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on the Mid-Term Global Review of the
Implementation of the Programme of Action
for the Least Developed Countries for the 1990s
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INTERNATIONAL TELECOMMUNICATION UNION

*Mid-Term Global Review
of the Implementation of the Programme of Action
for the Least Developed Countries (LDCs)*

New York, 26 September - 6 October 1995

Telecommunication Development Bureau (BDT)

1. INTRODUCTION

In 1971 the international community recognised the existence of a category of countries whose distinctiveness lies in the profound poverty of their people and in the weakness of their economic, institutional and human resources, often compounded by geophysical handicaps. The *Least Developed Countries* (LDCs) are defined as low-income countries that are suffering from long-term constraints to growth, in particular low levels of human resource development and severe structural weaknesses. The group represents the weakest segment of humanity and presents a major challenge to its development partners.

The LDCs are also among the least developed in terms of the poor state of their telecommunication networks and the limited range of services offered. There is evidence to suggest that they are falling further behind other developing countries in the race to construct modern telecommunications networks. This failing arises not so much because they are not installing the latest equipment — in many cases the LDCs have modern, state-of-the-art digital networks — but rather that they are not expanding fast enough to close the gap with other developing countries. Whereas the LDCs have increased their level of teledensity (telephone lines per 100 inhabitants) from 0.19 to 0.29 over the last decade, the group of other low income countries (including China, India, Egypt and Pakistan) has increased from 0.31 to 1.21, more than three times faster.

1.1 List of LDCs

The list of LDCs as currently defined by the United Nations General Assembly contains 48 countries. It was most recently updated in December 1994 with the "graduation" of Botswana and the addition of two new countries, Angola and Eritrea. It is next due to be revised in December 1997. The criteria for inclusion and graduation of economies in the list of LDCs are expounded by ECOSOC's Committee for Development Planning.

2. STATUS OF TELECOMMUNICATIONS IN THE LDCs

2.1 Overview

It would be expected that the state of development of telecommunication networks and services in the LDCs would be poor. On the whole this statement is true as can be seen in Table 2.1. Of the 48 economies world-wide with less than one main telephone line for every one hundred inhabitants (*teledensity*), only 11 are not classified as LDCs. Nevertheless, there are exceptions where telecommunication networks are better developed than in non-LDCs. Several LDCs, for instance, have all-digital networks, notably Djibouti, Gambia, Kiribati, Maldives, Solomon Islands and Tuvalu while others have had some of the fastest growing networks in the world over the last ten years. Some of these high achievers are examined later in this chapter.

There exists a very wide gap between the telecommunication facilities of developed countries and those of the LDCs. The average level of teledensity among the LDCs is 0.29, or just over one telephone for every 350 people. The total number of telephone main lines in the 48 LDCs stands at just over 1.5 million. To put this figure into perspective, it is just over one per cent of the total number of lines in the United States, even though the United States population is less than half that of the LDCs combined.

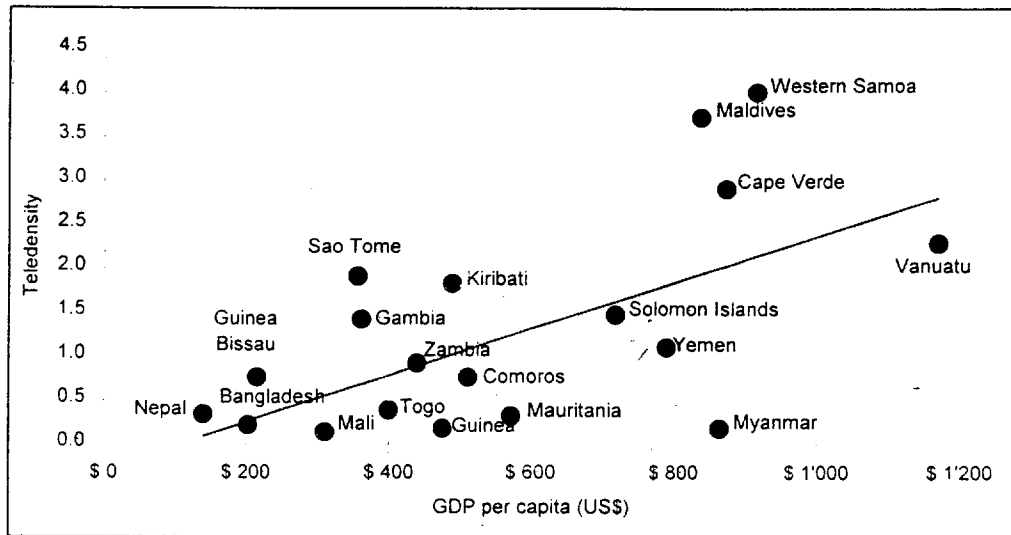
Most of the LDCs are far from the position of meeting either potential or actual demand. There are almost one million people "officially" waiting for a telephone line in the LDCs. At current network expansion rates, it would take almost 13 years to eliminate the registered backlog let alone provide service for the countless others who want a telephone but have been discouraged from making an application.

