

ANNEX C

HYDERABAD ACTION PLAN**1 Introduction**

Following the tradition in place since the creation of the ITU Telecommunication Development Sector (ITU-D), the four-year programme of activities designed and adopted by WTDC-10 is integrated into an action plan, named according to the venue of the conference. WTDC-10 designed and adopted the Hyderabad Action Plan (HAP) to enable developing countries to promote the equitable and sustainable development of information and communication technology (ICT) networks and services. The HAP is a comprehensive package of activities, to be implemented by the ITU Telecommunication Development Bureau (BDT) over the coming four years, and which include the following:

- World Telecommunication Development Conference 2014 (WTDC-14) and regional preparatory conferences or meetings.
- A study group programme, which includes 18 Questions assigned to two study groups, monitored by the Telecommunication Development Advisory Group (TDAG).
- Five programmes to be implemented by BDT over the coming four years.
- Twenty-eight regional initiatives to be implemented by Member States with the support of BDT.

2 World telecommunication development conferences

The Hyderabad Action Plan should guide the work of ITU-D during the next four years, e.g. from 2011 to 2014, and progress and implementation should be reviewed at the next WTDC.

In accordance with the ITU Convention, the Council will convene a WTDC in 2014.

3 Regional telecommunication development conferences

WTDC-10, through Resolution 31 (Rev. Hyderabad, 2010), instructs the Director of BDT to organize, within the financial limitations, one regional development conference or preparatory meeting per region for each of the six regions (Africa, Americas, Arab States, Asia-Pacific, CIS, and Europe), in a reasonable time-frame, prior to the last meeting of TDAG before the next WTDC and avoiding overlap with other relevant ITU-D meetings, making full use of the regional offices to facilitate such conferences or meetings.

The Director of BDT is equally requested to prepare, in close consultation with the chairmen and vice-chairmen of the regional development conferences or preparatory meetings, a report consolidating the results of such meetings, to be submitted to TDAG meeting immediately preceding WTDC.

Finally, the Director of BDT will convene the last TDAG meeting not less than three months before WTDC, in order to study, discuss and adopt the consolidated report presenting the outputs of the six regional conferences or preparatory meetings in final form, as a basic document for submission to WTDC, as well as to accomplish whatever else is desirable prior to WTDC (such as the adoption of Questions proposed for study by the study groups), including also a review and revision of all resolutions, recommendations and programmes with the aim of proposing the necessary updates to some or all of them if possible and their submission as proposals from TDAG to WTDC.

4 Study groups

In accordance with Resolution 2 (Rev. Hyderabad, 2010), WTDC-10 maintained two study groups, determined the Questions to be studied by them, and adopted the list of chairmen and vice/chairmen of the ITU-D study groups.

The working procedures to be followed by the study groups are set out in Resolution 1 (Rev. Hyderabad, 2010) adopted by WTDC-10.

4.1 Mandate

Study Group 1 should address issues related to the enabling environment, cybersecurity, ICT applications and Internet-related issues. Study Group 2 should address issues related to information and communication infrastructure and technology development, emergency telecommunications and climate-change adaptation. The full description of the mandate of the ITU-D study groups is available in Annex 1 to Resolution 2 (Rev. Hyderabad, 2010).

The following Questions were adopted by the conference for study by Study Groups 1 and 2:

Study Group 1

- **Question 7-3/1:** Implementation of universal access to broadband services
- **Question 10-3/1:** The impact of the licensing and authorization regime and other relevant regulatory measures on competition in a converged telecommunication/ICT environment
- **Question 12-3/1:** Tariff policies, tariff models and methods of determining the costs of services on national telecommunication networks, including next-generation networks
- **Question 18-2/1:** Enforcing national policies and regulations on consumer protection notably in a converging environment
- **Question 19-2/1:** Implementation of IP telecommunication services in developing countries
- **Question 20-1/1:** Access to telecommunication/ICT services by persons with disabilities and with special needs
- **Question 22-1/1:** Securing information and communication networks: best practices for developing a culture of cybersecurity

- **Question 23/1:** Strategies and policies concerning human exposure to electromagnetic fields
- **Question 24/1:** Strategies and policies for the proper disposal or reuse of telecommunication/ICT waste material

Study Group 2

- **Question 9-3/2:** Identification of study topics in the ITU-T and ITU-R study groups which are of particular interest to developing countries
- **Question 10-3/2:** Telecommunications/ICTs for rural and remote areas
- **Question 11-3/2:** Examination of terrestrial digital sound and television broadcasting technologies and systems, interoperability of digital terrestrial systems with existing analogue networks, and strategies and methods of migration from analogue terrestrial techniques to digital techniques
- **Question 14-3/2:** Information and telecommunications/ICTs for e-health
- **Question 17-3/2:** Progress on e-government activities and identification of areas of application of e-government for the benefit of developing countries
- **Question 22-1/2:** Utilization of telecommunications/ICTs for disaster preparedness, mitigation and response
- **Question 24/2:** ICT and climate change
- **Question 25/2:** Access technology for broadband telecommunications including IMT, for developing countries
- **Question 26/2:** Migration from existing networks to next-generation networks for developing countries: technical, regulatory and policy aspects

The full definition of the Questions is available in WTDC-10 Documents 139 (Rev.1) and 162.

4.2 Structure

WTDC-10 elected the following chairmen and vice-chairmen for Study Groups 1 and 2:

Study Group 1

Chairman: Roxanne McElvane (United States)

Vice-chairmen:

- Regina Fleur Assoumou (Côte d'Ivoire)
- Blanca Gonzales (Spain)
- Muwaffaq Abu Aqola (Jordan)
- Kirill Balov (Uzbekistan)
- Maria Dolores Peña (Venezuela)
- Nguyen Quy Quyen (Viet Nam)

Study Group 2**Chairman:** Mokrane Akli (Algeria)**Vice-chairmen:**

- Petko Kantchev (Bulgaria)
- Eduardo Evertz (Dominican Republic)
- Evgeny Bondarenko (Russian Federation)
- Abdoulaye Kébé (Guinea)
- Vahid Salman (Islamic Republic of Iran)
- Mustafa Ahmed Ali (Sudan)

Co-Chairman Resolution 9

- Audrey Loridan-Baudrier (France)

5 Telecommunication Development Advisory Group

WTDC-10, in adopting Resolution 24 (Rev. Hyderabad, 2010), maintained TDAG and resolved to authorize TDAG to act between WTDC-10 and the next WTDC, in consultation with the Director of the BDT.

5.1 Mandate

WTDC-10 assigned the following specific matters to TDAG:

- 1) continue to maintain efficient and flexible working guidelines, and update them as necessary, including to provide opportunities for cross-regional sharing of experiences on the implementation of regional actions, initiatives and projects;
- 2) evaluate periodically the working methods and functioning of the ITU-D study groups, to identify options for maximizing programme delivery and to approve appropriate changes thereto following an assessment of their work programme, including strengthening of the synergy between Questions, programmes and regional initiatives;
- 3) conduct the assessment pursuant to § 2) above, taking into account the following actions in relation to the current work programme of the study groups, if needed:
 - redefinition of the terms of reference of Questions in order to provide focus and eliminate overlap;
 - deletion or merging of Questions as appropriate; and
 - evaluation of criteria to measure the effectiveness of Questions, both in qualitative and quantitative terms, including a periodical review based on the ITU-D strategic plan with a view to further exploring performance measures in order to more effectively implement actions referred to in § 2) above;
- 4) restructure ITU-D study groups, if required, and, as a result of a restructuring or creation of ITU-D study groups, appoint chairmen and vice-chairmen to act until the next WTDC in response to the needs and concerns of the Member States, within the agreed budgetary limits;
- 5) continue to issue advice on study group schedules that meet development priorities;

- 6) continue to advise the Director of BDT on relevant financial and other matters;
- 7) continue to approve the programme of work arising from the review of existing and new Questions and determine the priority, urgency, estimated financial implications and time-scale for the completion of their study;
- 8) in order to promote flexibility in responding rapidly to high-priority matters, if required, create, terminate or maintain other groups, appoint their chairmen and vice-chairmen, and establish their terms of reference with a defined duration, in accordance with Nos 209A and 209B of the Convention and taking into account the leading role of the study groups in carrying out the studies on such matters; such other groups shall not adopt Questions or Recommendations.

5.2 Structure

WTDC-10 elected the following officers to the TDAG bureau:

Chairman:	Vladimir Minkin (Russian Federation)
Vice-chairmen:	Rufat Taghizadeh (Azerbaijan)
	Bohyun Seo (Republic of Korea)
	Ahmed El Sherbini (Egypt)
	H.E. Mr Aiyaz Sayed-Khaiyum (Fiji)
	Dominique Würges (France)
	Fabio Bigi (Italy)
	Victor Manuel Martínez Vanegas (Mexico)
	Evghenii Sestacov (Moldova)
	Ernest Ndukwe (Nigeria)
	Elizabeth M. Nzagi (Tanzania)
	Mohamed Saeed Ali Al Muathen (United Arab Emirates)
	Doreen McGirr (United States)

6 Programmes

WTDC-10 adopted five programmes, which are briefly described in this section, which also sets out programme implementation directives and guidelines. The five programmes are available in full in Appendices 1 to 5 to this Annex.

6.1 Programme implementation directives

In adopting programmes as the key elements of the Hyderabad Action Plan, WTDC-10 recognizes the need for congruence between the conclusions of the conference and the implementation of the outcomes of WSIS within the core competence of ITU-D. Programmes are components of the toolkit BDT uses when solicited by Member States and Sector Members to support their efforts to build the information society for all.

These programmes, during their implementation, should take into consideration the resolutions, decisions, recommendations and reports emanating from WTDC-10, pursuant to the provisions of No. 142 (Article 22) of the ITU Constitution on the role of telecommunication development conferences.

When undertaking the programmes, BDT should continue to work in close cooperation with Member States and Sector Members. Moreover, close coordination should be ensured among all programmes and study group activities, in order to avoid duplication of resources and work.

Direct assistance shall be provided to developing countries, including least developed countries, small island developing states, landlocked developing countries and countries with economies in transition, taking into account available budgetary resources.

6.2 Coordination within ITU

For each of the BDT programmes identified in the Hyderabad Action Plan, the Director of BDT should liaise with the ITU Radiocommunication Sector (ITU-R), the ITU Telecommunication Standardization Sector (ITU-T) and other ITU units, as appropriate and as needed.

Information from programmes as well as the results of the work of the two study groups should be exchanged throughout ITU, in order to utilize all available technical resources and provide relevant expertise and resources as needed.

ITU-D regional offices should continue to place increased priority on attracting new Sector Members, identifying their needs and considering the provision of capacity building and information on partnership opportunities.

Regional offices should solicit priorities and information from Member States and Sector Members on ways to fulfil the programmes in regard to the six regions.

6.3 Coordination with study groups

Actions under programmes and initiatives shall, whenever possible, seek close interaction and systematic cooperation with the study group Questions adopted under Resolution 2 (Rev. Hyderabad, 2010), through written contributions relevant to the Questions based on the results of implementation of the programmes. Similarly, in workshops, meetings and seminars on specific topics of common interest at global and regional level organized by BDT, due consideration shall be given in the input documents to the established work plan, the meeting timetable and the results achieved by study groups and their subordinate groups.

