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THE MISSING LINK: STILL MISSING?

THE CONTINUING ROLE OF THE ITU IN TELECOMMUNICATIONS DEVELOPMENT

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Ladies and Gentlemen,

It is a pleasure and an honour for me to address this distinguished conference on a subject which is close to the heart of the International Telecommunication Union, namely the telecommunication development gap. This year, 1994, marks the tenth anniversary of the Maitland Commission Report entitled "The Missing Link" and this conference provides an opportune moment to revisit the main theme of that report, particularly as we have Sir Donald Maitland himself as one of the speakers.

The Maitland Commission report revisited

In 1982, the ITU Plenipotentiary Conference called for an Independent Commission for Worldwide Telecommunications Development to recommend ways in which telecommunications development could be improved. The Commission released *The Missing Link* report in December 1984. The title of the report referred to the unbalanced development of the worldwide telecommunications network due to the large gap between developed and developing countries and the fact that access to basic telephony is not possible for substantial parts of the world's population. For example, the report found that three quarters of the world's telephones were in just nine industrial countries and there were more telephones in Tokyo than the entire African continent.

The report made a number of specific recommendations for remedying the situation that fell into four areas:

1. Governments and development agencies should give a higher priority to investment in telecommunications.
2. Networks in developing countries should be made commercially viable.
3. Financing arrangements should take into account the scarcity of foreign exchange in developing countries.
4. The ITU should play a more catalytic role.

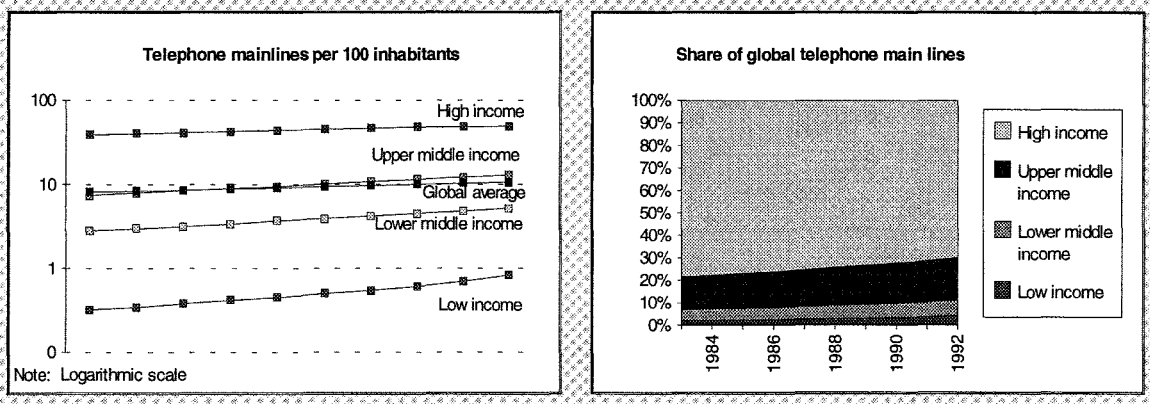
Progress towards meeting these recommendations since the release of the report has been mixed. Strong government commitment to the telecommunications sector has been a factor in most of the success stories of the last decade, though the support of development agencies has been uneven. "On paper" most developing country networks are profitable; however there are a number of internal and external factors which affect profitability and network development. Foreign exchange problems in many developing countries turned worse during the 1980s due to the international debt crisis. However, there are signs at the start of the 1990s that some of these problems have been resolved with a substantial net inflow of foreign direct investment, particularly in Latin America and in Central and Eastern Europe. The ITU itself has gone through a reorganisation in response to the changing telecommunications environment and now reflects better its co-ordinating role in telecommunications development.

Is the gap narrowing?

The year 1994 will also mark the first World Telecommunications Development Conference to be held in two months time in Buenos Aires. As part of our preparations for that conference, ITU has prepared a World Telecommunication Development Report which reviews progress made in the intervening decade since the Maitland Commission Report. The new report clearly shows that the **development gap** between high and low income nations still persists in telecommunications. Nevertheless, there is some evidence that it has narrowed over time. For instance, as Figures 1 and 2 show, those countries with a GDP per capita of less than US$10'000 have increased their share of global telephone mainlines from 22 per cent in 1983 to 30 per cent in 1992. They have also been growing at a much faster rate: more than 13 per cent per year in the low income countries, which is almost three times the global average. However, the low income countries still have less than a 5 per cent share of global telephone mainlines whereas they are home to some 55 per cent of the world's population (Figure 3). This disparity is unacceptably high in economic, social and humanitarian terms and the gap is narrowing too slowly.

