

## **V. UNIVERSAL ACCESS PROGRAMS IN LATIN AMERICA**

### **V.1 Introduction**

Latin American governments and regulators have pursued a wide variety of approaches to promote expansion of access to telecommunications networks and services in their countries. Most have followed multiple policies at the national and local levels, but often with a central set of initiatives whose primary focus has been an official “universal access” program of one kind or another. This chapter presents an overview of these key approaches and summarizes the main features and characteristics of the different mechanisms. The next chapter looks at the results of these programs have achieved in different countries and critically evaluates these.

Universal access policies and programs in the 19 RegulateI member countries generally follow one or a combination of the following four general approaches (Table V.1).

- a. Market liberalization combined with regulatory initiatives including universal access obligations and special regulations and conditions which favour projects and operations in uneconomic areas (almost all countries have adopted aspects of this approach);
- b. Universal access fund programs (12 countries out of which 10 are functioning);
- c. Other financing methods and project initiatives by national, state and local governments, cooperatives, NGOs and others (13 countries);
- d. State-mandated and controlled approaches using cross subsidies and other financing sources (3 countries).

The following sections describe how these four approaches have been adopted in some RegulateI member countries. The next chapter reviews the results achieved, does a critical evaluation of each of these approaches in terms of what has worked well and why, evaluates some of the problems encountered and responses to overcome these, and the lessons learned, The next chapter also contains a number of recommendations for the way forward.

**Table V.1 Approaches to Universal Access Policies and Programs in Latin America**

Country	a. Market liberalization combined with regulatory initiatives	b. Universal access fund programs	c. Other financing methods and project initiatives	d. State-mandated and controlled approaches
Argentina	<p><b>Decreto 764/2000</b> which introduces a fully liberalized licencing regime in Argentina.  <b>Res. 161/2005</b> which promotes the use of the 450 MHz band for local access</p>	<p><b>Fondo Fiduciario del Servicio Universal (FFSU)</b> was approved as part of the Decree 764/00 (Reglamento General de Servicio Universal (RGSU)) exists in legislation but has never been established</p>	<p><b>Programa Nacional para la Sociedad de la Información</b> (1999 – 2000) 3,000 telecentres            Initiatives of local cooperatives</p>	
Bolivia	<p><b>Ley de Telecomunicaciones</b> (Ley No. 1632 de 5 de julio de 1995), <b>Plan para la Apertura del Mercado en el Sector de Telecomunicaciones</b> (Decreto Supremo No. 26.005) along with a number of enabling regulations which liberalize the telecommunications market in Bolivia</p> <p>Various targets imposed on ENTEL (upon privatization) and new local operators including free telephones (for local calls) in schools and social assistance centres, installation, operation and maintenance of one telephone line and one public access terminal in localities with less than 350 inhabitants primarily in located in schools, social assistance centres and other places easily accessible to the community, etc.</p>	<p><b>Fondo de Acceso y Servicio Universal (FASU)</b>, a sector specific universal access fund, was proposed but never approved by parliament.  <b>Fondo Nacional de Desarrollo Regional (FNDR)</b> gets funding from the sector (frequency assignments, penalties, other) but is not a sector specific universal access fund.</p>	<p><u>Top-down projects:</u> <b>Servicio Nacional de Telecomunicaciones Rurales (SENATER)</b> – 1979, 1998  <b>Fondo Nacional de Desarrollo (FNDR)</b>  <b>Proyecto SITTEL</b>  <b>Proyecto IDTR</b>  <u>Other governmental and non-governmental bottom-up initiatives</u> e.g. <b>AOPEB, ICO, FINRURAL, ACLO, AGRECOL, APCOB, AYNI, CECAP, CEPROBOL, CIDOB, CIOEC</b></p>	

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<p><b>Brazil</b></p>	<p>Lei nº 9.472, de 16 de julho de 1997 - <b>Lei Geral de Telecomunicações</b> - LGT; Decreto 2534 - Aprova o <b>Plano Geral de Outorgas de Serviço de Telecomunicações prestado em Regime Público</b> and a number of other Decrees and Resolutions to open the telecommunications market in Brazil</p> <p>Universal access obligations, defined in Presidential Decree 2.592 of 15.05.98 (<b>Plano Geral de Metas para a Universalização (PGMU)</b>) and ANATEL Resolution 30 of 29.06.98 (<b>Plano Geral de Metas de Qualidade (PGMQ)</b>), imposed on the 6 operators whose concessions were awarded under the “public” regime.</p>	<p>Ley 9,998 of 17.08.00 (<b>Ley de Fondo de Universalización do Serviço de Telecomunicações (FUST)</b>) and Communications Ministry’s Decree 3,624 of 05.10.00 establishes a universal access fund (FUST). So far FUST has collected money but not disbursed any.</p>	<p><u>Federal, State and Local Government initiatives</u></p> <p>e.g. Federal Communication Ministry’s <b>GESAC Program</b> with over 4,000 installed telecentres in public locations and schools in 27 states targeting people from the C, D and E (lower) social classes in urban, rural, native and borders communities; (ii) the State of Sao Paulo’s <b>Acessa Program</b> which has deployed more than 200 telecenters and Internet access booths in urban and rural communities throughout the State also serving mainly the C, D and E social classes</p>	
<p><b>Chile</b></p>	<p><b>La Ley General de Telecomunicaciones</b> (Ley N°18.168) del 2 de octubre de 1982 and various subsequent modifications by decrees in 1987 and 1994</p>	<p><b>Fondo de Desarrollo de Telecomunicaciones (FDT)</b> created by <u>Ley General de Telecomunicaciones</u>, Ley 18.168 de 02/10/82 (Titulo IV) which describes its administration, objective (increase telecom coverage in low income rural and urban areas), type of projects (public telephones, telecentres, sound broadcasting,..), financing (National Treasury) and procedures.</p>	<p><b>Política Nacional de Infocentros Agenda Digital</b></p>	

