

BRIDGING THE STANDARDIZATION GAP (RES. 123)¹

Context

1. The topic “Bridging the standardization gap between developed and developing countries” was introduced to ITU’s work through Resolution 123 at the Marrakesh Plenipotentiary Conference, 2002, though concerns over this issue date from much earlier. It was further developed in Resolution 44 from WTSA-04 (Florianópolis, 2004), which set out a detailed action plan for addressing the problem. Resolution 123 was revised at the Antalya PP-06, and now incorporates, by reference, WTSA-04 Resolutions 44, 17 (“Standardization in relation to the interests of developing countries”) and 54 (“Creation of regional groups”) as well as WTDC-06 Resolution 47 (“Enhancement of knowledge and effective application of ITU Recommendations in developing countries”).
2. At TSAG, Feb 26-1 March 2007, the chairman of the Group on Bridging the Standardization Gap, Mr Oleg Mironnikov (Russian Federation), reported on the work carried out to date, including a discussion of mechanisms identified for bridging the development gap, a compilation of relevant information, reports from Study Groups, a list of meetings held in developing countries, a list of contact points and a proposed future work programme. A liaison statement was approved and TSAG endorsed the proposal to continue the work through a correspondence Group². The liaison statement was discussed at TDAG, in April 2007³, and a further input received from Viet Nam⁴. A full report on Telecommunications/ICTs to bridge the digital divide is provided in document C07/19, focussing in particular on the activities carried out in ITU-D.
3. But what is the standardization development gap and why does it matter? This information note attempts to explain the significance of the standardization development gap, both in ITU’s work programme and in the wider domain of the development of information and communication technologies (ICTs) in developed and developing countries. In particular, this note looks at how the gap might be measured and what steps have been and can be taken to reduce the gap and to alleviate its impact.

Defining the standardization development gap

4. The standardization development gap might be defined as disparities in the ability of representatives of developing countries, relative to developed ones, to access, implement, contribute to and influence international ICT standards, specifically ITU Recommendations.
5. The standardization development gap is itself both a cause and a manifestation of the wider digital divide between information haves and have nots. The digital divide measures disparities in access to ICTs, for instance among different regions (e.g., urban/rural) or between different groups within society (e.g., by age, sex, race etc). However, at the international level, the digital divide is

¹ This paper appears as ITU Council information document [C07/EP/08](#).

² See TSAG Temporary Contribution 417, available at: <http://www.itu.int/md/T05-TSAG-070226-TD-GEN-0417/en>.

³ See TDAG Contribution 19, available at: <http://www.itu.int/md/D06-DAP1.3.1-C-0019/en>.

⁴ See TDAG Contribution 31, available at: <http://www.itu.int/md/D06-DAP1.3.1-C-0031/en>.

expressed in terms of the gap in levels of ICT access among countries at different levels of economic and social development.

6. The significance of the standardization development gap is that it contributes to the *persistence* of the wider digital divide in ICTs. That is because one of the underlying causes of the digital divide is unequal access to technology and the ability to use that technology. As an example, as many as 33 African countries did not have broadband at the start of 2007 and the average price of service was around ten times higher than in high income economies⁵. The dominant form of broadband available in other African countries is based on the digital subscriber line (DSL) standards published by ITU (e.g., ITU-T Recommendations G.991, 992, 993). Thus, for broadband to be implemented throughout Africa there needs to be a process of technology transfer and adoption. That can happen much faster where African engineers have access to the relevant standards and can implement them, and when they can participate in their development (“learning by doing”)

Standardization “Ladder of development”

7. The participation of developing countries in the standardization process can be viewed as a “ladder of development” (see Figure 1). The most basic level at which developing countries participate in the standardization process is as users of ICT standards. As developing countries climb to a higher level of ladder, their national ICT companies may become Sector Members or Associates, and therefore able to participate in Study Group meetings and workshops, download documents using TIES accounts, or host meetings. Moving further up the ladder, developing countries, especially those with a domestic manufacturing capability, may begin to influence the standardization process more directly, for instance by making contributions, or nominating officials for particular posts (e.g., chair, vice-chair or rapporteur of a study group, working group or focus group). In Figures 2 to 4, data and analysis is presented of some of these indicators.