Figure 1: Is the development gap narrowing?

Trends in teledensity and in share of global telephone main lines, by income group, 1983-92



Note: Low income = 50 countries with 1991 GDP per capita below US$600.
Lower middle income = 46 countries with 1991 GDP per capita between US$601-2'000.
Upper middle income = 47 countries with 1991 GDP per capita between US$2'001-10'000.
High income = 29 countries with 1991 GDP per capita above US$10'000.

Source: ITU World Telecommunication Development Report (forthcoming 1994).

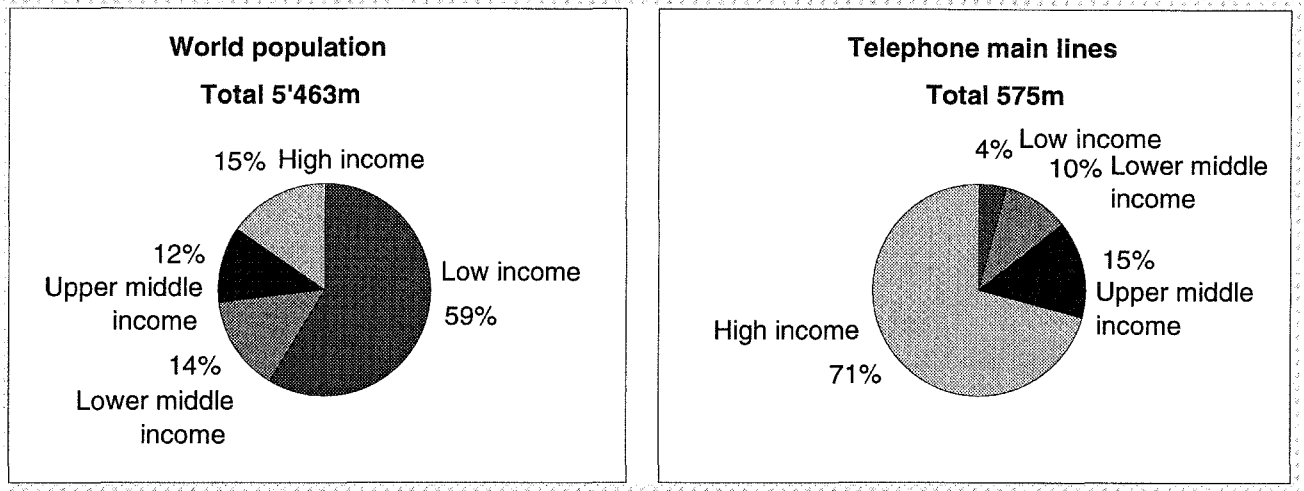
Figure 2: Telephone mainlines, teledensity and growth rates, by income group, 1983-92

Income group	*Telephone main lines 1983 (million)*	*As % of total*	*Tele-density*	*Telephone main lines 1992 (million)*	*As % of total*	*Tele-density*	*CAGR, 1983-92*
Low	7'860	2.1%	0.32	24'699	4.3%	0.84	13.6%
Lower middle	17'766	4.8%	2.81	39'403	6.9%	5.22	9.3%
Upper middle	54'049	14.7%	7.47	107'267	18.8%	12.86	7.9%
High	289'073	78.4%	38.81	398'011	69.9%	49.44	3.6%
World	**368'748**	**100.0%**	**8.10**	**569'381**	**100.0%**	**10.64**	**4.9%**

Note: For definition of income groups, see note to Figure 1.
Source: ITU World Telecommunication Development Report (forthcoming 1994).

