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Question 7/1: Universal access/service

### **STUDY GROUP 1**

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TITLE: FINAL REPORT ON QUESTION 2/1 (TELECOMMUNICATION POLICIES  
AND THEIR REPERCUSSIONS AT THE LEVEL OF INSTITUTIONAL,  
REGULATORY AND OPERATIONAL ASPECTS OF SERVICES)

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Please find attached an extract of Document 1/181(Rev.1)-E for your information.





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Question 2/1: Telecommunication policies and their repercussions at the level of institutional, regulatory and operational aspects of services

**STUDY GROUP 1  
Working Party A/1**

SOURCE: RAPPORTEURS FOR QUESTION 2/1

TITLE: FINAL REPORT

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## 4 PROVIDING UNIVERSAL SERVICE

One of the aims of telecommunication legislation should be to ensure that the public has access to basic telecommunication services at a reasonable cost. Typically, universal service refers to access to telecommunication as part of the right to communicate and to the need to ensure that the regulatory process brings about universal geographical availability, equitable treatment through non-discriminatory access and accessible cost. The regulatory body should focus attention to the ways to implement universal service requirements from a legal perspective as well as the services covered (for example, basic telephone service).<sup>1</sup>

### 4.1 A dynamic and evolving definition<sup>2</sup>

Internationally universal service has no fixed definition or, rather, it has been defined in different ways in different countries. Indeed, there are even different terms such as public service obligations, community service. Generally, universal service provision has meant the extension of telecommunications to remote and rural areas of countries so that everyone either has the option of having a telephone or is in easy reach of one.<sup>3</sup> In some countries, universal service obligations include provision of service to the disabled and elderly as well as the under-privileged in urban areas.

The Report of the Independent Commission for Worldwide Telecommunications Development published in 1984 set a universal service objective, a challenge for the early part of the next century, of a telephone within easy reach of all mankind.<sup>4</sup> If "easy reach" in this context has been interpreted as within one day's walk, it has not adequately taken into account the ubiquity of mobile satellite services.

Many people no longer regard provision of a telephone as a sufficient basic service. With the advent of the Internet, many policy-makers now think access to the Net, e-mail and data communications should form part of the right to communicate.<sup>5</sup> The Council of the European Union has said "the concept of universal service must evolve to keep pace with advances in technology, market development and changes in user demand".<sup>6</sup> In its Voice Telephony Directive issued in December 1995, the European Commission identified the scope of universal service obligations within the Union as the provision of a telephony service, allowing fax and modem operation, as well as the provision of operator assistance, emergency and directory inquiry services, and the provision of public payphones.

Given the prevalence of illiteracy and low incomes in some developing countries, however, Internet access may be a much more distant goal than access to plain old telephone service. An important

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<sup>1</sup> The Blue Book, p.14 - paragraph 62.

<sup>2</sup> Sections 4.1 - 4.5 have been taken from the contribution of Inmarsat to Study Group 1.

<sup>3</sup> The European Commission has said "the essence of universal service is access to and the provision of a defined minimum service of specified quality to all users at an affordable price, irrespective of their geographical location." See Proposal for a Council Resolution on universal service principles in the telecommunication sector. COM(93) 543 final (Brussels, 15 November 1993), p.15.

<sup>4</sup> *The Missing Link*. ITU (Geneva, December 1984), p.5.

<sup>5</sup> A government-sponsored report said Telstra's universal service obligations should be upgraded to include Internet, fax connectivity and V.34 'smart' modem access, if rural Australia was to remain economically competitive, according to a story in *The Australian Financial Review*, 23 May 1996. The Rural Australia Online report was commissioned by the Rural Industries Research and Development Corp.