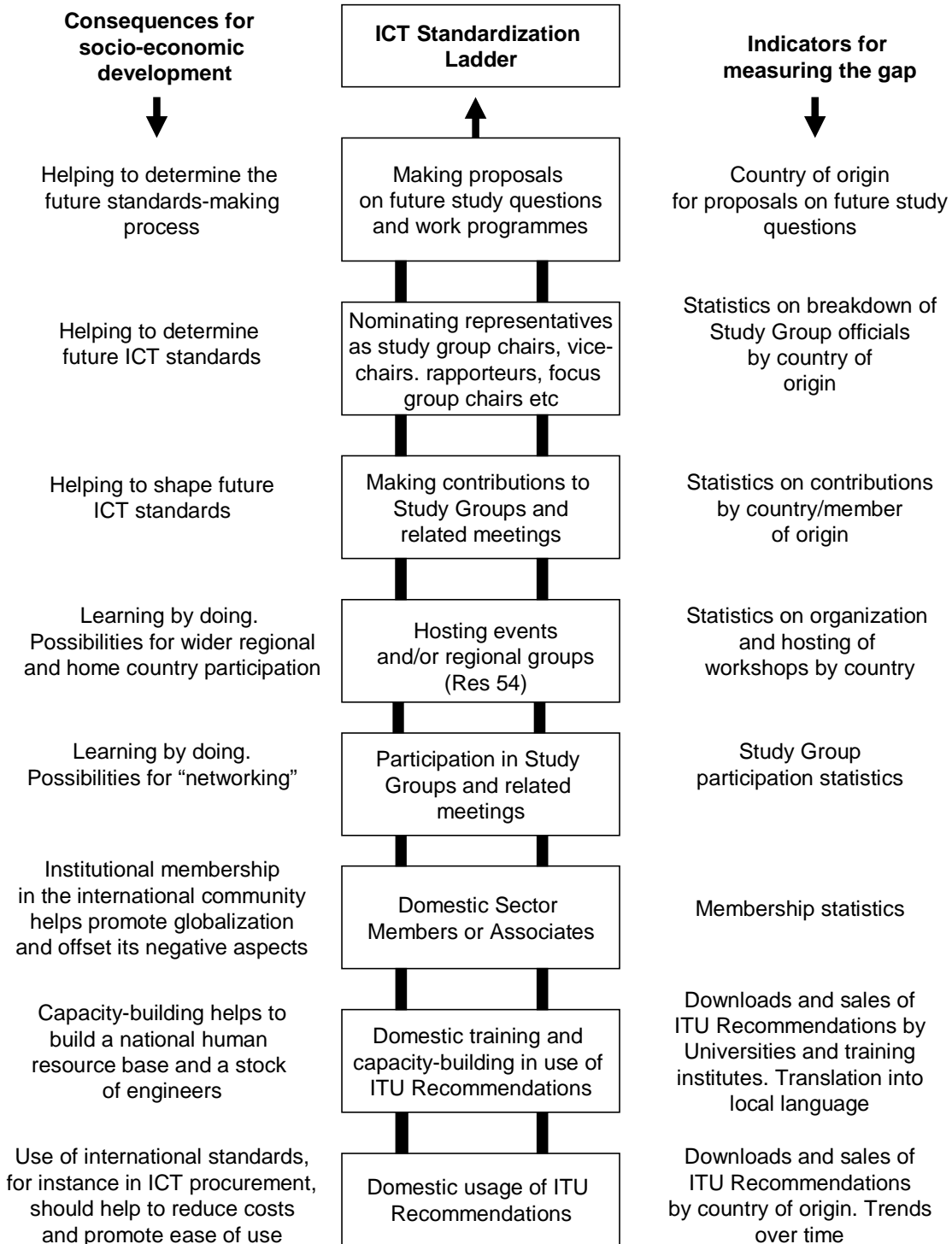
8. Resolution 123 instructs the Secretary-General and the Directors of the Bureaux to work closely with each other on the follow-up and implementation of this and related Resolutions. Consequently, ITU-T and ITU-D, with the assistance of the regional offices, have launched a number of common initiatives and hosted workshops with the aim of (a) bridging the digital divide; and (b) providing training and producing relevant training materials for capacity building (see C07/19). A representative sample of these events held in 2006 and 2007 is shown in the Annex. In addition, all three Sectors have worked closely together in the field of emergency communications (see C07/35).