Figure 3: Unequal shares

The distribution of population and telephone main lines worldwide, 1/1/93

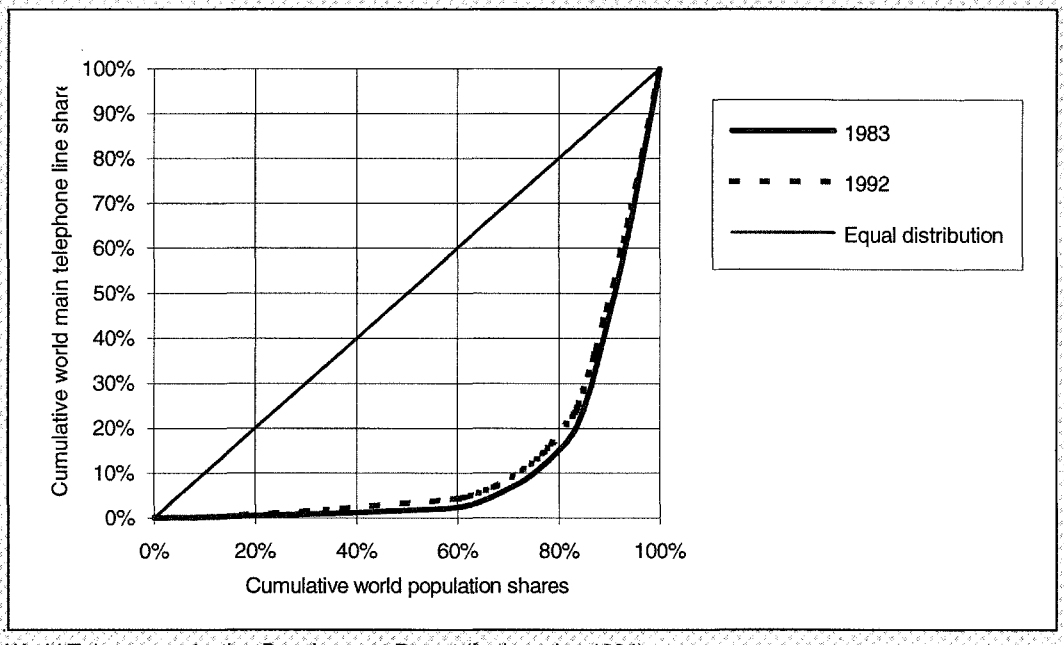


Note: For definition of income groups, see note to Figure 1.
*Source:*ITU (Forthcoming, 1994) "World Telecommunication Development Report".

An alternative way of considering the telecommunication development gap is in terms of the distribution of the world's population compared to the distribution of telephone main lines. In Figure 4 a Lorenz curve is used to show how, over the past decade, there has indeed been a slow convergence between the two indicators. However, this process is occurring at a much slower rate than the authors of the original Maitland Commission report would have hoped.

Figure 4: Slow convergence

Distribution of world population and main telephone lines, 1983 and 1992



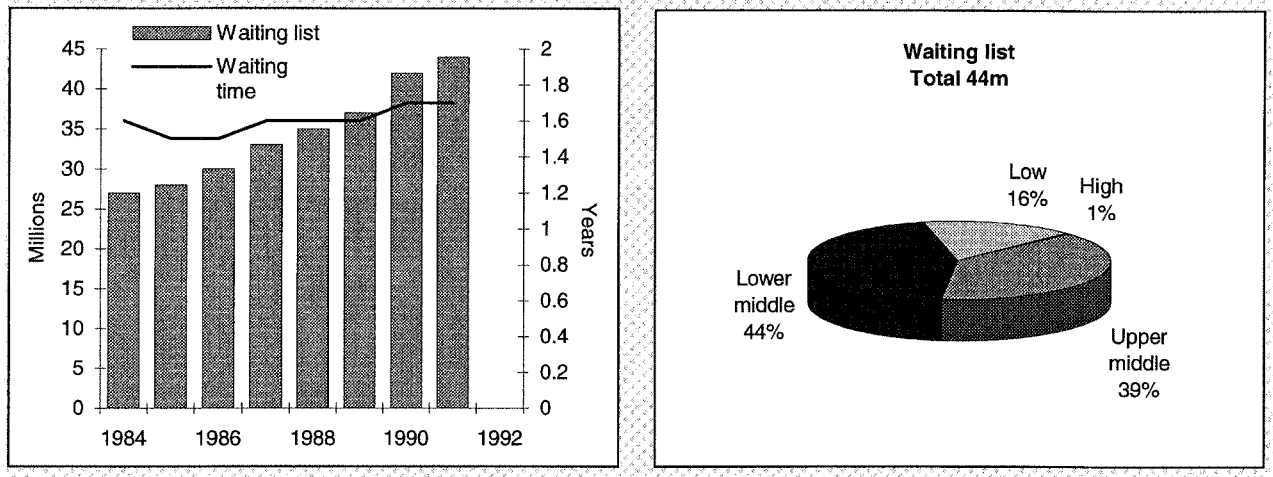
Source: ITU World Telecommunication Development Report (forthcoming 1994).