Even though the LDCs fit a certain set of economic and social criteria, the differences among them could hardly be greater. Perhaps the most evident difference is in terms of population size which ranges from the less than 10'000 inhabitants of Tuvalu to the 116 million of Bangladesh. There are also significant differences in teledensity and wealth: teledensity ranges from a high of 4.21 in the Maldives to 0.06 in Cambodia while Gross Domestic Product (GDP) per capita ranges from over US\$ 1'200 in Tuvalu to US\$ 65 in Ethiopia.

There is generally a close relationship between the level of economic development and telecommunication development. For example, in a study of 164 economies, the strength of the relationship was found to be significant (correlation co-efficient = 0.85 where 1.0 would equal perfect correlation). The relationship between wealth and teledensity is weaker among the LDCs (correlation coefficient = 0.5) suggesting that there may be other factors affecting telecommunication development. In fact, when the relationship between GDP per capita and teledensity among LDCs is plotted, one of the most noticeable observations is that the countries that are doing better than expected in terms of their income level have relatively small populations.

There is a strong inverse correlation among the LDCs between size of population and teledensity. The average teledensity among those LDCs with a population below 4 million (1.16) is more than four times higher than those with a population above 4 million (0.27).

Among the larger LDC economies, only one, Yemen, has a teledensity greater than one. The most successful LDC in terms of teledensity is the Maldives which has some 10'000 lines for a resident population of 236'000 giving a teledensity of over four. However, many of these telephones are installed in hotels and are intended to provide service to tourists and not residents. The largest LDC, in terms of both population and telephone lines, is Bangladesh with some 268'000 lines but a teledensity of just 0.23.

Figure 2.1: Among the LDCs, a not so close relation*Relationship between GDP per capita and teledensity in Least Developed Countries, 1992*

Note: $R^2 = 0.5$. Solid line is LDC average. Countries above the line have higher teledensity than expected. Countries below the line have lower teledensity than expected.

Source: ITU World Telecommunication Indicators database.

3. PROBLEMS OF THE SECTOR

Civil strife affects over a half a dozen LDCs, resulting in a breakdown of government institutions and stability, without which, there is little hope of infrastructure improvement. However, for the most of the 40 or so remaining LDCs, there are deficiencies in the telecommunication sector itself that are inhibiting development. There is a general consensus regarding the critical weaknesses in the LDCs telecommunication sector, namely poor management, insufficiently trained human resources, inadequate maintenance, poor planning, and a low level of penetration of telecommunication services in the rural areas.

3.1 Management

Management, or rather poor management, is perhaps the major cause of the other weaknesses cited below. Management of all types of resources including people, finances, and networks, is a cause for great concern. There is a lack of adequately trained personnel at all levels. While there may be too many staff with the wrong or outdated skills on the pay-roll, insufficiently trained personnel prevents full benefit being realised from investments already made. Manpower planning which identifies staff and training requirements is incomplete or non-existent.

Technical staff members proficient in their field are often promoted to senior management positions. This has led to difficulties since these staff have not had specific training in management and in non-technical areas such as administration, procurement, personnel, finance and negotiation with governments and financial institutions. While not necessarily needing to be

experts in such fields, senior managers must have sufficient knowledge to supervise and guide the staff dealing with these areas.

Many of the LDC telecommunication operators, whether autonomous units, corporations or offices, are actually operated as government departments which are barely responsive to market forces. They are strictly regulated and cannot plan and invest as a commercial organisation would. The situation is characterised by poor revenue collection, inadequate logistics support, demotivated staff and rampant pilferage of resources.