9. One of the most significant changes made in recent years by ITU to assist participation from developing countries in the standardization process is the pilot programme for making ITU-T Recommendations free of charge online, as agreed by the Council at its 2006 session. Analysis of the trends in the first five months of 2007 show that some 14.8 per cent of downloads from the ITU-T website were from organizations or individuals located in developing countries, of which 0.3 per cent were in least developed countries (LDCs). China, with 3.8 per cent of total downloads, was the second most important destination to the USA overall, and China was followed by India, the Russian Federation, Brazil and Vietnam among developing and transition economies (see Figure 2). There is a correlation between downloads and those developing countries where ITU has held workshops or hosted Study Group meetings in recent years (See Annex).

⁵ Data from ITU/UNCTAD “[World Information Society Report 2007: Beyond WSIS](#)”.

Figure 1: “Ladder of development” for ICT Standardization

Different levels of participation in the standardization process in ITU, their relationship with overall socio-economic development and possible ways of measuring the standardization gap

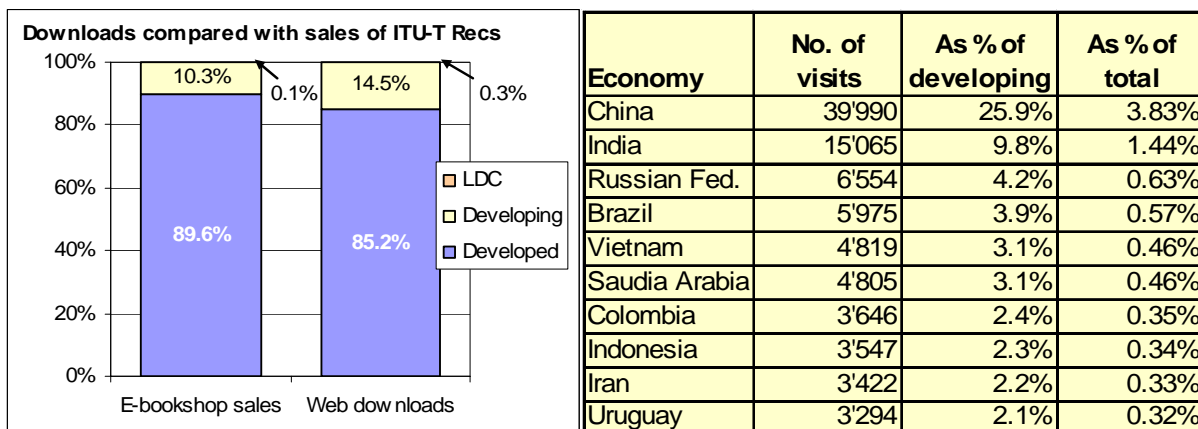


Source: ITU.

10. Although this distribution does not compare well with the general population (more than four-fifths of the world's population live in developing economies), it nevertheless provides a much better distribution than for sales of ITU-T Recommendations. During the whole of 2006, only 10.3 per cent of e-bookshop sales were from developing countries, and only three copies (0.1 per cent) were sold in LDCs. Furthermore, whereas more than one million downloads were made from a total of 197 economies during the first five months of 2007, only 4'815 sales to 78 economies were made using the e-bookshop service during the whole of 2006, suggesting a much wider reach. TSAG has proposed that the pilot project on free ITU-T Recommendations online be made permanent (see C07/32). ITU will put more effort into the development of implementation guides which will make ITU-T Recommendations more accessible in developing countries.

