



# GKP Recommendations

On Issues of Bridging the Digital Divide  
(edited by the GKP Secretariat)

This publication is an edited and amended version of the GKP Recommendations to the Digital Opportunity Task Force (DOT Force).

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# THE GLOBAL KNOWLEDGE PARTNERSHIP

GKP is an evolving "network of networks" with a diverse membership base comprising public, private and not-for profit organisations from both developed and developing countries.

The Partnership was born as a result of the 1997 Global Knowledge Conference in Canada, hosted by the World Bank and the Government of Canada. It was the first conference of its kind in the world to address Information Age issues by bringing together development stakeholders from 144 countries. A second conference in Malaysia in 2000 was hosted by the Government of Malaysia, and saw a 75 per cent representation from developing countries. This effectively brought the voices of these nations to the attention of the development community, and areas for collective action were identified.

The vision of GKP is a world of equal opportunities where all people are able to use and access knowledge and information to improve their lives. GKP aims to promote broad access to - and effective use of - knowledge and information as tools of equitable sustainable development. Through sharing information, experiences and resources, the potential of information and communication technologies (ICTs) can be realized to improve lives, reduce poverty and empower people.

GKP partnership principles are based on shared values, mutual respect, transparency, and trust while partners maintain their own identity and autonomy.

GKP objectives and areas of activity include:

- facilitating advocacy and amplifying the voices of stakeholders from the developing world in Global Policy Dialogues on ICT for Development
- providing services that enhance members' individual and collective efficiency and effectiveness by operating as a broker for knowledge, services, resources and relationships
- increasing the availability of information and knowledge on ICT for development and empowerment, and promoting regional exchange

An elected nine-member executive committee serves as the decision-making body of the Partnership. The committee has a two-year term, and its chair for 2001-2003 is the Government of Switzerland, represented by the Swiss Agency for Development and Cooperation (SDC). The secretariat for the same period is hosted by the Government of Malaysia, represented by the National Information Technology Council (NITC).

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# INTRODUCTION

At the Group of Eight Industrialized Nations (G8) Summit in Okinawa, Japan (July, 2000), the Heads of State acknowledged that Information and Communications Technology (ICT) "is one of the most potent forces in shaping the twenty-first century". However, the ever-widening gap between the world's information "haves" and "have-nots" - the 'digital divide' - is hindering development and growth.

To address the problem, the G8 generated the Okinawa Charter on the Global Information Society and established the Digital Opportunity Task Force or DOT Force. The DOT Force's task is to integrate existing and future efforts into a broader international approach using global consultancy in four areas of concern:

- Fostering policy, regulatory and network readiness;
- Improving connectivity, increasing access and lowering cost;
- Building human capacity; and
- Encouraging participation in global e-commerce networks.

The result was a nine-point action plan - the Genoa Plan of Action - endorsed by G8 Leaders at their 2001 Genoa Summit (p.39). The action plan was the result of extensive global consultations with 43 teams from government, the private sector, non-profit organisations, and international organisations, representing both developed and developing countries.

In addition, associated organisations and networks conducted consultations that have provided useful inputs into the DOT Force's work. Amongst them was the Global Knowledge Partnership (GKP), which is committed to sharing information, experiences and resources through ICT to promote access to, and effective use of knowledge and information as tools of sustainable, equitable development.

Since the bulk of DOT Force membership was within the G8 and large multilateral organisations, GKP offered to hold consultations with non G8 members, particularly with developing countries and those outside of official government channels.

## **GKP - Taking a role**

GKP saw the G8's interest in the issue of bridging the digital divide as an implied promise of significant new resources from the developed world, of realigned

priorities from donors, and of higher visibility for ICT applications throughout the world, particularly in the developing world.

GKP also recognised that fulfilling the promise depended on the ability of the DOT Force to mobilise support. Accordingly, the GKP offered the DOT Force the data to present an effective and actionable plan that was grounded in experience.

While the DOT Force recommendations represent a broad consensus on what must be done to bridge the digital divide, the GKP stressed the importance of focusing on concrete, immediate action. This would fill gaps in the DOT Force draft report pertaining to outlining an optimal sequence of events to achieve that goal, and provide examples of successful ICT projects in developing countries.

Focussing on immediate steps would also yield the most efficient and cost-effective possible solutions to bridge the digital divide and eventually eliminate it.

Given the importance of effective and efficient implementation, the GKP suggested that the implementation of this and other DOT Force recommendations mirror the structure of modern information and communications technologies (ICTs) themselves. Many qualities of the current information infrastructure can be adopted as implementation strategies, including network externalities, decentralisation, cross-cutting issues, self-correction and the importance of partnerships.

Use of ICT in development requires more than just additional resources (though it certainly requires that). It requires new models of development based on the ability of the new information infrastructure to reorganise the source and use of resources, ideas, people and results.

As the G8 and other global bodies move to take advantage of opportunities arising from bridging the divide, the GKP stands ready as a willing partner in such endeavours. To that end, the GKP has, of its own volition, produced this report to recommend general principles to guide future DOT Force planning and decision-making.

# GKP RECOMMENDATIONS

The GKP membership suggested a set of general principles that should become part of the decision process for the next set of steps promoted by the DOT Force.

The parameters suggested by the GKP in these recommendations are based on extensive experience and lessons learned. In addition to recommendations, successful projects undertaken by members and their colleagues are presented. The recommendations and examples fall under three general headings:

- Include Everyone in the Digital Revolution

The widest possible inclusion is a major priority in all GKP activities. Participation by the broadest possible segments of the population has been regarded as the most basic foundation for use of ICT in development. This is based not only on the belief that greater inclusion is a fundamental principle of equity, but also that it is important for the direction and speed of growth of ICT in development.

This includes emphasis on women, rural populations, youth, the mass media and the Diaspora. Inclusion means not only access to infrastructure, but also participation in policy dialogue, donor resource decisions and governance issues.

- Build on Existing Local Resources

Use of existing resources, including human capacity and local content, has not yet been recognised for its potential contributions. GKP members have emphasised that use of these resources is particularly cost effective, since developing country resources are significantly cheaper than those in developed countries.

In addition, use of local resources is a major advantage for ensuring the depth and persistence of changes. Under-utilised local resources include: local content generation, technical skills, entrepreneurial skills, local institutions and the Diaspora.

- Focus on Key Sectors and Learn from ICT Applications in the Field

GKP members suggest focusing on sectors that would be key to advancing development and reducing the digital divide.

The key sectors include:

- E-commerce, specifically business-to-business transactions;
- Community access through multimedia centres or telecentres, which offer ordinary people a gateway to the global knowledge society;
- Education, particularly mediated instruction and professionalisation of new skill clusters and local participation;
- Health, which offers useful low-tech medical solutions;
- E-Governance, which caters to service, delivery, accountability and transformation of the citizen's role in society.



## **INCLUDE EVERYONE IN THE DIGITAL REVOLUTION**

GKP members have been active in building universal inclusion in three principal ways:

- Expansion of networks to reach underserved populations;
- Ensure affordable access;
- Promote good governance.

## Expansion of Networks to Reach Underserved Populations

The following require explicit attention if the ICT revolution is to bring about the benefits expected of it:

- Women
- Rural residents
- Youth

- **Women**

GKP experience suggests that gender mainstreaming should be a component of every ICT project to ensure sustainability. A gender perspective must be built into plans, policy and practice, from preliminary project design through implementation and evaluation. The following case studies show that women who are involved in meaningful ICT projects improve their economic and/or social well being in the community.

### **The Centre for Mayan Women Communicators in Guatemala (CMCM):**

CMCM is a non-profit organisation whose website is hosted and technically supported by the Sustainable Development Networking Programme <http://www.sdn.undp.org>. Indigenous women participate and coordinate the centre's activities through an administrative committee. The centre functions to develop skills in communication technology that enable the women to improve their media image. They often use video and photography for research, reflection, and organisation. The centre's Internet services give Mayan women living in isolated communities the opportunity to sell their products in alternative markets, thus keeping their traditional crafts and artwork alive and providing additional income for their families.