The growth in telephone lines has not kept pace with new applications for lines. Some 44 million people are on "official" waiting lists for a telephone line; the average wait has been constant over the last decade at just over one and half years. Almost all these "waiters" are in developing countries. The actual or latent demand for telephone lines is probably much higher since many people have not bothered to register because of long waiting times. The number of waiters is higher in lower-and upper-middle income countries

than in low-income ones because the prospect of getting a line soon is probably better in the former countries. Also growing service availability often results in a *larger* waiting list since potential users perceive that they may eventually obtain a connection.

Figure 5: The long wait

World waiting list and waiting time for main line by income group



Note: For the definition of income groups, please see notes to Figure 1.
Source: ITU World Telecommunication Development Report (forthcoming, 1994).

At the end of 1992, almost 50 countries accounting for over half the world's population had a teledensity of less than 1. At their current growth rates, many of these 50 countries are not likely to pass this threshold by the end of the century. As long as half the world's population suffers from low levels of telecommunications development, the vision of a global electronic village remains a dream.

The telecommunications development gap exists not only in *quantitative* terms but also in *qualitative* terms. While it is true that the gap has narrowed in terms of the provision of basic telephone services, there is some evidence to suggest that the gap has widened in other areas, notably in the provision of advanced telecommunication services. Some advanced services -- such as cellular radio, fax terminals, Internet-based electronic mail -- are already widely available in developing countries. But in each case, this represents mainly a consumer investment in terminal equipment rather than a public investment in infrastructure. Where a major public investment is required -- for instance to provide high-capacity leased lines or a data communications network -- then the developing countries are currently lagging far behind the OECD nations. The so-called "Information Super Highways", which could become the growth engine for the post-industrial age and a key element in national competitive advantage, are likely to be constructed first in the OECD nations.

The experience of the Asia-Pacific region

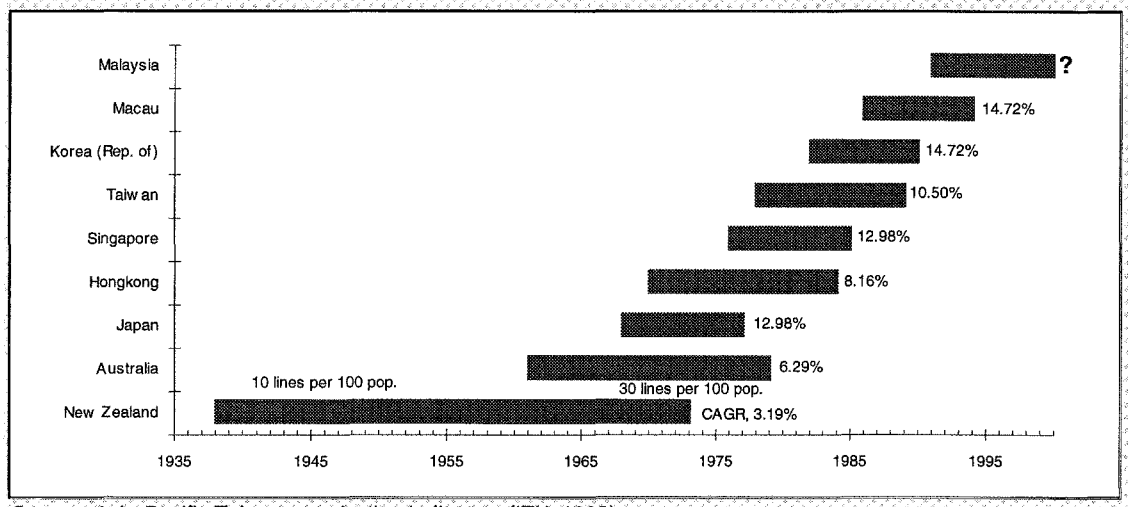
The Asia-Pacific region, which is the main focus of this conference, has probably gone further than any other in narrowing the telecommunications gap and consequently has much to teach us in extending this experience to other developing regions of the world. This region experienced the highest telephone main line growth rates in the world (11.9 per cent a year over the last decade) led by the dynamic economies of East Asia such as the Republic of Korea or Singapore, whose teledensity has now converged with that of OECD countries of the region (Australia, Japan and New Zealand). Other countries such as Indonesia and Thailand have encouraged private participation through Build-Operate-Transfer schemes (BOT) as a way to speed network development.

