ITU

International Telecommunication Union

The Platform for Partnerships

Telecommunication Development Bureau

Why Partner With ITU-D?

The Telecommunication Development Bureau, as the administrative arm of ITU's Development Sector, counts on the participation of all of the world's developing countries and has assisted more than 140 countries and territories to:

Upgrade and restore their telecommunication and broadcasting infrastructure which is the foundation for ICT applications worldwide

Migrate to new technologies and introduce value-added services with a view to fostering development in the most cost-effective and appropriate way

Plan, operate and manage their fixed and wireless networks and their radio frequencies

Identify real solutions to fit their needs and procure equipment through fair, competitive and transparent processes

Cope with changes in the global environment and their effect on the telecommunication sector

Update the skills of thousands of telecommunication staff through face-to-face and distance-based seminars and training opportunities

Recognize their cost base in order for them to set their tariffs and rates at a sustainable level

Share knowledge and experience at high-level regional and global meetings and at electronic fora

Harmonize policies and strategies for development with other governments, regulators, operators and the industry

Identify and conclude mutually-beneficial partnership arrangements to boost resource mobilization

Implement sustainable rural communication models as well as critical applications such as telemedicine and tele-education
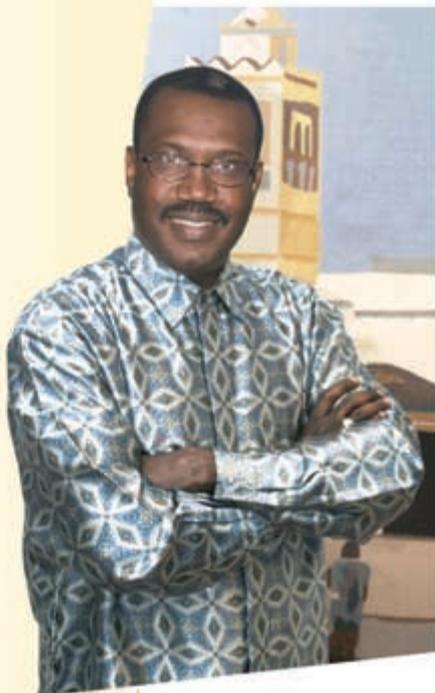
Draw on the world's most authoritative information base about telecommunications in the world's countries and territories.

BDT is committed to enabling and empowering developing countries to be major actors in the global strategy to boost telecommunication development worldwide.

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The Time-Tested Platform for Partnerships

The economist Lord John Maynard Keynes observed in the context of the economic depression of the 1930s that "the difficulty lies not in new ideas, but in escaping from old ones." In an age of widening disparities in ICT access and funding, I believe we must escape and focus not on the Digital Divide but on Digital Opportunities. In that light, Istanbul, the site of the World Telecommunication Development Conference, 2002, did more than make concrete the visions at the highest level of development and for bridging the digital divide. It emerged with a package of tools and resources to convert the digital divide into digital opportunities.

If we commit ourselves to the outcome of the conference, the actions and initiatives and the resolutions and recommendations of the Istanbul Action Plan (IsAP), the low teledensities in least developed and developing countries can be tripled, even quadrupled, before our next WTDC, by which time Internet penetration may have reached at least 25% of the population.

Even more than before, partnerships are key to translating the political commitments of the IsAP into action. Direct contact with partners and stakeholders is crucial for the sustained transfer of appropriate knowledge, skills and assets to developing countries. The interplay of diverse viewpoints and outside expertise also leads to the adaptation of novel ideas and good practice to new and challenging situations. The prevailing industry environment calls for new ways of doing business: high-impact, large-scale, project-oriented, multi-country activities, executed with greater efficiency and accountability.

In the ICT space, ITU's Telecommunication Development Bureau (BDT) continues to be a resilient and time-tested platform for partnerships. The community of Member States, our historical partners, has been more active than before in BDT's activities. If it were not for them driving policies such as universal access and rural communications, our work could not be facilitated in making access to telecommunication services a universal goal.

Participation from the private sector meanwhile has continued to increase as its level of confidence in BDT rises, due in large part to the measures introduced to improve transparency, visibility and accountability of our working methods and practices.

Building human capacity is one of the most important challenges that both developed and developing countries are facing and where there is scope for increased investment, from both public and private sources. In this domain, we continue to formalize and develop partnerships, such as those with United States Telecommunications Training Institute (USTTI) and Alcatel, which generate multiplier effects on the way telecommunications are provisioned and managed in our member nations.

Hamadoun I. TOURÉ

Since the last two years, we have been joined at our ever-growing partnership table by new communities. The world's leading telecommunication watchdogs congregate each year, under BDT's aegis, at the Global Symposium for Regulators. The fact that GSR has become the event of record for regulators from both developed and developing countries bears witness to our conviction that development is not a ghetto for those who are in developing countries, but a forum of opportunities and a driving force that can guide the actions of all development stakeholders. Both developed and developing interests have a stake in working together in the cause of development.

Also new to BDT are tri-sector partnerships, a tie-up between public institutions, private companies and the civil society, prominently through small businesses, chambers of commerce, associations of notaries and women's entrepreneurial groups participating across the world in our E-Strategies activities. As a diverse community in close touch with the vital needs of end users, civil society directly leverages the benefits of the Information Society.

We continue to create enabling frameworks that allow partnerships to be fostered and are committed to make partnerships flourish by giving all who participate an equal stake. As a case in point, Istanbul underlined the decisions of the previous WTDC (Valetta 1998) in considering partnership with the private sector as a cross-cutting activity for all the development programmes adopted.

One of these enabling tools is the new BDT partnership brochure, "The Platform for Partnership", designed to help existing and potential partners to demystify what we do and how we do it, as well as to highlight the talented and capable people powering our programmes, projects and initiatives. This brochure details the ITU Telecommunication Development Sector's
- mechanisms for partnership
- the substantive action areas and
- the regions in which the development activities are carried out.

I trust you will find in the following pages, in the words of our staff and of the beneficiaries of our activities, the power and potential of partnerships already evident in the projects that BDT has initiated over the years. So that, together, we transform the Digital Divide into Digital Opportunities.

Very truly yours,

Hamadoun I. Touré

The Forum for Development

WTDCs

The World Telecommunication Development Conference (WTDC) is a platform of the highest level for developing countries to share their unique insights and concerns about telecommunication development. Held every four years, the conference's prime purpose is to establish information and communication technology (ICT) development priorities, strategies and action plans to direct and guide the work of ITU's Telecommunication Development Bureau (BDT).

Delegates admitted to WTDC, which is organized by the ITU Development Sector's administrative arm, BDT, include:
■ Administrations of each Member State
■ Interested Sector Members
■ Regional telecommunication organizations
■ Intergovernmental organizations (IGOs) operating satellite systems
■ Other regional or international organizations with an interest in telecommunication development
■ Observers, including the UN and its specialized agencies.

The first WTDC took place in Buenos Aires, Argentina, in 1994. The Action Plan drawn up at the Conference was to set the scene for development activity by the ITU Development Sector for the next four years.

The second WTDC was held in Valletta, Malta, in 1998, and it reviewed the progress made around the world over the previous four-year period, including the drivers that were creating the global information society. The Valletta Conference also examined and evaluated the implementation of the Buenos Aires Action Plan, approved recommendations prepared by the ITU-D Study Groups and adopted the Valletta Action Plan.
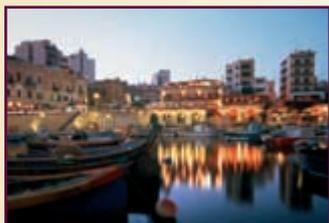
The third WTDC was held in Istanbul, Turkey, in March 2002, and established work programmes and guidelines for the 2003-2006 period. It also defined ICT development priorities in view of the high level of awareness of the digital divide created by the rapid and pervasive expansion of ICTs. The Istanbul Conference also determined the objectives and strategies for achieving a balanced worldwide and regional development of telecommunications, with particular emphasis on expanding and modernizing the networks and services of the developing countries as well as the mobilizing of required resources.

The starting point for each WTDC are the priorities identified at ITU Regional Development Conferences. The ITU Governing Council had decided, on a trial basis, to organize informal preparatory meetings in order to save on the costs associated with the use of six official languages in formal meetings. ITU-D was able to use Regional Development Conferences as long as they were held in the spirit of Regional Preparatory Meetings, using only the language relevant to each region. The latest WTDC, in Istanbul, adopted a resolution that called for one Regional Preparatory Meeting per region, as close as possible to the next WTDC, followed by an informal meeting of the chairmen and vice-chairmen of the Regional Preparatory Meetings to be held not earlier than six months before the next WTDC.
Point to www.itu.int/ITU-D/conferences/

Tony ZEITOUN,
Chairman of TDAG

The Telecommunication Development Advisory Group (TDAG) is an open advisory group that meets twice a year.

Its function is to give advice to the director of the Telecommunication Development Bureau (BDT) on setting priorities, formulating strategies, and preparing and implementing the budget and the operational plan of the ITU Development Sector (ITU-D).

The TDAG is open to representatives of Member States, Sector Members and to chairmen and vice-chairmen of study groups. In addition, the Director may invite representatives of bilateral cooperation and development aid agencies, and multilateral development institutions to participate in the meetings.

Over the years, TDAG has made proposals for enhancing the operational efficiency of ITU-D and for improving the cooperation with ITU's Radiocommunication and Standardization Sectors, the General Secretariat, as well as with other relevant development and financial institutions.

A subgroup of TDAG, created to deal with private sector issues, has been active in incorporating private sector considerations into the programmes and activities of ITU-D. At the Istanbul meeting of WTDC, it was given an extended mandate as a Working Group of TDAG to recommend ways by which private sector issues relevant to Sector Members can be incorporated into ITU-D strategy development, programme design and project delivery.

Developing countries, in particular, have made valuable and important contributions to TDAG and will continue to receive fellowships to attend the Advisory Group to ensure their stake in important decisions concerning development priorities and programmes is maintained.

The rapid pace of change in the telecommunication environment demands that BDT makes decisions on issues such as work priorities, study group structure and meeting schedules in shorter periods of time between World Telecommunication Development Conferences. TDAG will assume an even more important role as it is being empowered to act in these interim periods to:
- evaluate the efficiency of ITU-D study groups
- approve changes in its working methods
- appoint chairpersons and vice-chairpersons to act until the next WTDC
- issue advice on study group schedules
- approve the programme of work arising from the review of existing and new questions
- determine the priority, urgency and estimated financial implications and time-scale for the completion of the study of these questions.

TDAG

The countries and individuals nominated to participate in TDAG are listed in the Annex 4 of this brochure (see page 57).
Point to www.itu.int/ITU-D/tdag

Taking an Informal Approach

Development Study Groups

Study groups offer both developed and developing countries a unique forum to meet face-to-face in an informal and neutral environment, in order to discuss problems related to the nurturing of ICTs in developing countries.

The ITU Development Sector works through two study groups, one dealing with regulatory issues and the other with technical questions. The groups meet once a year over a four-year study period to harmonize approaches on a variety of issues. They then report on their progress to the Telecommunication Development Advisory Group (TDAG).

Study Group 1
The last WTDC in Istanbul in March 2002 mandated Study Group 1 to prioritize and investigate the following seven issues:
- Interconnection
- Universal service/access
- Impact of convergence of telecommunication, broadcasting and information technology
- Tariff policies, models and methods for determining the cost of national services
- Satellite regulation in developing countries
- Domestic enforcement of laws, rules and regulations set by national regulatory authorities
- Implementation of IP telephony in developing countries.

Study Group 2
Study Group 2 has been asked to study, over the same period, the following ten issues:
- Identify the studies undertaken in the other ITU Sectors which could be of interest to developing countries
- Communications for rural and remote areas
- Digital broadcasting technologies and systems
- Broadband communications over traditional copper wires
- Telecommunication applications in health care
- Progress on ITU's e-commerce activities and initiatives
- Strategies for migrating mobile networks to IMT-2000 and beyond
- Strategies for migrating circuit-switched to packet-based networks
- Access technologies for broadband communications
- Calculation of frequency fees.

Fidelia AKPO, Head, ITU-D Study Groups, and Alberto GABRIELLI, Chairman, SG1

On each issue, a small group meets once a year to the extent allowed by the BDT budget. Rapporteurs, assisted by the BDT Secretariat, then coordinate the rest of the work electronically.

The work of the study groups is open to all ITU Member States and Sector Members, as well as, in some circumstances, industry partners with a specialist interest. The latter are often invited to participate in focus groups and project groups when necessary.

Development study groups have produced recommendations, guidelines, final reports and, until recently, handbooks, that developing countries have found useful in formulating domestic and international policy and strategy.

Handbooks produced by study groups, in the past, have investigated frequency management, rural communications, new technologies and services, and disaster communications.

Following the Istanbul WTDC, ITU-D is now entering its third study period and is using its past experiences to provide its "clients" a quicker and higher-performing product. Among the many improvements that will be implemented are:

■ Increased use and support of electronic document handling
■ Flexibility for study groups to tackle new challenges and issues that come up during the Action Plan period
■ Flexibility to establish project groups for specific topics, in addition to working parties, focus groups and joint rapporteur groups
■ Other entities and organizations to be admitted to participate as Associates at reduced fees with a view to widening participation in the work of the Development Sector by stakeholders;
■ Conclusions to study group development issues produced more quickly and efficiently
■ More guidance to be provided by TDAG
■ BDT programmes would also have an enhanced role in providing input to the work of the study groups.

The study groups, being a completely transparent and accountable mechanism, constitute a real platform to reconcile the interests and agendas of developing and developed countries, civil society and the wider telecommunication community.
Point to www.itu.int/ITU-D/study_groups/

"
Development Study Groups are one of the most effective multilateral mechanisms for Member States to negotiate their positions on a variety of issues and turn their ideas into tangible products.
"

Hassane Makki,
Scientific Advisor, OFCOM, Switzerland

Alessandra PILERI

7

An Industry Benchmark

Information Sharing

BDT information sharing consists of a number of activities related to tracking the global diffusion of ICTs, popularly referred to as "The Indicators". BDT is recognized all over the world as the leading provider of timely and comprehensive ICT statistics.

Over 100 time series data sets are gathered in an annual questionnaire and sent to national government telecommunication authorities. The results are carefully checked and harmonized to enhance international comparability, and are available in a number of formats including printed publications, CD-ROMs and on the BDT website.

The flagship publication, the **Yearbook of Statistics**, has been published annually for almost three decades and is widely respected as the world's leading source of ICT statistics. BDT indicators are used to back up ICT sections in inter-governmental publications such as the UNDP Human Development Report, the World Bank World Development Indicators and the United Nations Statistical Yearbook.

The BDT electronic database, the **World Telecommunication Indicators**, is available on a user-friendly CD-ROM. It provides an important historical perspective of the communication industry, with annual time series dating back to 1960 for over 80 items and some 200 economies. A wealth of information is also provided at www.itu.int/ITU-D/ict/. This site includes free, popularly requested statistics; a list of publications; free presentations; definitions and references of handbooks and links to other relevant sites and information sources.

One of the main purposes for collecting the indicators is to understand trends in national, regional and international ICT development. These trends are disseminated in a variety of reports, the foremost being the **World Telecommunication Development Report (WTDR)**, published every year since the first WTDC in 1994. The report explores a specific theme in each edition. Themes have included mobile communications, universal access and trade in telecommunications. In addition to the analysis, the report contains some 20 statistical tables providing comparisons between countries and regions. WTDR is widely recognized as the industry bible for both its analysis and statistics.