### **Association pour le Soutien et l'Appui à la Femme Entrepreneur (ASAFE):**

ASAFE was created in 1989 as a strategic alliance with Networked Intelligence for Development (NID). Based in Douala, Cameroon, it offers various business services and support to women entrepreneurs who live and trade in Benin, Cameroon, Chad, Guinea and Mali. It focuses on the needs of women entrepreneurs through awareness-raising, counselling and specific business training programmes. It also serves as a 'one-stop shop' for public inquiries and information as well as a 'cyber-hub' with its own website, <http://www.networkedintelligence.com>, and access

to 30 computers and training rooms. Because of their e-commerce and technology training, women entrepreneurs have saved time and money selling their products. They have benefited from having reduced service and administrative costs, better service quality and increased revenue.

**The Association for Progressive Communications Women's Networking Support Programme:** <http://www.apc.org> uses ICT to help build social networks and to contribute towards progressive social change. The network consists of women from more than 20 countries who work in the field of gender and ICT. The goal is to eliminate inequities affecting women, especially in developing countries, through training, organisational support, participatory research, policy and advocacy.

- **Rural Residents**

Urban dwellers have the greatest access to information technology in developing countries, yet the majority of the world's people still live in rural areas. These projects illustrate how ICT can be productive in rural settings.

**Swaminathan Research Foundation Community Internet Centres:** The Swaminathan Research Foundation <http://www.mssrf.org> has set up centres for six farming villages in Pondicherry, South India. The staff at the centres receive farming queries from local residents, collect locally relevant information from generic ICT networks and transmit it to local farmers. Two important success factors are the sense of ownership by the communities using these centres and the active participation of rural women in their management. The Foundation will use these centres as a model of how to use advanced communications technologies to provide relevant information to rural communities.

**Net4rural:** The Net4rural project is an initiative in the pilot stage, that provides information and education to the rural sector in India, using kiosks with touch screen interfaces. These devices, some of which will be donated by private companies, will be multilingual with sound files to cater to wider audiences. Services will include e-mail, browsing, government and community postings.

**Acacia Initiative:** This initiative in Uganda provides telecentres in rural communities that offer Internet connectivity, telephone, fax and photocopying facilities. Health, farming and development videos from the British Council, the AIDS Information Centre, the Ministry of Health and others are very popular, as are news and current affairs such as the ongoing, live transmissions of the Commission of Inquiry into corruption in the police force. The telecentres are beginning to introduce distance education in collaboration with Makerere, the African virtual university.

**IRIS:** This non-profit, information gathering and dissemination organisation based in Kenya, gives rural dwellers in East and Central Africa a voice through the mainstream media. IRIS operates as a network of rural correspondents who file stories from their areas of operation. These stories are then sent to a Nairobi-based press centre where they are channelled to mainstream media houses for publication.

- **Youth**

If the digital divide is to be bridged, young people must participate. Youth are among the more innovative users of ICT, and in some countries, have made major contributions to economic development. The following projects sponsored by GKP members and partners actively engage young people in mastering ICT.

**Global :**

<b>Project</b>	<b>GKP Member(s)</b>	<b>URL</b>
Global Youth Action Network (Taking IT Global)	IISD	<a href="http://www.youthlink.org">http://www.youthlink.org</a>
Young Internationalists	N/A	<a href="http://www.wfa.org/youth/y-int.html">http://www.wfa.org/youth/y-int.html</a>
Nation1 (Taking IT Global)	IISD	<a href="http://www.nation1.net/">http://www.nation1.net/</a>
The International Young Professionals Summit	N/A	<a href="http://www.iyps.org/">http://www.iyps.org/</a>
The Schlumberger Excellence in Educational Development (SEED) Programme	UNICEF	<a href="http://www.l.slb.com/seed/cp/index.htm">http://www.l.slb.com/seed/cp/index.htm</a>
The Globe Programme	USAID, UNESCO	<a href="http://www.globe.gov">http://www.globe.gov</a>
Yinternet	SDC	<a href="http://www.yinternet.org">http://www.yinternet.org</a>
The INFOYOUTH Network	UNESCO	<a href="http://www.unesco.org/webworld/infoyouth/">http://www.unesco.org/webworld/infoyouth/</a>
The World Assembly of Youth (WAY)	N/A	<a href="http://www.worldassemblyofyouth.org">http://www.worldassemblyofyouth.org</a>
Global Teenager Programme	IICD	<a href="http://www.iicd.org/globalteenagers">http://www.iicd.org/globalteenagers</a>
Youth Media and Communications Programme	Open Society Institute	<a href="http://www.soros.org/youth">http://www.soros.org/youth</a>
Netaid online volunteer service	CISCO, UNDP	<a href="http://www.netaid.org/">http://www.netaid.org/</a>

**Middle East :**

<b>Project</b>	<b>GKP Member(s)</b>	<b>URL</b>
Cyberpeace	N/A	<a href="http://www.cyberpeace.org/">http://www.cyberpeace.org/</a>
MIDEAST Project (Kuwait, Jordan, Morocco, Egypt, Lebanon)	N/A	N/A

**The Americas :**

<b>Project</b>	<b>GKP Member(s)</b>	<b>URL</b>
<u>Colombia :</u> Computadores para Educar	Government of Canada	<a href="http://www.computadoresparaeducar.gov.co">http://www.computadoresparaeducar.gov.co</a>
Neighborhood Information Units	APC, IDRC	<a href="http://www.colnodo.org.co/uib/">http://www.colnodo.org.co/uib/</a>
Programa Compartel	Gilat	<a href="http://www.compartel.gov.co/">http://www.compartel.gov.co/</a>
Young Americas Business Network	Commonwealth Secretariat	<a href="http://www.ybiz.net/">http://www.ybiz.net/</a>
<u>Costa Rica:</u> Santa Furia	N/A	<a href="http://www.santafuria.com/">http://www.santafuria.com/</a>
<u>Brazil:</u> The Committee to Democratise Information Technology (CDI)	Dell Computer Corporation	<a href="http://www.cdi.org.br/">http://www.cdi.org.br/</a>
<u>Ecuador:</u> The Street Children Telecentre	IDRC	<a href="http://www.chasquinet.org/ninosdelacalle/e-proyecto.html">http://www.chasquinet.org/ninosdelacalle/e-proyecto.html</a>

**Africa :**

<b>Project</b>	<b>GKP Member(s)</b>	<b>URL</b>
The African Information Society Youth Network (AISYN)	UNECA	<a href="http://aisyn.8m.com/aisyn.htm">http://aisyn.8m.com/aisyn.htm</a>
Nairobi - Kenya	N/A	<a href="http://www.nariobits.com">http://www.nariobits.com</a>

**Asia :**

<b>Project</b>	<b>GKP Member(s)</b>	<b>URL</b>
<u>Malaysia:</u> The Mobile Internet Unit (MIU)	NITC	<a href="http://www.nitc.org.my">http://www.nitc.org.my</a>
Cybercare	NITC	<a href="http://www.lion-cybercare.org">http://www.lion-cybercare.org</a>
<u>India:</u> EduGreen (2000) in New Delhi	IDRC	<a href="http://edugreen.teri.res.in/">http://edugreen.teri.res.in/</a>
Gyandoot Project		<a href="http://www.gyandoot.net">http://www.gyandoot.net</a>

**Europe :**

<b>Project</b>	<b>GKP Member(s)</b>	<b>URL</b>
Hungarian Community Telecentres/Telecottages (CT)	UNESCO	N/A
Pro Natura Ecological Club and the Student's House from Bucharest	UNESCO	<a href="http://www.student.ro">http://www.student.ro</a>
The TeleMart Project	European Commission	<a href="http://www.tweuro.com/tura/telework/html/telemart.html">http://www.tweuro.com/tura/telework/html/telemart.html</a>

## Ensure Affordable Access

The primary message from GKP members in ensuring affordable access is not to attempt to install a particular model of access, but rather to make existing models and lessons more widely available and to work on supporting structures for community access. As a guide to public policy formulation, it is more valuable for development purposes, that everyone be connected at modest bandwidth levels than that some sectors receive early access to high bandwidth services.

There are already many relatively low-cost technologies that can be used in developing regions; the major barriers to their implementation are typically regulatory. The Partnership believes that affordable access to ICT can be achieved primarily through encouraging innovation and entrepreneurship. Governments should establish regulatory policies that open telecommunication and information services to competition at all levels and should set licensing policies to encourage competition and innovation in services and pricing.