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Colombia	<p>Principal pieces of legislation in the gradual opening of the telecommunications market: <b>Ley de Telecomunicaciones</b> (Ley 72 de 1989); <b>Estatuto de las Telecomunicaciones</b> (Decreto 1900 de 1990); <b>Ley de Telefonía Celular</b> (Ley 37 de 1993); <b>Ley de Servicios Públicos Domiciliarios</b> (Ley 142 de 1994); <b>Res. 86/1997 por la cual se reglamenta el proceso de concesión de licencias para el establecimiento de operadores de servicio de Telefonía Pública Básica Conmutada de Larga Distancia (TPBCLD)</b>; <b>Res. 87/1997 por la cual se reglamenta en integral los servicios de Telefonía Pública Básica Conmutada (TPBC) en Colombia</b>; <b>Ley de Servicios Personales de Comunicación PCS</b> (Ley 555 de 2000), <b>Decreto por el cual se dictan nuevas disposiciones para la prestación del servicio de larga distancia</b> (Decreto 2926 de 2005)</p> <p><b>Ley 142/94</b> (Domiciliary Public Services) establishes a <u>regime of subsidies and contributions</u> for local domiciliary telephone service between high and low income users; higher income users (stratus 5, 6, and commercial) subsidize telephone service of low income (stratus 1,2, and 3) users by up to 20% of their telephone bills;</p>	<p>Ley 142/94 also establishes the Telecommunications Fund (<b>Fondo de Comunicaciones or FCM</b>) and requires it to invest in social telephone programs in low income rural and urban areas.</p> <p><u>Conpes</u> (Consejo Nacional de Política Económica y Social) 3032 (<b>Programa Compartel de Telefonía Social</b>) established <b>Compartel</b>, the universal access program in 1999 and defined the initial program for period 1999 – 2000;</p> <p>Rules for development of social telephony programs and regulations for the functioning of the Telecommunications Fund are established in Decree 899 of 1999. Its nature and objectives are defined in Decree 1130/1999.</p> <p><b>Compartel</b> projects are financed out of the <b>FCM</b>. Other projects such as Agenda de Conectividad (<a href="http://www.agenda.gov.co">www.agenda.gov.co</a>), Programa Comunidad para Emisores Indigenas, and Programa Computadores pasa Educar (<a href="http://www.computadoresparaeducar.gov.co">www.computadoresparaeducar.gov.co</a>) are also financed out of the <b>FCM</b> but separately from <b>Compartel</b>.</p>		

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<b>Costa Rica</b>	There is currently no telecommunications law. A law is being drafted.	None	<p><b>Programa Comunicación sin Fronteras</b> community telecentres project to promote the use of ICTs</p> <p><b>PRONIE</b> project to provide computer training in 532 schools</p> <p><b>LINCOS</b> community telecentre project</p> <p><b>Infoagro</b> agricultural information network project.</p>	Universal access initiatives of monopoly state owned operator, ICE and its VAS subsidiary RACSA
<b>Cuba</b>	<p>There is currently no telecommunications law.</p> <p>Build out and network improvement obligations have been imposed on the partially privatized monopoly, ETECSA, in its concession contract.</p>	None		Universal access initiatives of the Ministry of of Informatics and Communications.
<b>Ecuador</b>	<p><b>Ley Especial de Telecomunicaciones Reformada</b> (Ley 2000-4) and <b>Reglamento General a Ley Especial de Telecomunicaciones Reformada</b> (Decreto Ejecutivo No. 1790, de 23 de agosto del 2001) and a number of enabling regulations fully liberalize the telecommunications market.</p> <p>Universal access obligations have been imposed on 7 national fixed line and 3 mobile operators in their concession contracts.</p>	<p>CONATEL Resolution No.-380-17 (05.09.00) confirms the state's responsibility to provide universal access and services;</p> <p>CONATEL Resolution No. 394-18 (28.09.00) defines scope, objectives, administration, financing, and operation, of the <b>Fondo para el Desarrollo de las Telecomunicaciones en Areas Rurales y Urbano Marginales (FODETEL)</b>.</p>		

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El Salvador	<p><b>Ley General de Telecomunicaciones</b> (Decreto Legislativo No. 142 del 6 de noviembre de 1997, Diario Oficial N° 218, Tomo 337 del 21 de noviembre de 1997)</p> <p><b>Reformas a la Ley General de Telecomunicaciones</b> (Decretos Legislativos N°387 y N°518 del 29 de noviembre del 2004)</p> <p><b>Reglamento de la Ley General de Telecomunicaciones</b> (Decreto Ejecutivo N° 64 del 15 de mayo de 1998, Diario Oficial N° 88, tomo 339 del 15 de mayo de 1998, fully liberalize sector</p>	<p><b>Fondo de Inversion en electricidad y Telefonía (FINET)</b> created by Decree 960 of 1997.</p>	<p><b>Infocentros</b> (telecentres) financed by <b>FANTEL (Fondo Nacional de Telecomunicaciones)</b> whose funds come from the sale of the state telecommunications company.</p> <p><b>Conéctate</b> e-learning initiative of the Ministries of Education and of Technology</p> <p><b>Centros Recursos para Aprendizaje (CRA)</b> of the Ministry of Education;</p> <p>Other projects included in <b>Plan Puebla Panama</b>.</p>	
Guatemala	<p><b>Ley General de Telecomunicaciones (1996)</b> liberalizes the market</p>	<p><b>Fondo para el Desarrollo de la Telefonía (FONDETEL)</b> created by the 1996 Ley General de Telecomunicaciones.</p>	<p><b>Contacto</b> project of <b>AGEXPRONT</b>, the association of non traditional product exporters and USAID to support small and medium exporting enterprises.</p> <p><b>PRONACOM</b> initiative of several ministries;</p> <p><b>Last Mile Initiative (LMI)</b> of USAid and its partners, Planeta en Linea, AGEXPRONT, and Unitel/Metrovia to establish pre-WiMAX based local access networks in 5 pilot locations</p>	

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<b>Honduras</b>	<b>Ley Marco del Sector de Telecomunicaciones (LMT)</b> , 1995 deregulates sector.		<p><b>Telecentros Comunitarios Polivalentes (TCP)</b> project financed jointly by the World Bank, the OAS and Ministry of Science and Technology</p> <p><b>Telefonia para todos (TpT)</b>, a private sector initiative without subsidies and which focuses only on commercially viable areas;</p> <p><b>Aloo.com</b> (free e-mail access through telephone lines) projects of the Institute for Connectivity in the Americas (ICA);</p> <p><b>Centros de Conocimiento, Comunicación y Capacitación</b> Internet and telephone <u>access</u> (source of funds and administration unknown)</p>	<p><u>Telefonia para todos</u> initiative (Executive Decree 138-2003 by which the state owned fixed line monopoly (until 25.12.05) HONDUTEL extended fixed telephone service in the country.</p>
<b>Mexico</b>	<p><b>Ley Federal de Telecomunicaciones, LFT</b> (1995) opens sector</p> <p>Expansion and quality of service obligations imposed on Telmex (in its concession contract) from 1990 (when it was privatized) until 1995.</p>	<p>No universal access fund foreseen in the legislation ; however, the <b>Fondo de Cobertura Social de Telecomunicaciones (FCST)</b> was established on a temporary basis to fund “social and rural coverage programs mentioned in the 1995 Telecommunications Law. The FCST is managed by a technical committee through the Secretary of Transport and Communications;</p>	<p><b>Programa de Telefonía Rural</b></p> <p>e-Mexico’s <b>Centros Comunitarios Digitales (CCD)</b> initiative</p> <p>Various other programs of local governments, non governmental organizations and foundations including:</p> <p><b>Centros de Tecnología Educativa, Centros de Saber, Tyldes</b> projects to connect schools; the <b>Internet en mi Biblioteca</b> project, the <b>Plazas Comunitarias</b> adult education program, etc.</p>	