11. The website traffic statistics do not permit differentiation between traffic coming from Member States, Sector Members, Associates and Non-Members. However, the distribution of TIES User Accounts does provide some detail on usage of the ITU website by governments. As shown in Figure 3 (left chart), TIES User Accounts among government administrations (which are available on demand) are more evenly distributed than is general web traffic. Overall, developing countries and LDCs account for just over 60 per cent of TIES user accounts, with China leading the way with 382, followed by Brazil with 207. However, the 49 LDC administrations that are Member States of the Union have an average of only 5 TIES User Accounts each, compared with 19 for developing countries and 42 for developed ones. This is likely to limit their usage of ITU documents with TIES restricted access (e.g., Study Group reports etc).

Figure 2: Comparison between e-Bookshop sales of ITU-T Recommendations, 2006, and downloads from the ITU-T website, Jan-May 2007, by origin, and by top ten developing economies



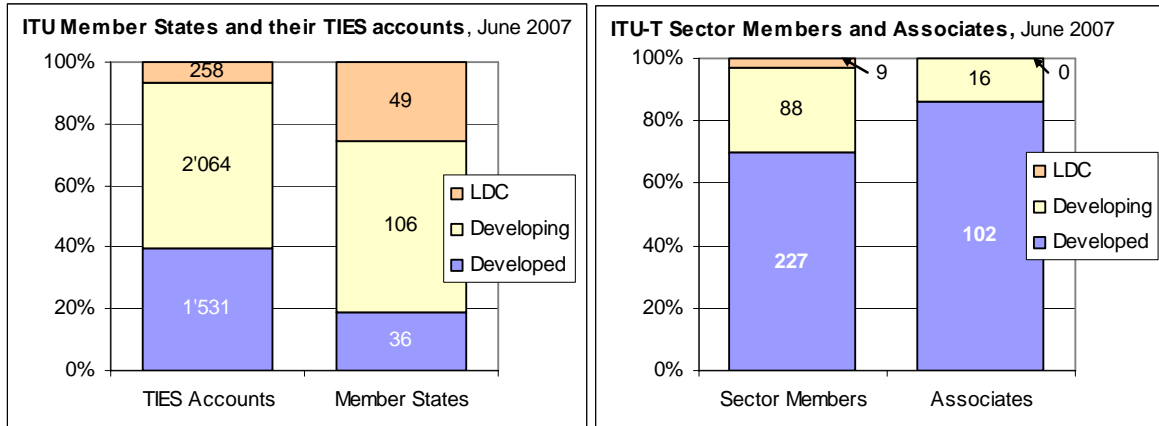
Note: For definition of countries, see Notes to Figure 3. E-bookshop sales relate to Jan-Dec 2006. Downloads relate to Jan-May 2007, following the introduction of the Free Recommendations pilot.

Source: ITU-T Web Trends Analysis and eBookshop accounts.

12. The distribution of ITU-T Sector Members is highly skewed towards developed countries, and the distribution of ITU-T Associates even more so (see Figure 3, right chart). As of June 2007, there were just 97 ITU-T Sector Members from developing countries (31 per cent) out of a total of 324 and only 16 ITU-T Associates (14 per cent) out of a total 118. Again, China is in the lead among developing countries with 10 ITU-T Sector Members (but no Associates) followed by India with 8 ITU-T Sector Members and 1 Associate. The distribution of ITU-T Associates is highly clustered, with more than half coming from just two Member States -- USA (52) and Israel (10). Indeed, although there are a total of 81 ITU Member States that have ITU-T Sector Members, there are only 25 that have Associates. This suggests that awareness of the possibilities of Associate status is generally low, and especially low among developing countries and LDCs (from which there are no Associates). Although it might have been expected that the possibility of Associate status would be particularly appealing to small and medium-sized enterprises from developing countries,

because of the lower entry costs, in reality these companies are not exploiting this opportunity, probably for lack of awareness.