6.4 Coordination with the membership

An e-mail reflector group should be created for each of the BDT programmes for the purpose of providing input and advice on specific projects that are being considered, developed, implemented and evaluated. Interested Member States, Sector Members and other ITU-D partners may subscribe.

Emphasis should be placed on facilitating easy access to information describing the status of current programmes and lessons learned from past efforts. They should also describe planned future projects. Successful information dissemination programmes such as ITU-D's "E-Flash", and any similar initiatives or alternative, should continue and be enhanced.

6.5 Handling of underserved groups and other situations

BDT should continue to support training and human capacity building that helps expand communications infrastructure and access to communications services in the developing world. In all activities undertaken under the programmes, it should promote greater participation of:

- women;
- youth and children;
- indigenous peoples and communities;
- persons with disabilities, including disability due to age;
- people living in underserved areas.

BDT should allocate resources for activities that promote gender equality and meet the needs of youth and children, indigenous peoples and communities, persons with disabilities and people living in underserved areas.

6.6 Partnerships and promotion

The Director of BDT should continue to issue, via the ITU-D website, on a periodic basis, a message updating the ITU membership on ITU-D activities.

Information on partnership activities, including those in which BDT plays a catalytic role, should continue to be reported to the members via a dedicated page on the website, to include summaries of projects that BDT has assisted parties in elaborating, and of resources generated and expended. This webpage should also include information on upcoming projects and how interested parties may obtain additional information. The Director of BDT should provide to the Council, on an annual basis, a summary report of these partnership activities, while continuing to develop this webpage on an ongoing basis in the interest of partners in this area.

To facilitate the implementation of activities and strengthen the impact of actions undertaken, especially in the creation of tools and training materials, all programmes shall endeavour to continue to enter into formal partnerships, which have proven successful during the past period, including mobilizing resources from funding agencies, international financial institutions, the Digital Solidarity Fund (DSF), ITU Member States and ITU-D Sector Members and other relevant partners. In executing projects, available local and regional expertise should be taken into account.

6.7 Programme descriptions

The full description of programmes 1 to 5 is available in Appendices 1 to 5 to this Annex, respectively.

6.7.1 Programme 1: Information and communication infrastructure and technology development

The main purpose of Programme 1 is to assist the ITU membership in maximizing the utilization of appropriate new technologies for the development of their information and communication infrastructures and services.

6.7.2 Programme 2: Cybersecurity, ICT applications and IP-based network-related issues

The main purpose of Programme 2 is to support the ITU membership in improving access to ICT applications and services, especially in underserved and rural areas, achieving trust and confidence in the use of ICTs, the Internet and next-generation networks, promoting fair and equitable access to critical Internet resources.

6.7.3 Programme 3: Enabling environment

The main purpose of Programme 3 is to assist the ITU membership in creating and maintaining an enabling telecommunication/ICT policy and regulatory environment, in developing and implementing effective financing policies and strategies, and to maintain ITU's global leadership as the prime source of international telecommunication/ICT indicators, through the collection and dissemination of statistical information.

6.7.4 Programme 4: Capacity building and digital inclusion

The main purpose of Programme 4 is to assist the ITU membership by ensuring that human and institutional capacity building in the field of telecommunications/ICTs is of the utmost quality and is available worldwide, and by fostering digital inclusion that promotes telecommunication/ICT accessibility and the use of telecommunications/ICTs for the social and economic development of people with special needs¹.

6.7.5 Programme 5: Least developed countries, countries in special need, emergency telecommunications and climate-change adaptation

The main purpose of Programme 5 is to assist the ITU membership by delivering concentrated assistance for the general socio-economic development of countries through ICTs, focusing on the specific needs of least developed countries and countries in special need, by promoting universal access to ICTs in least developed countries, small island developing states and landlocked developing countries, by providing assistance to developing countries in disaster risk reduction and prevention, preparedness and relief/response and telecommunication infrastructure reconstruction/rehabilitation in countries affected by disasters, and by providing assistance to developing countries in the use of ICTs to mitigate and address the effects of climate change.

7 Regional initiatives

7.1 Introduction

The Hyderabad Action Plan includes regional initiatives that should help achieve economies of scale in ICT development. During the WTDC-10 preparatory process, each region grouped its initiatives and selected the top projects that best met its particular priorities. Armed with an effective package that can be deployed across national borders, countries will be better able to attract the type of large-scale investment needed for many of the projects.

¹ These include indigenous peoples, people living in rural areas, persons with disabilities, women and girls and youth and children, in line with the special initiatives adopted by WTDC-06.

WTDC-10 adopted 28 regional initiatives. The BDT regular budget provides seed money that will be used to attract extrabudgetary funding from development partners.

WTDC-10, through the adoption of Resolution 17 (Rev. Hyderabad, 2010), called upon BDT to identify possible ways and means of implementing regionally approved initiatives at the national, regional, interregional and global levels, making the utmost use of available BDT resources, its annual budget and surplus income from ITU-TELECOM exhibitions, in particular by means of equitable budget allotments for each region.

7.2 Guidelines for the implementation of regional initiatives

- 1) BDT, in consultation with the ITU membership, will identify and develop projects on the topics approved as regional initiatives by WTDC-10 in order to achieve the objectives therein.
- 2) BDT will allocate seed funds that will be distributed among the six regions for the purpose of supporting the regional initiatives.
- 3) Implementation of projects developed through the regional initiatives will largely be funded through extrabudgetary funds and will depend on the resources mobilized.
- 4) ITU will support Member States in efforts to raise extrabudgetary funds from Member States, development banks and other financial institutions, development agencies, international organizations, the private sector and other sources.

7.3 Regional initiative descriptions

The regional initiatives to be implemented by BDT during the upcoming four-year period are described in Appendices 6 to 11 to this Annex.

WTDC-10 approved the following regional initiatives:

7.3.1 Africa regional initiatives

- Human and institutional capacity building
- Strengthening and harmonizing policy and regulatory frameworks for integration of African telecommunication/ICT markets
- Development of a broadband infrastructure and achievement of regional interconnectivity and universal access
- Introduction of new digital broadcasting technologies
- Implementation of the recommendations of the Connect Africa summit.

7.3.2 Americas regional initiatives

- Emergency communications
- Digital broadcasting
- Broadband access and uptake in urban and rural areas
- Reduction of Internet access costs
- Human capacity building on ICTs, with emphasis on persons with disabilities and people living in rural and deprived urban areas.

7.3.3 Arab States regional initiatives

- Broadband access network
- Digital broadcasting
- Open-source software
- Arabic digital content
- Cybersecurity

7.3.4 Asia-Pacific regional initiatives

- Unique ICT needs of least developed countries, small island developing states and landlocked developing countries
- Emergency telecommunications
- Digital broadcasting
- Broadband access and uptake in urban and rural areas
- Telecommunication/ICT policy and regulation in the Asia-Pacific region.

7.3.5 CIS regional initiatives

- Groundwork for the setting-up and holding of electronic meetings
- Assistance in the transition from analogue to digital broadcasting
- Establishment of an ITU virtual laboratory for the remote testing of equipment and of new technologies and services, in the interests of achieving the aims of Resolution 76 (Johannesburg, 2008) of WTSA-08 and populating a unified ITU database
- Provision of a stable electric power supply for telecommunication/ICT facilities in rural and remote areas
- Development of recommendations and creation of a pilot segment of a telecommunication/ICT system to support secure remote retail payments and the management of bank accounts using wireless communication networks.

7.3.6 European regional initiatives

- E-accessibility in Central and Eastern Europe (Internet and digital television) for blind people and people with visual impairment problems
- Digital broadcasting
- ICT applications, including e-health

APPENDIX 1 (to Annex C)

Programme 1 Programme on information and communication infrastructure and technology development

1 Background

Infrastructure is central to achieving the goal of digital inclusion, enabling universal, sustainable, ubiquitous and affordable access to information and communication technologies (ICTs) and services for all.

The Tunis Agenda for the Information Society assigned the responsibility to ITU to facilitate/moderate Action Line C2 of the World Summit on the Information Society (WSIS): Information and communication infrastructure.

The ICT sector is characterized by rapid technological change, and by convergence of technological platforms for telecommunications¹, information delivery, broadcasting and computing. The deployment of common network infrastructures for multiple telecommunication services and applications and the evolution to all IP-based wireless and wired next-generation networks (NGNs) open up opportunities but also imply significant challenges for developing countries.

The provision of access to ICTs in rural and remote areas remains a particular challenge confronting governments, regulators and operators in developing countries.

The rapid deployment of wireless and mobile technologies indicates the growing importance of radio spectrum management and the role it plays in the socio-economic development of countries. Also notable is the worldwide transition from analogue to digital broadcasting, enabling more efficient use of spectrum and higher quality audio and video delivery.

The WSIS goals, which are aligned with the Millennium Development Goals (MDGs), can be partly achieved through infrastructure capacity building.

Capacity building for national regulatory authorities in the domains of frequency planning and assignment, spectrum management and radio monitoring, as well as in the domain of digital broadcasting, is critical to the transition from analogue to digital broadcasting, and is expected to be a key need for most developing countries during execution of the Hyderabad Action Plan.

2 Purpose

The objective of this programme is to assist ITU Member States and ITU-D Sector Members and Associates in maximizing the utilization of appropriate new technologies for the development of their information and communication infrastructures and services, by taking due account of broadband deployment, transition from analogue to digital broadcasting, traffic and demand forecasting, spectrum management and radio monitoring, interconnectivity, interoperability, network management, security, and quality of service standards for wired and wireless networks,

¹ "Telecommunications" includes sound and television broadcasting.

including mobile telecommunications, next-generation networks, rural and satellite telecommunications and the accelerated convergence of telecommunication networks² and services.

Particular attention will be given to capacity building in the development and use of ICT networks through training activities and sharing of information and know-how, as well as to developing and making openly available relevant guidelines, manuals and case studies.

3 Priority areas

Programme 1 priority areas include:

3.1 Spectrum management and radio monitoring

Effective management of the frequency spectrum is a major goal of all countries. The extraordinary growth of mobile telecommunications is an indicator of the importance of the radio spectrum for the social and economic welfare of any nation and among nations. More and more countries are examining the issue of setting fees for spectrum use.

The major objective of BDT work in this area is to strengthen national regulatory bodies in the fields of frequency planning and assignment, spectrum management and radio monitoring, and provide efficient tools for managing the spectrum.

This will involve, in particular:

- 3.1.1 continuing to maintain, update and expand the Spectrum Management for Developing Countries (SMS4DC) software;
- 3.1.2 providing technical assistance and conducting training activities for the deployment and use of SMS4DC;
- 3.1.3 providing spectrum management assessments and recommended action plans for the further development of existing spectrum management structures, procedures and tools;
- 3.1.4 providing assistance on spectrum fee regimes, including identifying best practices and comparative data, as well as direct assistance in establishing such regimes;
- 3.1.5 providing assistance in the harmonization of regional spectrum allocations, including coordination procedures in border areas;
- 3.1.6 providing assistance in the optimization and cost-effective use of spectrum monitoring systems and networks.

3.2 Broadcasting

Terrestrial broadcasting is on the threshold of a revolutionary transition to digital worldwide. The process of transition from analogue to digital broadcasting, which offers advantages in terms of spectrum efficiency, higher video and audio quality and new business opportunities, is expected to be at peak level in the next ITU-D cycle in most developing countries. Inevitably, requests for

² "Telecommunication networks" are widely known as information and communication infrastructure.

assistance will increase, in line with the upcoming transition to digital terrestrial broadcasting, simulcasting, and the analogue switch-off.