BDT also produces **regional development reports**, typically published in conjunction with ITU TELECOM events. Like the World Telecommunication Development Report, regional reports such as Asia-Pacific Telecommunication Indicators and African Telecommunication Indicators are renowned
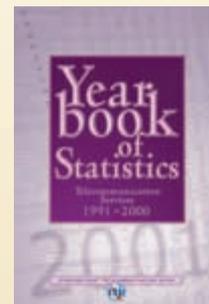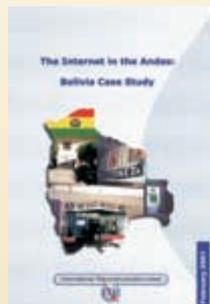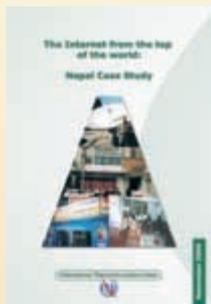
BDT has been studying the diffusion of the Internet in a number of countries. The project, known as Internet Case Studies, began in January 2000. Since then, BDT has compiled reports for 15 nations. In addition to a survey of the Internet market, the reports provide a comprehensive review of a nation's telecommunication and mass media industries as well as the use of ICTs in different sectors of the economy such as government, education, business and health. The reports also provide a framework for analyzing the development of the Internet that pinpoint a country's relative strengths and weaknesses, and recommendations for accelerating Internet development.

Internet Case Studies have been translated into five languages and are often the first time a comprehensive and publicly-available report has been made for that particular country. BDT typically works with the national regulatory authority in carrying out the case studies. The case studies have often provided a stimulus for the regulatory authority to meet with players in the Internet market, both domestically and internationally.

for identifying regional trends and developments. In the last few years, BDT has compiled a series of national telecommunication market reports, as part of the **Internet Case Studies** project.

In addition to identifying and defining key indicators, BDT is active in international forums involved in **measuring the information society** and in **coordination of ICT statistic**s. It makes regular presentations in areas such as measuring the digital divide and frameworks for analyzing ICT development. BDT was recently appointed lead agency responsible for defining ICT indicators for the UN Millennium Development Goals project (http://millenniumindicators.un.org/unsd/mi/mi.asp). The Goals are concrete targets for areas like health and education as part of the overarching drive to reduce world poverty by 2015. The UN called upon ITU to provide indicators, on an on-going basis, for measuring access to ICTs.

BDT also organizes meetings on the **collection and use of ICT statistics**, specifically aimed at providing guidance for developing nations. This includes presentations on how to improve data collection as well as the important regulatory and analytical purposes that data are needed for. BDT also works closely with national regulatory authorities in providing advice on how to improve statistical systems. It also cooperates with regional and international organizations in the exchange of data and collaboration on joint publications.
Point to www.itu.int/itu-d/ict

Michael MINGES   *Vanessa GRAY*   *Esperanza MAGPANTAY*

Knowledge Matters

Databases

BDT is aware of how crucial accurate information is in performing its duties. Because of this, it has developed a number of databases to aid the smooth running of activities in the Development Sector. Four key resources stand out as critical to development and BDT:

The Istanbul Action Plan Coordination System is an application that offers easy, fast and reliable access to information about the activities of the ITU-D Sector. Simple to update, the system provides an analytical framework to the planning of activities, allowing constant assessment of the implementation of the BDT work programmes. The system reduces the complexity of actions undertaken in the field by coordinating the work of different users — focal points, regional coordinators, administrative services and the Telecom Surplus Programme.

The M System allows users to view important functions related to ITU-D Member States and Sector Members, such as their category, contributory unit as well as voluntary contributions. The system, updated with information from Annual Surveys, also documents the principal products and services provided by the Sector Member, its field of interest and participation in BDT activities.

Similarly, **the Study Groups System** identifies Study Group members by their role and responsibility in the groups as well as the question or topic they are involved in.

And finally, **the Roster System** maintains a roster of some 1,400 experts that BDT draws upon for short-term and long-term assignments in the field. Experts can be researched by their language expertise, their domain of activities, or their level of qualifications, enabling BDT to fulfill **ad-hoc** requests for assistance quickly and efficiently.

Christian GERLIER

The **R**eputable **G**o-between

Jorge SCHIFFERLI, Head, Contacts and Procurement Service, opens sealed bids

Each year, BDT procures millions of dollars' worth of goods, equipment, consulting and other professional services for BDT projects worldwide. Items procured range from small, off-the-shelf products to highly specialized and sophisticated manufactured goods. The types of services contracted include information systems, economic management and technical assistance.

The Contracts and Procurement Service strives for timely acquisition of goods, services and works, while taking into consideration the objectives of our clients, who expect fairness through competition, transparency and value for money.

Its strong technological orientation makes ITU the natural and reliable choice for brokering the procurement of equipment for member administrations in developing countries. BDT draws on its own technical expertise as well as that of its sister Sectors — namely, Standardization and Radiocommunication — to provide technical support.

ITU can help administrations identify real solutions to fit their needs and at the same time put forward an objective viewpoint that helps both buyer and seller secure the best result.

A unique feature of BDT's contracting and procurement policy is the size and diversity of its **bid evaluation committees**, which are constituted for each bidding decision and made up of representatives of the different Sectors in ITU as well as Member States and Sector Members. This helps safeguard the neutrality, transparency and honesty of its procurement decisions.

Contracts and Procurement

Roxanna BUSTOS   *Vanja OSTOJIC*

Partnership in Practice

Sector Membership

ITU-D provides an unparalleled platform for governments and industry to actively collaborate with developing countries on various technical, regulatory and policy-related activities to extend and improve infrastructure, administration and management of telecommunications.

Many authorized operators and private sector participants are beginning to recognize the value of participating in ITU's development forums where they can network with key decision-makers from emerging markets and funding agencies. A growing number of Sector Members are partnering with national administrators to combine the ideals of government with the efficacy of industry.

Being an ITU-D Sector Member gives companies an opportunity to raise their visibility and to influence a number of development activities in a variety of ways, for instance, by participating actively in the Telecommunication Development Advisory Group (TDAG), or in ITU-D Study Groups, working parties, seminars, round tables and colloquia.[1]

Sector Members can communicate their views either orally or in writing at the preparatory stage of these activities. They have input throughout the consensus-building process that leads to recommendations, resolutions or other policy guidelines. Sector Members can also be called on to chair, or assist the chair, at one of the many Study Groups, working parties and rapporteurs' groups.

[1] *The only exceptions are treaty-making meetings and matters concerning the structure and functioning of the Union.*

> " *ITU has a vital and impartial role to play on the global stage.* "
>
> **Pierre Mattei,**
> *CEO, Jordan Telecom*

ITU-D Sector Members: Country of Origin (as of July 2002)

Region	Total	Breakdown
Africa	25	5 South Africa
Arab States	36	14 Egypt
Asia-Pacific	40	6 India; 12 Japan
Americas	76	4 Canada; 6 Argentina; 38 USA
Europe	85	7 Switzerland; 8 France; 16 UK
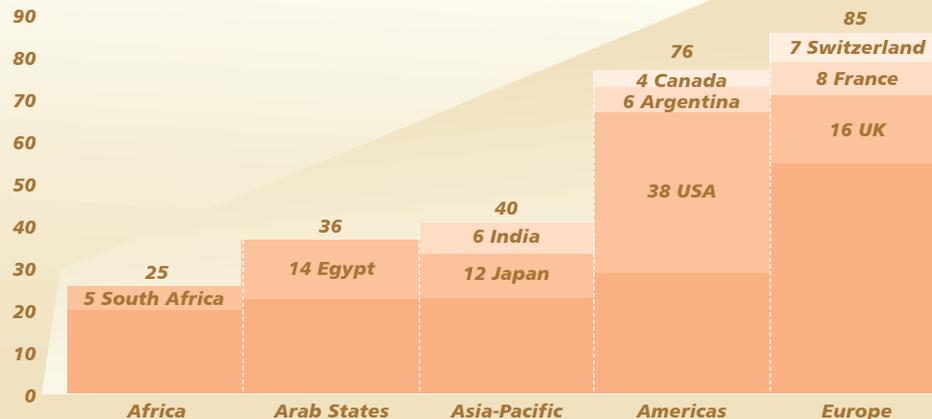
At WTDC and the regional preparatory meetings leading up to it, Sector Members may be entitled to take part in adopting questions and recommendations as well as decisions relating to the working methods and procedures.

Sector membership not only widens participation to a more representative one covering new stakeholders and decision-makers in the sector, but also serves to supplement member contributions, enabling the Bureau to fulfil more requests for assistance.

Sector Members have access to a wealth of restricted data such as draft documents, statistics, development plans, training modules, vacancy notices, and information bulletins. One of the acknowledged benefits of membership is a TIES account that allows members limite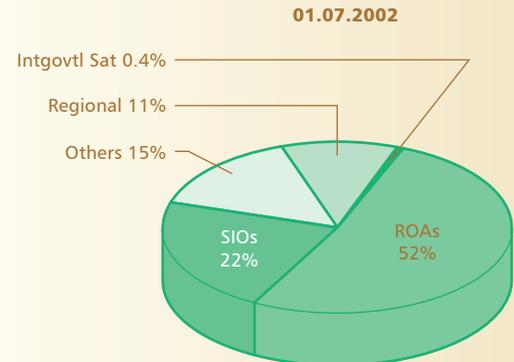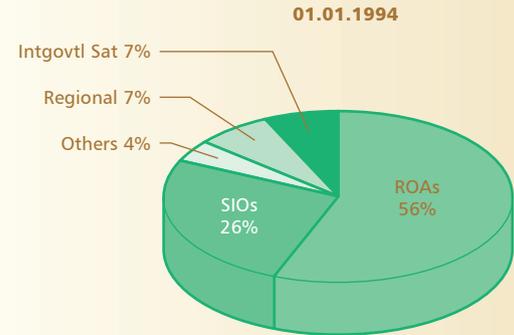d access to technical and other databases. Other benefits include a 15 per cent discount on ITU publications and an entry for the Sector Member's chief executive officer in the ITU Global Directory. Non-profit international organizations may be exempted from financial contributions under certain conditions.

As of mid-June 2002, ITU-D has 261 Sector Members, 29 of which are from international and regional organizations. Of the 232 national entities, about 124 are from developing countries and 108 are from developed countries, reflecting the combined stake that the industrialized world has in the development process.

The success of ITU-D's mission depends largely on the partnership created with its Member States and its Sector Members. It is continuously improving its products and services to Sector Members to meet their needs. Improved reporting of ITU-D activities, promotional events, and closer liaison with members are some of the efforts that have borne fruit.
Point to www.itu.int/ITU-D/conferences/

> *Sector membership in the ITU-D is co-regulation in action: through the sovereign state, we can influence the direction of regulatory, policy and legal issuances affecting telecoms, while our government also gains through our expertise and the adjustment of our strategies to their policies.*
>
> **Rodolfo Salalima,**
> *Senior Vice-President, Corporate and Regulatory Affairs, Globe Telecom, Philippines*

ITU-D Sector Members: Evolution 1994 - 2002

01.01.1994

Intgovtl Sat 7%
Regional 7%
Others 4%
SIOs 26%
ROAs 56%

01.07.2002

Intgovtl Sat 0.4%
Regional 11%
Others 15%
SIOs 22%
ROAs 52%

Eva SILNA

13

Key to Sustainable Development

Public-Private Partnerships

The private sector is an indispensable partner to governments in creating the Information Society. By bringing resources and managerial expertise, business involvement can accelerate the sustainable development of technologies, infrastructure, services and applications that are key for socio-economic enhancement.

The scope of activities as well as the number of countries that benefit from BDT partners in development have reached a new dimension recently in view of the fact that the BDT operating budget has been limited while the demand for assistance from developing countries for infrastructure, capacity-building, sector reform, e-applications, economics and finance studies is continuing to grow steadily, in particular from LDCs and countries in special need.

In partnership, one single model cannot fit all. BDT is fully committed to the highest satisfaction of ITU-D members and has ongoing efforts to improve mutual benefits and to tailor for each and every one of its members the particular arrangements and terms and conditions, on a non-exclusive basis, that will facilitate concrete project implementation.

Indeed, the recently-concluded World Telecommunication Development Conference in Istanbul (WTDC-02) underscored the decisions of the previous Conference in Valletta in 1998 in considering partnerships as a cross-cutting activity for all the development programmes adopted.

At WTDC-02, Member States and Sector Members decided to further develop and encourage all kinds of partnerships between BDT and public and private entities, with a view to accelerate resource mobilization and facilitate the implementation of the six ambitious priority programmes of the Istanbul Action Plan for the period 2003-2006.

WTDC-02 also extended the mandate of the former TDAG Subgroup on Private Sector Issues by creating a "**Working Group of TDAG dealing with Private Sector issues**".

Participants of the Working Group identify priority issues and concerns on an on-going basis and set a calendar for implementation. Its working committees will "shadow" the programmes of the new Action Plan.

Subgroup of TDAG dealing with Private Sector issues in session

To facilitate the work of the Group, BDT has created virtual exchange fora that allow Member States and Sector Members to exchange their views and proposals online and to speed up the decision-making process.

In the face of a rapid increase in new operators and their involvement in both developed and developing countries, BDT developed an online **Operators' Database** to identify all telecommunication operators in developing countries, their portfolio of services or products and the domains and projects where they are seeking partnerships, be they technical, financial, managerial or information-sharing.

The database has become an essential tool for operators announcing their presence, meeting strategic partners and identifying market openings. In addition, it gives firms wishing to participate in developing countries the possibility of targeting and profiling operators and projects more accurately, while opening up attractive prospects in the area of collaboration.

Opportunities for partnerships are highlighted on the website, as is information that can facilitate the work of ITU-D members.
Point to www.itu.int/ITU-D/membership

Public-Private Partnerships

" *As a proud partner of BDT for several years, the Telecommunication Industry Association (TIA) has successfully worked together with the Bureau at SuperComm, TIA's annual trade show, as well as in ITU-D study groups and private sector initiatives.* "

Meredith Singer,
Manager, ITU & Europe,
NIS Programs, Telecommunication
Industry Association

Jean-Yves BESNIER   Sandrine GUYOT

The Winning Formula

To use a film-making analogy, BDT functions in developing telecommunication markets in two distinct ways: as producer (executing agency) or as director (implementing agency) of projects; more often than not, BDT performs both roles. Funding to execute and implement projects comes from a variety of sources. Up until relatively recently, the mainstay has been grants from the **United Nations Development Programme (UNDP)**. Through a formal agreement with UNDP, ITU harnesses its internal and external technical expertise to implement projects according to an agreed structure and plan of action. ITU collaborates operationally and administratively with UNDP in providing project coordination, technical assistance, equipment needs analysis and procurement, and human resource development, to name but a few activities.

Increasingly, this approach is being displaced by **funds-in-trust (F-I-T)** projects, whereby an entity entrusts funds directly to ITU for a project. The entity could be a national telecommunication authority, a national government, another UN agency, an aid agency or the private sector. In these cases, ITU has the mandate of planning, packaging and carrying out the project as a whole. Normally, a project administration fee, representing a percentage of the total value of the project, is charged to the entity requesting technical assistance. A small percentage of this fee may also go to UNDP, which continues to provide facilities on a full cost recovery basis in countries where ITU does not have a presence. The F-I-T relationship with ITU could fall into one of three categories:

- self-supporting (governments, national telecommunications authorities, etc., provide the funds for specific projects in their own countries)
- bilateral (government-to-government funding, traversing ITU as technical assistance provider, is earmarked for geographic or thematic areas)
- multilateral (a consortium of partners contribute funding).

Funding

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BDT Technical Expertise

= **Results**

For instance, in 2001-2002, ITU has completed successful self-supporting mini-projects involving the provision of specific technical assistance to Mali, Mauritius and Nigeria. Canada and Sweden are involved in bilateral projects, using ITU as technical interlocutor in a global management enhancement scheme, and activities in Viet Nam, respectively.