Figure 3: Distribution of ITU Member States and their TIES User Accounts (left chart) and of ITU-T Sector Members and Associates (right chart), June 2007



Note: “Developed” Member States are taken here to include the 30 OECD members plus Andorra, Lichtenstein, Monaco, San Marino, Singapore, Vatican City. LDC Member States include the 50 that are recognized by the UN General Assembly minus Timor-Leste, which was not an ITU Member in June 2007. All other economies are considered “developing”, including those with economies in transition, in line with PP-06 Resolution 143 (Antalya, 2006).

The number of TIES Accounts is for administrations only and does not include Geneva-based Missions.

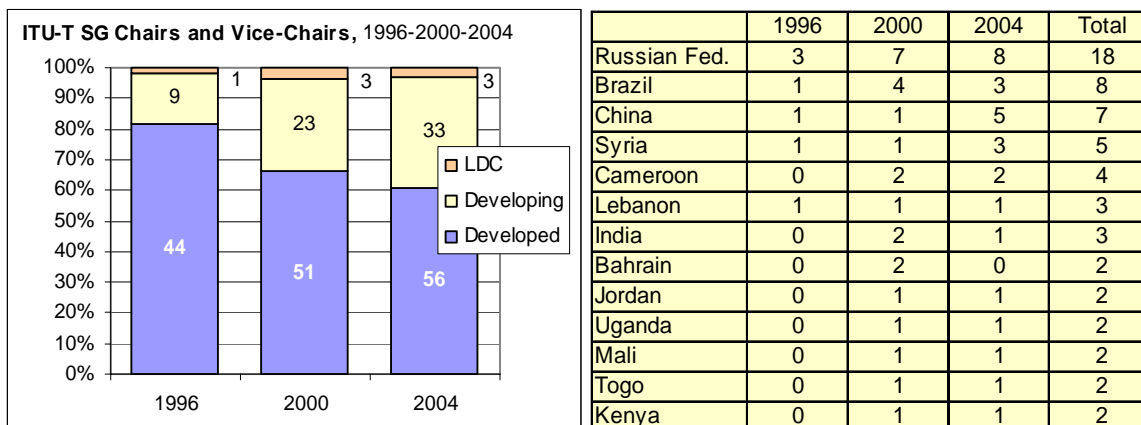
Source: ITU Global Directory Database.

13. The ability to influence the standards-making process comes towards the top of the standardization development ladder. In practice, it is difficult to measure the real level of influence of a particular Member State and an individual delegate can sometimes exert influence well beyond any formal position or role they may hold. However, the distribution of Study Group chairs and vice-chairs provides a good general indication of influence. Although the individuals concerned are neutral in this role, the fact that they have advanced to such a level of approval amongst their peers suggests the positive contribution they have made over a number of years. The creation of regional groups, with the assistance of regional offices, has also assisted in the process of identifying candidates from developing countries.

14. The number of Study Group chairs and vice-chairs has increased from just 10 in 1996 to 26 in 2000 and 36 in 2004. The best represented transition economy is the Russian Federation, followed by the developing countries Brazil, China and Syrian Arab Republic. However, the Asia-Pacific region is, on the whole, under-represented. While China has increased its involvement since 2004, India provides relatively few senior officials and other developing Asian countries, such as Indonesia, Malaysia, Philippines, Thailand or Vietnam, have not been represented at all in the past decade. It may be possible to increase the percentage of chairs and vice-chairs from developing countries at the next WTSA and perhaps also achieve a better geographical balance among developing regions.

Figure 4: Study Group chairs and vice-chairs, by country of origin

In 1996, 2000 and 2004 (left chart) and among leading developing economies (right table)



Note: The following developing countries supplied one SG chair or vice-chair each during this period: Argentina, Botswana, Cuba, Ecuador, Egypt, Gabon, Morocco, Niger, Oman, Senegal and Trinidad and Tobago. For the definition of developing countries, see the Notes to Figure 3.

Source: WTSA documents.

Next Steps

15. This analysis has established benchmark figures that could be used to track future progress in the level of participation of developing country representatives in the Standardization process. It has highlighted a number of areas where real progress has been made, notably in terms of the higher number and wider geographical reach of downloads since the start of the new policy on free ITU-T Recommendations online. However, it has also highlighted areas where existing tools, such as Associate Status or distribution of TIES user accounts, are not being fully exploited.