The objectives of the programme in the area of broadcasting is to enable developing Member States to overcome the challenges and migrate smoothly from analogue to digital broadcasting, including terrestrial TV, mobile TV and sound broadcasting, thereby reaping the full benefits of spectrum efficiency.

In particular, activities will be focused on:

- 3.2.1 providing assistance on policy and regulatory frameworks for digital terrestrial broadcasting, including frequency planning and optimization of spectrum use;
- 3.2.2 providing assistance on digital broadcasting guidelines and master plans for the transition from analogue to digital broadcasting;
- 3.2.3 providing assistance on conversion of analogue to digital archives;
- 3.2.4 providing assistance in the field of new broadcasting services and technologies;
- 3.2.5 providing assistance in a feasibility study for the establishment of communication networks among broadcasters in order to facilitate multimedia programme sharing with sister organizations and regional coordination;
- 3.2.6 providing capacity building in digital broadcasting technologies;
- 3.2.7 organizing regional meetings between ITU members on the use of spectrum for broadcasting services and other services;
- 3.2.8 providing other pertinent information on analogue-to-digital transition.

3.3 Next-generation networks

The architecture of information and communication infrastructures is changing to accommodate requirements for a growing number of ICT-enabled services and applications, along with evolution to next-generation networks (NGN) and further evolutions, including *new-generation networks* or *future networks*.

Technologies should be of lower cost, easy to maintain and adapted to local environments.

The current telecommunication market requires flexible network planning methodologies which can adapt to these evolutions in network architectures. For this reason, ITU should continue to engage in formal partnerships with outside partners, who can provide resources and tools for, *inter alia*, network design, planning and monitoring, in tune with the future requirements of the ITU membership.

The objective of the programme is to assist Member States in the implementation of evolution to these future network architectures and technologies, in order to accommodate the requirements of a growing number of ICT-enabled services and applications.

Activities under the programme will encompass the following:

- 3.3.1 providing assistance to Member States on migration strategies and with the design, deployment and maximization of new network architectures, including roll-out of both wired and wireless broadband technologies;
- 3.3.2 assisting countries in planning the introduction of new network elements by making use of specialized planning tools;

- 3.3.3 assisting countries in the digitization of analogue networks and in applying affordable wired and wireless technologies, including improvements in quality of service and network infrastructure security;
- 3.3.4 assisting countries in ensuring extensive networking, interoperability of ICT infrastructure and the development of tools, services and applications to facilitate accessibility of ICTs for all;
- 3.3.5 assisting countries in optimizing connectivity through regional backbones, in order to reduce interconnection costs and optimize traffic routing;
- 3.3.6 disseminating case studies and information related to new technologies, such as NGNs, suited to the needs of developing countries;
- 3.3.7 organizing symposia, seminars and workshops, as appropriate, taking into consideration outputs of related ITU-D study group activities;
- 3.3.8 assisting countries in the deployment and migration of their existing networks to NGN.

3.4 Mobile communications (2G, 3G, 4G, etc.)

The last decade has seen an explosive growth in mobile telephony in all countries. Rapidly falling costs and technological progress have made connectivity to rural and remote areas feasible. With the growth of mobile communications, coupled with the evolution to IMT and beyond, operators in developing countries are establishing mobile networks in unserved and/or underserved areas, upgrading their existing networks and integrating new technologies which have to coexist and interoperate with existing ones.

The objectives of the programme are to assist Member States in upgrading their networks and integrating relevant mobile telecommunication technologies. Specific activities will include the following:

- 3.4.1 providing assistance in the selection of suitable mobile technology, and green power supply for cost-effective and sustainable operations in unserved and/or underserved areas;
- 3.4.2 providing assistance in planning IMT systems and beyond, as well as applications and subsequent implementation of such systems;
- 3.4.3 providing assistance for increasing awareness and sharing information on relevant standards/ITU Recommendations for the introduction and use of mobile technologies.

3.5 Broadband networks

Broadband technology allows for high-speed transmission of voice, video and data over networks and ICT applications. The introduction of broadband technologies, community antennas, optical fibre, satellite and fixed and mobile wireless has enabled traditional and new forms of telecommunications to become a reality throughout the world. Because physical infrastructure and geography are vastly different from country to country, technology that works well in one geographic area may not work in another.

Given the rapid advancement of telecommunication technologies, broadband access technologies have become available, specifically wireless, which offer performance that is similar to, or improves upon, wired access solutions.

One of the main problems facing the developing countries is the lack of access to broadband services, and low teledensity.

This programme will contribute to the goal of digital inclusion by providing assistance for the efficient and cost-effective development of rural, national and international broadband telecommunication networks, including broadband network access allowing the provision of new ICT services and applications.

To this end, the following issues will be addressed:

- 3.5.1 facilitating affordable access to broadband Internet services for citizens, through appropriate institutions;
- 3.5.2 use of affordable broadband by rural communities;
- 3.5.3 enhancing the safety of populations through the establishment of public-safety broadband networks.

The relevant activities within this programme will be as follows:

- 3.5.4 providing assistance in the development of national ICT broadband network plans;
- 3.5.5 providing assistance in the deployment of wired and wireless broadband infrastructure;
- 3.5.6 providing assistance in the selection of suitable access technologies to bring broadband telecommunications to rural and poorly served areas;
- 3.5.7 providing assistance in the selection of appropriate green power supply;
- 3.5.8 implementing projects on the provision of ICT services and applications, through suitably designed business models that can achieve financial and operational sustainability, by a variety of organizations, including small enterprises, local governments and non-governmental agencies in rural and remote areas;
- 3.5.9 providing capacity building for local experts to identify, plan, implement and operate networks and facilities;
- 3.5.10 disseminating information and analyses of different countries' experiences with the use of different technologies and services, through methods such as publications, symposia, seminars and workshops, taking into account outputs of related ITU-D study group activities.

3.6 Rural communications

Rural areas of countries continue to be sparsely covered and are not considered as a viable business case by telecommunication operators. Recent growth of teledensity in urban areas, fuelled by mobile technology, has meant that the digital gap between rural and urban areas has widened.

Rural populations will need to be provided with mobile telephony and wireless broadband access, by connecting remote areas to the broadband core networks. Choosing efficient, cost-effective and fast-deployment technologies – whether wired or wireless networks – will improve accessibility.

The key challenges for the provision of telecommunication services in rural areas are driven by both technological and economic considerations. Setting up backhaul connectivity remains a high-cost exercise. Erratic power supply or complete lack of energy sources is a major barrier, and photovoltaic power supply is increasingly becoming a viable alternative. The requirement to maintain sufficient backup systems raises operational costs substantially.

This programme will contribute to the goal of digital inclusion, by providing assistance for the development of connectivity in rural and remote areas using suitable technologies for access, backhaul and sources of power supply.

The focus in this area can be summarized as follows:

- 3.6.1 providing assistance in the selection of suitable technologies for access, backhaul and source of green power supply to bring telecommunications to rural and poorly served areas;
- 3.6.2 implementing projects that promote the provision of ICT services and applications through suitable technologies and business models which achieve financial and operational sustainability;
- 3.6.3 providing capacity building for local experts to identify, plan, implement and operate networks and facilities;
- 3.6.4 providing assistance in the implementation of projects for terrestrial and satellite backhaul solutions;
- 3.6.5 providing assistance in the use of alternative power supply solutions;
- 3.6.6 dissemination of information and analyses of different countries' experiences with the use of different technologies and services, through methods such as publications, symposia, seminars and workshops, taking into account the outputs of related ITU-D study group activities.

3.7 Outside plant

Natural disasters place a significant burden on most economies. Network damage caused by natural disasters may be mitigated if networks are designed and deployed to be resilient.

This programme will assist Member States in designing and deploying resilient network infrastructure, by producing guidelines/handbooks on the standardization of telecommunication outside plant in areas frequently exposed to natural disasters.

The guidelines/handbooks will address planning, including selection of appropriate geographical sites; design; deployment; and operation and maintenance of the outside plant of telecommunication networks.

4 Deliverables and means

4.1 Creation of tools and guidelines

This includes the development of professional contributions, guidelines and case studies, reports and manuals and national plans for infrastructure development, and the creation of appropriate planning tools for frequency spectrum planning, broadcasting and telecommunication network planning and operation, and tools for spectrum management, or the formulation of

recommendations on their use. This should be carried out in collaboration with Member States and Sector Members, as appropriate. Surveys and analysis will be carried out on the current situation and future plans in regard to infrastructure in Member States, including the transition from analogue to digital broadcasting, rural telecommunications and NGNs.

4.2 Creation of training material and delivery of training

In collaboration with Programme 4 (Capacity building and digital inclusion), the programme will develop long-term professional technology-oriented training materials, whether delivered face-to-face, through distance learning or through a combination of the two (blended learning), targeting those planning, deploying, operating and managing the frequency spectrum and broadcasting and telecommunication networks.

4.3 Direct assistance to members

To meet specific requests from developing countries, customized advice and consultancy will be provided to:

- 4.3.1 contribute to the development of information and communications infrastructure through technical projects aimed at improving ICT networks and access;
- 4.3.2 provide assistance in project definition, conceptualization and requirements, management and implementation, with proposals for appropriate technology solutions to meet objectives;
- 4.3.3 provide expert advice and consultancy on network engineering and dimensioning, on telephone numbering, naming and addressing, and on spectrum monitoring and frequency management as well as relevant tools;
- 4.3.4 provide technical assistance in facilitating the upgrade of telecommunication networks for the transition from circuit-switched networks to NGNs, in particular those serving rural areas;
- 4.3.5 provide expert advice and consultancy on digital conversion, digital technology deployment and frequency/coverage planning in the broadcasting domain, with priority on the planning of digital terrestrial broadcasting services;
- 4.3.6 assist in setting customer access principles (numbering plan, number portability, carrier prefixes, roaming, etc.) and in operational aspects of networks such as optimal traffic routing at national and regional levels;
- 4.3.7 provide expert advice on the selection of suitable technology for access, backhaul and green power supply for cost-effective and sustainable operations in unserved and/or underserved areas;
- 4.3.8 provide expert advice on mobile network development, with particular emphasis on the transition from second-generation to third-generation mobile systems and beyond;
- 4.3.9 provide expert advice on the assessment of existing spectrum management regimes;

- 4.3.10 provide assistance on network management, interconnectivity, interoperability and quality of service standards and alternative routing systems, for wired and wireless networks;
- 4.3.11 provide advice on establishing national institutions for the development of telecommunications/ICTs;
- 4.3.12 provide advice on the development of new network architectures evolving to NGNs, by strengthening standards-making capabilities and/or human capacity building;
- 4.3.13 continue to organize regional development symposia, in the fields of spectrum, broadcasting and telecommunications, in order to raise the technology know-how level in developing countries; coordination will be ensured with relevant programmes and ITU Sectors;
- 4.3.14 provide expert assistance in the creation of roadmaps for transition from analogue to digital terrestrial broadcasting;
- 4.3.15 provide up-to-date professional training opportunities in regard to § 4.2 above.