Coupled with project activities, BDT is also involved in structured actions under its own **Operational Plan**. Member contributions still account for a large part of the operational budget. Governments contribute about 80% of this component and Sector Members make up the rest. **Partners** may also choose to contribute in kind, be that in the form of expertise or equipment. This has worked successfully in the case of the Global Telecommunication University project where, for instance, Cisco provides training resources for train-the-trainer, and one-on-one knowledge enhancement activities. Last but not least, TELECOM **Surplus** (see following chapter) is a relatively new source of funding, which acts as seed money to grow partnerships, encouraging partners to put money behind money, with potentially great benefits for emergent players in the telecommunication scene from the developing world.
Point to www.itu.int/itu-d/adm

Carlos SANCHEZ   *Gabriella PERTILE*

Profiting Development

With a view to incubating telecommunication projects in developing countries, the 1998 Minneapolis Plenipotentiary Conference resolved that a significant part of any surplus income from the ITU TELECOM exhibitions would be given to ITU-D and its administrative arm, BDT. Today, a substantial amount has been earmarked for seed funding for specific projects, primarily in the least developed countries.

TELECOM Surplus supplements the programme budget allocated for the work of BDT under its Action Plan. Normally, a project executed under the Action Plan has a time-frame of a year or two. TELECOM Surplus, though, because it is designed for incubator-type projects, has a time-frame of two to three years.

Projects are approved and funds allocated to these projects by a steering committee made up of the ITU Secretary-General, assisted by the Executive Manager of ITU TELECOM, the Deputy Secretary-General and the Director of BDT. Activities fall under one of four key programme areas: human resources development, infrastructure development and sector governance, application of new technologies and assistance to countries in special need.

Proposals are approved for their potential to:
- attract funding from external sources
- create long-term sustainable impact
- facilitate multinational cooperation
- generate a multiplier effect for other ITU projects
- attract partnership in funding and execution
- become self-sufficient in the short to medium term.

Partnership has been flowing in the form of money, expertise, facilities and equipment. As ITU gains experience in managing the TELECOM Surplus, some fine-tuning has been carried out to more effectively manage the programme and more efficiently implement projects. To strengthen regional presence, ITU's regional staff are increasingly involved in identifying and implementing TELECOM Surplus projects.

The largest project approved to date is the establishment of 50 Internet training centres in self-sufficient institutions in developing countries. ITU, in partnership with Cisco, plans to establish 50 training centres to provide skills in Internet protocol (IP) networking and services by July 2003 in existing non-profit institutions in developing countries. It is expected that the centres will also function as incubators to help small and medium-sized enterprises develop Internet-related services.

Each centre initially involves a partnership between ITU, industry partners, relevant government agencies, not-for-profit training institutions and local service providers. At the end of the project, however, it is expected that each training centre will be sustainable and self-financing.

TELECOM Surplus

Pape Gorgui
TOURE

Also in the domain of human resources development, roughly CHF 9 million have been allocated to establish six Centres of Excellence: two in Africa (ESMT in Senegal, AFRALTI in Kenya), one in the Americas, one in the Asia-Pacific region, one in the Arab States and one for Eastern Europe and Northern Asia. The first four centres are fully operational, with 285 persons having already graduated as senior-level managers on regulatory issues, spectrum management, technology awareness and business management. Senior project managers have been hired to develop and deliver new programmes. More recently, the Arab Centre of Excellence hired its own project manager and at least three pilot courses will be delivered before the end of this year.

Building infrastructure and reforming regulations is also a key objective of TELECOM Surplus funding. Studies have been completed on two projects, namely AFRITEL, which aims to modernize the PANAFTEL regional network, and INDAFTEL, which fosters indigenous manufacturing in Africa, home to 33 of the world's 48 least developed countries.

Two further projects have been kick-started. One aims to improve the legal and regulatory framework of a group of West African countries and to improve the position of sub-Saharan African countries in future multilateral trade negotiations. The second assists African countries

TELECOM Surplus Projects

HRD	Infrastructure	New Applications	Countries with Special Needs
ESMT Dakar	AFRITEL (phases 1 and 2)	Global Telecommunication Academy	Assistance to the Telecommunication Regulatory Authority of Bosnia-Herzegovina
AFRALTI Nairobi	INDAFTEL	Multipurpose Community Telecentres (MCTs)	Assistance to the Palestine Authority for network development
Americas region	Reform of telecommunication sector in sub-Saharan Africa	Telemedicine projects	Reconstruction of rural telecommunication infrastructure in Rwanda and Burundi
Asia-Pacific region	Assistance to RASCOM	Electronic Commerce for Developing Countries (EC-DC)	
Arab States	Telecommunication sector governance in the Pacific Island States	Environmental project for Tunisia	
Internet training centres		Environment information circulation and monitoring system on the Internet	

in ensuring the sustainability of the regional African satellite consortium, RASCOM. More recently, 14 Pacific Island States will be beneficiaries of a unique TELECOM Surplus-funded project to promote sound governance and reform of their public sector.

The third component of this development initiative seeks to implement a series of pilot projects which demonstrate the feasibility of using new technologies to deliver information and telecommunication services in fields such as health-care delivery, transportation, tourism, agriculture, trade, efficient government operations, good governance, e-commerce, tele-education and environment.

To aid this, ITU-D has also brought together partners in distance-education and telemedicine. Projects are currently under way for tele-learning in India and Morocco, while a further 10 telemedicine projects are helping extend vital medical services to remote and underprivileged areas in Bhutan, Cameroon, Ethiopia, Georgia, Kenya, Malta, Mozambique, Myanmar, Senegal and Venezuela.

TELECOM Surplus funds will help modernize the old cross-border PANAFTEL networks

Another ITU-D project currently under way is the provision of assistance to nine African countries in the area of Environment Information Circulation and Monitoring System on the Internet .

In addition, the TELECOM Surplus programme is also helping fund multipurpose community telecentres (MCTs) in Benin, Honduras, Mali, Mozambique, Tanzania, Uganda and Viet Nam, in collaboration with national and international partners.

TELECOM Surplus has also reached out to countries in special need, namely Bosnia and Herzegovina, Liberia, Rwanda and Somalia, helping them to rehabilitate their networks after war. In Rwanda and Burundi, CHF 3 million have been allocated towards the purchase of equipment to assist in the reconstruction of the rural telecommunication infrastructure.

A project is also under way to assist the Palestinian Authority. The needs of the Caribbean and South Pacific for emergency standby telecommunication services will also be addressed.
Point to www.itu.int/itu-d/telsurp/

"
We count on ITU for specialized consultancy and capacity for projects such as the establishment of the Costa Rican node of the Centre of Excellence of the Americas Region, and the design of a network in optical fibre mesh for the city of San José.
"

Advisor, Telecommunication Sector, Instituto Costarricense de Electricidad (ICE), Costa Rica

TELECOM Surplus

Empowering Women

Gender Issues

Women, as society's caretakers and educators, are a vital component of every country's labour force and consumer market. Consequently, telecommunication policies, human resources development programmes and economic development strategies that include women are more likely to reap the full benefits of the ICT revolution. With the economic development of developing countries in mind, ITU established a task force on gender issues (TFGI) at the Malta WTDC in 1998. The resolution was reaffirmed at the Plenipotentiary Conference that year, when the ITU membership pledged to include the gender perspective pervasively in its work. In 2001, the ITU Council adopted a resolution to further integrate a gender perspective in ITU's human resource management, policy and practices.

WTDC in 2002 resolved to give the task force an extended mandate by converting it into a permanent Working Group on Gender Issues of ITU-D. The next stage is to institutionalize the mainstreaming of gender by establishing gender expertise in BDT. The Norwegian Post and Telecommunication Authority has contributed a full-time professional towards this.

The Working Group on Gender Issues' activities promotes the view that society as a whole will benefit from equal participation of women and men in policy-making, equal access to communications services and equal ownership of valuable licences and spectrum. Further, by leveraging the skills of women, developing countries can significantly add to the pool of talent that would be needed in creating an information society. Creating telecommunication policies and human resources development programmes targeted at women can help alleviate poverty of women and their families.

The former Task Force on Gender Issues served as a catalyst to bring awareness of gender balance issues and to link them to sustainable development. A gender perspective has been integrated into ITU-D's Action Plan, as well as in BDT meetings, such as TDAG and the Study Groups. Subsequently, some Member States have nominated focal points and national committees on gender issues and established ICT training for women.

The Working Group counts among its recent accomplishments:

- Rural access projects to establish and train women in operating telecentres
- Gender workshops to train trainers about the importance of a gender perspective and how to integrate it into training modules
- An online conference to disseminate the latest information on gender issues and ICTs to over 100 Working Group members
- Gender-aware guidelines and training curricula that offer specialized training to assist regulators and policy-makers to effectively integrate gender perspectives in telecommunication policy
- Collating case studies from successful projects involving women and ICTs around the world including cellular phone micro-operators, telecentres and telekiosks in countries such as Bangladesh, Bhutan and Mali that highlight the impact of enabling women to participate fully and effectively in a knowledge-based economy.

Point to www.itu.int/itu-d/gender

> **BDT has the natural lead in engendering telecommunication technology, policy and management.**
>
> *Eva Hildrum,*
> *Director-General of Posts and Telecommunications at the Norwegian Ministry of Transport and Communications*

Ingunn YSSEN

Linking with Tomorrow's Leaders

Youth and ICTs

The United Nations has repeatedly called for full and effective participation of youth in decision-making at local, national, regional and international levels. As users of ICTs, youth are often the innovators. Increasingly, youth are creatively adapting and using these technologies to meet local needs.

The enthusiasm and ideals of youth also represent hope for tying the information society more closely to social, cultural, political, economic and environmental issues.

Sustaining and increasing the momentum created by the first **Youth Forum** at ITU TELECOM AFRICA 2001, BDT has taken an active role in integrating youth issues into the activities of the development sector, with emphasis on capacity-building.

A Declaration at the end of the Youth Forum called on African decision-makers to embark on the path of action and relevance. In response, the 84 university-age youth who had attended the Johannesburg event were subsequently invited by BDT, in partnership with Alcatel, to enter an essay **contest** to propose ways to promote the Internet in their country as an extension to Universal Access. Alcatel and BDT teamed up to study the feasibility of the proposals. Four winners receive a prize amount of 5,000 euros each towards their present or future studies. Winners who have completed their studies are offered an internship, one scenario being for them to work on their own project.

BDT is also committed to establishing a mechanism for coordination with the Youth Fora, which are planned in other regions of the world during ITU TELECOM events.

Follow-up support for developing "21st century literacy", or the knowledge and skills to take advantage of new Internet-related technologies, has taken the form of a website on BDT's e-learning platform, the **Virtual Training Centre**, where youth can access relevant resources on ICTs and conduct online discussions. Students will also receive training within the framework of ITU's Internet Training Centres Initiative, being planned in developing countries in collaboration with Cisco and other partners.

ICTs have had a transformational effect on the workplace, and young people joining the labour force without the knowledge and skills to use computers and the Internet risk being left behind. Similarly, enterprises who lack technologically-oriented employees will be at a disadvantage in an increasingly global economy.

BDT's youth-oriented programmes are an investment in the future of tomorrow's leaders in the ICT sector and in turn link ITU to the future of ICT through youth.
Point to www.itu.int/itu-d/hrd/youth

> "*Internet will take off in developing countries only if end-user services and information content are tailored to specific local needs. Young people have a key role to play as the best entrepreneurs for building the required innovative solutions based on state-of-the-art technologies.*"
>
> **Gerard Dega,**
> *President, Alcatel CIT*

Lighting the Way

Regulatory Reform

Global Symposium for Regulators Press Conference, 2001

With an eye to the technological convergence of telecommunications, broadcasting and information technology, BDT shoulders the critical task of assisting governments in preparing and implementing reform of the ICT sector.

To document national communication policies and regulatory practices, BDT conducts an annual survey among ITU member countries on sector restructuring, including privatization, level of competition, establishment of regulatory bodies and key regulatory issues such as interconnection and universal service. The responses are compiled in the **ITU World Regulatory Database**, which is an authoritative tool to analyze and track trends in sector reform. An online resource, **ITU Telecommunication Regulation (T-REG)** features key extracts from the database and has emerged as the pre-eminent global regulatory library. More extensive regulatory data is published as **Country Profiles** on CD-ROM. Point to www.itu.int/ITU-D-TREG/

In addition to information from the database, the T-REG website features useful resources such as legislation from more than 130 countries, hot links to regulators' websites, phone numbers and addresses for national regulatory bodies and policy-makers around the globe, comprehensive interconnection legislation and policies, and reference materials on licensing, interconnection, universal service and trade issues.

Data collected from the annual regulatory survey is fed into **Trends in Telecommunication Reform**. The Trends series provides comprehensive comparative data on major worldwide regulatory trends such as Convergence, Interconnection Regulation and Effective Regulation. These reports have become a handy reference and an invaluable guide and for regulators, policy-makers and operators worldwide.

Many countries have expressed their interest in obtaining information as they move to establish – often for the first time – independent regulatory agencies to facilitate growing competition in their markets and improved accessibility to communication services. To spread best practice in regulation, SRU conducts **Case Studies** on regulators' success stories as well as to provide feedback to regulators from operators, investors and consumers. Regulators also asked that ITU develop model guidelines and benchmarks for effective regulation. The first series of model guidelines covers policy and procedures for universal service funds and multipurpose community telecentres.

Each year, at the **Global Symposium for Regulators**, the heads of national regulatory authorities from major developed countries as well as their counterparts from developing countries convene to launch

> *" BDT's assistance in kick-starting the Telecommunications Regulators' Association of Southern Africa (TRASA) has enhanced TRASA's capacity, not only as a successful subregional association of regulators in the region, but as a role model that is being emulated elsewhere, such as in the creation of the West Africa Telecommunications Regulators' Association (WATRA) by ECOWAS.*
>
> ***Cuthbert M. Lekaukau,***
> *Executive Chairman, Botswana Telecommunication Authority*

a global dialogue to exchange views and experiences seeking to identify practical solutions to their common regulatory challenges. Over 117 countries have created ICT regulatory bodies to facilitate competition and pursue their ICT universal service objectives. Each of these regulatory bodies faces the same pressing issues. To allow the world's regulators to share best practices, BDT launched the **Global Regulators' Exchange (G-REX)** in May 2001, establishing an electronic forum for the world's regulators to share their views and experiences on key regulatory issues.

Many of the world's top regulators log on to share their insights. G-REX also incorporates a regulators' hotline on which G-REX users can obtain rapid responses to more specific questions on regulatory practices.

A **Visiting Regulators' Programme** serves to provide regulatory expertise to regulators and regulatory associations and to increase the visibility of BDT regulatory activities among ITU membership and partners at the subregional, regional and global level.

Bringing expertise to the regions is also enshrined in the BDT action plan, whenever resources allow. The **Forum on Telecommunication Regulation in Africa**, jointly organized by BDT and the African Telecommunication Union (ATU), is a series intended for senior African administrators facing telecommunication restructuring. One of the key achievements of the forum is the creation of the African Telecommunication's Regulators' Network (ATRN), which will foster the regulatory pre-conditions for developing the African Information Society and economic integration on the continent.

In pursuit of its goal to strengthen regional presence, BDT has the capability, through a network of in-house and external experts, to furnish **short-term assistance** to:

- draft domestic communication policies and strategies;
- set up national consultative mechanisms;
- introduce or modify relevant legislation to facilitate reform implementation;
- implement guidelines on establishing a regulatory body, or
- establish or strengthen the regulatory bodies.