16. The new management team is keenly focused on addressing this issue, as reported by the TSB Director to TDAG at its April 2007 meeting. A TSB Task Force has been established to oversee implementation of all PP-06 and WTSA Resolutions, and assistance has been offered in establishing regional groups. ITU-D and ITU-T will also work more closely together in organizing future regional events, in collaboration with the regional offices. TSB experts have been nominated to act as focal points for each ITU-D Study Group question related to telecommunication standards. It is the intention of TSB to hold more ITU-T meetings in developing countries (see Annex) and to seek sponsorship so that fellowships can be made available. Work on bridging the standardization gap will continue, both through the TSAG Correspondence Group and through a series of regional workshops—in Mendoza, Argentina (24 September, 2007) Kigali, Rwanda (2-4 October, 2007) and in Minsk, Belarus (4-6 December 2007). The topic will be further discussed at WTSA-08, notably in the Global Standardization Symposium planned for 20 October 2008 (see C07/43).

Annex: Selected workshops, seminars etc held or planned in developing countries, 2005-07

Workshops	Day-Month	No. of participants	Venue
ITU-T/ITU-D workshop: Standardization of mechanisms for ensuring ICT security	4-6 December 2007	n.a.	Minsk, Belarus
Regional Forum: Bridging the ICT Standardization Development Gap	2-4 October 2007	n.a.	Kigali, Rwanda
ITU/CITEL-PCC.I Seminar on 'Bridging the standardization divide'	24 September 2007	n.a.	Mendoza, Argentina
ITU-D/ITU-T Regional Workshop on Frameworks for Cybersecurity and CIIP	28-31 August 2007	n.a.	Hanoi, Vietnam
ITU/MIC Japan Training on Bridging the Standardization Gap	18-22 June 2007	41	Tokyo, Japan*
Protection against electromagnetic environment effects (SG/WP 5)	14-18 May 2007	64	Beijing, China
Regional Tariff Group for Africa	9-10 May, 2007	94	Banjul, Gambia
Focus Group on IPTV Standardization	7-11 May 2007	165	Bled, Slovenia
ITU-T Study Group 2, Arab Regional Group	26 March 2007	19	Sharm-El Sheikh, Egypt
ITU/APT workshop on NGN planning	16-17 March 2007	182	Bangkok, Thailand
Regional Tariff Group for Latin America	20-23 February 2007	52	Havana, Cuba
NGN Global Standards Initiative	8-12 January 2007	219	Beijing, China
ITU-D/ITU-T Telecommunication Standardization Workshop	25-27 October 2006	25	Maputo Mozambique
ITU-T/ITU-D Workshop "Standardization and Development of Next Generation Networks"	3-5 October 2006	47	Dar es Salaam, Tanzania
Telecommunication Management (SG/WP 4)	24 May – 2 June 2006		Beijing, China
ITU-T Workshop on "Telecommunication Management and Operations Support Systems"	22-23 May 2006	151	Beijing, China
ITU-T Workshop "Next Generation Network"	15-16 May 2006	138	Hanoi, Vietnam
Regional Tariff Group for Africa	30-31 March 2006	71	Conakry, Guinea
Workshop on "Reform of technical regulation: International experience of standardization in the field of communication"	23-24 November 2005	73	Almaty, Kazakhstan
Mobile Telecommunications and Fixed/Mobile Convergence-the realities going forward	12-14 September 2005	113	Kyiv, Ukraine
ITU-T Training Seminar on NGN, Transmission and Network Management	25-28 July 2005	120	Tehran, Iran
ITU Seminar on Standardization of NGN and ICT Services Development	5-7 July 2005	86	Tashkent, Uzbekistan
Cybersecurity Symposium II	29 March 2005	200	Moscow, Russian Fed.

Note: * This event is included in the list because it was organised specifically for Resolution 123, although it was held in a developed country.