5 Relationship with other activities

- 5.1 Provide advice, expertise and support to ITU-D regional offices, ITU projects and ITU regional initiatives.
- 5.2 Collaborate closely with ITU-D programmes and initiatives, ITU-D study groups, as well as ITU-T, ITU-R and the General Secretariat.
- 5.3 Cooperate with other regional and international organizations on joint activities and projects.
- 5.4 Relevant WSIS action lines and references in the Geneva Declaration, Geneva Plan of Action, Tunis Agenda for the Information Society and Tunis Commitment.
- 5.5 Undertake activities related to relevant WTDC-10 resolutions: 9, 10, 11, 13, 15, 17, 18, 20, 21, 30, 33, 35, 37, 39, 43, 47, 50, 51, 57, 59, 62.

APPENDIX 2 (to Annex C)

Programme 2 Programme on cybersecurity, ICT applications and IP-based network-related issues

1 Background

In ICT for development initiatives, there has long been a realization that building information societies requires an *ecosystem approach*, supporting elements of which include an enabling environment, infrastructure build-out, capacity building and broad availability of information and communication technology (ICT) applications and services.

These elements create a virtuous circle for broadband infrastructure development, where new types of content and applications drive an ever-increasing need for more bandwidth.

2 Purpose

The main purpose of Programme 2 is to support the ITU membership, in particular developing countries, in addressing the issues identified above, namely:

- 2.1 Improving access to ICT applications and services contributes to economic and social development, especially in underserved and rural areas, and to attaining the UN Millennium Development Goals (MDGs) and the World Summit on the Information Society (WSIS) targets.
- 2.2 Achieving trust and confidence in the use of ICTs, the Internet and next-generation networks (NGNs) is important for the deployment and use of broadband networks. Cybersecurity should be dealt with taking into consideration the global, transnational nature of cyberthreats and under certain circumstances cybercrime, and taking into account the framework of the ITU Global Cybersecurity Agenda (GCA).
- 2.3 Promoting fair and equitable access to critical Internet resources (CIRs), by enabling the adaptation of adequate national and/or regional policy processes, specifically for IP-based networks, including the transition from IPv4 and migration to/deployment of IPv6, domain names and their internationalized versions.
- 2.4 Capacity building, through enhancement of awareness of the use of critical Internet resources, in collaboration, when required, with relevant expert organizations.

3 Priority areas

3.1 ICT applications and services

Developing telecommunication infrastructures to support ICT applications as well as person-to-person voice communications is a key challenge for the ITU membership, particularly in developing countries.

With the number of mobile subscribers expected to surpass the 5 billion mark in 2010, most of them in developing countries, the untapped potential for mobile ICT applications to support socio-economic development is enormous.

In the area of ICT applications, Programme 2 will focus on the following priority areas:

- 3.1.1 Elaboration of national strategic planning frameworks and associated toolkits for selected ICT applications and services in close collaboration with related UN specialized agencies and programmes, the private sector and other international organizations (e.g. World Bank, OECD) with expertise in these domains. These frameworks and toolkits facilitate the elaboration of cross-sector national e-strategies and build capacity among the ITU membership to articulate national visions, objectives, strategies, action plans and performance indicators to support the implementation of large-scale ICT applications and services that leverage existing infrastructure more effectively. This will result in effective harnessing of ICTs to better serve socio-economic development.
- 3.1.2 Development of a cross-domain mobile application framework to improve the delivery of value-added services using mobile communications. This could start with high-potential services like mobile health and mobile banking applications, but subsequently extended to the development of other kinds of applications. Programme 2 will act as a catalyst, by launching appropriate partnership platforms – involving public and private partners – in order to foster the development of mobile-based ICT applications.

3.2 Cybersecurity

Major challenges remain ahead for ITU Member States – especially developing countries – in achieving cybersecurity. Programme 2 should support Member States with specific initiatives and activities related to legal measures, technical and procedural measures, organizational structures, capacity building and international cooperation as described in this section.

In the area of cybersecurity, Programme 2 will focus on the following priority areas:

- 3.2.1 Support ITU Member States in the development of their national and/or regional cybersecurity strategies, as an essential step towards building national capabilities for dealing with cyberthreats, and within the principles of international cooperation, taking into account the relevant UN General Assembly resolutions on cybersecurity, including 55/63, 56/121, 57/239, 58/199 and 64/211.
- 3.2.2 Support ITU Member States in their efforts to build capacity, by:
 - 3.2.2.1 facilitating Member States' access to resources developed by other relevant international organizations that are working on national legislation to combat cybercrime;
 - 3.2.2.2 supporting ITU Member States' national and regional efforts to build capacity to protect against cyberthreats/cybercrime, in collaboration with one another;

- 3.2.2.3 consistent with the national legislation of Member States referred to above, assisting Member States, in particular developing countries, in the elaboration of appropriate and workable legal measures relating to protection against cyberthreats at national, regional and international levels, taking into account the information referred to in 3.2.2.1 above;
 - 3.2.2.4 establishing technical and procedural measures, aimed at securing national ICT infrastructures, taking into account the work of the relevant ITU-T study groups and, as appropriate, other relevant organizations;
 - 3.2.2.5 establishing organizational structures, such as computer incident response teams (CIRTs), to identify, manage and respond to cyberthreats, and cooperation mechanisms at the regional and international level.
- 3.2.3 Contribute to the implementation of ITU's ongoing and future global initiatives to combat cyberthreats, with the support provided by the ITU membership as active partners/contributors.
 - 3.2.4 Contribute also to the implementation of ITU's Child Online Protection initiative, with the cooperation and support of the ITU membership as active partners/contributors.

3.3 Critical Internet resources

Providing open and equitable access to critical Internet resources (CIRs) and ensuring that countries improve awareness on issues pertaining to Internet-related public policy, including Internet governance, are key issues for ITU Member States. With the ever-increasing migration to all-IP-based networks and the evolution of the current Internet governance arrangements, many developing countries need to build national capacity and improve their contribution and involvement in the management and effective governance of the Internet.

In the area of CIRs, Programme 2 will focus on the following priority areas:

- 3.3.1 Support ITU members with deployment/migration to IPv6-based networks and applications, in collaboration, when required, with relevant expert organizations.
- 3.3.2 Support ITU Member States in building capacity on the elaboration of national/regional policies and strategies in the management and use of domain names and internationalized domain names (IDNs) in order to foster development of and access to ICT content and applications compatible with national/regional needs, in collaboration, when required, with the relevant expert organizations.
- 3.3.3 Facilitate dialogue among the ITU membership on international public policy issues related to the Internet, including the organization of events, in order to facilitate capacity building and transfer of know-how.

4 Deliverables and means

For all of the above-mentioned priority areas, the anticipated deliverables fit within the following four categories: Creation of tools; Assistance to members; Information sharing; Partnerships. These categories are complementary and interlinked, as they contribute to the overall success of each of the priority areas identified above.

4.1 Creation of tools

Development of tools in the form of scoping documents, associated toolkits and guidelines and specific technical capabilities is essential for subject areas where the level of readiness is not mature and where BDT, in collaboration, when required, with relevant entities, will bring added value, and also address specific communities of need, such as children, youth, indigenous peoples and persons with disabilities. Tools should leverage the expertise of other BDT programmes, ITU study groups and relevant stakeholders and expert organizations.

4.2 Assistance to members

Assistance to members can take the form of thematic workshops, meetings and seminars on the priority areas identified above, or the provision of specific expert assistance to elaborate a project for a specific Member State or group of Member States, in close collaboration with relevant experts or bodies. This assistance could be coordinated with ITU regional offices, relevant expert organizations and/or the projects division where assistance involves the elaboration of a project structure.

4.3 Information sharing

Seminars, workshops and appropriate tools and guidelines are an important information-sharing mechanism, but sustainable initiatives can be carried out through dedicated web-based platforms developed by ITU and relevant experts on thematic subjects, and presented in an interconnected manner to ensure synergies and good visibility of work undertaken.

4.4 Partnerships

ITU launched and continues to launch international partnerships on subjects which, to succeed, require international cooperation. For instance, subjects related to cybersecurity will likely continue to be candidates for such endeavours, due to the global and borderless nature of cyberthreats.

5 Relationship with other activities

- 5.1 Provide advice, expertise and support to ITU-D regional offices, ITU projects and ITU regional initiatives.
- 5.2 Collaborate closely with ITU-D programmes and initiatives, ITU-D study groups, as well as ITU-T, ITU-R and the General Secretariat.
- 5.3 Cooperate with other regional and international organizations on joint activities and projects.
- 5.4 Undertake activities related to relevant WTDC-10 resolutions: 45, 54, 63, 65, 66, 67, 69, 72 and 74.

APPENDIX 3 (to Annex C)

Programme 3 Programme on enabling environment

1 Background

Changes brought by the advent of high-speed telecommunication networks, convergence and instant global access to knowledge are revolutionizing the 21st century. New applications and services are creating new consumer behaviours, business practices and stakeholder expectations which call for innovative and targeted telecommunication/information and communication technology (ICT) policies and regulation that foster growth at all levels. Therefore, creating and supporting an enabling environment is the key to development of a sustainable information society that ensures affordable, ubiquitous and universal access to ICTs and digital inclusion for all.

An enabling environment must take into consideration all policy areas that have an impact on the spread and uptake of ICTs, including the elaboration and implementation of national ICT policies and plans, the creation and adaptation of legal and regulatory frameworks, the promotion of investments through effective financial mechanisms in the telecommunication/ICT sector, the inclusion of ICTs in national poverty reduction strategies, and fostering accessible ICT use by people with special needs¹, as well as quantitative and qualitative methods to monitor and evaluate ICT development and measure its social and economic impacts.

Technological progress, convergence and market transformation have placed increasing strain on existing policy and regulatory regimes. Regulators and policy-makers are facing the challenging task of ensuring affordable access to ICTs and digital inclusion, while at the same time creating and maintaining investment incentives for all market participants. Striking the right balance requires regulators to be kept informed of current costing issues, as well as financial mechanisms and economic modelling, in order to be able to measure the impact and implications for a national competitive environment.

The collection and dissemination of quality indicators and statistics that measure and provide comparative analysis of advancements in the use and adoption of ICTs will continue to be a major factor for supporting developing economies. These indicators and their analysis provide governments and stakeholders with a mechanism to better understand key drivers of ICT adoption and assist in ongoing national policy formulation. They also serve to monitor the digital divide as well as progress towards achievement of internationally agreed goals, such as the Millennium Development Goals (MDGs) and World Summit on the Information Society (WSIS) targets, which will be assessed by the United Nations General Assembly in 2015.

¹ These include indigenous peoples and people living in rural areas, persons with disabilities, women and girls and youth and children.

2 Purpose

The main objectives of this programme are:

- 2.1 To assist the membership in creating and maintaining an enabling telecommunication/ICT policy and regulatory environment, through the establishment and implementation of sustainable national policies, strategies and plans, the inclusion of ICTs in national poverty-reduction strategies, and the establishment of adaptive, transparent and pro-competitive regulatory frameworks to further universal access to ICTs with digital inclusion for all.
- 2.2 To assist the membership in developing and implementing effective financing policies and strategies in a converging telecommunication/ICT environment that are appropriate to their economic situations, taking into consideration economic analysis and a cost-oriented approach to pricing, with a view to fostering equitable and affordable access to ICTs.
- 2.3 To maintain ITU's global leadership as the prime source of international telecommunication/ICT indicators, through the collection and dissemination of statistical information.
- 2.4 To allow countries to make evidence-based policy and strategy decisions, by sharing information and know-how on telecommunication/ICT developments through databases and research publications.