For the sake of efficiency, longer-term assistance concerns groups of countries, for instance, within organizations devoted to regional economic integration. One of the early beneficiaries of such assistance was the Southern Africa Development Community (SADC) of countries, which reformed their telecommunication legislation based on model laws and procedures developed with the assistance of BDT. A similar project is under development in West Africa with the Economic Community of West African States (ECOWAS) and Union économique et monétaire ouest africaine (UEMOA), with the goal of creating a common telecommunication market by the end of 2005.

> *To be able to establish contact with other more experienced regulators and get their views on issues of common and current interest is something which we have always wished for and looked forward to. By setting up G-REX, ITU/BDT has fulfilled this long-felt need. I congratulate ITU/BDT on this initiative and wish G-REX a grand success in times to come.*
>
> **Maya Shankar Verma,**
> *Telecommunication Regulatory Authority of India*

Honoré VIGNON   *Doreen BOGDAN*   *Susan SCHORR*   *Nancy SUNDBERG*

Rural Communications

Today, the digital divide has assumed an aura of inevitability, primarily because the spread of information and communication technologies (ICTs) has built its web around the "individual" – individual access, individual literacy, individual computer literacy, an individual's ability to operate in the lingua franca of information technology and individual paying capacity.

Developing societies need an access model that provides access without necessarily requiring all or most of these capacities associated with the individual. As long as the crucial mix of capacities exists as social capital that people can easily draw upon to fulfil their basic need for communication – a need that can be met cheaply, reliably and which has come to mean digitally – the goal of bridging the digital divide can become a reality.

Since 1998, ITU has been developing multipurpose community telecentre (MCT) projects to bring telephone, fax, Internet, e-mail and, in some cases, distance-learning and telemedicine to remote villages around the world.

Timbuktu (Mali), with its legendary past, is home to the first major multipurpose community telecentre in Africa. Located near the Niger River, Timbuktu remains an important trade centre on the Saharan camel caravan routes. But like most isolated areas, the once prosperous commercial and cultural town needs a helping hand to join the digital economy and participate in an increasingly knowledge-based society.

Community telecentres in developing countries constitute a promising way to narrow the digital divide and to improve the quality of life of men and women, particularly in low-income, rural and under-served areas.

MCTs, for example, make it possible for young people in the village to learn how to use computers and the Internet. Students and teachers can run educational software on personal computers in telecentres or obtain access to world-leading online libraries and distance instructors through the Internet.

Local administrators and society leaders can access information on basic social services such as water supply or infrastructure. Farmers can form joint buying and selling groups and monitor market prices. Small entrepreneurs can find larger markets, conclude deals and use the telecentre for normal office services such as fax, e-mail or document production.

Facilities providing access to ICTs and the applications they support vary considerably. In their simplest form, they may be limited to providing public telephone and fax services and be run, for example, by a local shopkeeper. Such "telekiosks" tend to be located in more densely populated areas and have an important social and economic role.

At the other end of the scale are telecentres with shared offices open to small local businesses and teleworkers which are equipped with computers, printers and photocopiers. Such centers generally provide access to data networks (e.g. the Internet) for e-mail and file transfer, to electronic libraries and databases, government and community information systems, market and price information databases,

ITU-partnered telecentres in (top to bottom) Viet Nam, Mali and Honduras

E-post planned in Bhutan

environmental monitoring systems and so on. They may also offer facilities and equipment for distance-learning and telemedicine, and some may provide the facilities, equipment and training needed to produce and receive local radio and TV programmes.

Many MCTs receive direct or indirect financial support from public authorities, nationally or locally, to cover part of their costs. As an example of indirect financial support, many MCTs sell training courses to the local educational authorities. Often, the centers are located in schools, libraries, local authority buildings or houses that are converted for this purpose and normally have an office and a public area with access to ICT-based services. MCT staffing typically consists of a full-time manager and a part-time assistant. Many MCTs have also made use of volunteers successfully.

The prime purpose of MCT pilot projects is to develop and test models for provision of access to modern ICTs. Integral to the pilot projects is the objective of developing and testing applications for education, agriculture, health, small and medium-sized enterprises and government and community information services.

Typically, MCTs are a collaborative effort of multilateral agencies and national partners, including NGOs, who pool expertise in different areas to serve communities. Expertise could range from basic health to small-scale industry. The focus is on developing and adapting the local context of applications and "content" relevant to their field of activity and in the training of support staff and end users.

The ITU Telecommunication Development Bureau (BDT) is implementing MCTs in partnership with local authorities, companies and communities, as well as the Canadian International Development Agency (CIDA), the British Council and – among the UN specialized agencies – the United Nations Educational, Scientific and Cultural Organization (UNESCO), the United Nations Development Programme (UNDP), the Office of the United Nations High Commissioner for Refugees (UNHCR), the World Health Organization (WHO) and the Food and Agriculture Organization (FAO).

MCT projects are being deployed in Benin, Bhutan, Bolivia, Burkina Faso, Cape Verde, Honduras, India, Malawi, Mali, Nepal, Suriname, Tanzania, Uganda and Viet Nam.
Point to www.itu.int/itu-d/univ_access

Road sign to Tombouctou from Morocco

Vishnu Mohan CALINDI

25

Guardian of the Natural World

Telecommunications and the Environment

The link between telecommunications and the environment is organic, to the extent that telecommunications are an essential ingredient in the solution to the problem of environmental protection.

The United Nations Conference on Environment and Development held in 1992 in Rio de Janeiro established, for the first time, an organic relationship between the concepts of environment and development, and it is now a maxim that no sustainable development project can be successful without telecommunications.

For example, the need for travel may be substantially reduced by online banking or telecommuting. Telecommunication can also make a direct contribution to the implementation of environmental programmes. Improved access to information needed to develop operating, marketing and distribution methods for agricultural produce and manufactured goods helps to stem the tide of migration to towns, keeps people settled in their original environment, encourages them to work the land and hence relieves congestion in often over-populated large towns; this helps accelerate the growth of the rural economy and thereby improve the living conditions of the rural population.

A more direct role for telecommunication in environmental monitoring and protection is through satellite-based remote sensing. Data gathered by earth observation satellites are the bases to extract physical, biological and human information.

Images collected provide an overview of vast areas and, through repeated observations, enable phenomena such as desertification, drought, locust invasions, pollution, land use and urbanization to be monitored.
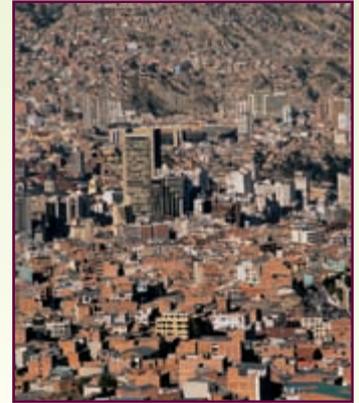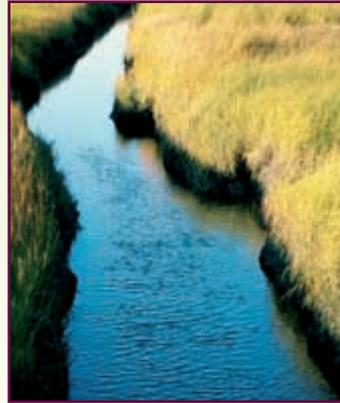
Telemetry enhances the effectiveness of these programmes, allowing the distance travelled by anything moving across land or water masses to be measured with greater accuracy from a monitoring satellite.

BDT, in association with the United Nations Institute for Training and Research (UNITAR) and the Observatory for the Sahel and the Sahara (OSS), has an ongoing activity to develop an information system on desertification (ISD) called the Environmental Information Circulation and Monitoring System on the Internet (EISI) in Africa.

An initial phase of this project was focused on awareness-raising and implementation of pilot projects in seven African countries – Benin, Burkina Faso, Mali, Morocco, Senegal, Tunisia and Uganda. The second phase aims at extending the application of EISI on the Internet to the rest of the African continent, in response to numerous requests from other subregions and countries.

Partners in this effort are the East African Intergovernmental Authority on Development, Inter-State Committee for Drought Control in the Sahel (CILSS), Direction générale des forêts du Ministère algérien de l'agriculture and the Arab Maghreb Union (UMA).

WTDC-02 infused renewed vigor into environment-related activities with a recommendation to telecommunication authorities to promote national policies and applications devoted to protecting their environments, in collaboration with their environmental counterparts.
Point to www.itu.int/itu-d/projects/environment

E-Health in Action

Telemedicine

Developing countries have an overwhelming need for health-care and medical services, especially in rural and remote areas. The benefits of telemedicine are well-recognized in reducing the isolation of rural physicians and nurses and bringing low-cost expert consultancy to patients in remote areas, particularly in emergencies.

Since 1996, BDT has initiated several **telemedicine pilot projects** to bring the benefits of remote health-care delivery to developing countries. Most of these pilot projects are based on the results of BDT's identification missions carried out by telemedicine experts to Bhutan, Cameroon, Georgia, Mongolia, Mozambique, Senegal, Tanzania, Thailand, Uganda, Ukraine, Uzbekistan and Viet Nam. During these missions, the telemedicine expert – together with representatives of the Ministry of Health and other health organizations in each country – identifies the unique needs and priorities of telemedicine, taking due account of the state of the telecommunication network and its likely evolution.

ITU is currently active in telemedicine pilots in Ethiopia, Georgia, Guinea, Malta, Mozambique, Myanmar, Nicaragua, Senegal, Uganda, Ukraine, Uzbekistan and Zimbabwe.

In Senegal, for example, the Dakar Fann hospital is at the centre of a telemedicine network which connects regional hospitals in St Louis and Djourbel. Store-and-forward and videoconferencing capabilities over ISDN links allow for distance-consultation, exchange of medical information and improved referrals in the fields of primary care, surgery, pediatrics, obstetrics and gyneacology. ITU involvement with Sonatel, the Ministry of Health and the University Hospital in Dakar Fann acted as a catalyst to draw in contributions from Canadian sources. More recently, BDT was asked by the Egyptian Ministries of Communications and Information Technology and Health and Population to lead a project linking African and Arab national telemedicine projects into the **Afro-Arab Telemedicine Network** (ArtNet), with a view to share resources and knowledge to prevent and treat common diseases in the subregion.

BDT's role in such ventures consists of planning, compiling project documents and system procurement. It also has a role in motivating and coordinating the various players, to create an environment of confidence in the project. Implementation of telemedicine is not a solo effort but requires multidisciplinary collaboration. Partners may be as varied as telecommunication operators, health-care professionals, medical universities, regulators, ministries of communication, equipment providers like WDS Technologies, Red Cross representatives, interest groups and NGOs, such as Basic Human Needs. National representatives of sister organizations like World Health Organization may also participate. To make the pilots work successfully and graduate them to full-fledged telemedicine networks, national

Narrowing the Knowledge Divide
The fight against illiteracy and the widening need for training and professionalization in developing countries increasingly point to open distance-learning solutions enabled by telecommunication networks as a way to foster learning and narrow the knowledge divide. Such tele-education programmes, targeted both to students and teachers, obviate the need for users to commute to urban centres to access schooling, thus encouraging them to remain in their place of origin or work. They also represent a viable option for tackling educational backwardness. At WTDC-02, BDT was called on to conduct studies of the viability of tele-education systems, provide technical assistance as well as human resources to help implement various tele-education systems, and to identify sources of funding for necessary equipment and training for providing distance-learning applications.

Innovative pilot projects already in progress in Morocco and India demonstrate the possibilities of partnership with educational content providers and national telecommunication operators to strengthen the technological infrastructure and the use of media and educational systems.

In Morocco, an ITU Telecom Surplus grant is helping to build up an interactive distance-learning project for primary teachers in alienated areas, with technical supervision and support provided by ITU while content support is provided by UNESCO. About 15 remote learning centres, powered by VSAT equipment, will be operational by early next year. A licensed national VSAT service provider will be contracted to provide the satellite system, space segment and learner's systems. The project is funded to the tune of USD 3.5 million from a loan to the Moroccan Ministry of Education by the World Bank, as well as by an ITU grant.

Similarly, in India, the Interactive TV Distance Learning (TVDL) pilot project partners have sought the help of ITU to plan and equip a network of 12 centres for implementation early next year in the states of Gujarat and Madhya Pradesh. The National Council for Educational Research Technology will function as the nodal point for applications and content. Funding is provided by the Department of Education, BSNL, ITU and UNESCO.

Pilot projects in India and Morocco were co-funded with ITU Telecom Surplus grants. The ITU Telecom Surplus contribution of one-quarter of a million USD each was decisive to encourage other partners to join in with substantive financial inputs to both pilot projects, thus materializing the "Generic Interactive Distance Learning Approach", elaborated jointly by ITU and UNESCO during 1995.

ministries of health and communication also need to work together to introduce a telemedicine policy and achieve universal service where emergency services, health and social information systems converge. One of the stellar contributions of BDT has been in filling the gap between telecommunication and health-care communities at all levels through the set-up of **National Telemedicine Task Forces**, representing a divergence of interests in telemedicine. Without such mechanisms, the pilot projects would be unmanageable. Point to www.itu.int/itu-d/tech/telemedicine

> *BDT assisted Mozambique in implementing a teleradiology link connecting Maputo and Beira Central Hospitals, a distance of over 1,000 kms. This was one of the first trials of telemedicine in a developing country and has been a very successful undertaking, resulting in clear benefits to both the medical community and the public.*
>
> **Dr Pascoal Manuel Mocumbi,** *Prime Minister, Republic of Mozambique*

Petko KANTCHEV

Transitioning Strategies

IMT-2000 and beyond

ITU played matchmaker at the marriage of mobile and internet when it pioneered the family of standards called IMT-2000, a third-generation mobile technology.

However, while it is clear that the migration to third-generation networks will be universal over time, it will not progress evenly in all countries, in particular developing countries.

ITU's Development Sector is tasked with assisting Member States and Sector Members in developing countries with the smooth migration of their existing first- and second-generation networks into third generation and beyond, both technically and economically.

ITU's indicators show that the world's largest single and densest mobile market is in the developing world. Marketing and user requirements therefore cannot ignore the needs of the developing world, which will constitute a critical mass of users. As a simple example, these environments need a variety of terminals to serve requirements ranging from voice to medium- and high-speed data transmission. At the system level, they need solutions for interworking new networks with existing PSTN and mobile networks, into which they have ploughed considerable investment.

To adapt mobile communications to the needs of developing countries, many studies are being steered towards meeting the urgent need of developing countries for cost-effective access to global networks. A roadmap to facilitate transition to enhanced IMT-2000 and beyond is the subject of a question in a study group in the development sector. Such a strategy must take into account the peculiar conditions and needs of developing countries, e.g. sparse population, low traffic density, propagation conditions and the need for a low-cost national IMT-2000 network. Affordability for end users and possibility of using current spectrum are other critical factors.

Towards this end, ITU-D collaborates and draws on the technical progress in both ITU-T and ITU-R and in studying the question, will rely on an expert core group composed of a mix of operators and manufacturers from both developed and developing countries.

Experiences of smooth migration by developed and developing country administrations are considered, as are viewpoints of national and/or regional organizations and operator groupings in developed countries, such as the European Public Telecommunications Network Operators Association (ETNO).

BDT is also called upon to provide direct assistance to countries in using the ITU-identified frequency band plans, the radio technologies and the standards recommended by ITU to meet their national requirements for implementing IMT-2000 in the short, medium and long term.

ITU has been assisting, for instance, the Association of Telecommunication Enterprises of the Andean Pact (ASETA) to:
- consolidate information about spectrum, technical aspects, services on IMT-2000;
- consolidate information, suggestions and concerns from administrations and operators of the subregion;
- make recommendations on spectrum utilization and the evolution towards 3G; and
- suggest communitarian mechanisms to implement IMT-2000 in the subregion.