<sup>6</sup> European Council Resolution of 7 February 1994 on universal service principles in the telecommunications sector.

distinction has been made between the availability and affordability of service.<sup>7</sup> The European Commission has said, "Affordability is crucial to the extension of telecommunication service to every citizen."<sup>8</sup> In Europe, it is a fundamental responsibility for national regulatory authorities to ensure that universal service is affordable for all groups of users.<sup>9</sup>

With the advent of competition in a liberalized environment, there will be more pressure on incumbent telecommunication operators who have usually charged their subscribers the same tariffs no matter where they lived (i.e., geographically averaged tariffs). New competitors may concentrate on providing service in the most profitable areas (i.e., the cities), which may force the telecommunication operator to raise tariffs in non-urban areas. While some re-balancing of tariffs is probably inevitable, regulators will need to ensure that any differences in pricing between high cost areas and low cost areas do not endanger the affordability of universal service.<sup>10</sup> The European Commission has told its member States that they "should ensure appropriate measures are taken (e.g., price caps, targeted tariff schemes) necessary to maintain the affordability of services for all users."<sup>11</sup>

Even if it is highly unlikely that we will meet the challenge set by the Maitland Commission, there is nevertheless a significant new interest in ensuring universal service, especially including the provision of communications to remote and rural areas.

#### **4.2 Universal service benefits**

The benefits of extending telecommunications to remote and rural areas of countries - developed and developing - are now widely recognized. Some examples include:

- *Extending telecommunications to remote areas helps link people together and provide a means of contact between families and friends separated by distance. With 70 % or more of populations in developing countries living in rural areas, political leaders increasingly see universal service as a political priority in uniting their country.*
- *Farmers are able to obtain information which can help them produce and sell their crops.*
- *Telecommunications provides a means of extending social services such as health care and education to those who otherwise might have to move to urban areas to get them. In other words, telecommunications can help slow or even reverse migration to the cities.*
- *Telecommunications is a necessary and basic infrastructure requirement for companies and industries interested in developing a country's natural resources, such as oil, gas, forestry, etc., which in turn increases employment opportunities.*
- *The availability of telecommunications improves security. Citizens at risk or in an emergency can call the police for help. Civil guards, customs and immigration officials can*

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<sup>7</sup> *The Changing Role of Government in an Era of Telecom Deregulation: Report of the Second Regulatory Colloquium, (ITU Geneva, Dec 1993), p. 7.*

<sup>8</sup> Universal Service for Telecommunications in the Perspective of a fully liberalised environment: Communication from the European Commission. COM(96) 73 (Brussels, 13 March 1996), p. 6.

<sup>9</sup> Id., p. 10.

<sup>10</sup> Id., p. 11.

<sup>11</sup> Id., p. 21.

*more effectively monitor remote border points and they too can call for assistance when necessary.*

- *Telecommunications plays a vital role in environmental protection. They can be used to monitor pipelines and river levels. Mobile telephones can assist park and forest rangers locate missing persons, as well as help in their struggle against poachers and illegal felling of trees.*
- *Disasters - whether natural, such as volcanic eruptions, floods, earthquakes or man-made such as oil spills, radiation leakages, forest fires - often occur in remote areas. Telecommunications can help mitigate the destructive consequences.*

### **4.3 A political priority**

The telephone has been described as "essential for citizenship".<sup>12</sup> The growing awareness of just how important the telephone has become to enfranchisement, in daily life, in social and economic growth, has undoubtedly contributed to universal service having become a political priority in many countries.

The European Union has identified the application of universal service as a major goal and called upon member States "to establish and maintain an appropriate regulatory framework and set appropriate targets ... in order to ensure ... universal service throughout their territory."<sup>13</sup> The European Commission has said this goal is "an essential condition for maximizing the contribution of the telecommunication sector to overall economic growth, social well being and cohesion in the Community."<sup>14</sup>

At the G-7 Summit on the information society held in Brussels in February 1995, participating ministers identified "ensuring universal provision of and access to services" as one of the eight core principles behind the realization of their common vision of the information society.<sup>15</sup>

The ITU sent a telecommunication sector structure survey to its member countries in 1995 and 1996 and several questions concerned universal service. Over 100 countries responded to the section on universal service. Sixty-eight said they had a definition of universal access to basic services, which generally meant basic telephony, telex, accessibility of telephone services in populated areas, public payphones. Seventy-nine said they had some form of universal service obligation on the telecommunication operators now, such as quality of service, expansion and improvement of the network and interconnection. Several said the public service obligations were included in the contract between the government and the operator.