More autonomy for the telecommunication operating entity should be the starting point to provide the conditions that will encourage efficiency, cost effectiveness and productivity. Too often, the telecommunication sector is affected by overall government economic policies which, for instance, may impose substantial cross-subsidies for other sectors and may require that significant proportions of telecommunication income be transferred to the central government, to the detriment of network and service expansion.

The fundamental solution to the management problem in LDCs lies in political change to bring about restructuring of their telecommunication entities through greater autonomy and clear separation of management, regulatory and policy-making functions.

3.2 Human resources development

The governments of the LDCs have put considerable effort and investment into human resources development. But a combination of brain-drain and poaching by commercial companies has left a deficit of trained staff at all levels. Promising young staff are often lost to the public telecommunications sector because of the lack of career prospects within their institutions. This is exacerbated by rapidly changing technology and techniques which call for more frequent retraining of staff. There are certainly many well-qualified staff in the technical fields, but some of these get promoted to management roles where they are not sufficiently trained to manage increasingly complex operations in a continually changing environment.

Poor training is reflected in productivity statistics. On average, each telecommunication employee in the LDCs supports just 16 main lines. This is only 12 per cent of the world average and 8 per cent of the average for developed countries. Productivity in the LDCs grew at around 7 per cent per annum from 1983-93, less than the 12 per cent for developing countries as a whole. One LDC that has made a major improvement is Nepal, where the number of main lines per employee rose from 7 in 1983 to 20 in 1993. Its commitment to human resource development is manifested in an increase in its training budget of 80 per cent over the last five years to around 1.5 per cent of operating expenditures.

3.3 Poor maintenance

Maintenance problems of telecommunication networks in LDCs are closely linked to both external and internal causes. One of the factors impeding good maintenance is the difficult environment found in most of the LDCs. These conditions are characterised by high temperatures, extreme weather variations and natural disasters. For example, cyclone Ofa, which hit Western Samoa in 1990, destroyed most of the rural telephone network. Another external factor is on-going construction work on buildings, roads, and utilities which severely affect the outside telecommunication plant. Yet another factor is donation of outdated equipment or purchase of equipment tied to bi-lateral assistance for which few spare parts exist.

Maintenance problems are further compounded by poor internal administration characterised by improper planning of the outside plant, manual handling of fault complaints, difficulties of adapting

to new technology, day-to-day efforts aimed at individual problems rather than long-term preventive maintenance, and the variety of equipment that must be maintained. A lack of equipment standardisation or restrictions on end user provision of terminal equipment, results in PTOs having to maintain a variety of customer equipment.

Other problems include shortages of measurement equipment, spare parts, tools and vehicles. Transportation problems are especially acute in Chad, the second largest LDC after Sudan. According to the telecommunication administration in Chad, vehicles "*spend more time in the garage than in the field*". Another problem is insufficient facilities in the field to house staff so that they can maintain remote equipment. Vandalism and theft also contribute to maintenance problems.

3.4 Planning

Telecommunication planning is an important activity to ensure that network growth is sustainable and contributes to socio-economic and cultural development in a steady manner. Good planning improves efficiency through appropriate network dimensioning and timely introduction of new technologies.

One indication of poor planning in the LDCs is capacity utilisation. At one extreme are countries such as Afghanistan and Bangladesh where the capacity of local telephone exchanges are at full utilisation, suggesting a lack of forward planning. At the other extreme, are most of the other LDCs, where on average, only 75 per cent of the existing telephone capacity is being used despite unmet demand. The unused capacity suggests that there has been poor planning in integrating the exchange potential with the rest of the network. In a number of countries, if the existing exchange capacity was used, the waiting list would be eliminated.

The long-range planning function in LDCs is generally managed by a senior engineer and staffed by technicians. Their objective is to prepare telecommunication network plans with supporting costs and human resource needs to cater for a given period. These technical plans are then presented to the institutions' top managers who in turn present them to the relevant finance ministries or to donor agencies who have shown an interest in financing equipment purchases. There is negligible contribution to the planning process by other divisions of the organisation (such as finance, personnel or marketing). Economic analysis, human resource development needs and service requirements are not given sufficient importance.

Many LDCs have been provided with assistance in the preparation of telecommunication Master Plans. For example, all of the Pacific LDCs have developed Master Plans, typically in conjunction with the establishment of active planning departments, and these have been instrumental in attracting bi-lateral and multi-lateral assistance. In a number of other countries, Master Plans been abandoned, partly because governments were unable to provide inputs on a timely basis as specified in the plans.