One of the most encouraging trends in this region is the fact that the transition from a low to high teledensity (from 10 to 30 lines per inhabitant) is apparently becoming easier and quicker over time. The first country in the region to achieve this was New Zealand (1938-73), but it took 35 years to do so. As of the early 1990s, six other economies in the region have also made the transition and others will follow suit shortly. The evidence presented in Figure 6 appears to show that:

- The telecommunications gap between the developed and the developing economies *can* be closed given the right pre-conditions for growth.

- The transition phase between low and high teledensity economies is becoming quicker and easier over time.

Figure 6: The telecommunications transition
Examples from the Asia-Pacific region, 1935-95



Source: Asia-Pacific Telecommunication Indicators (ITU, 1993).

These two trends represent good news for other developing countries further down the growth trajectory. It is interesting to ask why the growth process appears to be speeding up. There would seem to be a number of possible reasons:

- Technological change, and in particular the introduction of digital switching, has made rapid development of capacity much easier. The dynamic Asian economies have been able to jump straight from manually-operated to digital exchanges, thus by-passing the semi-automatic stage of network development. In Hongkong and Malaysia, for instance, exchange line digitisation is above 75 per cent;

- The dynamic Asian economies already had an industrial structure that depended heavily upon telecommunications-intensive activities such as consumer electronic manufacturing or services whereas the OECD Member countries were still largely agricultural, resource-based economies when they started the transition;

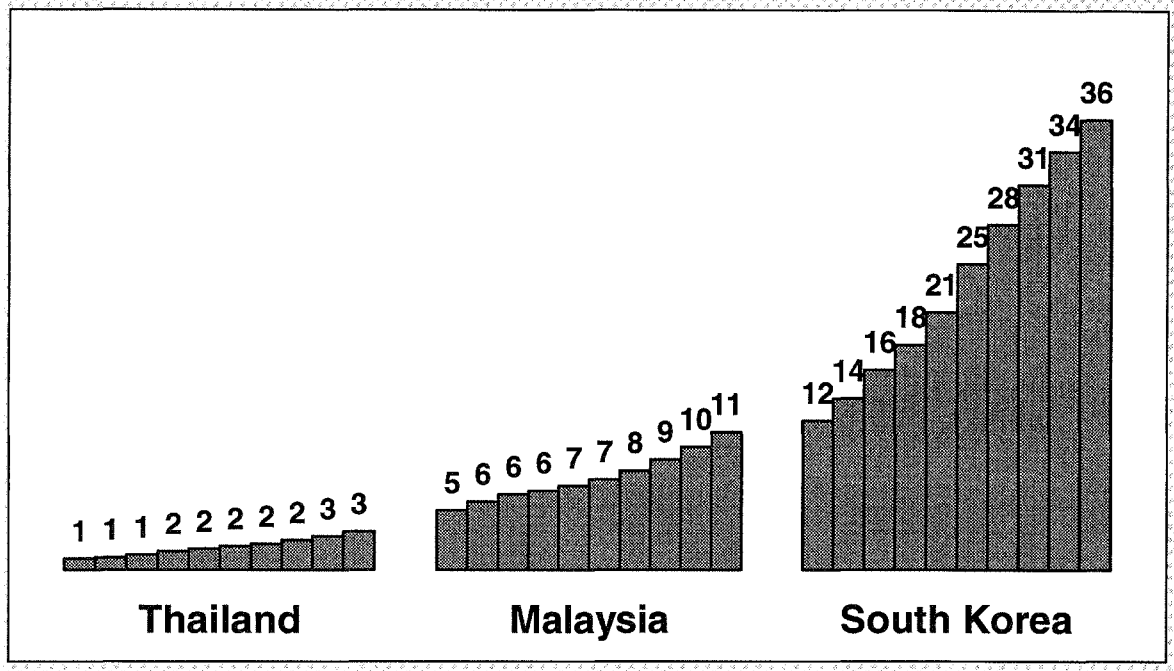
- There is a learning curve whereby the "lessons" of a successful investment strategy in one country can be applied in others, given the right economic preconditions and policy framework. There is also strong consumer demand for some new technologies such as mobile phones or fax terminals and this demand has been spurred by advertising and by tourism.