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Nicaragua	Ley General de Telecomunicaciones y Servicios Postales (Ley 200), 1995	Fondo de Inversión de Telecomunicaciones (FITEL) established by Executive Decree 84-2003 (03.12.2003)	<p><b>PROCOMPE</b> telecentre project for SME financed by the World Bank</p> <p><b>SIA-MAGFOR</b> agricultural information project</p> <p><b>Cyberescuelas 2.0</b> project to facilitate access to ICTs in rural schools financed by USAID, the Fundación Nicaragüense – Americana, Telefonica and other operators and private companies</p> <p><b>Gestion Territorial La Sabanas</b> financed by the European Commission and a number of Spanish government agencies, private enterprises and NGOs</p>	

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<p><b>Panama</b></p>	<p>Following are the three key pieces of legislation which liberalize the telecommunications market in Panama: <b>Ley 31</b> de 8 de febrero de 1996 (Por la cual se dictan normas para la regulación de las telecomunicaciones en la República Panamá), <b>Decreto Ejecutivo No. 73</b> de 9 de abril de 1997 (por el cual se reglamenta la Ley No.31 de 8 de febrero de 1996, por la cual se dictan normas para la regulación de las telecomunicaciones en la República de Panamá) and <b>Ley No. 24</b> de 30 de junio de 1999 (por la cual se regulan los servicios públicos de radio y televisión y se dictan otras disposiciones). According to these the State is responsible for providing telecommunications services in difficult and uneconomic areas.</p> <p>Obligations are contained in C&amp;WP's concession contract (Metas 18 y 19)</p>		<p>The <b>Infoplazas</b> telecentre initiative which has financial and technical support of the Inter-American Development Bank (IADB), the Fundación Infoplazas de la Secretaria Nacional de Ciencia Tecnología (SENACYT), other government departments, local and municipal governments, NGOs, civil groups and private enterprises</p>	
<p><b>Paraguay</b></p>	<p>According to the Telecommunications Law Ley 642/95) all telecommunications services except point-to-point switched telephone are liberalized (Art. 21).</p> <p>Universal access goals are achieved through subsidies awarded to telecommunications companies from the universal access fund.</p> <p>There are no universal access obligations imposed on operators.</p>	<p><b>Fondo de Servicios Universales (FSU)</b> established by Law 642/95, the telecommunications law and regulated by Reglamento del Fondo de Servicios Universales (Res. 132/1999 (06.05.99) modified by Res. 34/2002 (07.01.02)</p>		

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Peru	<p>Several pieces of legislation define the framework for a fully liberalized telecommunications market in Peru including : <b>Texto Único Ordenado de la Ley de Telecomunicaciones</b> (Decreto Supremo N° 013-93-TCC) del 6/5/93; <b>Texto Único Ordenado del Reglamento General de la Ley de Telecomunicaciones</b>, Decreto Supremo N° 027-2004-MTC, del 09/07/04; Reglamento General de la Ley de Telecomunicaciones del 18/2/94 (D.S. 06-94 TCC) y sus modificaciones de 26/3/98, 13/8/98, 21/1/99, 21/1/99, y 30/6/02; Ley 26.285 <b>Ley de Desmonopolización Progresiva de los Servicios Públicos de Telecomunicaciones</b> del 14/1/94 <b>Lineamiento de Apertura del Mercado</b> del 5/8/98</p> <p>Telecommunications market was opened fully on 1 August 1998 when exclusivity for fixed telephone and long distance carrier services expired.</p> <p>Universal access and other obligations were imposed on Telefonica at privatization in 1994 including the deployment of a number of public telephones throughout the country.</p>	<p><b>Fondo de Inversión de Telecomunicaciones (FITEL)</b> established by the 1993 Telecommunications Act (Texto Único Ordenado de la Ley de Telecomunicaciones (Decreto Supremo N° 013-93-TCC) del 6/5/93)</p>	<p>Various projects sponsored by NGOs Telefónica del Peru's <b>Llaqt@red</b> telecentre project</p>	

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<b>Republica Dominicana</b>	<p>Telecommunications market was liberalized through the Telecommunications Law (<b>Ley de Telecomunicaciones No. 153-98</b>)</p> <p>There are no universal access obligations imposed on operators.</p>	<p><b>Fondo de Desarrollo de las Telecomunicaciones (FDT)</b> established by INDOTEL Resolution No. 17-01 of 23.03.01; basis contained in <b>Ley de Telecomunicaciones No. 153-98</b></p>	<p>Various projects including Internet in public libraries and cultural centres, e-government, digital cities, e-learning, e-health and <b>LINCOS</b> projects sponsored by Despacho de la Primera Dama de la Republica (Depridam) and other government departments.</p>	
<b>Uruguay</b>	<p>There is no telecommunications law; however, a number of laws establish a framework for fair competition including <b>Ley 17,243</b> (Art. 13-15), <b>Ley 17,296</b> (Art. 157-158) and <b>Ley 17,556</b>. <b>Decree 86/001</b> of 02.02.01 establishes an antimonopoly commission within the Ministry of Finance and Economics.</p> <p>There are no universal access obligations imposed on operators.</p>			<p>Universal access initiatives of monopoly state owned operator, Antel</p>

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Venezuela	<p><b>Ley Orgánica de Telecomunicaciones (Ley 36,970 del 2 de julio de 2000)</b> provides the framework for an open telecommunications market in Venezuela.</p> <p>Telecommunications market was completely opened on 27 Nov. 2000.</p> <p>CANTV had a number of build out and quality improvement obligations imposed on it in 1991 when it was privatized including the installation of 355,000 new lines and modernization of 75,000 each year until 2000 and the establishment of a development plan for basic services in rural areas with less than 5,000 inhabitants.</p>	<p><b>El Fondo de Servicio Universal (FSU)</b> established in Art. 54 of the 2000 Ley Orgánica de Telecomunicaciones</p> <p><b>Reglamento de la Ley Orgánica de Telecomunicaciones Sobre el Servicio Universal de Telecomunicaciones, 2003</b> gives details of the functioning of the universal services fund.</p>		

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**Table V.1  
Nature of Universal Access Policies and Programs in Latin America**

## V.2 Market liberalization and regulatory initiatives

### V.2.1 Overview

As of the end of 2005 when Honduras ended state owned HONDUTEL's fixed line exclusivity all Regulate member countries except Costa Rica, Cuba and Uruguay had completely opened their telecommunications markets (Table II.1) and with the exception of Cuba all of these countries had already introduced policies which have facilitated multiple competing operators and service providers in all sub sectors including mobile as a way to increase access. Most have at least 3 mobile operators (Honduras still has only 2). Brazil and Paraguay have in some cases 5 or 6 mobile operators in the country in a given area. This has contributed to the relatively high mobile penetration rates in these countries. (Table V.2)

Guatemala, for example, has relied on market liberalization combined with the establishment of a universal access fund but without any universal access obligations having been imposed on Telegua (now owned by a consortium headed by Telmex) when it was privatized in 1998. The government has relied mainly on a very liberal regime and a universal access fund (see below) to provide access in rural and remote areas. Entering the market is relatively easy for all services. There is no restriction on the number of operators and service providers that can enter the market<sup>1</sup>. For most services it is enough to register.