The following are approaches that can help enable affordable access:

**Resale of telecommunication services:** The ability to resell telecommunications services can provide incentives to extend access even where the sector is still a monopoly and/or government-owned. For example,

- Senegal has dramatically increased access by allowing entrepreneurs to resell telephone services in their shops. Some have added fax and e-mail services.
- In India, Indonesia, and Rwanda, private kiosks resell telephone services providing many more outlets than those installed by the monopoly operator.
- In Bangladesh, village women extend telephone access by reselling wireless cellular service under the Grameen Bank Village Phone Project. This pilot project currently involves 950 village phones providing telephone access to more than 65,000 people. Village women access micro-credit to acquire digital GSM cellular phones.

**Universal Service Funds:** GKP members caution that while such funds can be beneficial, they must be carefully designed to ensure that they encourage cost-effective solutions rather than simply providing cost recovery for overly expensive facilities and operation.

**Public Access Points:** A pay-per-use system is one way to provide access to those who cannot afford individual subscriptions. Telecentres, community learning centres, cyber-cafes, kiosks and computer labs are emerging as ways to provide access at affordable prices. In some cases, governments or private organisations subsidise the centres. In others, they follow a fee-based commercial model. Some offer training and services while others just offer access to the machines.

**Aggregated Demand:** Public agencies, NGOs and other development agencies are likely to require reliable, affordable telecommunications. Aggregating their needs may well create sufficient demand to obtain network services such as cooperative bulk buying plans.

**Advocacy:** Examples include

- lobbying for corporate donations of software or hardware;
- lobbying for agreements for reduced prices on licenses or connectivity.

**Miscellaneous:**

- software tools to help local entrepreneurs design and maintain a network, protect it from virus attacks and restore it after crashes.

**Targeted Subsidies:** Funding agencies should subsidise important populations. For example, an Academy for Educational Development (LearnLink telecentre) in Bulgaria provides vouchers for training and services to teachers, students and municipal and local health workers to encourage them to use the Internet. This has the dual benefit of accelerating use by constituencies who might otherwise be left behind, as well as helping to create a long-term client base for the entrepreneurs. Similarly, the E-rate programme in the US provides discounts for Internet access for schools, libraries and rural health facilities. The E-rate has helped to expand connectivity so that 95 percent of US schools have Internet access. It has also identified new educational and social service markets for the ICT industry.

**Competition and Bypass:** Many technologies that could provide reliable and affordable access in the developing world already exist, and more are sure to follow. Such innovations are slow to find their ways to developing regions because competition is often not sanctioned. For example, it would be illegal in many places for school districts or other third parties to install or operate communication networks. Changing national policy and regulations to allow competition in service provision and direct links bypassing existing telephone network facilities would facilitate diffusion of technologies suitable for development applications.

## Promote Good Governance

Good governance requires that the population be given both greater access to policy dialogue and a chance to contribute to it. The development of good governance structures in developing countries increases the ability of under-represented populations to make their voices heard. Many GKP members feel that open access to governance issues is vital to making governments more responsive to the potential of ICT in development.

Some of the major obstacles to bridging the digital divide in this regard centre on policy reform. For example, without proper enforcement, regulations designed to promote universal access and service may not be followed because the margin of return for telecom operators is initially low. Countries need to adopt workable models for regulation and oversight that involve joint decision-making and control.

Donors need to develop a more open and collaborative allocation process if the goals of universal inclusion and access are to be met. At the GKP annual meeting in Geneva in March 2000, members urged the DOT Force to recommend a "learning culture" among G8 institutions in developing ICT programmes and projects. They suggested that donors share decision-making and management with developing country institutions.

Ensuring inclusion in the Digital Revolution requires appropriate and affordable infrastructure. Here are three African ICT initiatives that promote access and thus enhance the opportunities for participation in governance processes:

### **National Information and Communication Infrastructure (NICI) in Africa:**

In the last few years, many African countries have been developing national information and communication infrastructure (NICI) plans and strategies. To date, 15 countries have plans ready to implement, and 13 have plans in process. The NICI process brings together all stakeholders at the country level to develop ICT. In countries such as Egypt, Mauritania, Morocco, Nigeria, Rwanda, Senegal, and Tunisia, the NICI process has also resulted in the establishment of a government ministry to deal with the development of ICT.

**The Information Technology Centre for Africa (ITCA):** ITCA has been established within the African Information Society Initiative (AISI), an action framework to build Africa's information and communication infrastructure <http://www.uneca.org/itca>. The centre features exhibitions, an on-site and distance

learning centre and outreach services. The aim is to create awareness of the major benefits and crucial role of ICT among African policy-makers and create champions for the acceleration and diffusion of ICT. The ITCA focuses on six thematic areas: small and medium-scale enterprises; regional integration; health; education; public administration/governance; and information and communication policy which includes universal access.

**Niger Solar-Powered Radio:** [http://www.un.ne/home\\_un\\_fr/index\\_un\\_fr.htm](http://www.un.ne/home_un_fr/index_un_fr.htm) In Niger, a network of 150 solar-powered rural radios with development information centres is supported by a consortium of international IGOs and NGOs, led by UNDP and a national steering committee. The radios/information centres are set up locally but in accordance with a national plan that ensures geographic balance, whereby each of the seven provinces must have one facility before a second is developed. Solar power and satellite links are used to overcome lack of connectivity and basic infrastructure.

## Media

The experience of GKP members is that the ability of the media to operate freely is key to both good governance and to a vibrant, internationally accepted economy. While free information flow has not been universally achieved, many developing countries are making progress.

The GKII Media Forum in Kuala Lumpur in March 200 identified the central challenge for media in knowledge societies: defining strategies which can reinvigorate the role of media in informing and empowering the public, particularly the poor. These strategies include:

- building capacities of local journalists and supporting southern orientated news and information networks;
- encouraging strong, locally relevant content, especially community media, local language media, media programming which relates to the marginalised, and broadcasting that is politically independent of government;
- exploiting synergies between new and old media/ICT, such as upgrading the capacity of radio and access to ICT;
- creating effective policy environments for empowering media such as freedom of information and anti-monopoly legislation, voluntary codes of conduct, transparency in licensing and regulation policies, and independent media development;
- ownership and control between transnational media/communication industries and entities in the South.

## II.

### **BUILD ON EXISTING LOCAL RESOURCES**

International donors or foreign direct investors are often unaware of the wealth of local knowledge and resources they could tap to ensure that ICT systems are set up to be optimally useful and beneficial to developing economies and cultures. Using local resources is also cost effective since they are significantly cheaper than those in developed countries and can easily be integrated into local life. While using local resources may require more effort, that effort will yield superior results.

Three local resources are of primary importance in the effort to bridging the digital divide are:

- Local human and knowledge capital
- Local media, particularly those that have gone through the local appropriation process
- The Diaspora

## Local Human and Knowledge Capital

Building professional skills is a major goal of GKP members. Generating local content, exploiting technical skills already within the community and supporting local institutions and entrepreneurs are techniques GKP members have found effective in efforts to reduce the digital divide.

- **Generate Local Content**

Developing countries could supply significantly more content for telecommunications networks and projects than current levels. This is especially true in education and distance learning where there is typically a large body of existing local content that can be easily adopted or converted to ICT use. This local material is often much more relevant than those created and repackaged for export in developed countries.

Recent successes in use of ICT in the health sector are a good example. Many of the more sophisticated and complicated telemedicine efforts established by donors have had limited success; however, systems that provide local facilities the capability to communicate and generate content have had an important impact on the operation of health projects in many countries.

- **Exploit Local Technical Skills**

A number of GKP members help to provide technical support in developing countries. They include Internet service providers (ISPs), hardware firms, local software providers and technical NGOs. All emphasise that there is abundant local talent in developing countries. Some are highly skilled while some require technical training.

- **Support Local Entrepreneurs**

GKP members suggest that there are many developing country entrepreneurs willing to shoulder the risks involved in operating ICT applications. The small and medium enterprise sector in many countries is widely recognised as a major source of innovation and entrepreneurship. Several members suggest that venture capital along with a supportive policy and regulatory environment would create a groundswell of local ICT business activity.

- **Use Local Institutions**

The donor community underutilises local institutions in the application of ICT. Both the NGO community and the private sector have long adopted the model of working closely with local partners to accomplish shared goals. GKP members suggest that the public sector could profit from greater use of this approach. Many GKP members are NGOs working in developing countries that can identify local partners and other institutions that could be active participants in ICT applications. Several members suggest the use of local institutions for networking activities and for "virtual community building."