Some countries such as Mexico and Brazil<sup>16</sup> have set political priorities of extending communications to all villages and towns of more than 500 people.

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<sup>12</sup> Milne, C. "Opening the debate on universal service in the UK" in *Telecommunications Policy*. (1991, 15/2), pp. 85-87.

<sup>13</sup> European Council Resolution of 7 February 1994 on universal service principles in the telecommunication sector.

<sup>14</sup> COM(93) 543 final (Brussels, 15 Nov 1993), p.11.

<sup>15</sup> COM(96) 73, (Brussels, 13 March 1996), p.16.

<sup>16</sup> See contribution of Brazil to ITU-D Study Group 1.

#### 4.4 Who should be entitled to universal service?

Universal service provision generally means extending communications to those in remote and rural areas, as noted above, but the concept is being extended in some countries to include other user groups with special needs, such as the disabled who might, for example, benefit from text or videophones (in the case of the hearing-impaired). In some countries, the elderly are given special discounts. Low income groups sometimes also benefit from discounts if they use the telephone service only a little. For those on long waiting lists and the homeless who cannot afford basic telephone service might be offered a voice mailbox.

The precise groups to benefit from universal service obligations vary (and will vary) from country to country, but generally it is those groups which are uneconomic to serve and which require some subsidizing. Not everyone in remote and rural areas requires a subsidy. There are individuals or groups such as ranchers or plantation owners who might have to pay more than consumers in cities, but they can nevertheless afford the service.<sup>17</sup>

#### 4.5 Financing universal service

While the benefits of universal service are relatively easy to identify, it has been rather more difficult to find a way of financing them, mainly for the obvious reason that it has been much more expensive to provide a telephone line to a subscriber in a remote area compared to his cousin in the city.

It has been customary for State telecommunication monopolies to subsidize the use of the basic local telephone service from other telecommunication sources. This has been the main philosophy for financing the implementation of, or attempts to achieve, universal service. Such cross-subsidization occurs between:

- *different services (e.g., from long-distance and international to local communication services);*
- *different user groups (e.g., from commercial to residential users); and*
- *different geographical areas (e.g., from urban to rural areas).<sup>18</sup>*

If a country decides to privatize the monopoly telecommunication operator and at the same time to allow competition in all or certain services, it has to consider carefully how it will continue to ensure or promote the goal of universal service. If there are no rules for market entry and for the provision of certain services, it is possible that new entrants may wish to engage in cream-skimming. For instance, competition will occur primarily in the long-distance markets, whereas universal service focuses on local service. It is a well-known fact that installing and maintaining a local network is substantially more expensive than establishing a long-distance system. Therefore, if new entrants have no responsibility to provide universal service but can attract long-distance customers away from the local operator, the resources allocated to subsidizing the local service will shrink.

There are different approaches to financing universal service obligations, some of which are as follows.

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<sup>17</sup> "Just because a potential telephone customer, even a rural customer, is not receiving telephone service today, this should not automatically be taken to imply that a subsidy is needed for that particular customer or category of customers." *The Changing Role of Government in an Era of Telecom Deregulation*, Report of the Second Regulatory Colloquium (ITU, Geneva, December 1993), p.54.

<sup>18</sup> Id.

#### 4.5.1 *A condition of license (internal revenue transfers)*

In some countries, the telecommunication operator must provide service to rural and remote areas as a condition of its license. This generally means the urban subscriber is used to cross-subsidize the rural subscriber or revenues from long distance or international calls are used to offset the cost of providing service to the rural subscriber. The government may set specific targets for the telecommunication operator regarding how many lines are expected to be installed each year.

#### 4.5.2 *Interconnection charge*

In countries where there is competition, the government may require the new competitors to pay certain charges in order to interconnect with the dominant telecommunication operator and some or all of those charges are used to provide services to rural areas.

The European Commission envisages payments being made by competitors either into an independent universal service fund at a national level which would make payments to operators providing universal service or directly to operators providing universal service as an additional payment to the commercial charges for interconnecting with their network.<sup>19</sup>

#### 4.5.3 *Pay or serve*

In some countries, telecommunication operators have the choice of either paying certain charges (for example, into a universal service fund) or providing the service directly themselves.