In most other countries in the region, competitive market entry has also driven expansion of access, in both fixed line and mobile services, and increasingly in Internet access services. As discussed in the previous chapter, mobile telephone service growth, and its potential for even further market-based expansion, has been the most visible and successful consequence of liberalized markets (albeit markets in which the number and scope of licenses are still subject to entry limitations). As explained, access to mobile network coverage already surpasses 70% of the population in most Latin American

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<sup>1</sup> There are 13 fixed line operators, 4 mobile operators, 17 international long distance operators and service providers, 5 data transmission operators and about 20 ISPs.

countries, and the market gap for these services is typically quite small wherever there is open competition.

As mentioned in Chapter II, when governments privatized their state telecommunications monopolies they often imposed build-out and service quality obligations on them in return for giving them a limited period of exclusivity. Often these also required expansion of the network in remote, rural and underserved areas. In some countries these obligations ended when the period of exclusivity ended; in others they have been renewed and also applied to some or all new entrants. Build-out and service quality obligations have thus become one of several approaches that policy makers and regulators in the Regulatee member countries have used to achieve their universal access goals in conjunction with market liberalization.

**Table V.2: Cellular mobile market in Latin America**

Country	No. of operators	Standards employed	Penetration %		CAGR
			1996	2005	
Argentina	4 in each of 3 areas	AMPS/TDMA, CDMA, GSM	1.9	57.3	53.1
Bolivia	4 national	GSM, TDMA	0.4	26.4	66.8
Brazil	Up to 6 per area (10 areas)	GSM, TDMA, CDMA	1.6	46.3	52.5
Chile	3	GSM, CDMA	2.2	67.8	53.4
Colombia	3	GSM, CDMA	1.3	47.8	56.5
Costa Rica	1	GSM	1.4	25.5	44.1
Cuba	1 (2 companies were merged into one)	GSM, AMPS/TDMA	0.0	1.2	64.7
Dominican Republic	4	CDMA/GSM	1.1	40.7	57.2
Ecuador	3 national	CDMA/GSM	0.5	47.2	76.1
El Salvador	4	CDMA/GSM	0.4	35.1	74.8
Guatemala	4	CDMA/GSM	0.4	25.0	66.5
Honduras	2	GSM	0.0	17.8	115.9
Mexico	2 operate in all 32 states; 1 in 28 and 1 in 17	GSM, CDMA	1.1	44.3	59.2
Nicaragua	3	GSM, CDMA	0.1	19.7	89.1
Panama	2	GSM, CDMA	0.3	41.9	88.6
Paraguay	6 (one, COPACO, is not operating)	AMPS/TDMA, GSM	0.7	30.6	61.5
Peru	3	GSM, CDMA	0.8	20.0	48.6
Uruguay	3 national	GSM, CDMA*, TDMA*	2.5	18.5	28.5
Venezuela	2 national; 3 regional	GSM, CDMA	2.6	46.7	43.8

Source ITU WTI 2005 and other \* in the process of being phased out

### V.2.2 Experiences with universal access obligations

Brazil, Bolivia, Panama, Mexico and Cuba amongst others have relied in a large measure on universal access obligations imposed on incumbent and new operators licensed under a market reform policy and usually in conjunction with one or several of the other three approaches to promote universal access.

In Brazil universal access obligations were imposed on the Telebras system before it was privatized in 1998<sup>2</sup>. Today these are imposed only on the 6

<sup>2</sup> By way of Presidential Decree 2.592 of 15.05.98 (Plano Geral de Metas para a Universalização (PGMU)) and ANATEL Resolution 30 of 29.06.98 (Plano Geral de Metas de Qualidade (PGMQ))

operators whose concessions were awarded under the “public” regime<sup>3</sup>. (See Box V.1) Other operators who are in the “private” regime, which includes all other service providers except VAS, radio and television, have no universal access obligations but like operators in the public regime have to contribute 1% of their net operational revenues to FUST, the universal access fund.

**Box V.1: The public and private regimes in the Brazilian telecommunications sector**

According to the General Telecommunication Law of 1997 (LGT n° 9472 of 16 July, 1997) telecommunications services can generally be provided either under the: public and private regimes. The former is considered to be fundamental to the country such that if no private firm is willing to provide them the state would have to do so. Today only fixed telephone (STFC = PSTN) services are provided under the public regime. These are provided by private firms with concession contracts given for a fixed period of time. All other services [Mirror STFC, SMP (PCS), SLE (private networks), SME (trucking), SCM (multimedia including transport network, SRTT (audiovisual signal transmission, data communications, and dedicated circuit services.), MMDS, SMGS, DTH (satellite) etc] are provided under the private regime. They are authorized by an act of government. Services in the public regime are subject to tariff regulation, a fixed term contract, and reversion; that is, if the concession is terminated by the government it must pay the concession holder the equivalent of the value of the unamortized assets of the company. Also if the government changes the conditions of the contract, the operator is entitled to compensation as, for example, of an increase in allowable tariffs.

Services in the private regime do not have regulated prices, fixed terms nor reversion privilege. While the operating licences have no fixed term, the frequency authorization which these operators (SMP, SME, etc) might need have to be obtained under the public “concession” regime. These are generally fixed for 20 years (15 years for SMP) and renewable only once. A special category of concession applies to the Band A and B (800 MHz) mobile (SMC) services. These are issued under Law on Public Concessions 8987/95, which preceded the GTL of 1997. The new PCS (Band D and E) licences are being provided under the private regime and are therefore not price regulated. Value added services are not considered to be telecommunications services and therefore fall outside the scope of the public and private services regimes. This is also the case for radio and TV licences.

Since the universal access obligations defined in the PGMU ended on 31 December 2005, ANATEL negotiated a new set of obligations with these operators, in conjunction with the renewal of their 6 STFC (“public”) concessions. These include:

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<sup>3</sup> The six operators in the public regime are: Telemar (Region I), Brasil Telecom (Region II), Telefonica (Region III), Embratel (Region IV), CTBC (Sector 34) and SERCOMTEL (Sector 20). The first four of these resulted from the privatization of Telebras.

- Offering individual fixed line subscribers a prepaid regime which will allow them to manage their calling according to their budgets, to receive calls and to access the Internet (Acesso Individual Classe Especial or AICE). Telefonica's prepaid scheme is described in Chapter VIII;
- Installation of telephone cabins each with 4 payphones (Telefones de Uso Público or TUP) and 4 public access terminals (Terminais de Acesso Público or TAP) which allow access to the Internet, text messaging, etc., in all towns of at least 50,000 persons within the operators' concession areas;
- Providing access for rural cooperatives (Unidade de Atendimento de Cooperativa or UAC);
- Making virtual (soft) telephones available;
- Providing fixed telephone service to anyone in localities with more than 300 inhabitants within one week of receiving a request;
- Providing a public telephone service in any locality with more than 100 inhabitants within one week of receiving a request to provide such a service;
- Adapting 2% of public telephones for use of the handicapped (visual, hearing and other) or approximately one public phone for each group of 750 people.

All STFC operators must also contribute 1% of their operating revenues as regulatory fees<sup>4</sup>.