3.5 Rural telecommunication development

The majority of the inhabitants of the LDCs live in rural areas. It is disturbing to note that the wide gap in the telecommunications development between the developed and the least developed countries is accompanied by yet a larger gap between the urban and the rural areas of the LDCs. In some LDCs, the rural main line density is lower than 1 per 10'000 inhabitants with large areas of territory without any telephones, and the alternative of having to travel for several hours to find a telephone, and perhaps many more to find a working one.

The importance of rural telecommunications needs to be better appreciated. Rural telecommunication services could be provided on a community basis which would help to attract small scale industries such as handicrafts and animal product processing. Rural telecommunication services could also support education and health programmes (tele-education and tele-medicine). These applications, together with commercial marketing of rural products, could contribute immensely in bringing higher living standards and increasing the welfare of rural populations. They could also help create new employment and thus reduce the abject poverty in these areas. These services would help stem the flow of rural migrants to urban areas with consequent reduction of urban decay in rapidly growing cities.

Some of the LDCs have very dispersed rural populations. Remote villages can be several hundreds of kilometres from the nearest town or telephone. The Pacific LDCs are faced with populations strewn over dozens of islands spread over large distances. For instance, Kiribati consists of over a dozen atolls spread over 3.5 million square kilometres. One disappointment is that in some of the rural LDC townships, telephone and telegraph services existed earlier, although with poor trunk facilities, but have since progressively been abandoned or left unmaintained for a variety of reasons.

4. ITU ASSISTANCE TO LDCs

The ITU has been assisting LDCs since 1973 just two years after the listing of these countries began. In the 1980s, assistance was provided under the auspices of the Special New Programme of Action and subsequently under the current Programme of Action. For many years such assistance was of ad hoc nature, to meet unforeseen needs of these countries or to bridge crucial gaps in project implementation. Since 1992 the ITU funds to LDCs had become quite substantive and it was decided to adopt a programmed approach to resource utilization.

The world Telecommunication Development Conference (WTDC, Buenos Aires, 1994) decided to accord top priority in the Union's technical assistance programmes to LDCs. It adopted five priority areas where such assistance would be concentrated, namely:

1. development of rural telecommunications
2. human resources development
3. management
4. maintenance
5. planning

The WTDC promulgated a Buenos Aires Action Plan (BAAP), with 12 core programmes from which the LDCs would obtain 70% of the programme budget, representing about Swiss Francs 5 million annually. Additionally, the LDCs would benefit from any extra-budgetary resources which the ITU would obtain from various sources, e.g. united voluntary contributions, and any excess income from world and regional telecommunications exhibitions and fora.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

Though the majority of LDCs are nowhere near the levels of telecommunication development of other developing and developed countries, there are wide variations among the LDCs themselves. LDCs where main telecommunication operators have been partly privatised have been doing

relatively well. At the other extreme, civil strife in a number of LDCs precludes serious telecommunication development until stability is restored. In the middle are the remaining LDCs, most of whom should be performing better despite their low level of economic development.

The LDCs are highly varied by geography, culture, income level, population, land area and structure of their economies. Those LDCs which have above average levels of network development tend to be characterised by a small population size, a well-developed services sector and some degree of private foreign participation in the Public Telecommunications Operator (PTO). These factors must be considered in evaluating each country's potential for telecommunication development.

The LDCs have a number of critical weaknesses in their telecommunications sector including management, maintenance, training and planning problems which are symptomatic of state-run operators with limited autonomy. LDC PTOs have often been slow to provide new business-oriented telecommunications services, such as mobile services, leased lines or data communications, and are thus missing out on potential revenues.

Rural telecommunication provision is low in most LDCs, despite the fact that the majority of the population in these countries live in rural areas. In a number of LDCs, the rural sector is also economically significant, accounting for over 50 per cent of GDP.

The LDCs have limited regulatory experience and the few liberalisation efforts have shown mixed results. Countries with partly privatised nation-wide fixed-line and cellular operators have fared well while those that have some degree of foreign-ownership of their international operators, whether through privatisation or inherited colonial connections, have generally not had such a favourable experience.