#### 4.5.4 *Licensing new entrepreneurs*

In a variant of the pay or serve case, some countries may give the (typically dominant) telecommunication operator the choice of either providing service to rural areas or letting some other (typically small) private entrepreneurs provide the service. Where the telecommunication operator has to cope with long waiting lists in urban areas, it may be willing to let others provide telecommunication services, especially if they are small local entrepreneurs who do not pose a competitive threat.

#### 4.5.5 *Government subsidy*

In some countries, the rural subscribers pay only a fraction of the true cost of service. The government may subsidize the cost of rural service from its tax revenues. It has been argued that the socio-economic benefits of universal service are so positive on the functioning of the economy and the reductions in social costs associated with the criminal justice system, healthcare and other public

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<sup>19</sup> European Commission's Proposal for a Directive on Interconnection, COM(95) 379 (Brussels, 19 July 1995), at p. 21: "Where a Member State determines...that universal service obligations represent an unfair burden for an organisation, it may establish mechanisms for sharing the net cost of the universal service obligations... Contributions to the cost of universal service obligations may be based on a mechanism specifically established for the purpose and administered by a body independent of the beneficiaries, or may take the form of a supplementary charge added to the interconnection charge... Organisations with universal service obligations shall...calculate the net cost of such obligations... The calculation of the net cost of universal service obligations shall be audited by a competent body, independent of the telecommunication organisation." Annex III of that document provides the Commission's method for calculating the cost of universal service obligations.

service that universal service could be funded through general taxation rather than from within the telecommunication sector.<sup>20</sup>

No matter how universal service is financed, there should be transparency. In its proposal for an interconnection directive, the European Commission says "the calculation of the net cost of universal service should take due account of costs and revenues, as well as economic externalities and the intangible benefits resulting from providing universal service ... costs of universal service obligations should be calculated on the basis of transparent procedures ...[and] financial contributions related to the sharing of universal service obligations should be unbundled from charges for interconnection".<sup>21</sup>

Furthermore, the almost 70 countries who have signed the WTO agreement with its regulatory principles agreed that universal obligations will not be regarded as anti-competitive per se, provided they are administered in a transparent, non-discriminatory and competitively neutral manner and are not more burdensome than necessary for the kind of universal service defined by the Member State.<sup>22</sup>

The Report of the Second ITU Colloquium provides that "universal service policy should not only focus on the targets to be achieved (e.g., how widely service should become available in specific rural areas and by what date). It should also consider how cost-effectively resources are applied to achieving those targets."<sup>23</sup>

Clearly, these subsidies could initially serve as a means of encouraging the entry of new service providers and of forcing the local operator to be more efficient, but in the long run it could prove harmful to the public interest.

Thus, if competition is to remain transparent, fair and sustainable in the long term, it is worth considering the possibility of shifting from a policy of indiscriminately applied cross-subsidies to a policy of declared subsidies applicable to specific cases, for example the granting of a certain level of service free-of-charge to low-income users, or the construction of networks in areas that are not yet covered.<sup>24</sup>

## **4.6 Examples of national policies on universal access/service**

### *4.6.1 Japan*

In 1977, Nippon Telegraph and Telephone (now known as NTT since its privatization) reached a stage of development at which a telephone could be installed and connected anywhere in Japan. Although the company was privatized in 1980, the NTT Law stipulates NTT's continuing obligation to provide universal telephone service.

In Japan, funds are collected by issuing subscriber bonds. A "service and equipment charge" is normally levied for circuit installation. In addition, until 1983, purchasing bonds by telephone

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<sup>20</sup> "The socio-economic benefits of a universal telephone network" by Stephen Graham, James Cornford and Simon Marvin in *Telecommunications Policy* (Jan-Feb 1996), at p.10. On p. 4 of the same article, the authors also argue that focus on regulatory economics and the technical debate about the costs born by telecommunication companies in meeting universal service obligations have tended to ignore the potential wider benefits that truly universal telephone networks might bring to the economy and society.

<sup>21</sup> COM(95) 379 (Brussels, 19 July 1995), p.14.