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<sup>4</sup> ANATEL's operation is normally funded out of FISTEL (Fundo de Fiscalização dos Serviços de Telecomunicações) created in 1966 and transferred to the exclusive administration of ANATEL by virtue of the LGT (Art. 50). FISTEL is funded through a 1 % levy on all operators' (in the public and private regimes) operating revenues, spectrum usage fees, fines, installation and operating inspection fees, indemnifications, etc. (Art. 51.2 of the LGT). ANATEL must, however, submit its annual budget to the Ministry of

In Peru universal service obligations were imposed on the incumbent, *Teléfono del Perú*, upon privatization in 1994<sup>5</sup>. In addition to quality of service, reporting and other requirements and having to financially contribute to the Universal Access Fund (1% of billed and received invoices) and the operation of OSIPTEL (0.5% of billed and received invoices) *Telefonica* was obliged to install over 3,000 rural payphones throughout the country.

In Bolivia, the 1995 Telecommunications Law<sup>6</sup> foresaw expansion of rural coverage through several means:

- Universal access obligations related to rural and other areas (to be defined by SITTEL) and quality of service obligations are included in four of 16 operators' (the privatized long distance operator, ENTEL, and the three regional cooperatives, COMTECO, COTEL, COTAS which also cover rural areas) concessions, mobile operators and new entrants. These which were in effect until 2000 and required, inter alia, expansion of local telephone networks into adjacent rural areas, installing a fixed telephone line within 15 days of receiving a request, and providing service to specified localities in the areas served by some of the larger of the 16 local cooperatives and ENTEL. New targets which have been in effect since 2000 include: (i) for new local

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Communications which then submits it to the Ministry of Planning and Budget as part of its own overall budget, (Art 49 of the LGT). In practice ANATEL has been receiving only a part of the funds made available to FISTEL and over which it should normally have exclusive administrative control according to the law. In reality, however, it appears that like with FUST the government has been using the difference between what it collects and what it actually allows ANATEL to spend to bolster its savings ratios to satisfy requirements of international commercial and development lending institutions.

<sup>5</sup> These included, inter alia, the obligation to contribute to FITEL and to the running of OSIPTEL, to maintain continuity of service in areas served previously by the state monopoly unless otherwise permitted by OSIPTEL, apply international best practices in leasing circuits, install public telephones, maintain an acceptable level of quality of service (mean time between failure, completed calls, etc.), reduce wait times from 3 months in 1998 to 10 days in 2001, permit inspections by OSIPTEL, protect data and user information, implement an acceptable accounting system, provide an acceptable customer service, provide OSIPTEL with requested information, respect tariff, interconnection and other regulations, and respect competition rules. See Clauses 6, 8 and 9 of *Telefonica del Perú's* Concession Contract. Not all the contracted obligations were met by *Telefonica* which was fined as a result.

<sup>6</sup> Article 7 requires concession contracts to contain obligations with respect to rural communications. Article 27 requires operators to operate, maintain and expand rural services in accordance with their contractual obligations. Article 35 states that expansion and quality of service targets are to be defined in concession contracts. Article 133 introduces the concept of Extended Rural Areas whereby a local operator has to provide service in neighbouring rural areas.

operators expansion of their networks in local and rural areas and the installation of free telephones (for local calls) in schools and social assistance centres in addition to build-out targets (ii) for new long distance operators, the installation, operation and maintenance of one telephone line and one public access terminal in localities with less than 350 people located primarily in schools, social assistance centres and other places easily accessible to the community in addition to build-out targets, and (iii) for new public telephone operators, the installation, operation and maintenance of free public telephones (for local calls) in public access ways in peri-urban areas in addition to their build-out targets.

- The establishment of a special fund, Fondo Nacional de Desarrollo Regional (FNDR), for unprofitable social interest projects in rural areas financed out of licence (spectrum and operating) fees, fines, licence transfer fees, etc. to be managed by the Government, not the regulator. These projects were to have been implemented through the Programa Nacional de las Telecomunicacines Rurales (PRONTER) which was created in 2002 but later abandoned.
- A national ICT strategy developed under the Agencia para el Desarrollo de la Sociedad de la Información en Bolivia (ADSIB)

In Panama, which like Bolivia does not have a universal access fund, universal access obligations were included in the incumbent operator's (Cable & Wireless Panama = C&WP) April 1997 concession contract, including an obligation to provide local basic telephone services at fixed (universal access) rates<sup>7</sup>. More specific objectives were contained in Target 18 of C&WP's concession contract, which required C&WP to install a public telephone in 670 rural localities and Target 19, which obliged it to maintain public telephones in 121 other localities by 2002<sup>8</sup>. None of the other 65 concession holders have

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<sup>7</sup> Clause 40 and Annex E of contract which deal with tariffs. The following tariffs are stipulated in Annex E: Monthly line rental charge = US\$ 6; local calling rate = US\$ 0.03/min.

<sup>8</sup> There were other quality of service (as opposed to expansion) targets.

universal access obligations. They can provide the services they want and where they want.

In Mexico the 1995 Federal Telecommunications Law mentions the need to implement programs to provide social and rural coverage but does not establish a universal access fund. In its concession contract signed before the law was even conceived let alone adopted, Telmex was obliged from the time of its privatization in December 1990 until 1995 when it was originally planned to liberalize the market to (i) expand the network (number of lines) at a rate of at least 12%/year; (ii) install telephone lines in population centres of 500 people or more; (iii) increase public payphone density from 0.8 per 1000 population to 5 per 1000; (iv) reduce wait times for new subscribers from 6 months to 1 month. The market was not liberalized until 1997.

In Cuba ETECSA, the partially privatized fixed and mobile monopoly is obliged, inter alia to: (i) increase the number of fixed and mobile lines to achieve a total of 1,125,000 by 2008; (ii) build an alternate national backbone network using fibre optic technology by 2007 and digitalize 90% of the network by 2008; (iii) install 50,000 payphones using non convertible pesos; (iv) offer service in all population centres with more than 300 people; and (iv) guarantee connection to the Internet by anyone with a fixed telephone.

### **V.3 Universal access funds**

#### **V.3.1 Introduction**

The highly publicized and successful universal access programs in Chile, Peru, Guatemala, Paraguay the Dominican Republic, Colombia, and some other Regulatee member countries have become standards worldwide for the design and implementation of mechanisms for channeling targeted subsidies toward universal access objectives. The first universal access fund in Latin America was established in Colombia in 1976. This was followed by funds in Chile in 1995, Paraguay, El Salvador and Guatemala in 1997, the Dominican Republic in 1998, Peru and Brazil, in 2000, Mexico in 2002, and Nicaragua in 2004.

Panama amongst others is contemplating establishing and implementing a similar fund program.