However, the experience of the "four dragons" is not representative of the region as a whole. Many of the countries of the region (including Afghanistan, Cambodia, Laos, Mongolia and the Philippines) are growing at a *slower* rate than the regional average, which means that they are being left behind. Furthermore, the "official" waiting list for telephone connection in these countries is more than 7 million, even before taking into account the latent demand that would be released if the waiting list were reduced from the current 3-4 years. This suggests that the development activities of organisations concerned with the economic development of the region should be targeted at the very poorest countries.

One way to illustrate this transition is to take a series of countries at different stages of development and to examine their experience of growth. Figure 7 show how it is possible to make the transition from just one main line per 100 inhabitants to almost 40 within 30 years drawing upon the experience of three Asia-Pacific countries: Thailand, Malaysia and the Republic of Korea.

Figure 7: From 1 to 40 in thirty years

The telecommunications transition exemplified in Thailand, Malaysia and Republic of Korea, 1983-92



Source: Mike Minges, Presentation to Asia-Pacific Telecommunication Summit, November 1993.

How can ITU help?

As the United Nations specialised agency for telecommunications, the ITU has been involved in telecommunications development for over 30 years. In the early 1960s the Technical Co-operation Department (TCD) was established to provide technical assistance and to execute United Nations Development Programme (UNDP) financed telecommunications projects. In the 1980s, as a result of one of the *Missing Link* recommendations, the Centre for Telecommunications Development (CTD) was established with the mandate to improve telecommunication development worldwide.

The 1989 ITU Plenipotentiary Conference created the Development Sector as a separate "sector" of the ITU responsible for telecommunications development. The other sectors are Telecommunication standardisation and Radiocommunications. The Development Sector subsequently absorbed the CTD and the TCD. By giving telecommunications development an equal status with the other sectors, it elevates its importance in the ITU positioning the ITU Development Sector to assume a leading role in the 1990s.

So what are the policy priorities for the coming decade and how can the International Telecommunication Union help?

- **One world, one network**. The great strength of the telecommunications network is the ability to call virtually any subscriber in the world, all 575 million of them, from virtually any telephone. Contrast this with other information industries such as computing, broadcasting or publishing where the multiplicity of different standards, formats and languages in use makes communication very difficult. The ITU has played a pre-eminent role in global standardisation and inter-operability. In a world of competition, deregulation, multi-media networks and rapid technological change, the co-ordination role of the ITU is all the more important. Telecommunication policy-makers should work to ensure that the *right of connection* -- between countries, between networks and between individual users -- continues to be afforded the highest priority in network and service development. This will require working for standards which are truly global.

- **Market competition**. The fastest growing parts of the telecommunications market -- mobile communications, trans-Atlantic and trans-Pacific traffic, data communications, private networks -- are generally those areas in which there is competition. On the other hand the slowest growing parts of the market -- fixed-link subscribers in the local loop, local calls, telex services -- are those areas in which competition has been limited and where monopoly service provision is still the norm. While it *is* possible to achieve growth under monopoly conditions, this is not necessarily the quickest or most efficient route. The adoption of network development strategies based on market competition has been shown to work well for mobile communications and this model might now be applied more widely in the fixed-link network. Regulators will need to gain more experience in the procedures of licensing and interconnection, and in defining regulatory safeguards against anti-competitive behaviour. The ITU provides an appropriate forum for such information exchange and policy discussion, notably through the world and regional Telecommunications Development Conferences, through the world and regional TELECOM exhibitions and fora and through the Regulatory Colloquia, initiated in 1993.

- **Bringing down prices in line with costs**. The threat and the impact of competition in telecommunications has done more to reduce prices in the last five years in those services where competition has been permitted than all of the regulatory price-setting agreements in the previous fifty years. And yet, over the same period, the profits of public telecommunications operators have risen by 19 per cent per year, suggesting there is still more scope for price reductions. Arguably, there are still a few regulatory safe havens where competition is limited or where operators experience little pressure to bring prices down in line with costs. One example is the local loop which telecommunication operators have tended to regard as an unprofitable natural monopoly and have resisted the introduction of competition. A second area which would benefit from the influence of more market competition on prices is international call charges. The system of international accounting rates has served the world well for many years, but it is in need of reform. Growing imbalances and call-back schemes are some of the signs of its failure. Reform that works to reduce prices to consumers, while at the same time assisting those countries which are truly dependent on settlement payments to finance their network development should be pursued. This may involve transitional measures but the urgency of reform should not be ignored. It must be ensured that both regulators and operators are represented in the discussions which take place at the ITU, the GATT, the OECD and elsewhere.