### **Case Study: Human Capacity Building for a Knowledge Economy - The e-ASEAN Experience**

The experience of the ten countries in ASEAN (Association of South-east Asian Nations) provides a useful look at the barriers to, and opportunities for the development of local human capital. A study by the Malaysian National Information Technology Council (NITC) <http://www.nitc.org.my> reveals that as a whole, ASEAN have much to achieve before they can be full beneficiaries of the information and technology revolution.

Besides inadequate access and training to develop an ICT workforce, most ASEAN members need substantial improvement in conditions necessary to support e-business and e-government.

Moreover, most ASEAN members have not reached the critical mass in education needed to prepare them to become a collective knowledge economy. High rates of illiteracy, especially in rural areas and among women, continue to plague most countries. The percentage of post-secondary students in science is a fairly good indicator of human capacity building for ICT, but this is low at about 30 per cent. Post-secondary enrollment, another good indicator of human capacity, is between 11 and 39 per cent compared to 81 per cent in the US.

ASEAN has recommended over the years that member countries make concerted efforts towards increasing the competitive edge of the group in an increasingly global information economy. These recommendations are the premise for building e-ASEAN, where infrastructure is shared to strengthen intra-ASEAN connectivity and a conducive ICT environment is created to nurture and support e-business activities and attract investment into ASEAN. The sharing and development of technical resources and human capital is seen as crucial to creating the said conducive environment.

Specifically, it has been recommended that e-ASEAN adopt the following goals for developing human capital in the region by 2004:

- Introduce an integrated curriculum supported by information technology at all academic levels so as to move beyond rote learning to inquiry-driven, on-line, interactive learning;
- Introduce advanced education and learning services to the masses, such as online libraries, an electronic librarian and virtual field trips through public information kiosks;
- Provide Internet access to the majority of schools in ASEAN;
- Promote research and development on ICT applications where education is the 'push' factor and research and development is the 'pull' factor.

Several e-ASEAN pilot projects have been planned, including the ASEAN SchoolNet, ASEAN Training Network, and ASEAN Information Network. Of note is the initiative for ASEAN Integration (IAI), focusing on education, skills development and worker training. To translate some of the recommendations of earlier ASEAN fora into actions and to kick off the IAI, Singapore has offered a five-year technical assistance programme to assist Cambodia, Laos, Myanmar and Vietnam in human capacity-building for ICT.

## Local Media

Local appropriation of ICT is a process where communities and groups select and adopt communication tools according to their different needs and then adapt the technologies so that they become rooted in their own social, economic and cultural processes. The process reflects creativity and freedom of expression and, in some cases, resistance to political and cultural dominance by global media markets.

Community radio is a prime example. It is low-cost, easy to operate, reaches all segments of the community in local languages and can offer information, education and entertainment as well as a platform for debate and cultural expression. As a grass-roots channel of communication, it maximises development potential by sharing the information, knowledge and skills already existing within the community. It can therefore act as a catalyst for community and individual empowerment. The fact that radio is an essentially local medium is its primary strength.

In reviewing local appropriation of ICT, GKP members found that many projects are able to use radio because in recent years, there has been evidence of a new "radio landscape" in many developing countries. Increasingly it is privatised, deregulated, decentralised and community-based. When radio broadcasters are trained to browse the Internet effectively and to integrate relevant information into local programmes, radio, especially rural radio, has the potential to improve local people's access to global knowledge and information. The Community Multimedia Centres discussed in the next section are examples of this.

## The Diaspora

A number of GKP members work with developing country nationals who have become expatriates for economic or political reasons. With improvements in communications they can now participate much more fully in the development of their home countries.

### **Case Study: Voluntary Services at Home, Nigeria**

Fantsuam Foundation [fantsuamfoundation@fantsuam.com](mailto:fantsuamfoundation@fantsuam.com) has begun an ambitious programme to engage Nigerian expatriates in the improvement of health conditions in their native country.

The brain drain from Nigeria has taken its toll on the national economy. There are roughly three million Nigerians in the US and seven million in Europe. Of these, a substantial number are skilled health and education professionals. A UN report from 1993 said more than 21,000 Nigerian doctors were working in the US alone, while in Nigeria itself there are 5,882 people per doctor.

The Fantsuam Foundation conducted a preliminary investigation indicating that some of those expatriates would like to contribute their skills to the Nigerian health service as long as their jobs in the West were not at risk. The Foundation believes it is possible to provide this opportunity through a programme called Voluntary Services at Home, Nigeria (VSHN).

VSHN will identify successful Nigerians living abroad and will match them with specific health projects and health training institutions in Nigeria. The project will begin with professionals in the health and education sectors and will expand to other professions whose members could benefit Nigerian development. Within the first five years, VSHN hopes to transfer skills, knowledge and technology to 1,000 health training institutions, hospital and rural health centres in Nigeria.



## **FOCUS ON KEY SECTORS AND LEARN FROM ICT APPLICATIONS IN THE FIELD**

GKP members consider the following sectors particularly promising in advancing development and reducing the digital divide.

- E-Commerce
- Community Access
- Education
- Health
- E-Governance

## E-Commerce

E-commerce will ultimately have an enormous impact in the developing world. Supportive actions by the development community now can help hasten the day when that impact is felt.

E-commerce as it is discussed here focuses primarily on business-to-business transactions. At this stage, the donor community has an important role to play in helping to establish a supportive policy and regulatory environment for e-commerce. Donor agencies can also help countries achieve critical mass and sufficient momentum to ensure that supply and demand for services soon converge.

Two areas merit special mention: promoting the involvement of smaller businesses from the beginning, and creating mechanisms to facilitate online payments by consumers who do not have credit cards and may not even have bank accounts. The early involvement of smaller businesses can help increase product diversity and competition and can help avoid the perception that there is room for only one or two large players in any given market segment.

As the system evolves toward retail consumer transactions, those who are able to purchase online will start to realise substantial reductions in costs through dis-intermediation. GKP members are considering experiments with debit cards and with enabling telecentre operators to act as credit intermediaries.

### Case Study: Six Success Stories

**Tortas Peru:** Through Tortas Peru <http://www.tortasperu.org>, Peruvians can purchase traditional cakes online made by Peruvian women and have them delivered to their homes. The service has been especially popular with expatriate Peruvians who buy the tortas from their relatives back home. This initiative, which gets support from GKP member IICD, has a double benefit. The women baking the cakes have increased their incomes and expatriate Peruvians have found a good way to maintain contact with in-country relatives.

**TARAAhaat.com:** TARAhaat.com <http://www.tarahaat.com/about.htm> uses e-business to bring information and marketing services to rural India. Under the Development Alternatives Group, TARAhaat.com provides access to a variety of resources (health, nutrition, agriculture, sustainable livelihood, market prices, etc.) and to a wide-range of market-based opportunities in local languages and in a user-friendly format (also accessible for low-literates). Users are able to buy seeds, machinery, spare parts and even household items.

**InfoDes:** InfoDes [http://www.itdg.org/html/icts/information\\_systems.htm](http://www.itdg.org/html/icts/information_systems.htm) is a pilot project under the Intermedia Technology Development Group (ITDG) of the World Bank. Its goal is to contribute to the sub-regional development of Cajamarca, Peru by providing information and communication tools to increase the production of small farmers and the management skills of local governments. The project has designed and established a sub-regional information system that integrates local libraries, research on local knowledge and the use of modern information technologies. It is also testing a methodology that can be adapted to other rural areas of Peru and Latin America. Rather than spreading computers and access to rural areas formerly deprived of them and with no conceptual framework to support them, InfoDes incorporates existing resources, facilitates networking among local institutions and expands information services on the basis of user demand and community participation.

**Virtual Souk:** Virtual Souk <http://www.elsouk.com> is a financially stable, decentralised, locally controlled e-commerce operation that implements activities to raise awareness, build capacity, strengthen networks and expand the use of ICT. Artisans in the Middle East and North Africa craft high quality products using traditional techniques and ancestral know-how. However, the livelihoods of small artisans are threatened by shrinking local markets, the great distances to more lucrative national and international markets, limited access to information, technical skills and financial services and a tight control of the commercial chain by the tourist-oriented intermediaries. In many cases, the artisans who produce the most authentic and fine crafts are those with the least access to markets. The Virtual Souk helps bring their crafts into the market without standardising their techniques and provides them with a profitable return without too much inter-mediation.