The use of wireless access can speed up deployment and provision of basic services in developing countries. Many of them have aggressive plans to enhance their level of communication access which include major investments in wireless means, but these plans are primarily constrained by the costs of infrastructure and maintenance.

In Istanbul, BDT was also tasked with developing the means to facilitate the implementation of **fixed wireless access applications** which allow use of IMT-2000 technology and infrastructure. Point to www.itu.int/itu-d/tech/imt.html

IMT-2000 and beyond

Riccardo PASSERINI

The On Ramp to the E-Highway

E-Strategy

WTDC-02 gave birth to a new major programme, called E-Strategy, which is designed to assist developing countries harness the potential of information and communication technologies (ICTs) to contribute towards reducing the social divide, improving the quality of life and facilitating access to the information society. This goal takes into account the needs of people of rural, isolated and poorly served areas and people in special need, including youth, gender and indigenous people.

The programme builds on its ongoing Electronic Commerce in Developing Countries (EC-DC) venture to:
- Foster the development of Internet Protocol (IP) networks and services in all types of telecommunication networks.
- Integrate the development of IP with the roll-out of societal applications to enhance government, health, educational, agricultural, business and community services.
- Enhance security and confidence in the use of public networks.
- Create conditions for affordable access to ICTs through the development of Multipurpose Community Telecentres (MCT) and multipurpose platforms (MPP).
- Enhance literacy and increase public awareness on the potential of ICTs for socio-economic and cultural development.
- Promote the establishment of a favourable legal environment for e-applications.

In the face of rapidly evolving technologies, a well-steered policy, appropriate technology strategies, viable business models and a confidence-building legal environment are critical for fostering the deployment of secure and sustainable e-services. E-strategy is working towards creating digital opportunities for developing countries through project implementation, policy guidance and activities to promote the establishment of a favourable legal environment and actions to promote the development of Internet protocol as the channel for the delivery of convergent services.

- A secure and robust infrastructure is fundamental to building confidence in the use of public networks for the delivery of value-added e-services. Projects to deliver secure **e-government**, **e-commerce** and **digital certification** solutions have been successfully implemented in Brazil, Cambodia, Ecuador, Morocco, Peru, South Africa, Turkey and Venezuela. Similar projects in Bulgaria, Burkina Faso and Senegal are scheduled to be operational by the end of 2002.

- Several training programmes have been undertaken to build local capacity in **security and trust technologies** and on the legal issues related to the use of these technologies in Chile, Colombia, Ecuador, Pakistan, Peru and Senegal.

- To mainstream **gender** in our activities, the E-strategy Unit has implemented a wireless IP-based solution to enable the 3,500-strong membership of an African business women's association (ASAFE) to market their products and services worldwide. The Unit has also coordinated with UNDP, UNFEM and African Women Entrepreneurs from the Diaspora in elaborating strategies for mainstreaming women's concerns in the development of ICTs. Similar activities are planned for youth from developing countries to be active participants in the emerging information society.

- Activities in the domain of **VoIP, IP network security** and trust services in cyberspace, training for Internet Service Providers (ISPs) and assistance with technologies for Next-Generation Networks (NGN) have been fully implemented in Cameroon, Chad, Costa Rica and Gambia. Projects are currently being undertaken in five other countries in Africa. To date, several training seminars for policy-makers have been carried out to assist developing countries in the introduction of IP networks and in the transition into the digital economy in Central and West Africa, Latin America and the Arab Region.

- **ICT policy guidance** has been provided to the Andean subregion, and to Algeria, Brazil, Burkina Faso, Cameroon, Egypt, Lao PDR, Malaysia, Mali, Mauritius, Morocco, Nigeria, Oman, Romania, Russian Federation, St. Lucia, Saudi Arabia, Senegal, South Africa, Tunisia and United Arab Emirates.

Direct assistance aimed at facilitating the creation and adoption of a proper **legal framework for e-services/applications** has been provided to the Caribbean region, Pakistan, CEE, CIS and the Baltic States, Arab region, the Andean Community subregion, Burkina Faso and Cape Verde.

Core to BDT's strategy is enabling public and private sector entities to work together in a mutually-beneficial environment towards the development of telecommunications, ICTs and value-added services and applications.

To implement this strategy, ITU has launched a multilateral, inclusive, self-regulatory and technology-neutral framework called **World e-Trust Memorandum of Understanding**. World e-Trust is bringing together partners from governments, private sector and international organizations to work towards the implementation of secure, cost-efficient and sustainable projects in e-government, e-commerce, e-health, e-learning, e-community and digital certification for the benefit of developing and least developed countries worldwide. To date, 30 countries represented by governments, industry and private sector have already signed this MoU.

In the past, successful partnership agreements have been made with private sector entities to extend our e-commerce activities (e.g. the ITU-World Trade Center and WISeKey EC-DC Agreement) to more countries and sectors. Other agreements, such as with Fundandina, have led to operational e-commerce infrastructure, the development of an ICT training and development centre and more than 90 Internet portals in Venezuela.
Point to www.itu.int/itu-d/e-strategy

Alexander NTOKO   *Désiré KARYABWITE*   *Maria Gabriela SARMIENTO*

It's All About Costing

Domestic cost-based pricing, in particular calculation of interconnection rates, has been one of the most important short-term issues facing both operators and regulators. Negotiating tariffs or rates is a delicate matter, whether it is for a new operator entering a liberalized market or a regulator wishing to set affordable tariffs for national calls without compromising competitiveness among operators. The nature of the costs on which tariffs are supposed to be based can vary greatly, depending on whether they are historical, current, economic or average and whether they reflect the volume of services provided.

Annually, BDT produces **Trends in Economics and Finance**. Aimed at network operators, policy-makers, and regulatory authorities in developing countries, the first volume describes a model for calculating telephone service costs, tariffs and interconnection rates. Case studies also throw light on methodologies for addressing tariff rebalancing and the impact that has on service consumption and its effects on other tariffs.

Complementing this publication is **COSITU**, a practical tool to automate the calculation of costs, taxes related to the exchange of international traffic (accounting and settlement rates as well as termination charges), interconnection rates between local operators, and tariffs for national and international telephone services. The tool can be applied to both fixed and mobile services. This software makes cost-oriented principles easier to implement and facilitates the decision process, including for Universal Service policies.

In addition to seminars on tariffs, costing and trade in telecommunication services, one of the best-selling products in BDT's finance and economics portfolio is its series of **Practical Workshops** on tariffs to promote understanding of and help in applying tariff calculation methods developed by ITU in the context of a competitive environment. The courses are based on real cost-accounting data and traffic information which attendees are required to collect and take to the workshop. Finance managers are trained how to extract relevant cost data from specific audited accounts and calculate costs of providing retail and wholesale services. They are able to take home the results based on the particular situation in their countries and start using them immediately.

These workshops are usually held on a subregional basis, reaching policy-makers, regulators and operators worldwide. One of the significant opportunities of the workshops is for both operators and regulators to work together on the sensitive matter of tariffs and reach common understanding on how to create competitive conditions without denying a universal service policy.

Another important activity is the **Direct Assistance** given to countries, such as to Ethiopia, Sierra Leone and Syria on cost, tariff and interconnection rate calculation; to Belize and the Central African Republic in setting up a mechanism for financing universal service; to Paraguay on network interconnection economic studies and strategies; to Angola on the restructuring of international services; to Nicaragua on the revision of the WTO Telecommunication Annex, etc.

With ownership of telecommunication assets passing out of public hands in most Member States, the need has arisen to promote private investment and implement appropriate public or private-

public partnership funding mechanisms. BDT supports governments, administrations and operators in the putting in place of mechanisms that attract funding and investment for telecommunication development.

One of the simplest tools developed for the purpose is a web-based **Database on Financing Institutions**, which provides detailed information, including funding conditions, on multilateral and bilateral agencies, as well as private and public sources of funds. In keeping with the role of ITU as a mobilizer of resources, contact names and direct links are provided to the financial institutions that provide resources in developing countries for telecommunication projects or technical assistance.

The **Tariff Policies Database**, based on an annual survey of telecommunication finance officials in over 100 administrations and network operators across the world, profiles the evolution of tariff policies in different countries. The database is a valuable source of evaluation and benchmarking on the bases for calculating tariffs, types of costs, methodologies for cost allocation, implementation and financing of universal service policies, elements in tariff rebalancing, use of time bands and national tariff zones. Taking into account the complexities of different environments, the results can be analysed by teledensity, region and GDP.

In response to the growing significance of IP telephony, BDT has also geared to provide the tools and resources to determine the **Price of Telecommunication Services by Using IP-Based Networks** including cost-related regulatory aspects.

Expectations of ITU's Member States are changing and often they expect high-level long-term support in building market knowledge based on economics and finance facilitating investments in network infrastructure. As both technologies and trading arrangements in telecommunications have been evolving, countries are seeking information on their economic impact, as well as guidelines that will allow them to benefit from opportunities they offer, while minimizing the risks.

Case studies, research, tools and models are vital in this context to help decision-makers conduct economic forecasts, simulations and sensitivity analyses.

In the new plan period, BDT will continue to provide assistance to countries in introducing new financing schemes to develop ICTs and broadcasting and in determining the cost of retail services and interconnection rates. It will also assist members in developing universal access programmes by identifying economically-viable projects and help them integrate into their policies and strategies the changes in the evolving environment of trade in telecommunication and ICT services.
Point to www.itu.int/itu-d/finance

" BDT deserves sincere appreciation for its efforts to see Africa minimize controversies over tariffs and interconnection charges. Measures such as the Practical Workshops are necessary to bring fairness into competition. "

Sam Martey,
Chief Internal Auditor,
Ghana Telecom

Pape Gorgui TOURE

Carmen PRADO

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P P F
Putting People First

ITU's old training division, set up 20 years ago to help telecom administrations train their technicians and engineers, has come a long way. Initially, training was focused on technical aspects of telecommunications. Now, keeping step with changes in the sector, it has evolved to high-level managerial training for policy-makers and regulators and other players converging on the telecom sector from areas like computing, ICTs and entertainment. Simultaneously, traditional face-to-face workshops are progressively being phased out in favour of distance-learning. In a matter of a year, the number of distance courses has doubled, indicating not only BDT's capacity to organize such training but also the change in learning culture that is occurring within the membership.

The guiding philosophy of the HRD programme is to assist countries in building institutional and organizational capacity: to help them learn how to fish, rather than giving them the fish. The main objective is not to deliver training ourselves, but to help our constituents deliver it and to build their own capacity.

"Centres of Excellence" (CoE) serve as regional focal points for professional development. Their primary mandate is to train public officials in policy and regulatory issues. They act as a resource for the CEOs of both established and new operating companies. The centres will also have a number of other valuable functions including training advice and information on spectrum management and other business management issues, development of regional expertise and networking between training providers. Two of the centres are located in Africa – ESMT in Senegal for Western and Central Africa and AFRALTI in Kenya for Eastern and Southern Africa. In addition, CoEs operate from Bangkok for Asia and Pacific Islands; in Cordoba (Argentina), Lima (Peru), Bogota (Columbia), and San José (Costa-Rica) for the Americas; in Damascus, Cairo, Amman and Tunis for the Arab Region and one in Eastern Europe and CIS.

Priorities for learning vary from region to region but, broadly speaking, the yearly production of courses centres around:
- Spectrum management
- Political and regulatory issues
- Technology awareness
- Business management
- Universal access and rural connectivity
- Topics such as managerial aspects related to telecommunication organizations, rural connectivity or IP awareness.

Networking of existing universities and other training and research institutes in each of the regions into virtual Centres of Excellence ensures that diverse, high-quality and up-to-date materials are available to trainees.

Africa has been a special focus for alliances between ITU and industry in the CoEs. Nortel Networks, IDRC and Spectrocan were the first CoE Partners to provide significant inputs on sensitive topics dealing with Spectrum Management and Technology Awareness. Acacia and CTO have also contributed training materials and resources. In partnership with Alcatel, a tool-kit of guidelines, case

> *Our joint efforts with ITU-D have forged a high-level network of knowledgeable individuals that contributed valuable advice on the training needs of developing countries.*
>
> **Pierre Derome,**
> *Managing Director, the Telecommunications Executive Management Institute of Canada (TEMIC)*

studies, field trials, regional workshops and distance-learning activities will contribute to bridging the knowledge divide at both network and infrastructure and user application levels. Under another partnership agreement with Siemens' Euclides, African students and professionals will tap the expertise of Belgian universities and high schools.

To promote continuous online education, the HRD Unit has two ongoing programmes: the **Global Telecommunication University** is degree-based and the **Global Telecommunication Training Institute** offers short-term courses. Both promote web-based distance-learning and news of information technologies for learning and working at a distance. Scholarships provided by Cable & Wireless will benefit 30 LDC candidates selected by ITU for the formal post-graduate degree in Communications Management and in Law, and over 100 enrolled in short-term courses.

To further extend the outreach of ITU's capacity-building effort, the **Virtual Training Centre**, an e-learning platform, offers distance training on demand. The VTC is a training centre like any other, boasting a library that offers training information and materials free of charge, a resource centre including information on various databases, as well as the means to organize actual, virtual and distance-learning courses.

IP technology training received a boost with the **Internet Training Centres Initiative** which was set up in initial partnership with Cisco to create, by mid-2003, 50 centres in developing countries delivering training related to various aspects of the Internet. In the ITCI project, using a train-the-trainers approach, BDT will work with public and private sector players to provide students in developing countries with access to affordable and relevant training for the "new economy". One of the objectives of each ITC will be to strengthen Internet skills within the staff of national telecommunication operators. In this respect, each centre will be encouraged to develop partnership arrangements with the operator. Such partnership arrangements could range from the provision of low-cost connectivity in return for cost-based training for a number of staff. The operator might also develop an arrangement to employ the brightest students graduating from the centre.

The task of HR personnel has shifted from paper-pushing to supporting their organization to achieve its business and strategic objectives. This means they are confronted with unique challenges in areas such as recruitment, staff policies, training and re-engineering. Through its initiatives in knowledge transfer, experience-sharing, HR and training assistance and information dissemination, ITU's human resources development programme is equipping its members to make a smooth transition to the current telecommunication and ICT environment by strengthening their human, institutional and organizational capacity.

Point to www.itu.int/itu-d/hrd

> *ITU Centres of Excellence aim at closing the gap between the "information rich" and the "information poor" within the developing world, accelerating the development of the information society. Alcatel is proud to contribute to this major challenge.*
>
> **Gérard Dega,**
> *President, Africa, France, the Middle East, South and Central Asia, Alcatel*

Mario MANIEWICZ   Barbara WILSON   Jean-Claude FAURE   Manuel ZARAGOZA   Ramita SHARMA

Integrating the Neediest

Least Developed Countries

In common with other essential infrastructure, telecommunication networks and services in most **Least Developed Countries** (LDCs) are underdeveloped, causing a severe bottleneck to the socio-economic development of these countries. Before 1998, ITU provided assistance to this group of countries in various areas including planning, human resources development/management and network expansion and modernization. Most of this assistance was provided on an ad-hoc basis to meet the particular needs of the requesting administrations. However, this approach resulted in such assistance being thinly spread among beneficiary countries, with no measurable impact.

A new strategy was then adopted to provide concentrated assistance to a number of countries each year. This resulted in the current signs of an upturn. During the last five years, there have been significant improvements in teledensities in many LDCs, fuelled mainly by the arrival of new technologies, namely, mobile services and the reform and liberalization of the sector. BDT has had an instrumental role to play in these developments. In Tanzania, BDT helped define a universal access policy which helped the government steer the path for service provision. In Cambodia, a detailed master plan, reorganizational plan and strategic plan provided by BDT supported the restructuring and privatization process.