- **Private sector involvement**. A growing number of developing countries have embraced private sector involvement in their telecommunication infrastructures, generally with positive results. These schemes have ranged from sub-contracting of network installation (e.g., through Build-Operate-Transfer) to the licensing of value-added and cellular radio services to new market entrants and, in some cases, to the privatisation of the PTO. Many of the developing countries have been cautious to allow private sector involvement. Because the telecommunications sector is so profitable, even in the low income countries, there should be little problem in attracting private sector investment providing the regulatory and financial environment is secure and transparent. A majority of the top 40 public telecommunication operators worldwide with revenues greater than US$1.5 billion are now privately owned. But the majority of the next 40 are still state-owned. Over the next decade this situation will change quite considerably. But privatisation is a long-term, on-going process rather than a one-off opportunity for governments to realise some of their assets. Furthermore, the privatisation of a monopoly, in the absence of competition or a strong regulatory framework, is a very unwise route to take. Here again the ITU can help by providing a forum for information exchange and policy discussion, and through its programme of technical co-operation.

- **Resource allocation**. The traditional model of telecommunications industry regulation has been one of managing the demand to fit the available supply. This has been done through waiting lists, through high peak rate call charges and through volume-based usage charges. This model is no longer appropriate now that the industry, at least in the developed countries, is heading towards over-capacity. But the regulator still has an important role in allocating other scarce resources, notably the frequency spectrum and the numbering plan. The demands on each will grow significantly during the next decade as many parallel networks, for mobile, satellite and cable distribution, are developed. Again this is an area where the experience of the ITU in international co-ordination is unparalleled. Many of the problems of scarce resource allocation demand a global solution rather than merely a national or regional solution.

- **Governmental and multi-lateral commitment to investment programmes.** The mismatch between supply and demand which has created the large gap between developed and developing country networks needs to be reduced. In a growing number of countries where private sector funds have been

attracted or where competition has been encouraged, the market will find the best solution to this problem. But many other developing countries require assistance in understanding, planning and implementing a reform process. In some cases, even though the operator may be keen to reform, it is unable to do so because of a lack of commitment from government. The ITU needs to work with other multi-lateral development agencies (who often have more influence at the top levels of government) to raise the level of awareness of the need for reform and investment in the telecommunication sector. The ITU can also encourage the development agencies themselves to become more involved in telecommunication sector reform, especially in those countries that, for reasons of risk or indebtedness, have little immediate possibility of attracting private sector investment or introducing competition.

Across the world as a whole, the telecommunications industry is prosperous, profitable and fast-growing. The supply side of the industry has benefited over the last decade from technological change and from sector restructuring, notably where private sector participation has been introduced. But not all of these benefits have been passed on to the user. Furthermore, where benefits have been passed on, they have been unequally shared between users. The large, commercial, sophisticated user has benefited much more than the residential user. Also, there is a growing mismatch between a relative over-supply of telecommunication services in the advanced industrial nations and an under-supply in the developing countries. The gap has been slowly narrowing in quantitative terms but not necessarily in qualitative terms.

In conclusion, the year 1994 will mark the tenth anniversary of the Maitland Commission report on the telecommunications development gap. It will be a chance to assess the achievements and failures since that report was written. This will no doubt be a focus of discussion at the two major ITU conferences which will be held during 1994: the World Telecommunication Development Conference to be held in Buenos Aires in March and the ITU Plenipotentiary Conference to be held in Kyoto in September/October. The year 1994 will also mark the tenth anniversary of two other seminal events: the break-up of AT&T in the US, and the privatisation of British Telecom in the UK. These two events have triggered changes in many other countries around the world: in Europe, in Asia, in the Pacific, in Latin America and spreading now to Africa. A new model of telecommunications development has been launched which is based on entrepreneurship, competition and private sector participation. As noted earlier, not all countries are yet ready to adopt this new model. Many preliminary steps need to be taken to establish regulatory frameworks, to separate the functions of the regulator and the operator, and to create an environment which is attractive to investment. Nevertheless, it is important that the developing countries are given every encouragement and opportunity to participate in this new model. For this new model presents a genuine hope that the development gap can now be narrowed in qualitative as well as in quantitative terms.