**Market Watch Mongolia:** Market Watch <http://www.gbn.mn> is a multimedia information and analysis service produced and delivered by the Gobi Regional Economic Growth Initiative, a five-year rural development programme funded by USAID. Market Watch tracks price information for more than 30 commodities in seven Gobi and two Ulaan Bator markets on a twice-weekly, monthly, and quarterly basis. Delivered via Gobi Business News national and regional radio, print, and Internet media, Market Watch is extremely popular among herders and is highly valued among traders, cashmere and wool processing companies, banks and other financial institutions. Radio has proven to be a way to reach almost all remote users since it is widely diffused in this region. In addition to Market Watch, Gobi Business News radio includes Weather Watch, Policy Watch, and animal husbandry management segments. These services allow rural communities to make informed decisions with timely and accurate data.

**Village Leap:** Villageleap.com <http://www.villageleap.com> is a site in Robib, an isolated farming village in the northern hinterland of Cambodia, that offers Internet access to the community via a satellite dish and a set of solar panels connected to the village schoolhouse. An e-commerce experiment is underway in which village women are able to sell their traditional woven silk scarves to customers all over the world through the website. The profits from selling the scarves have been put into a village pig farm, and the farm has generated new employment, higher wages and increased stability for the families living in Robib. In addition, the children are taught how to send e-mail, browse the Net and make friends with children in other cities.

## Community Access

The GKP supports the expansion of community access through development of community multimedia centres (CMC), or telecentres, because they offer ordinary people a gateway to the global knowledge society. They combine radio (or television) in local languages with information and communication technology in a wide range of social, economic and cultural areas.

At its most basic, the centre offers the simplest portable radio station plus a single computer for Internet browsing, e-mail and basic office, library and learning applications. At its most developed, the centre offers a full range of multimedia facilities with links to the local hospital for telemedicine applications, to national newspapers for downloading and printing for local circulation and so forth.

In countries where broadcasting laws do not yet permit community radio to go on air, initiatives such as Internet radio and cassette radio can provide alternatives. In villages without electricity or telephones, solar energy and satellite technology can enable the delivery of multimedia information and distance learning material and can offer low-cost, asynchronous data exchange via e-mail.

While centres can vary greatly in both scale and nature, all pre-suppose that ICT will be both for collective community use and for individual access. In the interest of sustainability and a broader range of services, a CMC may offer a combination of publicly and privately run facilities with services such as telephone, fax and e-mail possibly offered on a commercial basis alongside not-for-profit access to other facilities.

The creation of the infrastructure is only a first step. The key to the success of these centres is their ability to collect, interpret, produce, exchange and disseminate relevant content for individuals, for target groups and for the community as a whole. In the examples discussed here, the centres are often in schools or libraries where information services can be more easily offered. In some cases they are independent centres, but almost all of them are run by NGOs.

### Case Studies: Five Community Multimedia Centres

**The Bankilare Community Information Centre:** The people of Bankilare, Nigeria, recently created a community information centre to complement radio. Through the centre, information is exchanged, discussed, analysed and applied to

community life. The centre is in a small, one-room, sun-baked brick building but uses solar-powered transmitters that receive signals from a geostationary digital satellite. The station has become an essential part of community life announcing weather conditions or alerting the community to potential disasters as well as providing information on topics such as health, nutrition, trade and the environment. It also offers entertainment. The Community Information Centre is linked to the Africa Learning Channel and transmits multimedia information from the Internet to audiences living where Internet connections are unreliable and/or expensive. Bankilare uses listening groups; their policy is "one receiver reaching many ears." The centre receives information from around Africa and the world and has an audience of 1.2 million. [http://www.cto-ict.org/pages/forum/general/tech/broadcasting/rose\\_tc\\_hwenko.html](http://www.cto-ict.org/pages/forum/general/tech/broadcasting/rose_tc_hwenko.html)

**Across Borders:** The Across Borders project will connect Palestinian refugee camps in the West Bank, Gaza, Jordan, Syria, and Lebanon to the Internet. In each camp, a computer/Internet centre will be set up, and camp refugees will be trained in ICT skills. Each camp will create its own website and will collect oral history and testimonies about the life of the refugees. To date, an Across Borders Centre has opened in the Dheisheh refugee camp outside Bethlehem in the West Bank <http://www.dheisheh.acrossborders.org>. The centre will enable Palestinian refugees to communicate directly and swiftly with one another and with the outside world. It will provide online documentation of the oral history of these camps since their inception in 1948-49 and will provide the refugees with the necessary computer and Internet skills to enable them to get better jobs. This project is unique in that it is economically self-sufficient.

**Cyberpop:** Cyberpop <http://www.enda.sn/cyberpop> is composed of community resource centres in eight underprivileged and poor districts of Dakar, Senegal. It was born out of a partnership with IDRC and ENDA. The centres facilitate ICT training, support knowledge exchange between the different centres and intend to effectively involve the community by mobilising local knowledge and skills. They are locally run by young managers from community-based organisations who act as intermediaries between illiterate people and ICT. In collaboration with community organisations in Senegal, this pilot project will undertake participatory action research on the use and appropriation of ICT.

**Nakaseke Multipurpose Community Telecentre and Library Pilot Project:** Nakaseke, north of the Ugandan capital of Kampala, was once a town that did not even have access to local newspapers. Now, a modern telecentre and library complete with textbooks in English and the local language, serves not only the local people but also neighbouring communities. Services include computer applications, training, Internet and e-mail along with business services such as photocopying, telephone and fax. Trainees who support the technical aspects of the centre and in

turn train others were selected from the community. Although the telecentre is for the whole community, particular attention is given to women, youth, children, media workers, labourers, teachers, students, farmers and local leaders. A local steering committee representing each of the core target groups was elected by the community to supervise the telecentre's daily activities, liaise with the management committee and mobilise the community. The telecentre has revitalised rural community life.

**Kgautswane ICT Centre:** Kgautswane is a rural village in South Africa with no electricity and, prior to the project, no telephone access. Kgautswane already had a community-building programme and understood that not having access to new technologies was marginalising the people who lived there. For this reason, they asked for assistance in creating an information centre with PCs and access to Internet. The project was funded by the World Bank to provide access to computer equipment, business-related equipment and services. A generator provides power for up to 18 hours a day. The project shows how high-tech equipment can be effectively used in a rural setting and how people can accept high-tech solutions and integrate them into their own lifestyles. The centre is still waiting for a telephone line. Once it is installed, users will be able to register for and complete tertiary-level studies via the Internet and to use the African Digital Library and other free research resources made available via the Africa Education.org website.

### **Case Studies: Nine UNESCO Projects**

These projects draw on the existing field networks of UNDP, UNESCO, UNICEF, FAO and ITU together with a number of established NGOs.

**Kothmale Internet Community Radio:** The Kothmale Internet Community Radio in Sri Lanka offers ordinary people a gateway to the global knowledge society by combining radio and locally-produced content with ICT in a wide range of social, economic and cultural areas. This is an efficient way to promote active and continuous community participation within small target areas. Set up as a mini-ISP with lease line connections to Internet, broadcasters can use the Internet in research/production. Local users come to the centre to use the computers while outsiders use two public access points in near-by towns. The station created "radio-browsing" where presenters accompanied by specialists (e.g. the local doctor) web-browse on behalf of listeners and comment on site contents in response to listeners' queries. Local people create the station's web pages. The project has a website, <http://www.kothmale.net>, used to develop a database with useful information for the rural community, to provide a portal for the community broadcaster and to give a means of expression to the community to reach out through web publishing.

**INTERCOM-Ecuanex:** Seventeen major national NGOs in Ecuador came together in 1990 to found INTERCOM-Ecuanex <http://www.ecuanex.net.ec/>, a nonprofit network to promote the use of ICT as a tool to spread communication and knowledge, to facilitate exchanges in development work and to strengthen citizen participation. INTERCOM-Ecuanex sustains itself through paid technical/consultative services for NGOs. It also implements projects funded by national and international donors and has regional and international partnerships with other NGOs. INTERCOM-Ecuanex is now establishing a partnership with CORAPE, a network of Internet-linked community radios some of which will incorporate telecentres. The telecentres will function as micro-enterprises.