Uganda was empowered to plan, price and manage its radiofrequencies more effectively through assistance provided under this programme. BDT helped prepare specifications for spectrum monitoring, set a spectrum pricing policy and assisted the administration through the bid and evaluation process for spectrum monitoring facilities. In the technical domain, more recently, in Nepal, BDT assisted the country in making the transition from circuit- to IP-switching with both equipment and expertise.

Who are the LDCs? In 1971, the international community recognized the existence of this category of countries whose distinctness lies in the profound poverty of their people and in the weakness of their economic, institutional and human resources, often compounded by geophysical handicaps.

Currently, there are 49 countries identified as Least Developed Countries. These countries are particularly ill-equipped to develop their domestic economies, which are vulnerable to external shocks or natural disasters. Thus, this group represents the weakest segment of humanity and presents a major challenge to its development partners.

The UN General Assembly decides which countries are included in (or graduate from) the list of LDCs under the recommendation of Economic and Social Council (ECOSOC).

Three criteria distinguish an LDC:

- **a low-income criterion**, based on a three-year average estimate of the gross domestic product per capita (under USD 900 for inclusion, above USD 1,035 for graduation);

- **a human resource weakness criterion**, involving a composite Augmented Physical Quality of Life Index (APQLI) based on indicators of: (a) nutrition; (b) health; (c) education; and (d) adult literacy; and

- **an economic vulnerability criterion**, involving a composite Economic Vulnerability Index (EVI) based on indicators of: (a) the instability of agricultural production; (b) the instability of exports of goods and services; (c) the economic importance of non-traditional activities (share of manufacturing and modern services in GDP); (d) merchandise export concentration; and (e) the handicap of economic smallness (as measured through the population in logarithm).

Countries in Special Need.
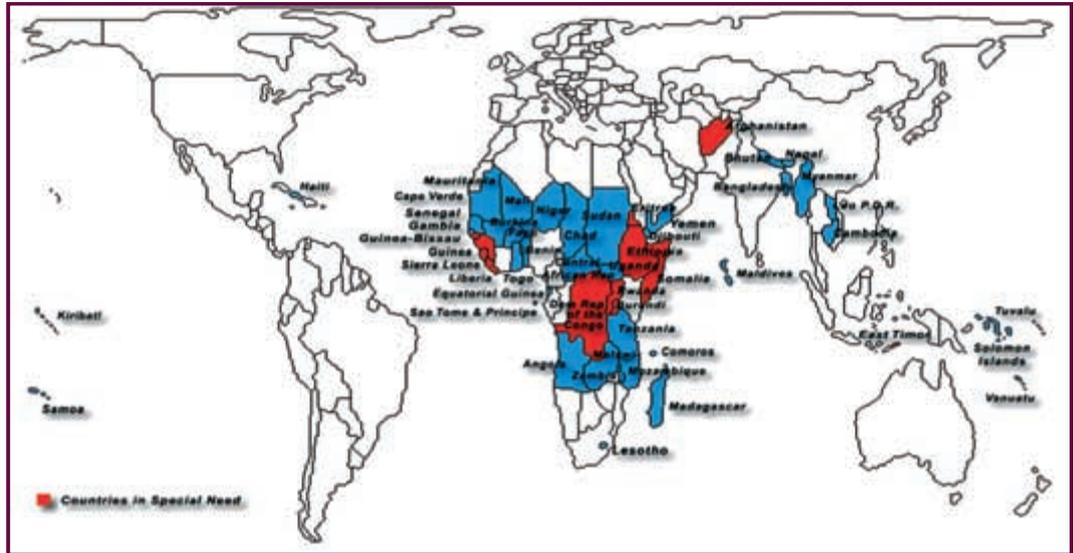
The strategy of delivering assistance was fine-tuned in 2002. On average, twelve countries will receive assistance over a period of two years. This length of time enables the delivery of meaningful aid as well as effective monitoring and evaluation.

Part of the new strategy is to run a parallel initiative of delivering assistance to a special group of countries within the LDCs grouping, i.e. countries emerging from war and civil strife otherwise known as **Countries in Special Need**. These countries require maximum possible assistance in replacing their infrastructure destroyed by war. They need more financial injection and support in all areas to jump-start their sector.

Financing and partnerships are aimed at pooling resources and directing the aggregated resources to LDCs so as to avoid duplication of effort and wastage of resources as well as to avoid spreading the meager resources thinly. For this reason, **annual partnership round tables** are held for a group of countries benefiting from BDT's concentrated assistance. Tangible projects are presented to development partners at these venues and clarification sought from country representatives.

The participation of the private sector and multilateral organizations in these areas is essential to accelerate telecommunication development in LDCs. Bilateral initiatives between the programme and its constellation of contacts are being promoted so as to attract financial inflows to LDCs. This is particularly important as most players are averse to getting involved in fragile environments such as those found in LDCs and would need to be approached tactfully and individually with specific projects.
Point to www.itu.int/itu-d/ldc

Countries in Special Need are a critically vulnerable group, deserving of our best efforts. The Leland Initiative is pleased to be working so closely with BDT to restore and strengthen their access to and use of telecommunication services.

Lane Smith,
Coordinator, USAID Leland Initiative

Cosmas ZAVAZAVA

A Partner in NEPAD

ITU's Africa
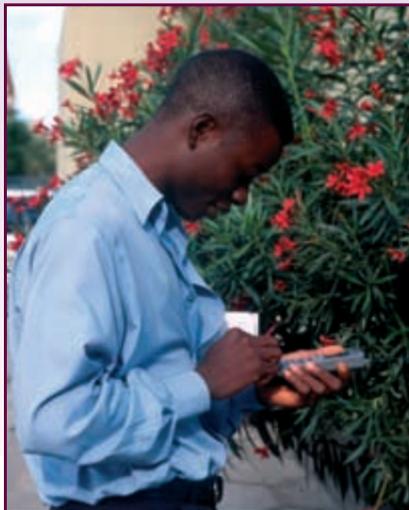
If one overall priority can be identified in ITU's Africa Region, it would be: accompanying African countries in the implementation of the New Partnership for Africa's Development (**NEPAD**), an African-led and -owned framework for development. To this end, ITU is committed to fine-tuning its priority areas in Africa to concur with the objectives set by NEPAD in the domain of telecommunications and ICTs.

To facilitate rapid growth of the telecommunication sector in Africa, the most urgent need is to assist fledgling regulatory bodies to function efficiently and as per international practice. Harmonization of regulatory frameworks is important in order to create investor confidence and an environment conducive to sustainable development of the sector. Over the years, BDT has assisted Member States through seminars, workshops and expert missions in separating policy, regulatory and operational functions, and putting in place legal frameworks for the telecommunication sector and regulatory institutions. Support in handling frequency monitoring and management as well as network interconnection and tariff issues are major areas which continue to require assistance. Updating the regulatory framework to take on board IT and IP-based services remains a priority issue for most African countries.

To the credit of actions taken by ITU and other development partners, the number of countries requesting assistance in institutional reform has diminished during the last few years. Easing the introduction of new technologies and boosting infrastructure are also critical requirements on the continent. ITU's **AFRITEL** project aims at modernizing the old cross-border PANAFTEL networks. African governments have articulated a long-range development objective of putting in place a reliable and high-quality integrated satellite and terrestrial telecommunication network enabling all African countries to communicate between themselves without transiting through countries outside Africa. Associated with this is the goal of having a tariff structure based on actual costs in Africa, as well as coherent and efficient management and operation of services.

ITU's response to this need is to equip national operators to develop and better manage, operate and maintain their networks. Expertise being made available focuses on integrated planning, traffic flow, the gradual digitalization of networks, maintenance and rehabilitation, as well as costing and tariff issues.

Results of partnership funding of feasibility studies by ITU and ECOWAS on the one hand and SADC/SATCC on the other for links such as those connecting the 15 member states of West Africa (under the INTELCON II project); South Africa and Zimbabwe under the SRII project as well as Cameroon, Nigeria and Chad, are already being put to use by some African countries to source funding for implementation. ITU also continues to assist countries to secure financing to implement AFRITEL, which will not only provide cross-border interconnection, but will also extend a number of national links to rural areas. ITU, through the ITU TELECOM Surplus Funds, has contributed a total of USD 1 385 000

BDT has made a tremendous contribution towards our manpower development. They have effectively upgraded the skills of our experts and also strengthened the institutional capacity of our organization.

Guangul Teshager,
General Manager, Ethiopian Telecommunication Agency

which is being used for Phase I. This seed money has played a catalytic role in attracting a direct contribution of USD 2 740 000 from other partners and has already induced financing of USD 18 million.

The next phase of AFRITEL will entail detailed technical specifications, tender documents, and technical and financial evaluation criteria. Training activities will continue to support countries in ensuring a smooth migration from circuit-switched networks to IP-based networks.

INDAFTEL is another ITU initiative that aims to create conditions in Africa that will foster the local manufacture of telecommunication material and equipment geared to the needs and to the environment of the African market. In particular, the project aims to:

- create a sound regional/international partnership in order to promote the industry in Africa;
- identify existing industrial units in Africa and the types and characteristics of their products;
- promote new local products, by identifying investment opportunities through a regional feasibility study and by providing assistance for the implementation of existing projects;
- promote activities in support of African industry, by fostering research, standardization and human resources development, and by improving industrial testing and technical control capacity for telecommunication materials.

Efforts are now under way to secure partners in order to initiate concrete steps to implement the project with seed funding from ITU TELECOM Surplus. More studies need to be undertaken to establish what is feasible for manufacturing in Africa. This project has been given high priority in the NEPAD and it got the blessing of African Heads of State and Governments at the Africa Union Summit in Durban 2002, where a decision to endorse Indaftel was adopted. Potential partners include UNECA, UNIDO and the African Development Bank (AfDB). Training is recognized as critical in implementing institutional and technological changes and towards this end, three major projects geared to increase training facilities offered in the region include: the Centres of Excellence Project and the Internet Training Centres Initiative (see pages 36 and 37).

The Centres of Excellence, regionalized at ESMT in Dakar and at AFRALTI in Nairobi, focus on five major programmes: Business Management, Regulatory Issues, Spectrum Management, Technology Awareness and Universal Service. Training also aims to strengthen the organizational structure and the self-sustainability of ESMT and AFRALTI. Activities from the two centres show a positive growth both in terms of the number of workshops/seminars as well as participants.

Since the start of the Internet Training Centres Initiative (ITCI) in 2001, a total of seven centres have been established in Africa. Four centres are planned for Africa each year in 2002 and 2003 respectively. The Global Telecommunication University Project is currently implementing some pilot activities to promote e-learning in Africa.

Point to www.itu.int/itu-d/afr

In February 2002, for the first time ever, African countries collectively secured an orbital slot for themselves with the vital support of ITU.

Gonde Désiré Adadja,
Director General and CEO, RASCOM

Brahima SANOU   Asenath MPATWA

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Cooperating for Connectivity

ITU's regional presence in the Americas Region is centered in Brasilia, with area offices in Bridgetown (Barbados), Santiago (Chile) and Tegucigalpa (Honduras). The second Summit of the Heads of State of the Americas held in 1998, together with ITU's World Telecommunication Development and Plenipotentiary Conferences, gave clear shape to the priorities for telecommunication development in this region for the period 1999-2000. To achieve the development of the telecommunication sector in the region, ITU works closely with the Inter-American Telecommunication Commission (CITEL), the main forum in the Americas at which governments and the private sector can meet to coordinate regional efforts to develop ICTs and global information.

Among the many activities carried out in cooperation with CITEL, **Telecommunication Policies for the Americas (The Blue Book)** and **Tele-Education in the Americas** are important instruments to support/assist countries of the region in matters such as regulatory reform and development of the sector. In order to reduce the digital divide between rural and urban populations and between countries of the region, BDT has implemented **Multipurpose Community Telecentres**, projects on New Technologies for Rural Applications and IMT-2000 seminars. In 2001, during the third Summit of the Heads of State of the Americas, carried out in Quebec City, the Agenda for Connectivity of the Americas was approved and CITEL was instructed to develop the Agenda. BDT has joined CITEL, some administrations and other regional organizations, the UN-ICT Task Force, the private sector and other actors in order to implement the Agenda, which will emphasize ICT development.

In addition, BDT, in close collaboration with CITEL and AHCIET, has designed the **Universal Service Book** and is also supporting CITEL in developing a **Database on Frequency Management** for the Americas Region. Among other relevant projects and activities implemented by ITU in the Americas has been the upgrading of human resources through training programmes on telecommunication policies, regulation, management and technology, in particular, those implemented by the **Centre of Excellence** for the Americas. The first Internet Training Centres in partnership with Cisco are due to be established at the Universidad Nacional Autónoma de Honduras (UNAH) in Honduras and the Escuela Superior del Litoral (ESPOL) in Ecuador. In a continuous effort to strengthen national, technical and administrative matters related to telecommunication services, around 43 technical cooperation projects are currently being implemented in the region.

This is in addition to the technical assistance being provided to governments, regulatory bodies and service providers. In fulfillment of the Plan of Action of the Quebec Summit, CITEL was instructed

> *Anatel has enjoyed a long-standing and beneficial partnership with ITU. Among the successful examples of cooperation are the foundation of the National and Regional Training Centres, the Telecommunication Research and Development Center and recently, in March 2002, a renewed agreement for the maintenance of the ITU Regional Office for the Americas and the Caribbean.*
>
> **Helio Leal,**
> *Chief of International Affairs,*
> *Anatel, Brazil*

to develop the Agenda for Connectivity in the Americas. BDT has started to work jointly with CITEL, administrations, other regional organizations, the UN ICT Task Force, the private sector and other actors in order to implement this Agenda with strong emphasis on ICT development. In order to promote the development of ICTs in the Americas Region, governments will have to take certain measures to implement the Agenda for Connectivity. For example:

- modernizing national laws, as appropriate, based on principles such as the establishment of strong and independent regulatory bodies, a pro-competitive approach (including the adoption of rules on dominant operators), a flexible regulatory framework consistent with technological convergence, and also developing human and institutional capacity;

- facilitating the upgrading of human resources through ongoing training programmes on telecommunication policies, regulation, management and technology; in particular through the CITEL in coordination with the ITU Centre of Excellence for the Americas Region, and in partnership with regional and subregional organizations and the private sector;

- taking measures striving to implement the Mutual Recognition Agreement for Conformity Assessment developed by CITEL, and encouraging discussion of adequate standards to ensure interoperability for existing and future telecommunication networks as well as the timely introduction of technology in new and existing markets, taking into account the regulations and recommendations of ITU and other appropriate standard-setting bodies;

- supporting the convening of the ITU World Summit on the Information Society to be held in 2003 and 2005, which will focus on the use of information and communication technologies for social and economic development;

- recommending that national bodies work within CITEL to prepare guidelines on Universal Service, based on principles to be developed by CITEL, and developing a clear definition of the responsibilities of governments and private entities;

- encouraging increased competitiveness and productivity of all sectors through applications such as distance education and tele-health, and promoting the creation of domestic activities dedicated to the generation of Internet-based industries;

- promoting the modernization and expansion of infrastructure in rural and urban areas through the timely introduction of new services, in particular broadband technologies, the adoption of new standards on telecasting, webcasting and Internet Protocol (IP), paying particular attention to spectrum management, interconnection policies, appropriate pace of development and emergency communications.

Thanks to the technical and specialized access to information, to distance training courses and the interchange of experiences through conferences and international meetings, we can describe our first year of work with BDT as an enriching and productive experience that has allowed us to do a better job as an enterprise.

Sandra Nogu,
Adviser, Legal Department, Codetel,
Dominican Republic

In order to address the real needs in telecommunications of the countries in the Americas Region, all these considerations will be taken into account in the implementation of the Istanbul Action Plan.
Point to www.itu.int/itu-d/ams

Juan ZAVATTIERO   **Christian BLANQUART**

New Responses to A New Environment

Institution and capacity building and technology transfer are key areas of ITU endeavours in the Arab Region. A little-recognized fact about this region is that over half of the countries have a teledensity of less than 10 fixed lines per 100 inhabitants.

