TARGET 18: IN COOPERATION WITH THE PRIVATE SECTOR, MAKE AVAILABLE THE BENEFITS OF NEW TECHNOLOGIES, ESPECIALLY INFORMATION AND COMMUNICATIONS.

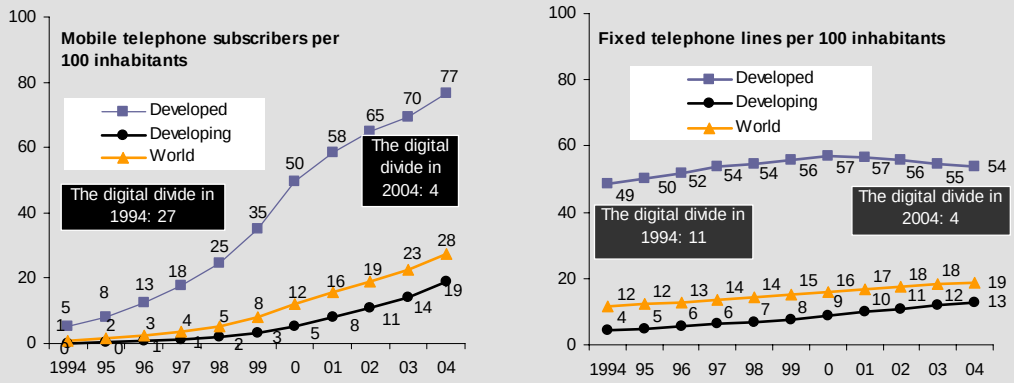
INDICATORS 47-48: FIXED AND MOBILE TELEPHONE SUBSCRIBERS, INTERNET USERS AND PCs (PER 100 POPULATION)

Target 18 highlights the potentially positive impact of new technologies and the need to spread access to Information and Communication Technologies (ICTs). ICTs hold great promises for social and economic development and have been recognized as an engine for economic growth and for delivering innovative applications in government, commerce, education, and many other areas. They can further help reduce major development concerns and contribute to the achievement of social development goals, including the MDGs.

Over the last 15 years, access to ICTs has been growing at high speed, always exceeding global economic growth. ICT growth has been driven by both demand-side factors, such as the increasing popularity of mobile phones and the Internet, and by supply-side factors such as regulatory reforms, falling costs, and technological innovation. Access to ICTs is not evenly distributed, though, and there are major differences in quantity and quality of telecommunication services, a situation that is referred to as the 'digital divide'. This divide has to be reduced in order for all nations to effectively participate in and benefit from the global information society.

By the end of 2004, the telecommunication industry had experienced continuous growth, as well as rapid progress in policy and technology development, resulting in an increasingly competitive and networked world. It is true and encouraging that overall, the digital divide has been reduced. ITU statistics show that over the last 10 years, the digital divide between the developing and the developed countries has been narrowing in terms of fixed telephone lines, mobile subscribers and Internet users. In contrast to relatively slow fixed line growth, phenomenal growth rates in the mobile sector particularly, have been able to reduce the gap that separates the developed from the developing countries from 27 in 1994, to 4 in 2004. The fixed line gap has been reduced from 11 to 4 during the same period (Figure 1.1).

Figure: 1.1: Overall, the digital divide is shrinking…
Mobile telephone subscribers per 100 inhabitants, 1994-2004 (left) and fixed telephone lines per 100 inhabitants, 1994-2004 (right)



Source: ITU World Telecommunication Indicators Database
Note: In these charts, the digital divide is calculated by dividing the penetration rates in the developed world by the penetration rate in the developing world. Penetration rates are rounded, whereas the digital divide is calculated based on actual numbers. For this reason, the digital divide results do not always correspond to the figures indicated in the graph.

The **total number of telephone subscribers (fixed and mobile)** rose from 530 million in 1990 to almost 3 billion (2'948 million) in 2004, a growth of 456 per cent. Access to telephone networks increased from 10.1 subscribers per 100 inhabitants in 1990 to 46.42 in 2004. The most rapid growth occurred in use of mobile phones. From just 11 million subscribers in 1990, the number of mobile cellular subscribers grew to 1.8 billion by the end of 2004, an annual average growth rate of 44 per cent compared to just six per cent for fixed telephone line subscribers. One factor contributing to the rapid growth in mobile cellular was the introduction of second-generation (2G) digital systems, launched in the early-1990s and the high degree of

competition in the sector. The number of mobile subscribers overtook the number of fixed telephone subscribers in 2002 and by the end of 2004, more than one out of four people around the world had a mobile phone, up from one in 339 in 1991. Mobile growth has been robust in Africa, where almost all countries have more mobile than fixed telephone subscribers. In 2004 alone, the African continent added some 15 million new mobile cellular subscribers to its subscriber base, a figure equivalent to the total number of (fixed and mobile) telephone subscribers on the continent in 1996, just eight years earlier. The mobile penetration of 9.1 per 100 inhabitants was nearly three times the fixed rate. It is obvious that mobile has been critical for enhancing access to telecommunications in a region where fixed lines remain very limited. While on average there are only three fixed lines for 100 Africans, the rate is even lower in Sub-Sahara Africa, where it stands at 1.6 to one hundred. As a whole, developing countries now account for 58 per cent of all telephone subscribers in the world, up from just 19 per cent in 1990.