**Manhica and Namaacha Community Telecentres:** These community telecentres in Mozambique demonstrated their utility during the February/March 2000 floods when communities, individuals, NGOs and local government officials were able to obtain and exchange critical information during and after the crisis for rebuilding their lives and communities.

**AWARI:** In Indonesia, where there are no licence requirements for Internet kiosks, the national Internet Kiosk Association, AWARI, is actively involved in policy and regulatory meetings. AWARI has over 1,000 members and 2,500 Internet kiosks. It plans to form a cooperative of kiosks to move from the cyber-café model to a more broad-based community service provider model linked to commerce, ICT training and educational institutions.

**Nakaseke Community Telecentre:** This telecentre <http://www.nakaseke.or.ug/> in Uganda is supported by international, national, local partners and government and families who are ready to pay a small annual levy per child. Families are willing to pay because the centre has contributed to marked improvement in school results. There were no telephones in Nakaseke before the telecentre was set up in 1999. There are now over 30 land-line telephones and 20 mobile phones. Two private computer schools have opened and 30 people have got computer-related jobs after taking telecentre training courses. One school has put ICT into the curriculum, and schools are requesting computers. The recent addition of community radio to the telecentre will greatly increase outreach and awareness of ICT among locals.

**Bhutan Broadcasting System (BBS):** In Bhutan, the national telecom authority has given subsidised Internet connections to some institutions to increase the number of Internet accounts. BBS is currently seeking to benefit from this subsidy and has so far been provided with one router free of charge. BBS began "radio-browsing" programmes in 2000 to provide information from the Internet to illiterate people and to those without access, to foster awareness of new ICT among young people, to produce content for the Internet, to broaden the Internet market and to improve the quality and variety of BBS programming. BBS is planning to increase

"radio-browsing" time, to establish a regional link with a telecentre and eventually to set up small broadcast stations.

**Value-Added Hubs:** India's Ministry of Information Technology is promoting a new community information centre project in the northeastern states with a focus on content, education, and governance. Similar initiatives for collective community access are run by NGOs including the Swaminathan Foundation's Village Information Shops in Tamil Nadu State which are maximising villagers' access to networks via "value-added hubs." These hubs have Internet and e-mail access in order to open further channels of information for the village "shops" that are not on-line. Villagers have benefited from increased access to information on government entitlements and have used market information on commodity prices to negotiate higher wages. Fishing communities have benefited from access to weather forecasts.

**Infoplazas:** In Panama, the community telecentre network Infoplazas <http://www.senacyt.gob.pa/infoplazas/> was launched in 2000 through the National Office for Science, Technology and Innovation with a loan from the Inter-American Development Bank. The centre was able to negotiate preferential rates for software while resisting a giant software company's demand that this should entail exclusive use. Infoplazas now has a combination of cheap licensed software and extensive use of freeware. Panamanian technology students required by their colleges or universities to do "social service" carry out volunteer work with their local community telecentres. By 2003, there should be 30 centres around the country, and the possibility of adding radio is being explored.

**Katutura Community Radio (KCR):** In Namibia, KCR was first proposed by six NGOs seeking new ways to get development messages across to the community. It focuses on education, job-creation, civic affairs, HIV awareness and self-help projects within a poor, urban and predominantly young population. The acquisition of computers opens the prospect of addressing the digital divide for this community, but sustainability is still a major challenge.

## Education

The DOT Force can make a difference in education. It can, and should, endorse or engage in activities that aim to:

- Establish a pool of people with technical skills to maintain hardware;
- Encourage the creation of and experimentation with model applications that serve under-served communities;
- Find ways to help entrepreneurs to acquire the business and management skills they need to keep their businesses successful;
- Help "seed" the market for access and development-oriented applications through training public sector users;
- Promote sharing of lessons learned in IT and development;
- Help maintain a focus on the sustainability of services.

Areas to which the DOT Force activities should assign high priority include mediated instruction, professionalisation of new skill clusters, remote service delivery, local participation and virtual community building.

The Academy for Educational Development (AED) is a GKP member and a leader in the nonprofit sector. They contributed the following projects as examples of how ICT are effectively meeting educational needs in developing countries.

### Case Studies: Three Education Applications

**ALER:** In Latin America, the 30-year-old ALER association of educational radio <http://www.aler.org.ec> has over 100 affiliates in 19 countries. Its original aim to provide basic education and literacy programmes has now broadened to include initiation and training in new technologies and the development of a network, ALRED, that currently links over 60 stations via Internet and satellite for programme exchange. This networking system has enabled the Quechua people (descendants of the Incas) to link up for the first time since the creation of nation states in the early 1800s. ALER now plans an Amazon Network and which will reach a total of over 12 million mostly poor and marginalised people.

**Songhai Centre:** This Centre in Benin <http://idf.ext.jussieu.fr/drought/songhai.htm>, part of AED's LearnLink Project, draws on indigenous knowledge and local resources to produce innovations in sustainable agriculture, small plot farming and food distribution methods. Three networked telecentres established at Songhai farms in

the south, centre, and north of the country enable information to be digitised and widely disseminated. Farmers visit the telecentres to view CD-ROMs on new aquaculture techniques, vegetable production, etc. Through "Ask the Experts", farmers can receive prompt replies from Songhai technicians on any question. The telecentres are open to the public and provide ICT access and training to all segments of the population.

**Proyecto Enlace Quiché:** In Guatemala, the Enlace Networking Project <http://www.enlacequiche.org.gt> is preparing future primary school educators in the Quiché region to teach in the local languages of K'iche' and Ixil. Using ICT, student teachers are building Mayan language proficiency that will enable bilingual teaching in the primary grades. At the same time, they are developing computer skills that enable them to produce learning materials in traditional languages. Open to the community during off-hours, the project, part of AED's LearnLink, is helping to preserve and invigorate indigenous cultures while paving the way for rural communities to move into the modern, information-based world.

## Health

The health sector was one of the earliest to adopt ICT in its development. GKP members are engaged in several endeavours.

### Case Studies: Three Health Applications

**HealthNet:** HealthNet is a "network of networks" that provides health professionals in several African countries with low-bandwidth, low-cost e-mail, as well as access to a wide range of electronic information resources. It is a service of SATELLIFE <http://www.healthnet.org/index2.php>, a US-based NGO. Initially conceived as a communication network of satellite ground stations at remote health sites, HealthNet has evolved to employ a variety of technologies to deliver e-mail and information resources.

The network is locally owned and operated by partners using a variety of models from projects within larger institutions to independent, self-sustaining or nearly self-sustaining NGOs. Countries designate their names such as "HealthNet Kenya" or "HealthNet Eritrea".

SATELLIFE estimates that over 2,700 health professionals now receive mail and information services through local HealthNets. An additional 8,000 health professionals subscribe to the organisation's information services. Because many use their local HealthNets on a walk-in basis and share them with their colleagues, the actual number of people benefiting may be significantly higher than these figures indicate.

HealthNet began as the embodiment of a "low-tech" approach, relying primarily on telephone lines and low-earth-orbit (LEO) satellites. It now employs a continuum of technologies that covers the range from low-bandwidth, store-and-forward e-mail to high-speed, real-time Internet access. This approach has made it possible for local HealthNet operations to become increasingly advanced while continuing to provide an affordable alternative to commercial services. In fact, some HealthNets have achieved or will soon achieve complete administrative, financial, and technical independence.

HealthNet has not been an unqualified success. In a number of locations, the network has been dismantled with former HealthNet users migrating to commercial options or foregoing e-mail access altogether, either because alternatives were

unavailable or unaffordable or because they did not have access to adequate technical support to employ an alternative.

Complex factors within SATELLIFE and its partner institutions contributed to these cases including insufficient funding and an unclear strategy for developing the network in varying political, technical and institutional environments. These cases notwithstanding, the network has proven to be robust. Below are the most compelling and informative lessons culled from the past decade:

- *The Technology Continuum:* HealthNet has been successful in meeting the information and communication needs of its constituents by evolving along a technological continuum that allows for increasingly sophisticated service while keeping end-user costs to a minimum;
- *Institutional Capacity:* HealthNet has been successful only in locations where it has been possible to build institutional capacity or leverage existing capacity and where there has been a strong sense of local ownership.;
- *Sustainability:* HealthNet operations can become self-sustaining or nearly self-sustaining with virtually no financial assistance when a business model is implemented;
- *Training:* Investments in technology must be matched with investments in training - for both system operators and end users - if full potential is to be realised.