3 Priority areas

In order to assist members in the formulation, review, effective implementation and monitoring of telecommunication/ICT policies, legislation and regulations, including economics and finance, Programme 3 focuses on the following priority work areas:

3.1 National strategies, policies, plans, regulation and economic and financial mechanisms, on topics such as:

- 3.1.1 market entry and competition;
- 3.1.2 dispute resolution;
- 3.1.3 consumer protection;
- 3.1.4 high-speed broadband networks, such as next-generation networks (NGNs) (migration and deployment);
- 3.1.5 numbering;
- 3.1.6 interconnection;
- 3.1.7 cost modelling for cost-based regulated services (wholesale and retail);
- 3.1.8 scarce resources (e.g. spectrum; numbers);
- 3.1.9 infrastructure sharing;
- 3.1.10 regional and subregional harmonization of policies and regulation;
- 3.1.11 implementation of WSIS outcomes with respect to Action Line C6;
- 3.1.12 universal and affordable access to ICT services;

- 3.1.13 accessible ICTs for all, and persons with special needs;
- 3.1.14 mobile roaming;
- 3.1.15 cross-sectoral issues such as national telecommunication/ICT master plans, environmental protection, green ICTs and climate change, cybersecurity/cybercrime, Internet public policy issues, ICT applications and services, electronic content, capacity building, etc.

3.2 Measuring the information society

This includes:

- 3.2.1 the collection and timely dissemination of data and statistics, including sex-disaggregated data where applicable;
- 3.2.2 analysing telecommunication/ICT trends and producing regional and global research reports;
- 3.2.3 benchmarking ICT developments and clarifying the magnitude of the digital divide (using tools such as the ICT Development Index and the ICT Price Basket);
- 3.2.4 developing international standards and methodologies on ICT statistics;
- 3.2.5 contributing to the monitoring of internationally agreed goals and targets (such as the MDGs and the WSIS targets);
- 3.2.6 maintaining a leading role in the global Partnership on Measuring ICT for Development;
- 3.2.7 providing capacity building and technical assistance to Member States in the area of ICT measurement.

4 Deliverables and means

Implementation of Programme 3 activities will result in the following deliverables:

4.1 Research and analysis

Conduct research on and analysis of the latest policy, regulatory, economic, financial and market trends in telecommunications/ICTs, and measure their impact on social and economic development, based on information and statistics gathered through annual surveys under the programme. This will also include the development and analysis of benchmarking tools and monitoring of the digital divide, as well as the formulation of recommendations and identification of best practices. The main outputs include:

- 4.1.1 Measuring the Information Society report, which includes the ICT Development Index and the ICT Price Basket;
- 4.1.2 World Telecommunication/ICT Development Report;
- 4.1.3 global and regional analytical publications on ICT developments;
- 4.1.4 Trends in Telecommunication Reform publication;
- 4.1.5 case studies, guidelines and reports on policy, regulatory, economic and financial issues.

4.2 Forums for discussion and information exchange

Provide forums for discussion, information exchange, sharing of best practices and consensus building that bring together ITU-D members and other national and international stakeholders. This includes the organization of global and regional events, workshops and seminars, as well as online platforms, including:

- 4.2.1 Global Symposium for Regulators (GSR);
- 4.2.2 regional regulatory and policy forums/workshops;
- 4.2.3 regional seminars on economic and financial aspects of telecommunications/ICTs;
- 4.2.4 expert-level training on cost modelling;
- 4.2.5 World Telecommunication/ICT Indicators Meeting (WTIM);
- 4.2.6 regional seminars and workshops on ICT statistics;
- 4.2.7 online Global Regulators' Exchange (G-REX).

4.3 Tools to increase knowledge and know-how

Create and disseminate practical, technical, methodological tools and manuals, as inputs to the ITU Academy, in order to increase membership's knowledge and know-how through electronic means such as:

- 4.3.1 ICT Regulation Toolkit;
- 4.3.2 ICT Regulatory Decisions Clearinghouse (ICTDec);
- 4.3.3 training material on ICT statistics;
- 4.3.4 manual on measuring ICT access and use in households;
- 4.3.5 standards and definitions on telecommunication/ICT infrastructure indicators;
- 4.3.6 measurement frameworks for MDGs and WSIS targets;
- 4.3.7 the Regulatory, Economics and Finance knowledge centre (TREG website) and the statistics (STAT) website.

4.4 Telecommunication/ICT data and statistics

Collect telecommunication/ICT statistics and indicators, as well as regulatory, tariff and costing information, through surveys sent to ITU administrations, ministries, regulators and statistical offices. These data gathered annually are the main source of internationally comparable statistics and indicators on telecommunications/ICTs and the information society. The data are disseminated as widely as possible through different mechanisms (online, e-version, CD-ROM, publications), including:

- 4.4.1 World Telecommunication/ICT Indicators Database;
- 4.4.2 annual telecommunication regulatory and tariff policy surveys/database;
- 4.4.3 ICT Eye online portal;
- 4.4.4 Yearbook of Statistics.

5 Relationship with other activities

- 5.1 Provide advice, expertise and support to ITU-D regional offices, including direct assistance to members and ITU projects and projects undertaken within the framework of ITU regional initiatives.
- 5.2 Collaborate closely with ITU-D programmes and initiatives, ITU-D study groups, as well as the ITU Radiocommunication Sector (ITU-R), the ITU Telecommunication Standardization Sector (ITU-T) and the General Secretariat.
- 5.3 Cooperate with other regional and international organizations on joint activities and products.
- 5.4 Undertake activities related to WSIS Action Lines C1, C2, C3, C4, C5, C6 and C11 of the Geneva Plan of Action and §§ 112-119 of the Tunis Agenda for the Information Society.
- 5.5 Undertake activities related to relevant WTDC resolutions: 8, 11, 13, 22, 23, 30, 32, 37, 48, 55, 64, 71 and 72.

APPENDIX 4 (to Annex C)

Programme 4 Programme on capacity building and digital inclusion

1 Background

ITU, as the lead United Nations agency for telecommunication/information and communication technology (ICT) issues, is an important source of information, education and training in this field. This position of leadership carries with it a responsibility to ensure that human and institutional capacity building is of the utmost quality, is available worldwide, and represents the cutting edge of rapidly emerging technologies and changes taking place in the sector.

Programme 4 also fosters digital inclusion that promotes telecommunication/ICT accessibility and the use of telecommunications/ICTs for the social and economic development of people with special needs¹. Telecommunications/ICTs can be used by people with special needs to facilitate their social development, including education and economic activities (such as improving trade, business development and job creation), as well as to provide life skills and vocational and educational training.

In order to meet this expectation, ITU's information-sharing, education and training activities need to take maximum advantage of the use of telecommunications/ICTs, while taking into account that, in some areas of the world, access to certain technologies may be limited.

2 Purpose

Strengthening the human and institutional capacity of developing countries to adapt to an evolving ICT and telecommunication sector and promoting digital inclusion are the overall purposes of this programme. Specific purposes to assist the ITU membership include:

- 2.1 To act as the primary source of high-quality ICT information, education and training resources for different target audiences – ranging from government policy-makers and regulators to professional business-focused curricula for ICT executives and managers, and specialized programmes for technical and operational staff.
- 2.2 In collaboration with ITU subject matter experts (e.g. in ITU-D programmes), partners and experts, to aggregate, organize, ensure quality control and make available ICT information, education and training resources.

¹ These include indigenous peoples, people living in rural areas, persons with disabilities, women and girls and youth and children, in line with the special initiatives adopted by WTDC-06.

- 2.3 To directly deliver and promote education, training and development activities addressing a wide scope of ICT-related topics.
- 2.4 To deliver and promote education, training and development activities that build local institutional capacity to deliver ICT education, training and development activities, including assistance in the establishment of educational or training centres and "train the trainer" instruction.
- 2.5 To develop cooperative partnerships with institutions specializing in ICT education, training and development activities.
- 2.6 To raise awareness among governmental and private-sector decision-makers on the importance of digital inclusion for people with special needs.
- 2.7 To provide forums for discussion on the impact and use of telecommunications/ICTs for information sharing, education, training, poverty reduction and wealth creation for people with special needs, including youth-focused research and development.
- 2.8 To support the membership in providing greater availability, development and usage of local content, languages and corresponding websites for people with special needs, taking into account accessibility for persons with disabilities.
- 2.9 To working on removing gender barriers to ICT training and promote equal training opportunities in ICT-related fields for women and girls.
- 2.10 To assist the membership in developing and implementing national strategies, plans, policies and practices in order to achieve digital inclusion for people with special needs, including fostering accessible telecommunications/ICTs, such as by making assistive technologies available for persons with disabilities, and ensuring basic ICT literacy training and use of telecommunications/ICTs for economic and social development, poverty reduction and wealth creation.
- 2.11 To support the membership in developing and providing capacity building on ICT literacy skills for all, ICT-based life skills and vocational and education training for people with special needs, including in local languages, taking advantage of existing facilities such as schools, libraries, multipurpose community centres and public access points, and by promoting the establishment of local ICT centres in collaboration with all stakeholders.

3 Priority areas

The priority areas for the provision and delivery of high-quality ICT information sharing, education and training include all topics addressed by ITU-D under its core mandate, as defined under the Hyderabad Action Plan, which include a human or institutional capacity-building element, as well as assistance in the development of national strategies, policies, plans, practices and awareness-raising on the importance of digital inclusion for people with special needs.

Permanent cooperation between BDT, the centres of excellence and the ITU regional offices and regular consultation with ITU members are vital to ensure an integrated approach to human and institutional capacity building that adequately reflects the needs of the ITU membership.

4 Deliverables and means

Deliverables and means include making available information-sharing, education and training resources and services that relate to major topics addressed by ITU-D under its mandate, including, *inter alia*:

- 4.1 providing administrative mechanisms and support for coordination and management of ITU Academy partnership initiatives, including the centres of excellence and Internet training centres initiatives;
- 4.2 in collaboration with ITU subject-matter experts (e.g. in other ITU-D programmes), continued enhancement of the ITU Academy portal and related services, providing an integrated learning environment that links foundation knowledge, related resources, telecommunication/ICT courseware and curricula, information on available face-to-face and distance-training interventions, and provision of social networking tools (e.g. forums) for sharing of knowledge on a peer-to-peer basis;
- 4.3 continued enhancement of the ITU Academy learning management system (LMS) and related services;
- 4.4 in collaboration with ITU subject-matter experts (e.g. in other ITU-D programmes), external experts and partners, aggregating, creating, managing and posting cross-referenced ICT knowledge resources, courseware, curricula materials and related available training interventions on the ITU Academy portal;
- 4.5 development of documented administrative and technical procedures to ensure quality control of materials made available on the ITU Academy portal;
- 4.6 delivery of face-to-face and distance-learning training interventions (both synchronous and asynchronous), as well as blended solutions;
- 4.7 establishment of new or use of existing partnerships with institutions and organizations for the preparation of courseware and curricula and/or delivery of training interventions, including through the centres of excellence and Internet training centres initiatives;
- 4.8 providing for sharing and recycling of training resources and materials through the ITU Academy portal with partners, including the centres of excellence and Internet training centres initiatives;
- 4.9 promoting the use of telecommunications/ICTs to improve the preparation and delivery of education, training and development-related activities and the dissemination of information, resources and trends on best practices on the use of telecommunications/ICTs for human and institutional capacity building;
- 4.10 preparing and making available case studies, tools and models, including on low-cost computing devices and software;
- 4.11 establishment of a database of subject-matter experts for ITU information-sharing and/or capacity-building activities and for sharing with ITU Academy partners for cooperative initiatives;