The estimated number of **personal computers (PCs**) rose from some 120 million in 1990 to 777 million in 2004. Worldwide, PC penetration (PCs per 100 people) stood at 13 at the end of 2004. Growing investment in information technology, falling prices through technological improvement and reductions in trade barriers, domestic production, and greater functionality have driven PC sales. Another major factor has been the use of the PC as the leading access device to the Internet. While developing countries had some 20 per cent of the total PC stock in the early 1990s, they now own about 31 per cent of all PCs.

Just 27 countries had a direct connection to the **Internet** in 1990. Today, virtually every country in the world is online and by the end of 2004, there were an estimated 864 million Internet users around the world. While this means that some 14 per cent of the world's population was online at the end of 2004, there are major gaps between developing and developed countries. In most developed countries, over half the adult population is online. In some developing countries, still less than one per cent use the Internet. A major divide has also developed in the area of broadband, or high-speed Internet access. While broadband is starting to become the most popular way of accessing the Internet in some parts of the world, a large number of countries have not started to commercially offer high-speed access. A key development is the growing use of wireless technologies to access the Internet. This is a particularly important development since access to basic communications in the developing world has largely been achieved through mobile communications. In a growing number of countries, third generation mobile services have been launched that provide Internet access via mobile networks at speeds higher than a dial-up telephone line. At the same time, there are a growing number of locations around the world providing high-speed wireless Internet access for suitably equipped laptop PCs at special locations (so-called "hotspots"). While the developing country share of Internet users is less than their share of telephone subscribers, the Internet has been growing fastest in developing nations. In 2004, 43 per cent of the users were in developing countries, an increase from 1991, when users in developing countries represented only two per cent of the world's Internet users.

The availability of gender-disaggregated statistics for target 18 indicators is limited. Data for the number of telephone subscribers and PCs come from administrative and operational records, which do not disaggregate the data by gender. In the case of Internet users, surveys have been conducted in a number of countries, providing a breakdown between males and females. These surveys indicate that the proportion of female Internet users is lower than the proportion of male Internet users. However, in some countries, there are more women online than men and, for those countries where a series is available the trend is towards an increasing proportion of female users over time. These survey results are not representative and limited mainly to highly developed countries.

There are methodological, quality and availability issues related to the indicators used to measure Target 18. These concerns are minimal for the number of telephone subscribers. The data for this indicator come from administrative records compiled by national regulatory authorities or telecommunication operators that tend to be timely and complete. However, there are issues related to the practice of some countries including a "virtual" number of telephone lines for high-speed data services. There are also comparability issues for mobile subscribers due to the prevalence of pre-paid subscriptions. These arise from differences in the time period chosen for considering when a pre-paid subscription is no longer active. There are methodological and availability factors for the number of PCs. Very few countries have a precise measurement of the number of PCs. As a result, statistics tend to be based on ITU estimates based on shipment data with an estimated obsolescence factor, which may be incorrect (e.g., assuming that a PC is no longer used after five years). While reliable shipment data are available for most developed countries, this is not the case for developing ones. Finally, there are growing methodological issues in measuring the number of Internet users. These include wide variations in the definition of an Internet user in terms of the user's age and frequency of use. Another emerging issue is how to treat Internet access from mobile phones. While many developed nations now carry out Internet user surveys conducted by national statistical offices or industry associations, hardly any developing countries do so. In the case of most developing nations Internet users are calculated based on a multiplier factor of the number of subscribers. When developing countries estimate

the number of Internet users, they also take into consideration that many users are not subscribers and obtain access through public facilities such as libraries, Internet cafés and schools. ITU has been discussing possibilities to enhance the capacity in developing nations to collect information and communication technology indicators. One challenge will be to increase the number of developing countries that carry out household ICT surveys. In 2004, ITU, together with UNCTAD, OECD, World Bank, UNESCO and other international and regional organizations launched the *Partnership on Measuring ICT for Development*[1]. This initiative will help develop a coherent and structured approach to advancing the development of ICT indicators globally, and in particular in developing countries.

Table 1. Access to information and communication technologies

	Telephone lines and cellular subscribers per 100 population		**Personal computers in use per 100 population**		**Internet users per 100 population**	
	1990	2004	1990	2004	1990	2004
World	10.1	46.42	2.5	12.96	0.3	13.65
Developed	45.4	130.06	11.1	55.9	0.3	51.42
CIS	12.5	57.05	0.3	9.63	0.0	8.85
Transition countries of south-eastern Europe	13.8	73.75	0.2	8.13	0.0	16.5
Developing	2.3	31.66	0.3	4.85	0.0	6.96
Northern Africa	2.9	27.58	0.1	2.58	0.0	6.28
Sub-Saharan Africa	1.0	8.19	0.3	1.55	0.0	1.83
Latin America and the Caribbean	6.4	50.03	0.6	8.97	0.0	11.87
Eastern Asia	2.4	54.13	0.3	6.94	0.0	10.26
South Asia	0.7	8.42	0.0	1.7	0.0	3.39
South-eastern Asia	1.4	27.44	0.3	3.5	0.0	7.39
Western Asia	10.0	52.48	1.2	10.83	0.0	10.46
Oceania	3.4	10.09	0.0	6.51	0.0	4.69
Least Developed Countries (LDCs)	0.3	3.18	0.1	0.81	0.0	0.72
Landlocked Developing Countries (LLDCs)	2.3	7.41	0.0	1.27	0.0	1.42
Small Island Developing States (SIDS)	7.3	37.8	3.9	13.33	0.0	12.89

Source: ITU.

[1] For more information on this Partnership, see: http://www.itu.int/ITU-D/ict/partnership/