<sup>22</sup> WTO Agreement, February 15, 1997, Regulatory Principles.

<sup>23</sup> *The Changing Role of Government in an Era of Telecom Deregulation*, Report of the Second Regulatory Colloquium (ITU Geneva, 1-3 December 1993), p. 56.

<sup>24</sup> The Blue Book, p.14 - paragraph 64.

subscribers who wanted a new and/or other telephone line were compulsory. This system accounted for approximately 55% of the total funds raised under the fifth five-year term of the plan that began in 1953.

In 1991, a system was established to allow local public entities to obtain State subsidies when building steel towers for mobile phone communications, as well as related telecommunication facilities, in designated rural areas. Under this system, the government bears one-third of the cost and the local public bodies bear the remainder, while telecommunication companies naturally pay for running costs.

In order to continue enhancement of telecommunications, the government has decided to complete a nationwide fiber optic network by 2010. To accelerate the creation of this network, the government instituted a low cost financing system in 1995. (This plan will be improved in 1996 - by instituting a no-interest bearing financing scheme to be applied to some businesses.) Meanwhile, among the Japanese carriers linking the country to others overseas, KDD provides an international telephone service to 232 countries and regions around the world.<sup>25</sup>

#### 4.6.2 *The United States*

As a result of sweeping new Telecommunications Act of 1996, universal service will be further stimulated in the United States. The new legislation reflects the U.S. Congress and the Clinton Administration's clear intent to protect, preserve, and advance universal service for the benefit of all Americans, including those of low income, those living in rural communities, and those with disabilities. The ultimate objective of this portion of the new statute is to make available advanced telecommunications and information services to all regions in the United States. Not only does the law preserve the concepts of quality of service at just, reasonable and affordable rates, it expands the definition of universal service to include advanced telecommunication and information services. Special provision is made for schools, healthcare facilities, and libraries to obtain access to advanced services at a discount. Telecommunication service providers must also ensure that service is usable and accessible by those with disabilities, if "readily achievable."

The law also provides that each telecommunication carrier that provides interstate and intrastate telecommunication services must contribute, on an equitable and non-discriminatory basis, to universal service. This will change the previous approach to universal service in which the required cost of universal service was levied on the long distance telecommunication carriers, and that cost was distributed among local telephone companies (monopolies) according to the subsidizing rates applicable to them.

Recognizing that the definition of universal service will continue to evolve, the 1996 Telecommunications Act directs the Federal Communications Commission to issue an initial definition of the services that will be financially supported by Federal universal service support mechanisms, and to revisit this definition periodically in the future, taking into account the public interest and the current state of telecommunications. The Federal Communications Commission is currently working with the State and local entities to establish rules to implement this new approach to universal service.<sup>26</sup>

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<sup>25</sup> See Contribution from Japan to Study Group 1 on "Universal Service".

<sup>26</sup> See Contribution from the United States to Study Group 1 "Summary of the Telecommunications Act of 1996."

#### 4.6.3 *Kenya*

Kenya's policy on promoting universal service obligations has revolved around dividing the entire country into cells of approximately (at most) 200 square kilometers, assessing and forecasting demand for various services within each cell on a continuous basis, and providing services to meet the identified customer requirements.

As part of universal service obligations, KPTC has continued to provide public telephone service (including telephone booths designed for customers in wheel chairs) and such specific services as free phones for security, fire, ambulance, etc. In general, rural telecommunication services have been subsidized by the profitable investments in urban areas.

However, it is expected that the government's policy on district focus for rural development (involving allocating an increasing share of available resources for rural development) will enhance the viability of telecommunication investments in rural areas. This will additionally promote the attainment of universal service obligations in Kenya's rural areas.

#### 4.6.4 *India*

Under the plan of "every village with a telephone," at the end of fiscal year 1995, telephones had been installed in 234,000 villages in India. Telephones will be installed in the remaining 345,000 villages over the next five years.

#### 4.6.5 *The People's Republic of China*

Under China's ninth five-year telecommunication plan (1996-2000), the projected telephone diffusion ratio and goal for the end of the term are "one telephone per urban household" and "ensuring all villages in rural areas have at least one telephone."

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