- 4.12 delivering and promoting "train the trainer" activities to support ICT instructional and institutional sustainability, including for people with special needs;
- 4.13 making available knowledge resources, courseware and training opportunities designed to support non-profit entities providing telecommunication/ICT services in underserved and rural areas;
- 4.14 providing expert consultancy services on best practices in training, learning and development, including measuring and evaluating return on investment (RoI) and key performance indicators (KPIs);
- 4.15 providing statistical and analytical reporting on programme activities undertaken;
- 4.16 promoting linkages between educational institutions and the ICT sector to ensure that graduates are better matched with sector needs;
- 4.17 making use of and promoting open educational resources (OERs);
- 4.18 undertaking regular consultations with ITU Member States and Sector Members, with cooperation from ITU regional offices, as to their capacity-building priorities and key challenges for development, including the use of indicators to measure the effectiveness of capacity-building activities;
- 4.19 implementation of related BDT flagship initiatives;
- 4.20 enhancement of the e-Accessibility toolkit for policy-makers on persons with disabilities;
- 4.21 enhancement of the Connect a School, Connect a Community online toolkit of best practices and policy advice and repository of training materials, applications and tools, for example to address gender equality issues and develop model national school connectivity plans;
- 4.22 conducting research on and analysis of the latest trends in strategies, policies, plans and practices in promoting broadband connectivity for schools, post offices and other public institutions;
- 4.23 supporting the membership in promoting and implementing community ICT centres for social and economic development;
- 4.24 promoting assistive technologies for persons with disabilities;
- 4.25 providing discussion forums for online information exchange, sharing of best practices and consensus building that bring together ITU-D members and other national and international stakeholders, as well as organizing a biennial forum and periodic regional and global meetings, workshops and seminars;
- 4.26 raising awareness on the importance of monitoring and evaluating of the implementation of activities and initiatives related to this programme;
- 4.27 ensuring that all activities of the programme take into account people with special needs;
- 4.28 ensuring that appropriate human and financial resources are allocated to enable implementation of activities related to this programme.

5 Relationship with other activities

- 5.1 Collaborate with all ITU-D programmes on the development of related training materials/resources and capacity-building and digital-inclusion initiatives, delivered either face-to-face or through distance learning.
- 5.2 Provide advice, expertise and support to ITU-D regional offices, ITU projects and ITU regional initiatives.
- 5.3 Collaborate with the ITU Radiocommunication Sector (ITU-R), the ITU Telecommunication Standardization Sector (ITU-T) and the General Secretariat on capacity building and digital inclusion activities.
- 5.4 Cooperate with UN agencies and other regional and international organizations on matters of capacity building and digital inclusion.
- 5.5 Relevant WSIS action lines and references in the Geneva Declaration, Geneva Plan of Action, Tunis Agenda for the Information Society and Tunis Commitment.
- 5.6 Undertake activities related to relevant WTDC-10 resolutions: 11, 17, 35, 37, 38, 40, 46, 48, 55, 56, 58, 68, 70 and 73.

APPENDIX 5 (to Annex C)

Programme 5 Programme for least developed countries¹, countries in special need², emergency telecommunications and climate-change adaptation

1 Background

1.1 Least developed countries

ITU assistance to the least developed countries (LDCs) goes back to 1971, when the Union accorded special assistance to LDCs through the implementation of relevant plenipotentiary conference resolutions. In 2002, direct assistance to LDCs was delivered for the first time to a small group of countries on a biennial basis. This facilitated monitoring and evaluation of the impact made by the concentrated assistance to beneficiary countries. In 2006, the programme was expanded to include small island developing states and emergency telecommunications. Every decade, the United Nations holds a special conference on the LDCs. For the decade 2001-2010, the third United Nations Conference on the LDCs was held in Belgium and it adopted the Brussels Programme of Action. The fourth United Nations Conference on the LDCs will be held in 2011, in Turkey.

1.2 Small island developing states

Small island developing states (SIDS) face similar challenges to LDCs. They face increased vulnerability, which principally arises from their isolation, small size, small population, limited local capital for productive investment and topography. The United Nations Barbados Programme of Action and § 16 of the Geneva Declaration of Principles of the World Summit on the Information Society (WSIS) outline the challenges and needs of SIDS and LDCs.

1.3 Landlocked countries

Landlocked countries face the challenge that they are cut off from sea resources such as fishing, but more importantly they have no access to seaborne trade which makes up a large percentage of international trade. To deal with the constraints facing landlocked countries, the International Ministerial Conference of Landlocked and Transit Developing Countries and Donor Countries and International Financial and Development Institutions on Transit Transport Cooperation was held in Almaty, Kazakhstan, in 2003 and adopted the Almaty Programme of Action. The United Nations has established a programme for this group of countries.

¹ The list of least developed countries is subject to review by the United Nations Committee for Development Policy.

² Small island developing states, landlocked developing countries, low-lying coastal countries and countries emerging out of war situations or affected by natural disasters.

1.4 Emergency telecommunications

Increasingly, natural disasters are causing considerable loss of life and disrupting national economies, severely weakening the affected countries. While neither natural nor man-made hazards can be entirely prevented, information and communication technologies (ICTs) can help reduce their impact and avoid them turning into disasters that impede sustainable development. Over the years, ITU has passed many resolutions on mechanisms to use ICTs to save lives. Article 40 of the ITU Constitution addresses the "priority of telecommunications concerning safety of life".

1.5 Climate change

The process established by the Kyoto Protocol to the United Nations Framework Convention on Climate Change and the ongoing negotiations of its Intergovernmental Negotiating Committee are important international actions aimed at addressing the threat of climate change, mitigating its adverse impacts and assisting all ITU Member States, especially LDCs and countries in special need, in adapting to its adverse consequences. With respect to the role climate change plays in natural disasters, modelling indicates that, in future, continued increases in greenhouse gas concentrations may drive more extreme weather events. All countries, particularly small island developing states, least developed countries, landlocked developing countries (LLDCs) and low-lying coastal countries are vulnerable to global climate change and rising sea levels. These countries are susceptible to a range of natural hazards such as cyclones, hurricanes, landslides, storm surges, droughts, flooding, tsunamis, earthquakes and volcanoes. Their limited land size and resources and geographical isolation can exacerbate the potential impact of these phenomena. Climate change will see climate/weather-related events occurring more frequently and having an intense impact on water resources, land use and marine ecosystems, thus in turn affecting the economies of LDCs, SIDS and LLDCs.

2 Purpose

The objectives of this programme are as follows:

- 2.1 The programme will be valued for its quality and timely delivery of concentrated assistance for the general socio-economic development of countries through ICTs, focusing on the specific needs of LDCs and countries in special need.
- 2.2 The programme seeks to increase the average telephone density in these countries to 15 main lines (ML) per 100 inhabitants³ and the number of Internet connections to 15 users per 100 inhabitants by 2015.

³ See the ITU publication on the mid-term review on the implementation of the Brussels Programme of Action adopted the third United Nations Conference on the LDCs. A new publication will be released for the fourth United Nations Conference on the LDCs in 2011.

- 2.3 The programme promotes universal access to ICTs in LDCs, SIDS and LLDCs, and provides assistance to developing countries in disaster risk reduction, with the aim of helping these countries attain internationally agreed development goals, such as the Millennium Development Goals, by the year 2015⁴. With this improved access, these countries could use ICTs as a development enabler.
- 2.4 The programme seeks to provide assistance in disaster prevention, preparedness and relief/response and telecommunication infrastructure reconstruction/rehabilitation in countries affected by disasters.
- 2.5 The programme seeks to provide assistance to developing countries in the use of ICTs to mitigate and address the effects of climate change, taking into account the impact of ICTs on the environment.

3 Priority areas

There are three priority areas in this programme:

3.1 Assistance to LDCs and countries in special need

Promote universal access to telecommunications/ICTs in LDCs, SIDS and LLDCs, with the aim of helping these countries attain internationally agreed development goals, such as the Millennium Development Goals, by the year 2015⁵, through the provision of concentrated assistance.

3.2 Universal access⁶

Under this priority area, to promote universal, ubiquitous, equitable and affordable access to telecommunications/ICTs. Assistance will be provided to countries in establishing national mechanisms to achieve universal access in both underserved rural and urban areas⁷. It is also important to promote teleworking so as to allow citizens in LDCs, SIDS and LLDCs to live in their societies and work anywhere. On average, 70 per cent of the population in these countries live in rural areas and tend to migrate to urban areas in search of employment. This priority area focuses on:

- 3.2.1 rural telecommunication development;
- 3.2.2 development of appropriate infrastructure and introduction of new technologies and services;
- 3.2.3 ICT policies and strategies;
- 3.2.4 human resource development and training to increase the capacity of LDCs, SIDS and LLDCs to innovate and to participate fully in, and contribute to, the information society⁸.

⁴ Relevant WSIS references: §§ 10, 11, 12, 80, 88, 90, 97, 100, 101, 106, 113, 119 of the Tunis Agenda, and §§ 2, 6, 10, 16, 26 of the Tunis Commitment.

⁵ Relevant WSIS references: §§ 10, 11, 12, 80, 88, 90, 97, 100, 101, 106, 113, 119 of the Tunis Agenda, and §§ 2, 6, 10, 16, 26 of the Tunis Commitment.

⁶ Action Lines B2, B3, C2, C11, D2, E of the Geneva Declaration of Principles, and §§ 26, 90, 107 of the Tunis Agenda.

⁷ Relevant WSIS references: §18, D2 of the Tunis Commitment.

⁸ Relevant WSIS references: §§ 9, 23, 26, 49, 59, 87, 95 of the Tunis Agenda.

3.3 Emergency telecommunications

This is a global priority area for all ITU Member States. It seeks to ensure that assistance is provided to ITU Member States in disaster preparedness, early warning, dissemination of understandable warnings to those at risk, disaster relief/response and telecommunication network rehabilitation. This includes:

- 3.3.1 promoting technical cooperation and enhancing the capacity of countries, particularly LDCs, SIDS and LLDCs, to utilize ICT tools;
- 3.3.2 working expeditiously towards the establishment of standards-based monitoring and worldwide early-warning systems linked to national and regional networks, and facilitating emergency disaster response all over the world, particularly in high-risk regions;
- 3.3.3 providing assistance to countries in the development of national emergency telecommunication plans;
- 3.3.4 strengthening and expanding ICT-based initiatives for providing medical (e-health) and humanitarian assistance in disasters and emergencies;
- 3.3.5 identifying and establishing partnerships with relevant organizations dealing with the use of active and passive space-based sensing systems for the purpose of disaster prediction, detection and mitigation;
- 3.3.6 promoting regional and international cooperation for easy access to, and sharing of, information for disaster management, and exploring modalities to facilitate participation of all countries with economies in transition;
- 3.3.7 ensuring that disaster-resilient features are incorporated in telecommunication networks and infrastructure;
- 3.3.8 making ICT-based solutions available to members, including wireless and satellite-based technologies, in order to establish basic communications for the coordination of humanitarian work during and following disasters and emergencies;
- 3.3.9 carrying out infrastructure damage assessments after disasters strike, and assisting countries to reconstruct and rehabilitate telecommunication infrastructure using such technologies as geographical information systems (GIS).

