Forum (WEF), Center for International Development (CID) at Harvard University, IBM, UNDP and the UN Foundation. This public-private partnership is designed to provide developing nations with access to leading-edge information resources for ICT development. The initiative will have two major components: It will undertake country-specific network readiness **assessments** designed to help countries prepare for ICT expansion and attract investment. It will also establish a *Global Task Force* staffed by a combination of public and private sector experts. This Task Force will deliver *pro bono* **advice** to developing country governments and private sector entities on ICT policy development.

The Private Sector

The private sector is selectively investing in the expansion of infrastructure, in e-businesses, and in applications where these can be shown to be economically viable (along various time-scales). Obviously businesses are “for profit” entities, motivated to get involved with development-related issues by what might be called “enlightened self-interest”. Corporations, particularly those working in the technology sector, are forward-looking, with an interest in developing new markets. They have much to offer in terms of expertise, technology and resources. Stable, open regulatory and political environments are critical for developing countries to stimulate competition and attract private sector investment.

The UN is showing itself willing to re-think its interaction with the private sector. This summer's ECOSOC session was historic as the first ever where private sector representatives participated in formal proceedings. Cisco's participation in Netaid and the

ADPIP-Cisco Networking Academy, and Microsoft's involvement in the World Bank's Global Development Gateway are examples of new private-public partnerships. There is concern, however, from some quarters about what is seen as growing private sector influence on development mandates and organizations such as the UN.

Conclusions

ICTs Have Entered the "Mainstream" of Development Discourse

One of the problems faced by actors working in the field of ICTs and development has been the perception that this is not "real development". This area has, however, been receiving increased attention within UN agencies in recent years: by specialized agencies which are directly involved with ICTs and ICT-related issues, such as ITU and UNESCO; by agencies involved with infrastructure and capacity building, such as the UNDP; and by agencies that are utilizing ICTs as part of their specific mandates, such as WHO, UNCTAD and IFAD. These activities have increased recognition of the fact that ICTs are both an important economic and social force in their right (with all the attendant policy, regulatory, impact and related issues) and also an important tool for development. The UN, and in particular the Secretary-General and the recent ECOSOC process, have already made a significant contribution to closing the digital divide by making this whole area a "legitimate" part of the development discourse.

A "Digital Funding Divide" May Be Emerging

With the recent Japanese aid announcement, and with growing interest by other bilaterals and multi-laterals in this area, and with the growing number of private sector foundations, the funding community is finally starting to invest in ICTs and Development. There is still, however, a significant gap between the promise and the reality. As a result, there is a very real danger of a new kind of "divide" opening up between the donor community and its clients if the intentions, statements and plans do not result in action. Now that ICTs are on the agenda, resources must be committed to back up the plans and reach the goals identified. This momentum must be focused and built upon so that the potential of ICTs to enable growth and development is realized.

Building on Experience

One of the prerequisites for the effectiveness of ICT efforts is that the UN system makes use of the expertise that already exists. As called for in the ECOSOC Ministerial Declaration, the UN can and must determine what it and its member agencies are doing in this area. This will require comprehensive information collection agency-by-agency, mapping this against an agreed set of programme goals/areas, such as those indicated in the Ministerial Declaration, followed by an ongoing assessment of progress towards individual programme objectives.

One of the factors contributing to donor reluctance to invest in ICT has been a lack of empirical evidence on the impact of ICT projects. Case studies from past and current initiatives should be evaluated and lessons learned from previous projects must be shared. Experiences with telecentres may provide a promising test case for the development of knowledge-sharing within the UN system. Several agencies have been involved in this area and have already collaborated on and evaluated these projects to varying degrees. Given the vast diversity of regional, cultural and economic variables, the goal should not be to find a magic set of "best practices" but instead to identify and share "good practices". The emphasis should be on an "open" architecture for collective learning, rather than on "control" (much like the architecture of the Internet itself).

Internal Use of ICTs within the UN System

As with any large organization, the UN will need to develop comprehensive, efficient, and interconnected ICT-based systems. These will enable more effective knowledge sharing and collaboration throughout the UN system. For example, by tracking past and current activities and building a knowledge base of results, the UN will be better able to avoid wasting scarce resources on "reinventing the wheel" when initiating new ICT programmes. If the UN does not act quickly to organize itself in terms of internal ICT usage, it also runs the risk of not being taken seriously as a credible development partner in ICT campaigns.

Input from the South

There is a need to consult with and involve a broad range of stakeholders in the South. Of course, the member states in the South are represented in all of the formal UN mechanisms, and the High-Level Panel of Experts included people from both private and public sectors in the South. Information on Southern needs should inform the next steps. One starting point might be to collect and analyse existing national strategies and programmes in this area (e.g. UNECA has been doing a lot of work on National Information and Communication Infrastructure plans in Africa). Another would be to carry out broad-based consultations with selected countries, at the regional level, as well as globally, both face-to-face and electronically.

New Modalities for Inclusiveness

The private sector has the resources and expertise to be a valuable partner in improving access to ICT for the developing world. The private sector has shown itself ready and willing to invest in developing markets where favourable economic and regulatory conditions exist.

Civil society has a key role to play in bringing expertise and stakeholder representation into the discourse on ICTs and development. Many organizations have been actively engaged "on the ground" with potential beneficiaries and have experience using ICTs

themselves. Civil society interests represent different constituencies, providing an important perspective on ICT development policy and related issues.

Promising new fora for participation and partnership between the public and private sectors are emerging. The Secretary-General's Global Compact, while criticized for not being strong enough, is an example of the new concepts that need to be developed to improve and expand these relationships.

The UN as a "Knowledge Union"

The UN has moral authority and powers of persuasion and legitimization; it has access to information on developing country needs and programs on the ground; it can get information on what resources and technologies are available; it has a growing number of networks, geographically and sectorally-based (many now knowledge-based and e-connected and becoming more so); and it has subject expertise in a wide-variety of key development-related disciplines. In the ECOSOC Ministerial Declaration, it was proposed that the UN could step into the role of an international "knowledge bank", as the World Bank now considers itself. As the UN has the benefit of many members and agencies, it could go somewhat further towards becoming a "knowledge union" to coordinate and build upon the expertise of its many entities.

The UN could, for example, maintain a clearinghouse containing information on ICTs and Development programmes and their funding, with details of specific funding opportunities open to different groups, perhaps even a programme funding "matching" service. It could also work with the private sector to set up (at arms-length) a mechanism to pull together examples of non-proprietary case studies and financing strategies, showing the viability of investment in ICT in developing countries. This could lead to providing information on specific demands (procurement requests) and available financing for private-sector suppliers. It could set up and support research and policy networks to learn from the experiences of UN agencies and others and to translate this learning into policy and action. These are just a few of the specific ideas which could be investigated further as the UN considers how best to respond to the challenges of the Digital Divide as we enter the 21st Century.