5.2 Recommendations

The primary objective of this report has been to raise awareness of the state of telecommunication networks in the LDCs, and the particular types of problems PTOs face. Nevertheless, a number of clear lessons emerge from the analysis:

5.2.1 Recommendations to LDCs

- a) The LDCs need to grant greater autonomy to their telecommunication entities so that they can better meet market demand for telecommunication services and to create incentives to remedy limitations in management, maintenance, training and planning. The close relationship between small population size and higher level of telecommunication development among the LDCs also indicates the benefits of decentralising the operations of the PTO and/or opening the market to new entrants.
- b) Closely related to management autonomy is the need for greater financial autonomy. This might take the form of clarifying the financial relationship between the operator and the state to replace automatic state levies with a more transparent system of an income tax on telecommunication services. Tariff reform should be progressively introduced to ensure long-term network self sufficiency.
- c) LDC policy-makers should establish independent regulatory authorities to oversee the licences issued to the telecommunication operators. Regulatory authorities should work with PTO management to set targets for key indicators such as network growth, investment and quality of service.

- d) The LDCs should consider closer co-operation among themselves to pool their resources and strengthen their bargaining positions. This is difficult because of the wide geographical spread of the LDCs. However, within certain regions such as the Pacific, Asia and Africa, there are sufficient LDCs and other developing countries to act together in areas such as joint training and pooled equipment purchases. They should also take advantage of existing co-operative regional and international telecommunication activities as well as new projects such as WorldTel.
- e) Governments of the LDCs should give higher priority for rural telecommunications in order to bring about easier access to telecommunications services by rural populations. Governments need to define clear universal service objectives and specify how, within the prevailing conditions, they can be achieved. Policy-makers may consider asserting pre-conditions for the franchising or privatisation of lucrative services, such as mobile communications or international services, for instance by stating obligations to develop rural telecommunications in the licence conditions of new operators.

5.3.2 Recommendations to development partners

- a) Development partners should assist LDCs in identifying the best ways and means of securing financial assistance from different sources. This could be done through organising investment seminars for LDCs to help raise funds for telecommunication investment. There needs to be mutual understanding of the requirements and obligations of each party (country, development partners, private sector). This will help the LDCs to adopt a long-term strategy to make their telecommunication sectors self-sufficient.
- b) Multilateral donor agencies, such as the World Bank and the regional development banks, should focus a higher proportion of their overall lending on the LDCs and should be more systematic by funding a series of projects over a number of years to remedy the present uneven pattern of investment. The development banks should work together to develop a common set of criteria to be used when evaluating potential projects. These criteria could include preference given to those countries which move furthest with market liberalisation, creation of stable regulatory environment, tariff reform and management reform. A certain percentage of funds set aside for infrastructure projects in the LDCs might be reserved for initiatives with a high degree of private sector participation.
- c) The LDCs face increasing external pressures to liberalise their networks and independent assistance is essential to provide advice about various options and stages towards sector reform. Objective advice is essential to avoid the problems some early LDC reformers have encountered with uneven network development. Development partners should consider the urgent need for assistance in creating and training regulatory authorities. Provision for training should form a higher percentage of investment funds provided by donor agencies. Development partners should also consider assisting the LDCs to increase their participation in regional and international bodies.

This report is adapted from the "Telecommunications Indicators for LDCs", a report published by the ITU under ISBN 92-61-05699-7. Copies of the publication can be ordered from the ITU Sales Service, by fax at +41 22 730 5194 or by mail at CH-1211 Geneva 20, Switzerland.