3.4 Climate-change adaptation

Owing to various climate-change impacts, assistance should be provided to countries in:

- 3.4.1 mapping areas vulnerable to natural disasters and developing computer-based information systems covering the results of surveys, assessments and observations, as part of the development of adequate response strategies, adaptation policies and measures to minimize the impact of climate change and climate variability;
- 3.4.2 formulating comprehensive strategies and measures;
- 3.4.3 providing assistance to developing countries in formulating national and regional strategies and measures on the use of ICTs to help mitigate and respond to the devastating effects of climate change;

- 3.4.4 assisting developing countries in the use of data from active and passive satellite-based remote sensing systems for climate monitoring, disaster prediction, detection and mitigation of the negative effects of climate change;
- 3.4.5 facilitating Member States' participation in bilateral, regional and global research, assessments, monitoring and mapping of climate impacts, and development of response strategies;
- 3.4.6 assisting countries in considering the importance of environmentally sound disposal of ICT equipment.

4 Deliverables and means

4.1 Creation of tools

The goal is to develop guidelines, handbooks, web-based solutions and associated toolkits through both the programme and the work of the study groups in order to address the specific needs of LDCs, SIDS and LLDCs and the challenges of disasters and climate change for all ITU Member States, taking into account the ongoing activities of the other Sectors.

4.2 Training materials

Training materials in this domain are critical for raising awareness and developing and upgrading skills in both emergency telecommunications and climate-change adaptation.

4.3 Assistance to members

Assistance to members can take the form of initiatives led by ITU, through the organization of thematic workshops, meetings and seminars on the priority areas identified above, or through the provision of specific expert assistance to elaborate a project by a given Member State or group of Member States. This includes the establishment of an appropriate regulatory and legal framework⁹ and designing national emergency telecommunication and climate-change adaptation plans.

4.4 Information sharing

Seminars and workshops are important information-sharing mechanisms, but sustainable information sharing can be achieved through the use of dedicated web-based platforms developed by ITU on thematic subjects, and presented in a seamless manner to ensure synergies and good visibility of the work undertaken.

4.5 Partnership

The goal is to negotiate and conclude partnership arrangements with various stakeholders in order to mobilize resources.

⁹ See the Tampere Convention.

5 Relationship with other activities

- 5.1 Provide advice, expertise and support to ITU-D regional offices, including direct assistance to members and ITU projects and projects undertaken within the framework of ITU regional initiatives.
- 5.2 Collaborate closely with ITU-D programmes and initiatives, ITU-D study groups, as well as the ITU Radiocommunication Sector (ITU-R), the ITU Telecommunication Standardization Sector (ITU-T) and the General Secretariat.
- 5.3 Cooperate with other regional and international organizations on joint activities and products.
- 5.4 Undertake activities related to relevant WTDC resolutions: 16, 25, 26, 34, 57, 60, 66 and 69.

APPENDIX 6 (to Annex C)

Africa regional initiatives

The Africa regional initiatives are intended to address specific telecommunication/information and communication technology (ICT) priority areas, through partnerships and resource mobilization to implement small-, medium- and large-scale projects. Under each regional initiative, projects will be developed and implemented to meet the region's needs.

1 Human and institutional capacity building

Objective: To provide stakeholders in Africa, on a sustainable basis, with human resources and skills needed for harmonious development of the telecommunication/ICT sector.

Expected results

- 1) Enhanced skills and human capacity in the design and development of telecommunication/ICT strategies
- 2) Increased local expertise through cooperation between countries
- 3) Increased access to training resources, including training manuals, for all stakeholders in the African telecommunication/ICT sector
- 4) Promotion of technical cooperation between telecommunication/ICT training institutions in regard to capacity and resources
- 5) Increased availability of public access to knowledge, in particular by raising public and consumer awareness
- 6) Forums for exchanging and sharing information between the various groups having a stake in the telecommunication/ICT sector in Africa, in particular young people, women and persons with disabilities
- 7) Enhanced human capacity building on legal aspects in order to address security and trust in the use of telecommunications/ICTs, particularly where cybercrime is concerned
- 8) Greater availability, development and usage of local content and languages, and corresponding webpage development
- 9) Improved specialized skills development to meet the ICT needs of persons with disabilities in order to promote ICT usage, particularly in regard to Internet applications.

2 Strengthening and harmonizing policy and regulatory frameworks for integration of African telecommunication/ICT markets

Objective: To facilitate and promote the reform of Africa's national telecommunication/ICT sectors and facilitate the implementation of telecommunication/ICT strategies in order to achieve subregional and regional integration of telecommunication/ICT infrastructure, services and markets.

Expected results

- 1) Implementation of the reference framework for harmonization of telecommunication/ICT regulatory policies in Africa
- 2) Development of competitive African telecommunication/ICT markets
- 3) Harmonized technical standards to provide increased connectivity of networks and services
- 4) Establishment of a harmonized policy to reduce the level of intra-continental traffic routed by extra-continental transit centres
- 5) Development of a harmonized strategy for universal access, taking into account the special needs of young people, women, persons with disabilities and indigenous peoples
- 6) Development of a harmonized strategy to strengthen information security and combat spamming and cybercrime
- 7) Increased investment
- 8) Development of high-quality and affordable telecommunication/ICT services.

3 Development of a broadband infrastructure and achievement of regional interconnectivity and universal access

Objective: To assist ITU Member States in the development of backbone broadband infrastructure and access thereto in urban and rural areas, with particular emphasis on subregional and continental interconnection.

Expected results

- 1) National telecommunication/ICT master plans to meet the requirements of developing countries
- 2) Improved broadband backbone infrastructure and access to affordable telecommunication/ICT services in urban and rural areas
- 3) Guidelines on rural connectivity, including policy, appropriate technologies and power-supply issues, and best practices
- 4) Enhanced human capacities in the area of broadband communication networks
- 5) Interconnection of countries by means of high-capacity links, including access to undersea cables by landlocked countries, as part of the follow-up to the Connect Africa summit.

4 Introduction of new digital broadcasting technologies

Objective: To assist ITU Member States in making a smooth transition from analogue to digital broadcasting in order to take advantage of the digital dividend.

Expected results

- 1) Comprehensive guidelines on the transition from analogue to digital broadcasting
- 2) Policy and regulatory frameworks for digital terrestrial broadcasting, including mobile television

- 3) Digital broadcasting master plans for the transition from analogue to digital broadcasting, including mobile TV and IPTV
- 4) Provision of assistance in the field of interactive multimedia services to broadcasters in the Africa region
- 5) Enhanced human resources skills in the area of digital broadcasting technologies
- 6) Appropriate mechanisms for conversion from analogue to digital archives.

5 Implementation of the recommendations of the Connect Africa summit

Objective: To follow up on implementation of the outcomes of the Connect Africa summit through coordination among all of the summit's stakeholders.

Expected results

- 1) Collection and dissemination of information on the regional, subregional and national connectivity projects included in countries' development plans
- 2) Development of a roadmap for implementation of the summit's outcomes, in coordination with subregional organizations
- 3) Coordination of regional and subregional connectivity projects
- 4) Facilitating partnerships in the implementation of African common infrastructure projects
- 5) Establishment of an efficient and flexible system for disseminating information on implementation of the Connect Africa summit outcomes
- 6) Integration of telecommunications/ICTs in all sectors of activity and in national priority programmes
- 7) Availability of African content that is tailored in particular to the rural context and disadvantaged population segments.

APPENDIX 7 (to Annex C)

Americas regional initiatives

The Americas regional initiatives are intended to address specific telecommunication/information and communication technology (ICT) priority areas, through partnerships and resource mobilization to implement small-, medium- and large-scale projects. Under each regional initiative, projects will be developed and implemented to meet the region's needs.

1 Emergency communications

Objective: To provide assistance to Member States at all phases of disaster management, i.e. disaster preparedness including early warning, disaster response/relief, and rehabilitation of telecommunication networks.

Expected results

- 1) Identification of suitable technologies to be used for emergency communications
- 2) Creation of common databases to share information on emergency communications
- 3) Design of national and subregional emergency communication plans and early-warning systems, taking into account the impact of climate change
- 4) Development of appropriate policy, regulatory and legislative frameworks on emergency communications at national and regional level
- 5) Increased human capacity skills on emergency communications.

2 Digital broadcasting

Objective: To assist ITU Member States in making a smooth transition from analogue to digital broadcasting.

Expected results

- 1) Policy and regulatory frameworks for digital terrestrial broadcasting, including mobile television
- 2) Digital broadcasting master plans for the transition from analogue to digital broadcasting, including mobile TV and IPTV
- 3) Appropriate mechanisms for conversion from analogue to digital archives
- 4) Provision of assistance in the field of interactive multimedia services to broadcasters in the Americas region
- 5) Enhanced human resources skills in the area of digital broadcasting technologies

- 6) Comprehensive guidelines on the transition from analogue to digital broadcasting
- 7) Creation of the compendium of public policies on the transition to digital terrestrial radio and television.

3 Broadband access and uptake in urban and rural areas

Objective: To assist Member States in the development of broadband access in urban and rural areas.

Expected results

- 1) National ICT master plan to meet the requirements of developing countries
- 2) Improved broadband infrastructure and access to affordable ICT services in urban and rural areas
- 3) Promotion of access to ICTs in public social service institutions such as educational centres, health centres and social rehabilitation centres, and of the use of ICTs by the population to access these social services
- 4) Development of ICT applications that address local needs
- 5) Enhanced human resources skills in the area of broadband communication networks
- 6) Support to non-profit cooperatives that provide services in underserved rural and suburban areas
- 7) Provision of used computers to educational institutions in rural areas.

4 Reduction of Internet access costs

Objective: To assist Member States in identifying ways and means to reduce the cost of Internet access and interconnection.

Expected results

- 1) Study of the policy and regulatory aspects of Internet exchange points (IXPs)
- 2) Establishment of national and regional IXPs
- 3) Promotion of cooperation and regulatory information sharing.

5 Human capacity building on ICTs, with emphasis on persons with disabilities and people living in rural and deprived urban areas

Objective: To provide, on a sustainable basis, training programmes on ICTs addressing the particular needs of persons with disabilities and people living in rural and deprived urban areas.

Expected results

- 1) Human capacity building programmes especially tailored for the needs of persons with disabilities and people living in rural/remote areas
- 2) Identification of training centres to deliver the programmes at the community level
- 3) Promotion of technical cooperation between telecommunication/ICT training institutions in regard to capacity building and resources for sustainable delivery of the special programmes
- 4) Increased availability of public access to knowledge for people with special needs.

APPENDIX 8 (to Annex C)

Arab States regional initiatives

The Arab States regional initiatives are intended to address specific telecommunication/information and communication technology (ICT) priority areas, through partnerships and resource mobilization to implement small-, medium- and large-scale projects. Under each regional initiative, projects will be developed and implemented to meet the region's needs.

1 Broadband access network

Objective: To assist Member States in the implementation and development of broadband access networks in urban and rural areas.

Expected results

- 1) Establishment of national and regional strategic plans and work programmes for the telecommunication/ICT sector to meet the needs of the Arab countries in this field
- 2) Improved broadband network infrastructure for the provision of good-quality and affordable telecommunication/ICT services in urban and rural areas, including migration to next-generation networks (NGNs)
- 3) Development of ICT applications that can support multilingualism and address local needs
- 4) Development of human resources to address regulatory, technical and economic issues related to broadband communication networks, NGNs and migration to NGN.