**The Sapphire AIDS Victims Fund:** This fund <http://www.peoplink.org/sapphire/> uses the Internet to sell handicrafts from Uganda to raise money for women who have AIDS. Its main mission is to ease the suffering of children orphaned by the disease. The organisation tries to meet their physical, emotional and psychological needs.

The Sapphire Women make traditional baskets and sell them online through PeopLink (USA), a non-profit organisation helping producers in remote communities all over the world to market their products on the Internet. PeopLink is also building a global network of trading partners that in turn provides services to several community-based artisan groups. PeopLink equips trading partners with digital cameras and trains them to photograph crafts and craft-making and then edit the photos in a compressed format suitable for transmission via the Internet to promote their products.

**Healthinfo-Ethiopia:** This institution promotes ICT among health professionals and acquires and disseminates health-related information about Ethiopia and Africa to citizens at home and abroad. It organises annual ICT conferences for health professionals and encourages use of HealthNet.

The 'Ethiohealth' discussion forum <http://www.ethiohealth.listbot.com> aims at fighting HIV/AIDS and improving health care in the country by creating a forum for Ethiopian health professionals. The contents of this discussion group are resources for the local print media. Healthinfo-Ethiopia has enabled the establishment of a robust International Scientific Advisory Board for the Journal of Ethiopian Medical Practice (JEMP) using ICT. A database now exists that is an effective method for continuing medical education as well as for providing wider access to evidence-based medicine for health workers in the country.

## E-Governance

There is a potentially large role for electronic and online services in government, especially in the areas of service delivery, orientation and accountability. In Hyderabad, India, for example, there are electronic centres where customers can pay all their municipal bills, check the status of their accounts and even get a driver's license. What might once have taken a half a day at each of several offices can now be accomplished in a total of 10 minutes.

ICT can also transform the citizen's role in society. It can increase the reach and impact of advocacy by grassroots organisations and can give citizens a greater role in making and monitoring policies. GKP member research shows that most ICT advocacy projects in the developing countries are information websites that facilitate dialogue among civil society organisations with a focus on democracy and social change.

### Case Studies

**Gyandoot Project:** Gyandoot is a unique form of government-to-citizen e-commerce in Madhya Pradesh, India. It is a community-based, cost-effective and financially self-reliant Intranet service with information kiosks in 20 villages in five district blocks. For five rupees (ten cents US), villagers can get reliable market information, apply for income verification and domicile certificates, request land surveys and receive details on loans at <http://www.gyandoot.net>. The service uses dial up connectivity through local exchanges on optical fiber or UHF links.

**The Chapter 2 Network:** This network <http://www.advocacy.org/za> in South Africa is a member-based clearinghouse of information and communication for social justice associated with the Institute for Democracy (IDASA). It provides support for civil organisations involved in advocacy. The network uses ICT and more conventional media to gather and disseminate information about advocacy campaigns, to train in advocacy and lobbying, to undertake research on political intelligence, to analyse policy, to monitor legislation and to network with other organisations.

**IV.**

**SUMMARY OF  
RECOMMENDATIONS**

## Summary of Recommendations

The following recommendations are based on the collective experiences of GKP members and are intended to address weaknesses in the DOT Force draft report on the Digital Divide.

1. The DOT Force should support open and wide-ranging activities that expand access to and use of ICT in developing countries.
2. Projects should mirror the structure of modern ICT themselves.
3. Decision-making and resource allocation should be characterised by the following:
  - Decision-making should be collaborative and shared among donors, governments and all stakeholders, including underserved populations (women, rural residents, youth).
  - Projects should demonstrate support and ownership among participants, i.e. they should be demand-rather than supply-driven.
  - Projects should build on existing local resources, particularly local human and knowledge capital, local media and the Diaspora.
  - Key sectors should be focused upon: e-commerce; community access; education; health and e-governance.
  - Projects should be reviewed and evaluated often. Self-correcting feedback loops should be built into their design to ensure that they continue to meet their objectives.
  - Resource allocation should be results oriented. A successful project should be allowed to grow, broaden its scope and develop into a network.
  - Experimentation and innovative solutions (e.g. "radio-browsing") should be encouraged.

In short, the use of ICT in development requires more than just additional resources, though it certainly requires that; it requires new models of development. As the G8 moves to meet this challenge, the GKP stands ready to be a willing partner.

# THE DOT FORCE PLAN OF ACTION

According to the G8 Okinawa Charter on the Global Information Society (2000), ICT has an evolutionary impact that is fast becoming a vital engine of growth for the world economy that can enable people and societies to fulfill potential and realise aspirations by using knowledge and ideas.

It is therefore crucial to ensure that ICT "serves the mutually supportive goals of creating sustainable economic growth, enhancing the public welfare, and fostering social cohesion, and work to fully realise its potential to strengthen democracy, increase transparency and accountability in governance, promote human rights, enhance cultural diversity, and to foster international peace and stability. Meeting these goals and addressing emerging challenges will require effective national and international strategies."

The Genoa Plan of Action was endorsed by G8 Leaders at their 2001 Summit in Italy, and the challenge now is implementation. A Framework for Implementation has been drawn up, identifying key concrete initiatives, and Implementation Teams are being established under the joint coordination of Italy and Canada, respectively President of the G8 in 2001 and 2002.

A progress report will be prepared for G8 Leaders' review at the Kananaskis Summit in June 2002. A review of progress was conducted on December 13, 2001.

## **DOT Force (Genoa) Plan of Action: Framework for Implementation**

"To foster an environment of sustainable social and economic development (including poverty alleviation)"

- source: DOTForce Homepage <http://www.dotforce.org/reports/matrix.html> and 'Update on the Implementation of the DOT Force Genoa Plan of Action, December 2001'

### **Action Point 1: Support development of national e-strategies**

#### *Policy Goals*

- Develop national e-strategies;
- Promote policy and regulatory frameworks;
- Integrate e-government strategies.

#### *Key Initiatives*

- International e-Development Resource Network;
- Virtual policy centres.

#### *12-month Deliverables*

- Finalise the strategic plan for the International e-Development Resource Network;
- Build a virtual network to provide advice and expertise and favour knowledge sharing;
- Secure core funding;
- Develop accessible web-based tools;
- Measure and promote government e-readiness.

#### *December 2001 Review*

- Finalise the strategic plan for the International e-Development Resource Network for developing country policy-makers;
- Draw up Pathfinder Initiatives to select a set of pilot countries and develop complete tailored national e-Strategies;
- Develop an action framework on e-government as a digital model of public administration functions, services and processes for developing countries.

### **Action Point 2: Improve connectivity, increase access, and lower costs**

#### *Policy Goals*

- Promote universal access for underserved areas;
- Support/create public and community access points;

- Encourage R&D to adapt technologies to local needs/conditions;
- Encourage public/private partnerships for the development of Internet network hardware.

#### *Key Initiatives*

- Community Access Centres Network.

#### *12-month Deliverables*

- Prioritise bilateral funding to this area;
- Develop sustainable revenue models;
- Exchange best practices, experiences and expertise.

#### *December 2001 Review*

- Determine actions to improve financial sustainability of existing initiatives for
  - projects with global scope: a telecentre Help-Desk and Infomediary;
  - projects with a regional scope: a Community Access Centres Network for French-Speaking Africa; an access to ICT in Africa Project; and an Institute for Connectivity in Africa.

### **Action Point 3: Enhance human capacity development, knowledge creation and sharing**

#### *Policy Goals*

- Increase use of the Internet in education system;
- Digital literacy for students and teachers with emphasis on gender balance and youth;
- Promote distance learning for underserved areas;
- Network of Centres of excellence for research in ICT for development.

#### *Key Initiatives*

- Centres of excellence for technical advice, training materials and e-learning tools.

#### *12-month Deliverables*

- More effort from non-profit organisations, private sector and governments to this area;
- Increased penetration of Internet in schools;
- Establish a network of these centres by linking with existing University initiatives;
- Make use of private sector expertise on the ground and virtually to improve local human performance.