Updating the *Arab Book* was one of the main activities of the Arab Regional Office, located in Cairo. The updated *Arab Book* focuses on telecommunication networks and services, Internet and IP services, legal and regulatory issues, organizational aspects, management of telecommunication operations, economic issues, business planning and financial policy, industrialization and R&D (research and development). This dynamic instrument requires periodic revision due to the rapid and continuous development of new technologies and the convergence of telecommunication and information technologies.

Bridging the digital gap is a top-level priority in the region. ITU assistance to the Arab Region has consisted of experts' missions, as well as seminars, meetings and workshops in VoIP technologies and applications; telemedicine; tele-education; rural communications and applications; and preparations for the World Summit on the Information Society (WSIS).

BDT continues to assist Member States in the region in the **sector reform process**. As well as forums on policies and regulatory issues, various meetings have also covered standardization issues and relations between regulators and operators. Currently, priority is given to the important issues of interconnectivity, licensing and regulator-operator relations. Efforts are under way to form a **Regional Association for Arab Regulators**.

To foster **management skills** and **technology transfer**, capacity-building activities in the region have included:
- training opportunities with leading companies such as C&W, TEMIC, TELIA, UKTA, Thunderbird, MCIL and the Arab Academy for Science and Technology (AAST);
- special courses in cooperation with other Arab telecom entities such as Batelco (Bahrain), Jordan Telecom, the Syrian Telecommunication Establishment (STE) and the National Telecommunication Institute (NTI) of Egypt;
- special courses for Arab countries with special needs such as Palestine and Somalia;
- distance learning sessions;
- Arabization of training materials.

The main mechanism for capacity building in the region is the **Arab Centre of Excellence (CoE)**. It is coordinated from Damascus, Syria, and is governed by a steering committee comprising regional leaders. CoE is contributing to a fast increase in the training facilities offered in the region on the most current issues. Two workshops were implemented in 2001 and eight workshops in year 2002.

To enhance the participation of ITU-D Sector Members in ITU activities, the second *Meeting for Private Sector Cooperation* was held in Cairo, May 2002. The objectives of the meeting were to discuss the emergence of the private sector in ICTs, examine the relationship between the regulators and the private sector and to encourage new members to join ITU-D Sector Membership. During the last three years, the number of Sector Members in the region has increased to 35 in ITU-D and to 13 in ITU-R and 7 in ITU-T.
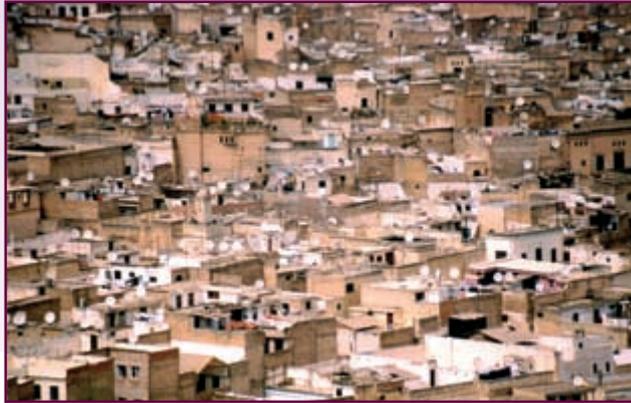
Successful **co-sponsorships** in the Arab Region have been forged with various Egyptian companies including: *Mobinil*: IMT-2000 Regional Seminar, Hurghada, March 2000; *Telecom Egypt*: Annual Meeting and Regional Preparatory Meeting for WTDC-02, Alexandria, October 2000; *Arab Academy for Science and Technology (AAST)*: Annual Meeting for Telecommunication Development and the Regional Preparatory Meeting for WTDC, Alexandria, October 2000; *Barkouky Telecom Company (BTC)*: Telemedicine Regional Workshop, Cairo, December 2001; *Vodafone and EgyNet*: second Private Sector Cooperation Meeting, Cairo, May 2002; *National Telecom Institute (NTI)*: two Telecommunication Policies Forums, Cairo, November 2001 and May 2002.

Among the major ongoing projects in the region are:

- **Interactive Television for Distance Learning**
  The project's objective is to facilitate the distance training of school teachers in Morocco from a central presentation centre, in Rabat. This is a pilot project in cooperation with the World Bank, UNESCO and the Moroccan Ministry of National Education. ITU oversees the implementation of the instructional TV systems, IT and telecommunications.
- **Telecommunication Network Development in Iraq**
  This project started in 2000 and is coordinated by a special unit in ITU headquarters in Geneva and project offices in Baghdad and Erbil. One part of this project endeavours to meet communication needs for all the population living in northern governorates of Iraq as well as for the UN agencies and local authorities involved in humanitarian action. The other part consists of managing activities related to all telecommunication equipment installed in the country and funded by the Oil-for-Food Programme.
- **Establishment of the Centre d'études et de recherches des télécommunications (CERT) of Tunis**
  This project aims to assist CERT in carrying out studies in strategic planning and network expansion, and to ensure the technical evaluation/acceptance of telecommunication equipment.
- **Advisory services to the Ministry of PTT, Saudi Arabia**
  This project is designed to support the Saudi telecommunication development programmes through advisory services in the fields of sector policy, administration, regulation and spectrum management. It is primarily intended for institution-building and training.

Point to www.itu.int/itu-d/arb

Ibrahim KADI　　*Ebrahim AL-HADDAD*

ITU's Arab States

Agent of Change

ITU's Asia and the Pacific

ITU established a regional level presence in Asia and the Pacific in 1984 with the opening in Jakarta of ITU's first field office. It then had one professional officer, one support staff, a typewriter, a telephone and a telex machine.

Since then, globalization, economic and socio-political reform and the emerging realities of the information age have helped shed new light on telecommunication development in the Asia and Pacific Region.

ITU has an increasingly important role to play in the telecommunication development process in the new millennium. ITU can uniquely contribute by accelerating national and international socio-economic development goals through promoting the "right to communicate", by facilitating partnerships that create "win-win opportunities" for all partners, and by asserting ITU's role as impartial change agent to bring about synergistic telecommunication development for all – large and small, emerging and mature – throughout the Asia and Pacific Region.

A key partner in this mission is the Asia-Pacific Telecommunity (APT), with whom ITU has collaborated in many areas such as human capacity development, telecom standards, sector and regulatory reform, universal access and others. Currently, ITU is working with APT and the Economic and Social Commission for Asia and Pacific (ESCAP) to mobilize regional inputs for the World Summit on the Information Society.

To exemplify the type of development support that is currently being provided to ITU's members in the Asia and Pacific Region:

- **Legislative and regulatory reform** activities are under way in Cambodia, Laos, Mongolia, the Philippines, Thailand, Viet Nam and in twelve countries in the Pacific Islands through a **subregional project on sector governance**. A sector reform project for the Islamic Republic of Iran focuses on establishing a regulatory function and restructuring the operating company, the Telecommunications Company of Iran.
- The Chinese Ministry of Information and Industry has collaborated with ITU on two **high-level seminars** focusing on current issues facing the telecom sector in China. The first seminar on interconnection was held in Hainan Province in August 2001, and the second on the impact of WTO accession on the telecom sector in Dalian in August 2002. These seminars brought together provincial leaders and the private sector from all parts of China and specialists from the region to discuss issues and exchange views.
- A **Hybrid PSTN/IP Network Pilot** Project was recently completed in Nepal testing the economic and technical feasibility of mixed technology networks for developing countries. The project was very successful and has drawn interest from other developing countries as well as prominent private sector companies active in the IP area.
- The **Asia and Pacific Centre of Excellence (CoE)** – a virtual network of nodes under the CoE umbrella – is providing capacity development for policy-makers, regulators and leaders in the private sector. Collaboration includes activities with the Office of the Telecommunication Authority (OFTA) of Hong Kong, the Australian Communications Authority (ACA), the Post and Telegraph Department in Thailand, the Department of Transportation and Communications in the Philippines, the Philippine Long Distance Telephone Company, the Information Development Authority (IDA) in Singapore and the Asian Development Bank, to name a few.

- **Subregional Telecom Meetings** for Cambodia, Lao PDR and Viet Nam. Initiated by ITU, this activity has been regularly held every year for the past five years. Assisted by ITU, the three countries share their telecommunication development activities, make comments and, in conclusion, make resolutions/ commitments for their mutual benefit.
- **Multipurpose community telecentres (MCTs)** and **telemedicine** activities and projects are under way or recently completed in Bhutan, India and Viet Nam, and projects are being planned for Myanmar and the Pacific Island countries.
- **Human Resource Development/Management in Telecommunication** in India. The project is government executed and implemented by ITU. Its duration is four years with a budget of USD 4 900 000.
- Under the programme for **Least Developed** Countries, ITU is providing assistance to the carrier in Kiribati on organizational, financial and business development issues as well as support to the government for legislative and regulatory upgrading. Bhutan is interested in expanding its wireless network and exploring possibilities of including IP-based technologies in its network services mix.
- **User Group Forum**: These fora are convened periodically to enable an exchange of information and remedying of problems in operations/maintenance and management of digital switching systems.
- Collaboration on **APT Working Group** Activities. Presentations have been made at APT Working Group meetings on:
  a) the potential for Asia and Pacific harmonization of new services and short code numbering;
  b) peering and pricing imperatives for routing of intra- and inter-regional Internet traffic;
  c) participation of end users in the regulatory process;
  d) management of access networks – commercial and regulatory needs.
- Assistance for **costing of international services** using the ITU methodology for regional tariff group for Asia and Oceania (GR TAS) continues. Workshops on costing are conducted annually for interested countries, and a price benchmarking database is in its second year of development.

Integrated Approach to Telecom Sector Development. The Regional Office for Asia and the Pacific is initiating several activities to assist selected countries to formulate and implement sector development by partnering governments, the private sector, investors, and ITU. ITU will not only assist with the formulation of the sectoral development programme but also with the implementation of those parts of the programme that require impartial execution, i.e. regulatory restructuring. Point to www.itu.int/itu-d/asp

> *My interaction with experts at the ITU level consolidated my views and conviction that expansion in telecommunications can be registered only if certain key ingredients for success are fulfilled.*
>
> **Shahzada Alam Malik,**
> *Chairman, Pakistan Telecommunication Authority*

Michael CALVANO   Ismet HAMITI

The Challenges of Growth

As defined by ITU, the Europe and Commonwealth of Independent States (CIS) Region is characterized by a well-balanced mix of developed and developing countries. It comprises countries that, although just ten years ago were part of a completely different socio-economic system, have managed to make substantial improvements in their telecommunication environment and are considered as countries in transition. It is also characterized by the growth of a political and financial European Union, to which a number of the previously traditional Eastern countries are already preparing to integrate.

ITU has only recently begun providing large-scale assistance to eastern Europe and the CIS, as it is in the process of establishing an area office in Moscow which will serve the CIS. Varied though the priorities of the region are, its diversity however constitutes the moving force that boosts, rather than hinders, telecommunication development. Newly-emerging markets stand to gain from the experiences of the mature markets in this region, who in turn stand to gain from the liberalization and expansion of the infrastructure in the less developed countries.

Liberalization of the telecommunication market is the main driving force behind the development of services, and given the enormous diversity of situations in the Europe and CIS region, the approach to economic and financial development is based on homogenous groups of countries. The priority areas are:

Tariff Rebalancing: Some countries are having to cope with the need for tariff rebalancing, while at the same time depending on international revenues from traffic balances and subsidizing domestic services. ITU's Telecommunication Development Bureau (BDT) plans to give them support for developing rebalancing strategies, while ensuring the availability, accessibility, affordability and profitability of services.

Interconnection: Many countries in the region are facing difficulties in calculating interconnection charges and, more generally, costs and tariffs for telecommunication products and services. These countries are keen that BDT pursue action in this field and continue to provide them with models and techniques for coping with constant changes in market conditions.

Universal Service: The coexistence of universal service obligations and a market characterized by healthy and fair competition is a major concern and ITU will make every effort to advise countries in this area by providing countries with appropriate techniques and models for measuring the costs of universal service obligations and redistributing them fairly.

Investment and Resource Mobilization: ITU has suggested a two-phase investment development strategy to address the different needs of (a) countries having an association agreement with or applying for membership of the European Union, and (b) other Balkan and CIS countries. The first phase of the

ITU's Europe and CIS

strategy places emphasis on improving the profitability of companies in the context of a progressive cost-orientation of tariffs and on support for the establishment of a stable regulatory framework. In the second phase, the prospects of a healthier market will open the way to utilizing various kinds of investment mechanisms, such as loans, sale of share capital, build-operate-transfer, foreign direct investment (FDI), stock market flotation, and so on.

With a view to building capacity, regional initiatives for Europe and the CIS countries have been identified and are aimed at enhancing the availability of a wider telecommunication-specific training offer:

- **Establishment of a node in Malta of the Global Telecommunication University/Global Telecommunication Training Institute network**: This would deliver training courses, with an emphasis on distance-learning methods, for participants from telecommunication companies and institutions in Malta's neighbouring regions.
- **Distance-learning System for the CIS countries**: At the initiative of the Regional Commonwealth Community, and with the support of BDT, technical universities and operators from CIS countries and the private sector in general, a networking process has been established in order to produce and deliver distance-learning courses on priority subjects for the telecommunication sector of the CIS countries. Courses also take into consideration the need for local content and language, as well as adapting training facilities. Beltelecom (Belarus), Novosibirsk SibGUTI (Russia), Uzbektelecom (Uzbekistan), Ukrtelecom (Ukraine), Petersburg Telephone Network and its subsidiary St. Petersburg Long-Distance International Telephone and Rostelecom among others in Russia, have all contributed in kind to national projects benefiting a wide spectrum of managers and engineers.
- **Regional Training Centre for the Balkans**: Taking into consideration similarities among the countries in the Balkans, there is a proposal for a regional training centre, or telecommunication academy in the Balkans, in order to promote universal and Balkan-specific unified approaches in training, planning, development and monitoring of telecommunication activities.
- **Internet Training Centres**: Under the ITU initiative supported by Cisco, the Ukraine Head Telecom Training Centre in Ukraine and the Warsaw Institute of Technology in Poland have been selected as sites for internet training for professionals and students.

ICTs are being implemented and extremely effective in improving governance and also offer the hope of more efficiently-delivering basic services such as health and education.

The Europe and CIS Region is distinguished as being one of the earliest sites of pilot projects in **telemedicine**, currently implemented in Georgia, Malta and Ukraine.

E-government brings administrations closer to citizens and businesses through the use of Internet. Under ITU expertise and supervision, Bulgaria is implementing an e-governance project which includes e-strategies, policy issues, technology strategies and best practices in the field of e-governance. In the next period, ITU will look forward to continually supporting other projects in Europe and CIS, especially developing e-strategy (e-government, e-culture, e-commerce, e-education, etc.) and ICTs in these countries.