2 Digital broadcasting

Objective: To assist ITU Member States in making the gradual transition from analogue to digital broadcasting so that they may enjoy the benefits of digital broadcasting technologies, particularly visual broadcasting via mobile equipment.

Expected results

- 1) Harnessing the benefits of digital broadcasting applications in the Arab region
- 2) Establishment of the requisite regulatory policies and frameworks
- 3) Support to parties concerned in the field of interactive multimedia services and applications in the Arab region
- 4) Human resources development.

3 Open-source software

Objective: To develop free software, open-source software and proprietary software to ensure software availability for small and medium-sized enterprises (SMEs) in the Arab region, consistent with WSIS outcomes.

Expected results

- 1) Establishment of software support centres for the above-mentioned software in the Arab region
- 2) Determination of best practices in respect of open-source software and its applications, and alternative software development methodologies
- 3) Development of plans and measures for cooperation and coordination among open-source software support centres.

4 Arabic digital content

Objective: To contribute to the development of Arabic digital content.

Expected results

- 1) Support for studies on the use of Arabic domain names
- 2) Development of sites that provide Arabic content with a view to promoting economic and social development of the Arab region
- 3) Promoting digitization and accessibility of the Arab cultural heritage
- 4) Appropriate mechanisms for conversion from analogue to digital archives.

5 Cybersecurity

Objective: To enhance coordination in building confidence in the use of ICTs within the Arab region.

Expected results

- 1) Coordination for the formulation of national and regional regulatory policies and frameworks to combat cybercrime in the Arab region
- 2) Encouragement for the establishment of national CIRTs in the Arab region, and optimal coordination between them
- 3) Support to CIRTs in the Arab region through the provision of expertise and studies in this field
- 4) Ensuring the protection of Arab children and youth from harmful and abusive content on the Internet.

APPENDIX 9 (to Annex C)

Asia-Pacific regional initiatives

The Asia-Pacific regional initiatives are intended to address specific telecommunication/information and communication technology (ICT) priority areas, through partnerships and resource mobilization to implement small-, medium- and large-scale projects. Under each regional initiative, projects will be developed and implemented to meet the region's needs.

1 Unique ICT needs of least developed countries (LDCs), small island developing States (SIDS) and landlocked developing countries (LLDCs)

Objective: To provide special assistance to LDCs, SIDS and LLDCs in order to meet their priority ICT requirements.

Expected results

- 1) Improved infrastructure and enhanced access to affordable ICT services
- 2) Improved enabling environment to facilitate the ICT development
- 3) Appropriate national, subregional and regional frameworks for cybersecurity
- 4) Enhanced skills of relevant human resources.

2 Emergency telecommunications

Objective: To provide assistance to Member States at all phases of disaster management, i.e. disaster preparedness including early warning, disaster response/relief, and rehabilitation of telecommunication networks.

Expected results

- 1) Identification of suitable technologies to be used for emergency communications
- 2) Creation of common databases to share information on emergency communications
- 3) Design of national and subregional emergency communication plans taking into account the impact of climate change
- 4) Development of appropriate policy, regulatory and legislative frameworks on emergency communications at national and regional level
- 5) Availability of dedicated set of equipment for emergency radio communication in the Asia-Pacific region
- 6) Enhancing the skills of relevant human resources
- 7) Encouraging Member States to ratify the Tampere Convention.

3 Digital broadcasting

Objective: To assist ITU Member States in making a smooth transition from analogue to digital broadcasting.

Expected results

- 1) Policy and regulatory frameworks for digital terrestrial broadcasting, including mobile television and spectrum refarming due to the digital dividend
- 2) Digital broadcasting master plans for transition from analogue to digital broadcasting, including mobile TV and IPTV
- 3) Appropriate mechanisms for conversion from analogue to digital archives and mechanisms for sharing of content
- 4) Provision of assistance in the field of interactive multimedia services to broadcasters in the Asia-Pacific region
- 5) Enhanced skills of relevant human resources in the area of digital broadcasting technologies
- 6) Comprehensive guidelines on the transition from analogue to digital broadcasting
- 7) Facilitating the availability of universal radio receivers at affordable prices.

4 Broadband access and uptake in urban and rural areas

Objective: To assist Member States in the development of broadband access in urban and rural areas.

Expected results

- 1) National broadband policies to meet the requirements of developing countries
- 2) Improved broadband infrastructure and access to affordable ICT services in urban and rural areas, including remote and hilly terrains as well as remote islands
- 3) Development of ICT applications that can support multilingualism and address local needs
- 4) Enhanced skills in the area of broadband communication networks for the relevant human resources
- 5) Implementation of solutions providing cost-effective broadband infrastructure, addressing the deployment and operational challenges in rural and remote areas, including remote islands.

5 Telecommunication/ICT policy and regulation in the Asia-Pacific region

Objective: To assist Member States in developing of appropriate policy and regulatory frameworks, enhancing skills, increasing information sharing and strengthening regulatory cooperation.

Expected results

- 1) Development of appropriate policy, regulatory and legislative frameworks, including convergence aspects, to improve ICT penetration
- 2) Enhancing the skills of relevant human resources
- 3) Promotion of regulatory cooperation and information sharing.

APPENDIX 10 (to Annex C)

CIS regional initiatives

The CIS regional initiatives are intended to address specific telecommunication/information and communication technology (ICT) priority areas, through partnerships and resource mobilization to implement small-, medium- and large-scale projects. Under each regional initiative, projects will be developed and implemented to meet the region's needs.

1 Groundwork for the setting-up and holding of electronic meetings

Objective: In the interests of ensuring the broadest participation of CIS country representatives in events held within the framework of ITU activities, to establish a network, through the ITU area office for the CIS countries, for the holding of electronic meetings (videoconferences).

Expected results

- 1) Establishment of a network, through the ITU area office, for the holding of electronic meetings (videoconferences) between administrations in the Regional Commonwealth in the field of Communications (RCC), as a trial area for the holding of such meetings
- 2) Development of recommendations to be used as the basis for studying, within the context of the trial area, all of the issues involved in the holding of such meetings in the RCC member countries
- 3) Putting the experience acquired into use in the context of official ITU meetings, thereby considerably boosting the number of participants and their ability to make an active contribution, while reducing the financial burden on administrations and Sector Members.

2 Assistance in the transition from analogue to digital broadcasting

Objective: To assist the RCC member countries and neighbouring countries in the development and application of agreed solutions, both between RCC countries and with other, neighbouring countries, for the transition from analogue to digital broadcasting, having regard to national plans for the implementation of digital broadcasting, including in border areas between countries of Regions 1 and 3, for completion by 2015.

To develop a model with technical and organizational solutions for the establishment of fully-functional interactive multimedia applications in digital terrestrial broadcasting, tailored to the objective constraints that exist in developing countries.

Expected results

- 1) Implementation of the GE06 Agreement on terrestrial digital broadcasting for the administrations of the RCC member countries

- 2) Introduction of interactive multimedia applications in terrestrial digital broadcasting, including the creation of easily-accessible social, educational, medical or other networks for achieving national goals
- 3) Development of human resources in the field of digital broadcasting technologies.

3 Establishment of an ITU virtual laboratory for the remote testing of equipment and of new technologies and services, in the interests of achieving the aims of Resolution 76 (Johannesburg, 2008) of WTSA-08 and populating a unified ITU database

Objective: To create a universal instrument for the remote testing of equipment and of new technologies and services, using technology-intensive telecommunication and measurement equipment centred on the International Telecommunication Testing Centre (Resolution 17 (Rev. Doha, 2006) of WTDC-06), for the purpose of populating a unified ITU database and conducting testing in the interests, first and foremost, of the developing countries and of training developing-country specialists in testing approaches and technologies.

Expected results

- 1) Provision of fully-functional testing of equipment and of new technologies and services with minimal developing-country operator outlay on testing and with very rapid delivery of results
- 2) Satisfaction of developing-country telecommunication operator requirements for pre-operational testing of equipment, technologies and services prior to the implementation of telecommunication equipment in the region's existing networks
- 3) Possible use of the virtual laboratory as an essential means of reducing developing-country operators' outlay on testing and on sending their experts to specialized test platforms
- 4) Population of ITU's existing database on testing through the conduct, at the request of developing countries, of tests on equipment, new technologies and services for conformity with international standards and for compatibility.

4 Provision of a stable electric power supply for telecommunication/ICT facilities in rural and remote areas

Objective: To identify effective means of supplying electric power for telecommunication/ICT infrastructure facilities in rural and remote areas using alternative energy sources (solar, wind, etc.).

Expected results

- 1) Development and implementation of a pilot project for an electric power-supply system for telecommunication/ICT facilities in rural areas based on alternative (solar, wind, etc.) energy sources
- 2) Development of recommendations on the use and application of alternative (solar, wind, etc.) energy sources for telecommunication/ICT facilities within the region.

5 Development of recommendations and creation of a pilot segment of a telecommunication/ICT system to support secure remote retail payments and the management of bank accounts using wireless communication networks

Objective: To generalize the best advances made in the field of mobile payment systems, analyse security aspects, develop recommendations for the establishment of such systems and implement an operational pilot project, the results of which may be used as recommendations, including for developing countries.

Expected results

- 1) Pilot segment of a telecommunication/ICT system to support secure remote retail payments and the management of bank accounts using wireless communication networks
- 2) Definition of the tasks to be performed and the main requirements to be met by a mobile payment system, and development of recommendations.

APPENDIX 11 (to Annex C)

European regional initiatives

The European regional initiatives are intended to address specific telecommunication/information and communication technology (ICT) priority areas through partnerships and resource mobilization to implement small-, medium- and large-scale projects. Under each regional initiative, projects will be developed and implemented to meet the region's needs.

1 E-accessibility in Central and Eastern Europe (Internet and digital television) for blind people and people with visual impairment problems

Objective: To provide assistance to Member States in order to offer e-accessibility (including Internet and information access) for blind people and people with visual impairment problems.

Expected results

- 1) Creation of national and regional specialized libraries/databases in order to provide large-scale access via Internet for blind people and people with visual impairment problems
- 2) Establishment of relevant facilities (hardware and software) and implementation of training for users and instructors
- 3) Promoting and fostering widespread adoption of access services via digital television.

2 Digital broadcasting

Objective: To assist ITU Member States in Central and Eastern Europe in making a smooth transition from analogue to digital broadcasting, taking into account the GE06 Agreement on digital terrestrial broadcasting as well as the work undertaken by relevant European regional organizations and entities, to avoid duplication of effort.

Expected results

- 1) Overview of policy and regulatory frameworks for digital terrestrial broadcasting, including mobile television
- 2) Appropriate mechanisms for conversion from analogue to digital archives
- 3) Provision of assistance in the deployment of interactive multimedia services and applications
- 4) Sharing the experiences gained through the implementation of this initiative with broadcasters and service providers within and outside the region.

3 ICT applications, including e-health

Objective: To share best practices in the implementation of e-applications, including e-health.

Expected results

- 1) Faster and easier storage of, transmission of and access to medical data and health-related information for healthcare providers and professionals, citizens/patients, academics, researchers, policy-makers and others
- 2) Capacity building and improved delivery of healthcare services, particularly in rural and remote areas
- 3) Reduction of operational and administrative costs in implementing healthcare services.