In total 12 of the 19 Regulatee member countries (Argentina, Brazil, Chile, Colombia, Ecuador, El Salvador, Guatemala, Nicaragua, Paraguay, Peru, the Dominican Republic and Venezuela) have adopted some version this universal access fund approach as a core element of their telecommunications policies. They are not, however, all fully operational as yet. Argentina has not established its Fondo Fiduciario del Servicio Universal (FFSU) and in Brazil there has been controversy over how the large amounts of cash which have been accumulating currently at the rate of R\$ 600 million (= US\$ 250 million) each year in the Fundo de Universalização do Serviço de Telecomunicações (FUST), the universal access fund, are to be spent. In Mexico no universal access fund was foreseen in the 1995 telecommunications law; however, a temporary fund for “social and rural” coverage” mentioned in the 1995 act, has been established. It receives its funding from the State’s Consolidated Revenue Fund. In Bolivia a regional development fund (Fondo Nacional de Desarrollo Rural or FNDR) but not a universal access fund has received money from frequency assignment fees, penalties and other. Very little of the accumulated funds has been spent so far. Bolivia had planned to establish a universal access fund, Fondo de Acceso y Servicio Universal, but parliament was compelled to reject the proposed legislation because of a strong lobby by operators. In El Salvador the fund serves both the electricity and telecommunications sectors.

The main characteristics of these funds are discussed in the next sections. More details on each country’s universal access fund programs in the 14 countries that have such programs can be found in Appendix 4.

### V.3.2 Characteristics of universal access programs/funds in Latin America

While the basic organizational and operational concepts of these funds are similar in most countries, there are differences with respect to their legislative underpinning, how they are administered, their source of funds, the types of

projects that are funded and the criteria for their selection, and the types of operators implementing these projects and the conditions and obligations that are imposed on them.

a. Legislative underpinning

Most universal access fund programs in Latin America have their legal underpinnings in the country's basic telecommunications law (Chile, Guatemala, Paraguay, and Peru). In Brazil and El Salvador these have been established through specific legislation and clarified in implementing regulations.

In Colombia the Telecommunications Fund (FCM) was, as mentioned, established in 1976; however, the current universal access program, Compartel resulted from a separate decree issued in five years later in 1999<sup>9</sup>. Compartel is funded out of the FCM

In Argentina the universal access fund, Fondo Fiduciario de Servicio Universal (FFSU) was established by the same decree that fully liberalized the telecommunications sector in 2000<sup>10</sup>.

In Nicaragua the Fondo de Inversion de Telecomunicaciones (FITEL) was established by an executive decree in December 2003<sup>11</sup>. Its functions, which are described in the enabling regulations for the law which established the regulator, are to promote universal access in rural areas where investment is costlier than in high density areas, social and economic development in these areas, private sector participation in promoting telecommunications services and the participation of the people who will eventually benefit in defining their

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<sup>9</sup>Decreto 1130 defines the nature (Special administrative unit, legal personality, attached to the Ministry of Communications), objectives (finance universal access projects) and functions of the Telecommunications Fund and Decreto 899 regulates the functions of the Telecommunications Fund and defines policies with respect to the development of Social Telephony

<sup>10</sup> Reglamento General del Servicio Universal (RGSU), Anexo 3 del Decreto N° 764/2000, el cual establece la liberalización total del mercado de telecomunicaciones en la República Argentina a partir del 9 de noviembre de 2000.

<sup>11</sup> Decreto 84-2003, Constitución, Administración y Funcionamiento del Fondo de Inversión de Telecomunicaciones y Servicios Postales, Gaceta Oficial 03.12.03

needs<sup>12</sup>. Interestingly, the FITEC's provisions do not contemplate it being used to subsidize universal access projects.

The telecommunications acts of Chile, Peru and Venezuela present particularly good examples of legislation in which the key parameters (objectives, functioning, administration, types of projects eligible for funding, source of funds and procedure for awarding of subsidies) are described precisely but succinctly in the primary sector legislation with the details (tariffs, interconnection charges and conditions, quality of service requirements, etc.) left to the implementing regulations. This is important because there is a strong correlation between the success of a universal access program and the precision with which the basic parameters are defined in the legislation and how well and transparently the fund is administered. The combination of law and regulations ensures that there is a sufficient degree of flexibility to adjust the program when changing circumstances require it.

Whether or not universal access and/or universal service is defined in a country's legislation does not appear to have had a bearing on how successful or unsuccessful these programs have been. Neither is defined in the legislation of Chile or Guatemala while in Peru only universal access is defined and then only in fairly broad terms<sup>13</sup>. Both are defined through a resolution in Colombia<sup>14</sup>.

Where defined in the legislation the objectives of universal access fund programs have been done so in terms of how easy and close it is for people to access basic telephone services (in Brazil also to the Internet) in low income rural and urban areas. In Brazil and Paraguay the stated objectives also include promoting access for education, health, culture, emergency services and security. The objective becomes the measurement by which the success of

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<sup>12</sup> Reglamento de la Ley Orgánica del Instituto Nicaragüense de Telecomunicaciones y Correos (TELCOR), Gaceta Oficial, 07.12.04

<sup>13</sup> Defined in the implementing regulations [Texto Único Ordenado del Reglamento General de la Ley de Telecomunicaciones, Decreto Supremo N° 027-2004-MTC, del 09/07/04, Art. 9] as "Access in the national territory to an ensemble of essential public telecommunication services i.e. those which are available to a majority of users and being provided by public service telecommunication operators."

<sup>14</sup> Universal Service is defined as "Generalized access for households to basic telecommunication services, initially telephone services and eventually other services technology advances and resources permitting. [Resolución CRT 575/2002];. See above for definition of Universal Access."

a universal access program is determined. In Peru the objectives of the FITEL I, II, III, and IV programs (2000 – 2004) have been to bring a public telephone to within 5 km of anyone anywhere in the country. Similarly in Colombia the objectives of Compartel program (1999 – 2002) have been to provide a public telephone and subsequently Internet access to anyone within 5 km of the more than 22,000 localities with more than 150 people. In Bolivia the objective of a SITTEL-initiated but never implemented project had been to put a telephone within 2 km (maximum 24 minutes walking distance) of anyone living in rural areas. In Venezuela the general objectives of the universal services (as opposed to universal access) program defined in the Telecommunications Law are to promote national integration, maximize access to information, support the development of educational and health services and reduce the inequality in access to telecommunications services in the population<sup>15</sup>. Priority areas of action defined in this Law are to ensure that everyone has access to a fixed telephone and that all subscribers should obtain a free printed telephone directory, that there should be a sufficient number of public telephones in public spaces, that everyone should have access to the Internet and that there should be provisions to facilitate handicapped access to telephones.

In Nicaragua universal access is defined as public access to a set of essential telecommunications services, namely, those which are made available to a majority of users by telecommunications operators independent of the technology used.

b. Administration of universal access programs/funds

Three important criteria for administration of universal access funds are that: (i) their administration be independent of political influence and pressure which dominant operators and service providers may and often do exert; (ii) the process for application of funds be transparent; and (iii) there be a place for the public and stakeholders to participate in the definition of universal access

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<sup>15</sup> Art. 49, Ley Orgánica de Telecomunicaciones, Gaceta Oficial No. 36.970 de lunes 12 de junio de 2000 and Art. 3 of Reglamento de la Ley Orgánica de Telecomunicaciones Sobre el Servicio Universal de Telecomunicaciones

programs and deciding on projects to be funded. The following examines how some funds in Latin America fare in this respect.