Point to www.itu.int/itu-d/eur

Nenad STANKOVIC

istanbul Declaration

The World Telecommunication Development Conference declared that:

a) Achievements aimed at bridging the "digital divide" and providing universal access have been accomplished in the telecommunication sector since the second World Telecommunication Development Conference in 1998. The implementation of the Buenos Aires and Valletta Action Plans has been largely successful thanks to the collaborative efforts of all parties involved. It is noteworthy that the key to this success has been the considerable effort made by the countries themselves and the catalytic inputs of their development partners, including public, private and intergovernmental organizations. The ITU-D study groups have also made a significant contribution to the body of knowledge which has been placed at the disposal of the telecommunication community. The successes of the past are a great encouragement to all interested parties in the sector to sustain these efforts in the upcoming period from 2003 to 2007. These initiatives will be a key factor for the success of the Istanbul Action Plan.

b) The "digital divide" needs to be reduced and this brings opportunities to countries, not only to narrow it, but also to create the conditions to derive maximum benefit from the implementation of new services and applications in order to accelerate overall development.

c) New technologies have a significant impact on the expansion of telecommunications and have the potential to close the gap not only between developing and developed countries but also between urban and rural areas and between well-served and underserved areas within a country. The emergence of a conducive environment and entrepreneurial approaches to providing a rural service, together with more cost-effective technologies, may provide an opportunity for more rapid deployment of telecommunication services in rural and remote areas including using integration of telecommunication and postal communications infrastructures. The global information infrastructure (GII) and the global information society (GIS) are evolving and should be responsive to the interests of all nations, especially the developing and least developed countries. Opportunities offered by modern technologies should be fully exploited with the aim of fostering sustainable development through research, development and innovative technological applications for the promotion of quality and a higher standard of living.

d) Telecommunications are an essential component of political, economic, social and cultural development. They fuel the global society and economy and are rapidly transforming our lives and promoting better understanding among peoples. They also play an important role in poverty alleviation, in environmental protection and in the mitigation of natural and other disasters. All interested parties are urged to make their contribution to extend these benefits to all peoples.

e) The convergence of telecommunications, computing and information and multimedia applications is opening up new perspectives for the sector, providing opportunities for e-learning, e-health, e-government, e-commerce, environmental protection, post-war reconstruction and many other applications which are highly beneficial for social, cultural and economic development. Universal access to ICTs is widely viewed as a key to economic prosperity. Telecommunication and information services permit interaction and knowledge, contributing to greater economic activity, higher productivity and ultimately general welfare. Community access to ICTs is seen as one of the most appropriate ways of achieving universal access in many developing countries.

WTDC-02 Conference Chairman, Fatih Yurdal, being complimented by ITU Secretary-General, Yoshio Utsumi at the end of the conference

f) Sector reforms leading to greater private-sector participation and competition are forces shaping the development of telecommunications. These challenges of the information society and the new trade environment place even greater pressure on policy-makers, regulators and operators to acquire the necessary skills to manage the evolving ICT environment.

g) The integration of ICT applications and services into the planning and implementation of national and regional development programmes can serve as a catalyst in achieving their objectives not only faster but also more comprehensively. The mainstreaming of ICTs is a vital component of the global strategy designed to meet the Millennium Development Goals in general and the goal of reducing by half the number of people living in extreme poverty by 2015. This can also be a significant factor in the global efforts aimed at building firm foundations for sustainable development. Accordingly, and given the lack of adequate infrastructure in most developing countries, the development of ICT infrastructure, applications and services needs to be treated as one of the priorities in national and regional development agendas.

h) Governments play a key role in development of telecommunications, and are urged to establish an enabling environment which promotes reasonable and affordable access to basic telecommunication services for all. Such an environment should also create a stable and transparent framework and promote fair competition, while protecting network integrity and guaranteeing the rights of users, operators and investors. Policies and strategies for the development of telecommunications should reflect the trend towards multiservices utilizing a common infrastructure platform.

i) ITU and its Telecommunication Development Sector have a special role to play in strengthening communication channels, by ensuring effective coordination and cooperation with other international, regional and subregional organizations, and other entities engaged in activities related to development of ICTs and services, such as the UN ICT Task Force. This would be undertaken in order to create a proper framework needed in the application and development of services and applications, ensuring that ITU and its role and mission are understood. On this basis, new sources of funding and new partners could be identified to tackle the problems posed by the digital divide.

j) BDT should sustain the current momentum of promoting and enhancing the participation of the private sector in the activities of ITU-D, and it should continue to coordinate and facilitate the creation of partnerships between governments and private enterprises and between the private enterprises in developed countries and those in developing countries.

k) Global, regional and national financing and investment institutions are urged to attach high priority to the growth of telecommunications, particularly in developing countries. ITU should seek to establish strong relationships with those financial institutions.

l) WTDC-02 drew the attention of all ITU Member States and Sector Members to prepare for the forthcoming World Summit on the Information Society in 2003 (Geneva, Switzerland) and 2005 (Tunis, Tunisia). In this regard, the Istanbul Action Plan will be an important input for the preparation of the Summit.

m) ITU-D should continue to support the Youth Forums and advance the interests and capabilities of youth in ICTs.

n) The marginalization of Africa from the global community has received special attention from many in the international community and the UN system in particular. In this regard, ITU-D has a special role to play, particularly with respect to assisting with the partnerships necessary for successful implementation of the ICT Programme of the New Partnership for Africa's Development (NEPAD).

o) The programmes summarized below, which are part of the Istanbul Action Plan, developed in a spirit of encouraging awareness and actions on gender issues and groups with specific needs, including indigenous peoples and communities, and implemented under the leadership and coordination of ITU-D, become important and relevant tools for Member States and Sector Members in their efforts to narrow the "digital divide":

■ *Regulatory reform:* Develop and implement policies, legislation and regulations aimed at sustained development, access and use of telecommunications, including broadcasting, and ICTs.
■ *Technologies and telecommunication/network development:* Maximize the utilization of appropriate new technologies in the development of telecommunication/ICT networks.
■ *E-strategies and E-services/applications:* Use of ICTs and telecommunication networks to enhance access and use of secure, cost-effective and socio-economically beneficial value-added ICT services to ensure sustainability and affordability in the development of telecommunications and ICTs and to harness the potential of ICTs to contribute towards reducing the social divide, improving quality of life, good governance, better access to health services, distance learning and universal access, taking into account the requirements and conditions in rural areas and underserved communities, the potential of multipurpose community telecentres (MCT) and Internet protocol (IP) for the delivery of a wide range of services.
■ *Economics and finance, including costs and tariffs:* Develop and implement financing policies and strategies appropriate to the economic situation, including cost-orientated pricing, with a view to fostering equitable and affordable access to innovative and sustainable services.
■ *Human capacity building:* Strengthen the human, institutional and organizational capacity through human resource management and development activities, so as to facilitate a smooth transition to the current telecommunication and ICT environment.
■ *Special programme for least developed countries:* Seeks to accelerate the pace of telecommunication and ICT development in LDCs in order to achieve easy access to these services and integrate these countries into the world economy. This effort should take into account the needs of countries in special need.

As a result of the deliberations of WTDC-02 – mainly those reflected in the ITU Istanbul Action Plan – it is expected that all humanity, in particular developing countries, and especially LDCs, will strongly benefit from information and communication technology services and applications, transforming today's "digital divide" into a veritable "digital opportunity".
Point to www.itu.int/itu-d/conferences/wtdc/2002/declaration.html

The mission of the Telecommunication Development Sector (ITU-D) aims at achieving the Sector's objectives based on the right to communicate of all inhabitants of the planet through access to infrastructure and information and communication services. In this regard, the mission is to:

■ Assist developing countries in the field of information and communication technologies (ICTs), in facilitating the mobilization of technical, human and financial resources needed for their implementation, as well as in promoting access to ICTs.

■ Promote the extension of the benefits of ICTs to all the world's inhabitants.

■ Promote and participate in actions that contribute towards narrowing the digital divide.

■ Develop and manage programmes that facilitate information flow geared to the needs of developing countries, with a focus on those with special needs, including the disabled and disadvantaged.

This mission should complement that of other organizations and entities seeking to improve access to communication technologies and services in the developing world.

The mission encompasses ITU's dual responsibility as a United Nations specialized agency and an executing agency for implementing projects under the United Nations development system or other funding arrangements.

The mission of ITU-D is supported by a strategy with a number of goals and objectives. These include to:

a) Promote the development, expansion, operation, and increased efficiency of ICT networks and services, particularly in the developing countries.

b) Facilitate access to ICT networks and services for all, with a particular emphasis on the disabled and disadvantaged.

c) Provide assistance and tools to Member States in creating regulatory and policy environments, institutional and organizational resources, and development activities that promote goals a) and b) above.

d) Provide assistance and tools for Sector Members seeking to provide ICTs and other services in developing countries.

e) Collect, analyse and make available information, data and statistics on ICTs to assist Member States and Sector Members in making informed policy and development decisions.

f) Strengthen communication channels between BDT and Member States, ITU-D Sector Members and Associates, and ensure cooperative and effective communications and coordination between BDT, both at headquarters and at the regional offices, and the other ITU Sectors and the ITU secretariat.

g) Improve communication channels and establish the necessary coordination and cooperation with other international, regional and subregional organizations, and other entities involved in the development of ICTs and services, in order to create the appropriate framework needed in the application and development of services, ensuring that ITU's and ITU-D's role and mission are understood.

h) Ensure that the ITU Member States and ITU-D Sector Members and Associates derive maximum benefit from ITU's role as a specialized agency of the United Nations and an executing agency for implementing projects under the UN development system or other funding arrangements.

i) Ensure incorporation of a gender perspective in its programmes and activities and provide for its implementation as far as possible.

j) Emphasize the needs and capabilities of youth in telecommunication development.

k) Develop and strengthen the linkage between financial, strategic and operational planning.

l) Monitor, through the Telecommunication Development Advisory Group (TDAG), the performance of the Sector against identified milestones and propose adjustments to the strategic plan as needed.

m) Contribute, as appropriate, to the preparation of the World Summit on the Information Society (WSIS).

n) Ensure that developing countries' experiences in the field of information and communication technologies (ICTs) are taken into account for the establishment of partnerships in this field.

View of the front row at the opening session of WTDC-02

The Istanbul Action Plan (IsAP) charts a course for developing countries to transform the digital divide into digital opportunities. Bridging the digital divide means providing access to telecommunications and information and communication technologies (ICTs) and promoting their use so that all segments of society can harness the opportunities of the information society. Digital opportunities not only serve as an engine for economic growth, they enable social, educational and medical progress.

These goals hinge upon the rollout of ICT networks and services.

The Istanbul Action Plan is a comprehensive package that will enable developing countries to promote the equitable and sustainable deployment of affordable ICT networks and services.

The core of the Istanbul Action Plan is a series of six programmes to be implemented by the Telecommunication Development Bureau (BDT) of the International Telecommunication Union (ITU) focusing on regulatory reform, new technologies, e-strategies and e-services/applications, economics and finance, human capacity building and special assistance to least developed countries.

The six programmes are as follows:
1) the Regulatory Reform programme focuses on practical tools and resources for regulatory bodies to engage in reform the most effectively to meet their national ICT development, access and use goals, creating safe investment opportunities and ensuring universal access to ICTs;

2) the Technologies and Telecommunication Network Development programme assists developing countries in the migration to new-generation technologies, including mobile, broadcasting, spectrum management, Internet protocol and multimedia to maximize utilization of appropriate new technologies in the development of ICT networks;

3) the E-strategies and Applications programme fosters the implementation of value-added applications and Internet protocol (networks and applications) in government, health, education, business, agriculture and other sectors, extending the social and economic benefits of ICTs to all segments of society;

4) the Economics and Finance including Cost and Tariff programme assists developing countries to ready themselves in a competitive environment where the focus has shifted from state funding of infrastructure and services to private sector investment, developing guidelines on economic analysis, financing policies and strategies that encourage lower costs for end users;

5) the Human Capacity Building programme assists developing countries to strengthen their human, institutional and organizational capacity through human resource management and development, expanding its reach to include the very policy-makers and regulators that are at the cutting edge of designing and implementing policies to increase access and use of ICTs;

6) the Special Programme for the least developed countries (LDCs) will be valued for its quality and timely service aimed at integrating LDCs into the world economy through telecommunication development and its ability to positively impact the delivery of assistance to LDCs.

The work of the six programmes will be complemented and enhanced by initiatives that foster digital participation, targeting the ICT needs of special groups including women, youth and indigenous peoples, which take into consideration the impact of ICTs on these special groups.

The Action Plan encourages the accountability of both the programmes and the ITU-D study group activities. It also seeks to improve the working methods of the study groups, enabling them to deliver timely and relevant results.

The Plan also gives BDT the flexibility it needs to respond to requests for assistance by those countries that have undergone national emergencies.

Statistics and analysis explaining trends in ICT development are crucial for benchmarking countries, evaluating e-readiness and making informed national policy, legislation and regulation choices for ICT development. Statistics and analysis form the basis for objective and measurable indicators on the state of the global information economy and society. The Istanbul Action Plan will expand and enhance BDT's current information collection and dissemination activities to assist countries in evaluating their level of e-readiness.

The Istanbul Action Plan consists of four sections:
1) cooperation among the members, including world telecommunication development conferences (WTDCs), regional telecommunication development conferences (RTDCs), study groups and the Telecommunication Development Advisory Group (TDAG);

2) the six Istanbul Action Plan programmes;

3) two cross-cutting activities to support the six programmes and study groups: statistics and information on ICTs, and partnerships and promotion, which are critical to sustainability of ICT development;

4) special initiatives: gender, youth, indigenous peoples, and the private sector.

The work of BDT in implementing this action plan will include three different types of actions: programmes, activities and initiatives. Programmes are actions that utilize expertise in specific domains. Activities are actions that provide cross-cutting support to the programmes, study groups and initiatives. Initiatives are targeted measures designed to address special needs identified as priorities by the membership. In addition, BDT will provide input to relevant ITU-D study groups.
Point to www.itu.int/itu-d/isap/IstanbulActionPlan.html

Telecommunication Development Advisory Group Bureau

FUNCTION	COUNTRY	NAME
Chair	Canada	**Mr Tony ZEITOUN**, Senior Advisor, Knowledge for Development Initiative Canadian International Development Agency (CIDA)
Vice-Chair	Brazil	**Mr José LEITE**, Member of the Governing Board Agência Nacional de Telecomunicações (ANATEL)
Vice-Chair	Ethiopia	**Mr Guangul TESHAGER**, Acting General Manager Ethiopian Telecommunications Agency (ETA)
Vice-Chair	Gabon	**Mr Roger BONGOTHA**, Secrétaire Général adjoint Gabon Telecom
Vice-Chair	Iran (Islamic Republic of)	**Mr Kavouss ARASTEH MOGHADDAM**, Senior Expert, International Treaties & Regulatory Affairs Ministry of Posts, Telegraph and Telephone
Vice-Chair	Korea (Republic of)	**Dr Cho CHEUNG-MOON**, Senior Researcher National Computerization Agency
Vice-Chair	Malawi	**Mr Shadreck J. ULEMU**, Deputy Director-General Malawi Communications Regulatory Authority (MACRA)
Vice-Chair	Mexico	**Mr Alberto Arturo ZETINA-VELEZ**, Vice-President, Policies & Regulations Corporate Governmental and Regulatory Affairs L.M. Ericsson
Vice-Chair	Morocco	**Mr Omar MOUDDANI**, Directeur, Président du réseau des régulateurs Agence Nationale de Réglementation des Télécommunications (ANRT)
Vice-Chair	Russia	**Mr Alexander KUSHTUEV**, Deputy Director General OJSC Rostelecom
Vice-Chair	Saudi Arabia	**Mr Tarek BELKHIOUR**, Director of Marketing and International Relations ARABSAT
Vice-Chair	United Kingdom	**Mr Terence JEACOCK**, Head, Spectrum Engineering Radiocommunications Agency
Vice-Chair	United States	**Ms Doreen McGIRR**, ITU-D Program Director, Bureau of Economic and Business Affairs US Department of State
Chair of Study Group 1	Argentina	**Mr Alberto J. GABRIELLI**, Director del Instituto de Derecho de las Comunicaciones Universidad Nacional de Rosario
Chair of Study Group 2	Syria	**Mr Nabil KISRAWI**, Permanent Representative to ITU Syrian Telecommunication Establishment
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