I. Basic indicators / Indicateurs de base

	Population		GDP / PIB		Main telephonic lines / Lignes téléphoniques principales	
	Total	Density / Densité	Total	Per capita / Par habitant	Total	Per 100 inhab.
	(M)	(per km ²)	(M US\$)	(US\$)	(k)	Pour 100 habit.
	1993	1993	1993	1993	1993	1993
Afghanistan	22.2	35	2'464.4	125	29.0	0.13
Angola	10.0	8	9'170.6	995	53.3	0.53
Bangladesh	116.7	810	24'485.0	215	268.4	0.23
Benin / Bénin	5.2	46	2'159.2	430	20.4	0.39
Burkina Faso	9.8	36	2'814.7	295	21.9	0.22
Burundi	6.0	215	980.5	170	15.6	0.26
Cambodia / Cambodge	9.6	53	1'995.7	215	5.9	0.06
Central African Rep. / Rép. Centrafric.	3.2	5	1'233.5	390	6.7	0.21
Chad / Tchad	6.1	5	1'196.8	200	4.6	0.07
Eritrea / Erythrée	3.4	36	...	...	20.0	0.59
Ethiopia / Ethiopie	53.3	44	3'536.3	65	132.5	0.25
Guinea/ Guinée	6.3	25	3'095.5	510	11.6	0.18
Haiti / Haïti	6.8	246	2'641.3	400	45.0	0.66
Lao P.D.R. / Lao (R.d.p.)	4.5	19	1'331.7	305	8.6	0.19
Liberia / Libéria	2.4	21	1'194.0	510	4.5	0.19
Madagascar	12.7	21	3'368.1	270	34.8	0.27
Malawi	9.3	99	2'025.6	225	32.8	0.35
Mali	9.2	7	2'662.1	295	13.8	0.15
Mauritania / Mauritanie	2.1	2	965.4	465	7.6	0.35
Mozambique	16.9	22	1'467.5	90	62.1	0.37
Myanmar	44.7	66	40'272.4	920	119.3	0.27
Nepal / Népal	20.4	144	2'773.7	140	72.0	0.35
Niger	8.4	7	2'220.3	270	10.5	0.12
Rwanda	7.5	284	1'551.8	210	12.0	0.16
Sierra Leone	4.5	62	732.0	170	14.5	0.32
Somalia / Somalie	8.5	14	879.1	115	15.0	0.18
Sudan / Soudan	27.3	11	4'268.7	160	64.0	0.23
Tanzania / Tanzanie	26.7	28	2'745.4	105	85.0	0.32
Togo	4.0	71	1'265.7	325	17.3	0.43
Uganda / Ouganda	18.0	76	4'027.3	230	20.8	0.12
Yemen / Yémen	13.4	71	12'615.9	970	162.1	1.21
Zaire / Zaïre	41.0	17	7'537.1	200	36.0	0.09
Zambia / Zambie	8.5	11	3'313.5	400	78.0	0.91
Population > 4 M	549.0	27	152'990.9	290	1'505.3	0.27
Bhutan / Bhoutan	1.5	33	228.4	155	3.8	0.25
Cape Verde / Cap-Vert	0.4	99	324.3	835	15.3	3.83
Comoros / Comores	0.5	284	247.9	485	4.0	0.76
Djibouti	0.6	26	445.3	855	7.3	1.28
Equatorial Guinea / Guinée équatoriale	0.4	16	156.6	360	1.3	0.29
Gambia / Gambie	1.0	95	356.5	360	16.3	1.60
Guinea-Bissau / Guinée-Bissau	1.0	29	237.4	230	8.6	0.82
Kiribati	0.1	111	36.7	490	1.8	2.31
Lesotho	1.9	63	758.6	410	12.2	0.64
Maldives	0.2	794	226.7	990	10.0	4.21
Sao Tomé & Principe	0.1	130	39.7	330	2.4	1.91
Solomon Islands / Salomon	0.3	12	245.0	730	5.3	1.53
Tuvalu	0.01	380	10.9	1'210	0.2	1.60
Vanuatu	0.2	11	182.7	1'170	4.1	2.53
Western Samoa / Samoa-Occidental	0.2	57	148.4	915	7.1	4.36
Population < 4 M	8.6	37	3'645.2	440	99.5	1.16
LDC / PMA	557.5	28	156'636.1	290	1'604.7	0.29

Note: For data comparability and coverage, see the technical notes. Figure in italics are estimates or for years other than those specified. /

Les notes techniques indiquent ce que recouvrent les chiffres et dans quelle mesure ils sont comparables.

Les chiffres en italiques sont des estimations ou des valeurs se rapportant à d'autres années.

Source: ITU / UIT, World Bank / Banque mondiale.