In practice, universal access funds in Regulateel member countries are administered either by the same body that regulates telecommunications (Brazil, Chile, El Salvador, Paraguay, Peru, Dominican Republic, Nicaragua and Venezuela) or by the government department responsible for the sector (Colombia, Guatemala). In Brazil, Paraguay, and Peru the function is integrated completely into the regulatory body, but the universal access funds are treated completely separately from other financial resources of the regulator. Here administration of the fund is independent to the same extent as is the regulator. In Chile and Guatemala they are administered by an independent council or board (Consejo de Desarrollo de las Telecomunicaciones in Chile and Consejo de Administracion de Fondetel in Guatemala). In Peru FITELE is administered by the same Executive Council which administers the other regulatory functions of OSIPTEL, the telecommunications regulator, but separate from it. The Executive Council is an independent body but its universal access projects have to be approved by the Ministry of Transport and Communications, the government department responsible for the sector. In Chile the law states that the Council which administers the Fund (4 ministers, 3 outside experts, and a representative of the ministry responsible for the sector) has complete autonomy to administer and manage the Fund and to take decisions with respect to projects to be funded. This is also the case of Guatemala where the Council consists of 4 members with 2 of them appointed by the President and 2, by the Minister. In Argentina the Reglamento General del Servicio Universal (RGSU) foresees that the Fund should be administered by a council (Consejo de Administración) made up of 10 people, with the chairman appointed by the Ministry of Economy (responsible for the sector), one by the Ministry of Defense, one by the telecommunications regulator (CNC), two by the large operators, one by the independent operators, three by the provinces and one by the consumers' association.

In Venezuela the universal services fund (FSU) is administered by a board (Junta de Evaluación y Seguimiento de Proyectos) consisting of the head of

the telecommunications regulator as its president, a representative each of the Ministries of Infrastructure (the ministry responsible for the sector), Planning & Development, Production and Commerce and a representative of operators that have to contribute to the fund. CONATEL, the regulator, is responsible for determining the areas eligible for universal service projects, defining these projects, selecting operators and other agents to implement the projects and for follow-up and control<sup>16</sup>.

Only in Brazil is there provision for public consultation (along with the requirement that universal access programs must be approved by the Executive Power) on the general direction and goals of FUST, the universal access fund.

All Funds provide for a degree of transparency in their administration and in the process of identifying and awarding of projects, usually through annual (quarterly in Brazil) public reports and information on the administrators' web site in addition to reports to the government. One of most transparent, FITEL in Peru, publishes the process of selecting projects on its web site.

c. Source of funds

In most countries it is the sector itself which contributes to the Fund, generally through a contribution obligation imposed on some or all telecommunications operators and sometimes service providers and in most cases calculated as a percentage of their gross or net revenues.

In Colombia and Peru all licensed telecommunications operators (but not always all service providers) are required to contribute a percentage of their net operating incomes (in Colombia it is net income minus out-payments to other operators). In Venezuela all operators have to contribute 1% of their gross incomes<sup>17</sup>. In Brazil only the 6 operators in the public regime are obliged to contribute. (See above). The amount varies between 1% of gross operational revenues resulting from provision of telecommunications services in the public

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<sup>16</sup> Art. 56, Ley Orgánica de Telecomunicaciones, Gaceta Oficial No. 36.970 de Lunes 12 de junio de 2000

<sup>17</sup> Art. 151, Ley Orgánica de Telecomunicaciones, Gaceta Oficial No. 36.970 de Lunes 12 de junio de 2000

and private regimes excluding certain taxes in Brazil and 1% of gross revenues billed and received in Peru and 3% of net revenues from fixed telephone, VAS, trunking, etc., 4% of net postal revenues and 5% of gross revenues of national and international long distance and cellular mobile services in Colombia. In Peru and Ecuador the basis for the charge is the operators' billed and actually received revenues. In El Salvador and Guatemala a combination of licence and concession fees, spectrum usage fees, regulator administrative fees and fines are used. In Argentina the Reglamento General del Servicio Universal (RGSU) foresees a contribution of 1% of total telecommunications related revenues net of taxes for all operators providing local fixed telephone services and/or Internet whose teledensity in any basic telephone service area is greater than 15%. A "pay or play" option is included in the RGSU whereby operators can contribute either by payment to the Fund or in kind in the form of network installations. The Fund administrator can determine the value of universal access installations offered through the "play" option because some of these will have been awarded through a minimum subsidy auctions.

In the Dominican Republic the Fondo de Telecomunicaciones (FDT) is financed through a 2% direct levy on users' telephone and cable TV bills<sup>18</sup>. In Paraguay operators contribute not directly but indirectly through their business (commercial) taxes, 40% of which goes to Fund. The fund, which had been proposed to be established in Bolivia was to have been funded by a 3.5% contribution of operators' net income. The unrelated rural development fund, Fondo Nacional de Desarrollo Rural (FNDR), whose purpose was to fund infrastructure, services and institutional development projects including in the telecommunications sector in rural areas received money from frequency licence fees and fines but like FUST in Brazil has never funded any projects. In Mexico the temporary Fondo de Cobertura Social de Telecomunicaciones and in Chile the Fondo de Desarrollo de Telecomunicaciones are funded the

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<sup>18</sup> An interesting variation to this can be found in Jamaica where effective June 1, 2005 a US\$ 0.03 levy has been imposed on all incoming international traffic terminating on the fixed network and US\$ 0.02 on all incoming international traffic terminating on mobile networks. A Universal Services Fund (run by a corporation) has been established to fund primarily e-learning projects. Both Jamaica and the Dominican Republic have very high incoming international traffic levels especially from the USA where many of their citizens live. In any case operators usually pass these charges on to their customers.

National Treasury in each country. This was also the initial source of funds in El Salvador.

In Nicaragua FITEL which is part of the regulator, TELCOR, receives 20% of TELCOR's revenues which are derived from licence, concession and authorization fees. The amounts are transferred into the FITEL account each month.

The next chapter shows the amounts of money that have accumulated in these funds and how effective the funds have been in disbursing these amounts.

d. Methods for disbursing funds

In some cases funds are given to winning bidders in one lump sum when installation has been completed but with the risk that the administrator thereby loses a considerable degree of control over the project. In other cases subsidies are not paid out until well after the project has become operational. This is the case in El Salvador and Guatemala where subsidies are paid out when the work has been completed for capital projects and biannually for operational type projects. In Chile the subsidy is paid out in two installments, the first when the project is ready for service (about a year after it was awarded) and the second one year later. In the meantime operators must finance the whole cost of their projects plus guarantees (~ 2% – 3% of their overall value) out of their own resources. In Paraguay a first part of the subsidy is paid out within 30 days of signing of the contract with the fund. The rest is paid out once it has been confirmed by the fund administrator, CONATEL, that all installations are operating and services are being provided. In Peru the payout scheme depends on the particular project and contract. Generally subsidies are paid out over a 4 – 5 year period for projects costing more than US\$ 1 million. In one case subsidies were spread out over a 5-year period with 35% paid at contract signature, 15% over the 5-year period and 50% at the end. It should be noted that even where subsidy payments are delayed, the fact that a subsidy has been awarded and serves as a valuable assurance for operators in seeking private capital financing from banks and other sources. In