#### *December 2001 Review*

- Collect and publish planned activities and approved new initiatives of G8 countries and selected international organisations which support this Action Point;
- Take an inventory of the needs of selected developing countries based on current studies;
- Compare supply (item 1) and demand (item 2): determine and specify activities/programmes to cover urgent demands of the developing countries and initiate the necessary steps.

### **Action Point 4: Foster enterprise, jobs and entrepreneurship**

#### *Policy Goals*

- Governments to create the right conditions for local enterprise investment;
- Incubation and Mentoring assistance;
- Encourage private/public partnerships to promote capacity building;
- Reassess ODA strategies to promote ICT investment and seed capital.

#### *Key Initiatives*

- International Entrepreneur Resources Exchange.

#### *12-month Deliverables*

- Finalise the strategic plan and establish the International Entrepreneur Resources Exchanges;
- Develop a network of entrepreneurs to provide incubation and mentoring assistance;
- Advocate more micro-credit facilities, equity capital and consideration for innovative instruments to promote more seed/risk capital to help entrepreneurs through private-public partnerships;
- Share best practices and sustainable revenue models.

#### *December 2001 Review*

- Develop new Not for Profit Organisation (NNPO) project aiming to define a framework for a new programme/organisation to support entrepreneurship in ICT through mentoring, incubating, networking and seed capital;
- Develop policies, regulatory and legal services for government and business leaders working to bridge the global digital divide within the Open Economies project.

## **Action Point 5: Strengthen universal participation in global ICT governance**

### *Policy Goals*

- Support developing country participation in international decision-making for more effective cooperation in international initiatives.

### *12-month Deliverables*

- Use International e-Development Resource Network to exchange information and link to pool of experts.

### *December 2001 Review*

- Develop short-term action plan based on a networked model of global coordination and local capacity building. Proposed actions include those to:
  - develop a scoping study looking at the capacity of developing countries to engage in decision-making in international fora;
  - create a Global ICT Policy Watch;
  - build a Network of Thought Leaders to nurture new generations;
  - create a travel and participation Bank for global policymaking fora;
  - model a process to demonstrate how policy-making can be made more inclusive.

## **Action Point 6: Establish a dedicated Least Developed Countries initiative for ICT-inclusion**

### *Policy Goals*

- Promote improvements in basic ICT access;
- Broaden Internet access;
- Encourage joint stakeholder efforts for sustainable solutions for Africa.

### *Key Initiatives*

- International Association for Internet / ISP Cooperation.

### *12-month Deliverables*

- Framework agreement among national ISP associations and multilateral agencies.

### *December 2001 Review*

- This cross-cutting mandate is to ensure LDCs are given special attention within the work of the other action areas, including:
  - to closely link with the New Partnership for Africa's Development initiative;
  - Team Chairs incorporating a section on LDCs in their next progress report.

## **Action Point 7: ICT for health care and support against disease**

### *Policy Goals*

- Integrate and deploy ICT in health programme delivery, with targets for health education, training and preventive detection.

### *Key Initiatives*

- Virtual Network to Combat HIV/AIDS and Other Diseases.

### *12-month Deliverables*

- Design and identify resources for an international ICT-based campaign for the prevention and fight of HIV/AIDS and other diseases.

### *December 2001 Review*

- Based on the following key goals: 1) Education and Knowledge Sharing; 2) Content and Communication; and, 3) Networking and Partnership, four specific deliverables have been identified:
  - analysis of developing country needs;
  - stocktaking of initiatives or existing studies (and collection of best practices and lessons learned);
  - identification of urgent needs for developing new initiatives in developing countries; and,
  - creation of a network or coalition for the prevention of HIV/AIDS and other diseases (with the close collaboration of the UNDP's ICT Against HIV/AIDS Coalition).

## **Action Point 8: Support local content and applications development**

### *Policy Goals*

- Promote the development of software applications relevant to developing countries;
- Support the development of standards for local languages;
- Increase access to content to poor people.
- Encourage the growth of e-Government.

### *Key Initiatives*

- Virtual network for local content creation and software development.

### *12-month Deliverables*

- Build a virtual institute to promote the creation of local content;
- Increased effort in digitisation of public content (and on-line access);
- Develop a revenue model for local content distribution.

#### *December 2001 Review*

- Promote local content under the Open Content Exchange Network, which would include a summary of existing initiatives on local content for development; an experience review study with concrete examples; a business model, metadata and license standards; and a pilot project providing open content.
- Build a global consortium to contribute to developing country adoption, adaptation and indigenous development of open source software as well as open content.
- Undertake pilot field research study on language character sets in Cambodia on the Khmer Language. This project, now underway, will provide understanding of appropriate standardisation processes for all language standardisation issues.

### **Action Point 9: Prioritise the contribution of ICT in Development Assistance Programmes**

#### *Policy Goals*

- Redesign ODA approach to integrate "ICT for Development";
- Improve coordination of international organisations' efforts.

#### *12-month Deliverables*

- Better coordination and linkage to e-Strategies;
- Better integration of ICT as strategic tool in development assistance.

#### *December 2001 Review*

- Encourage discussions and collaboration among bilateral donor agencies. An informal meeting to exchange information on approaches and initiatives on ICT for development in Africa among several bilateral donor agencies was held in the margins of the World Bank Infodev Symposium in December, 2001.

# GKP MEMBERS

*(as of February 2002; please refer to the GKP Homepage (About GKP/Current GKP Members) for the latest details)*

- Academy for Educational Development (AED), United States of America
- Aga Khan Development Network, France
- Association for Progressive Communications (APC), United States of America
- Bellanet, Canada
- British Council, United Kingdom
- Canadian International Development Agency (CIDA), Canada
- Cisco Learning Institute, United States of America
- Commonwealth of Learning (COL), Canada
- Commonwealth Telecommunications Organisation (CTO), United Kingdom
- Community Development Library (CDL) Network of Development Information & Communication, Bangladesh
- Commonwealth Network of Information Technology for Development (COMNET-IT), Malta
- Dell Computer Corporation, United States of America
- Education Development Center (EDC), United States of America
- European Commission, Belgium
- Fantsuam Foundation, Nigeria
- Food and Agriculture Organization of the United Nations (FAO), Italy
- Government of the Netherlands
- Infodev, United States of America
- Information Technology and Telecom International, Nepal
- Institute of the Information Society (IIS), Russia
- International Development Research Centre (IDRC), Canada
- International Fund For Agriculture Development (IFAD), Italy
- International Institute for Communication & Development (IICD), Netherlands
- International Institute for Sustainable Development (IISD), Canada
- International Program for Africa, Ghana/Canada
- Maeil Business Newspaper, South Korea
- MailStation Net, Philippines
- MERGE Foundation Inc, Philippines
- National Information Technology Council (NITC), Malaysia
- National Telephone Cooperative Association (NTCA), United States of America
- Omar Dengo Foundation, Costa Rica
- OneWorld International, United Kingdom
- Open Society Institute - Budapest, Hungary
- Orbicom, Canada

- Propoor Infotech Centre, India
- Rescue Mission Zambia, Zambia
- SR Telecom Inc., Canada
- Swedish International Development Corporation (Sida), Sweden
- Swiss Agency for Development and Cooperation (SDC), Switzerland
- United Nations Development Fund for Women (UNIFEM), United States of America
- United Nations Economic Commission for Africa (UNECA), Ethiopia
- United Nations Educational, Scientific and Cultural Organisation (UNESCO), France
- United States Agency for International Development (USAID), United States of America
- W3, Internet Services, Canada
- World Bank, United States of America

# RESOURCES & CONTACT DETAILS

## ***Global Knowledge Partnership***

For more information and links to the websites of GKP members, please go to [www.globalknowledge.org](http://www.globalknowledge.org). Alternatively, contact the GKP Secretariat for information and assistance at:

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## ***Related Webpages***

- Reports and discussions on the GKP Portal regarding the DOT Force, including the GKP Recommendations (<http://www.globalknowledge.org>: See DOT Force Consultations)
- Digital Opportunity Task Force (DOT Force) Homepage  
<http://www.DOT Force.org>
- Okinawa Charter on the Global Information Society  
<http://g8kyushu-okinawa.go.jp/e/documents/itl.html>
- DOT Force Report: 'Genoa Plan of Action'  
<http://www.dotforce.org/reports/DOT Force Report V 5.0h.html#ac>