2. Main telephone lines / Lignes téléphoniques principales

	Main telephone lines / Lignes téléphoniques principales			Main telephone lines per 100 inhabitants / Lignes principales pour 100 habitants		
	CAGR / TCAC			CAGR / TCAC		
	(k)	(%)	(%)	(%)	(%)	(%)
	1983	1993	1983-93	1983	1993	1983-93
Afghanistan	29.0	29.0	-	0.17	0.13	-2.5
Angola	45.9	53.3	1.5	0.61	0.53	-1.3
Bangladesh	114.6	268.4	8.9	0.12	0.23	6.5
Benin / Bénin	10.0	20.4	7.4	0.26	0.39	4.1
Burkina Faso	7.5	21.9	11.3	0.10	0.22	8.3
Burundi	2.4	15.6	20.4	0.05	0.26	17.0
Cambodia / Cambodge	5.0	5.9	1.6	0.07	0.06	-1.6
Central African Rep. / Rép. Centrafric.	2.8	6.7	9.1	0.11	0.21	6.3
Chad / Tchad	1.2	4.6	14.7	0.02	0.07	11.9
Eritrea / Erythrée	...	20.0	...	...	0.59	...
Ethiopia / Ethiopie	83.8	132.5	4.7	0.20	0.25	2.0
Guinea / Guinée	13.1	11.6	-1.2	0.28	0.18	-3.9
Haiti / Haïti	26.0	45.0	5.6	0.46	0.66	3.6
Lao P.D.R. / Lao (R.d.p.)	5.6	8.6	4.4	0.16	0.19	1.5
Liberia / Libéria	7.0	4.5	-4.3	0.34	0.19	-5.6
Madagascar	19.6	34.8	5.9	0.21	0.27	2.8
Malawi	17.1	32.8	6.7	0.25	0.35	3.3
Mali	6.5	13.8	7.8	0.09	0.15	5.0
Mauritania / Mauritanie	3.7	7.6	7.4	0.22	0.35	4.7
Mozambique	36.9	62.1	5.4	0.28	0.37	2.7
Myanmar	42.3	119.3	10.9	0.12	0.27	8.6
Nepal / Népal	16.5	72.0	15.9	0.10	0.35	13.0
Niger	7.4	10.5	3.5	0.12	0.12	0.2
Rwanda	4.7	12.0	9.9	0.08	0.16	6.8
Sierra Leone	12.7	14.5	1.3	0.36	0.32	-1.2
Somalia / Somalie	8.0	15.0	6.5	0.13	0.18	3.3
Sudan / Soudan	51.9	64.0	2.1	0.25	0.23	-0.6
Tanzania / Tanzanie	44.0	85.0	6.8	0.22	0.32	3.7
Togo	7.9	17.3	8.1	0.28	0.43	4.5
Uganda / Ouganda	24.1	20.8	-1.5	0.18	0.12	-4.2
Yemen / Yémen	49.9	162.1	12.5	0.55	1.21	8.2
Zaire / Zaïre	25.6	36.0	3.5	0.09	0.09	0.2
Zambia / Zambie	37.5	78.0	7.6	0.60	0.91	4.3
Population > 4 M	770.0	1'505.3	6.8	0.18	0.27	4.1
Bhutan / Bhoutan	1.4	3.8	10.5	0.11	0.25	8.2
Cape Verde / Cap-Vert	1.9	15.3	23.2	0.62	3.83	20.1
Comoros / Comores	1.2	4.0	12.8	0.33	0.76	8.8
Djibouti	3.6	7.3	7.3	1.06	1.28	1.9
Equatorial Guinea / Guinée équatoriale	0.7	1.3	6.4	0.19	0.29	4.1
Gambia / Gambie	2.3	16.3	21.6	0.33	1.60	17.1
Guinea-Bissau / Guinée-Bissau	3.9	8.6	8.3	0.45	0.82	6.1
Kiribati	0.5	1.8	13.1	0.83	2.31	10.8
Lesotho	5.2	12.2	8.9	0.36	0.64	6.1
Maldives	1.9	10.0	18.0	1.11	4.21	14.3
Sao Tomé & Príncipe	1.6	2.4	4.4	1.57	1.91	2.0
Solomon Islands / Salomon	1.7	5.3	12.0	0.66	1.53	8.8
Tuvalu	...	0.2	...	...	1.60	...
Vanuatu	1.7	4.1	8.9	1.40	2.53	6.1
Western Samoa / Samoa-Occidental	3.6	7.1	7.0	2.29	4.36	6.6
Population < 4 M	31.2	99.5	12.3	0.48	1.16	9.3
LDC / PMA	801.1	1'604.7	7.1	0.19	0.29	4.3

Note: For data comparability and coverage, see the technical notes. Figure in italics are estimates or for years other than those specified. /

Les notes techniques indiquent ce que recouvrent les chiffres et dans quelle mesure ils sont comparables.

Les chiffres en italiques sont des estimations ou des valeurs se rapportant à d'autres années.

Source: ITU / UIT.