Venezuela it is the universal access operator that defines the payout schedule as part of its bid offer<sup>19</sup>.

e. Types of projects and criteria for their selection

The emphasis so far in a large majority of the universal access fund programs has been the installation of rural public telephones and community telecentres. This has been the case in Peru, Guatemala, Colombia, Chile, the Dominican Republic and Paraguay. In later phases, funding has in some cases also been applied toward the installation of community telecentres and access to the Internet, especially in schools and other public institutions such as hospitals, local governments and, in Colombia, in military garrisons. In Paraguay social programs in support of education, health, security and the promotion of culture are also eligible for funding. Also in Paraguay universal access funds were used to establish a national 911 emergency calling system and in Venezuela, a current (2006) project will connect 288 civil registers and 219 notaries with the Ministry of Justice in Caracas in order to increase transparency and reduce the probability of falsification of legal documents through digitization. In Peru currently planned projects include, in addition to rural public payphones, some residential connections in nearly 100 localities (up to 24 per locality), high speed Internet access in schools, other public institutions and locations in nearly 3,000 localities and the development of various broadband applications and platforms for rural areas including ISPs, application service providers, streaming and webcasting, tele-education, tele-health and e-government. Also, in Peru some small bottom-up pilot projects are now being funded. These will provide a variety of voice, data including mobile services to a whole community and/or geographical area.

Different countries follow different criteria for the identification and selection of priority locations to finance projects under universal access funds. In the Dominican Republic, a formula was introduced to measure the relative degrees of poverty, isolation, and current infrastructure of communities, granting highest priority to the locations in the least advantageous position for the placement of

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<sup>19</sup> Art. 52 of Reglamento de la Ley Orgánica de Telecomunicaciones Sobre el Servicio Universal de Telecomunicaciones, 2003

initial basic telephone services. Other considerations, however, also enter into the selection of locations intended to receive more advanced technologies, such as the presence of public institutions, and the potential for economic development to arise from the use of such facilities in the near term.

In Venezuela the universal services regulations in accordance with the general objectives of universal service obligations define a set of criteria which CONATEL uses to establish a list of geographic areas and services which will be subject to universal service obligations. There are three categories of criteria: projects which promote national integration; projects for the handicapped and with special social needs; and projects which reduce the inequalities in access. The list is published each year in the Official Gazette and on the regulator's web site<sup>20</sup>.

In Colombia in addition to the social telephony and telecentre projects organized through Compartel, the universal access program the Telecommunications Fund (FCM) has also funded other projects including development of Colombia's connectivity agenda (Agenda de Conectividad) radio stations for indigeneous people (Programa Comunidad para Emisores Indigenas) and a computers for education program (Programa Computadores pasa Educar).

f. Operators that use funds and nature of conditions and obligations imposed on them

Operators who receive subsidies from these funds include the incumbents, large and small new entrants and smaller local and regional operators. In Peru, two new rural operators, Gilat-to-Home (GTH) and Rural Telecom (RT) have entered the market by bidding for and receiving minimum subsidies. Both companies provide access through rural payphones connected via VSAT terminals to a satellite network. GTH has 5,737 rural stations; RT, 866. In Chile both major rural operators, CTR (SR Telecom) and the incumbent CTC (Telefonica), which did not have any universal services obligations imposed on them, entered through the minimum subsidy auctions organized by the Fondo

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<sup>20</sup> Art. 18, Reglamento de la Ley Orgánica de Telecomunicaciones Sobre el Servicio Universal de Telecomunicaciones, 2003

de Desarrollo de las Telecomunicaciones. Smaller rural operators in Chile are Megacom and Geneva each with less than 1% of the market. Similarly, in Colombia (Gilat-to-Home, Union Temporal, Comsat and Internet por Colombia), Guatemala (Sersat, Prearg, Hidroc and Eurotec), the Dominican Republic (Bec Telecom) and Paraguay (Nucleo, Telecel, Impsat, Loma Plata, Electroimport) there are new rural operators (in addition to incumbents) which have entered through the minimum subsidy auctions.

All licenced operators and service providers in Venezuela are eligible to participate in universal service project tenders where they must first be qualified on technical grounds, namely, their ability to meet all the requirements described in the call for tender document. (geographical coverage, services to be provided, socioeconomic situation of area to be served, length of obligation, minimum quality of service expected, maximum and minimum tariffs, etc.). The qualified operator requesting the lowest subsidy is selected. CONATEL which defines each projects and costs it to establish a (not published) maximum subsidy amount may also assign projects directly without a tender if the tender process has not been successful in obtaining an operator<sup>21</sup>.

g. Licence terms and conditions of fund subsidized projects

Terms and conditions for fund-subsidized projects are similar among countries that have such funds. These include specification of: (i) the municipalities, population centres and rural areas to be covered; (ii) quality-of-service parameters such as the maximum delay before which time service must be provided, opening hours, the minimum number of lines that have to be working at any time, and the mean time to repair a fault; (iii) the tariffs for a limited number of services; and in certain cases (iv) the technology to be used. In Peru, for example, the prices for calls within a province are regulated. In Chile only prices for regional calls are regulated and are subject to a fixed adjustment formula; the prices of all other services that the rural operators want to provide including long distance calls are not regulated. The technology to be deployed is not specified in Colombia, Chile and Peru but it is in Guatemala. In many

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<sup>21</sup> Art. 33-57, Reglamento de la Ley Orgánica de Telecomunicaciones Sobre el Servicio Universal de Telecomunicaciones, 2003

countries rural operators who obtain subsidies are subject to the same general obligations and conditions that are imposed on all operators and service providers in the country. In Peru Valtron, a small new regional operator, that is getting funding for a pilot project in the Province of Huarochori, will have to pay licence and spectrum usage fees and import duties on telecommunications equipment according to the same formula and conditions as any other operator.

Table V.3 summarizes these main characteristics of RegulateI members' universal access funds.

**Table V.3 Characteristics of universal access programs/funds in Latin America**

Country	Fund name	Enabling legislation	Est.	How funded	By whom and how administered				Program definition/Disbursement method	Project types
					Telecom regulator	Other	Nature of adm.	How adm. is financed		
<b>Argentina</b>	Fondo Fiduciario del Servicio Universal (FFSU)	Reglamento.General Servicio Universal (RGSU) = Decree 764/2000	Not constituted	1% of operators' net income net of taxes with possibility of "pay or play"			Administration Council with its chairman appointed by Ministry of Economy.	Not determined	List of projects to be established biannually/ Minimum subsidy	Public long distance telephones in areas without service; local public telephones; handicapped; education; health; cultural projects; etc.
<b>Bolivia</b>	Fondo Nacional de Desarrollo Regional (FNDR)	Art.28 Ley Telecom.	2002*	Frequency licence fees, fines and other		Director de Telecomunicaciones	Government department	Government budget		Programa Pronter for municipal governments
<b>Brazil</b>	Fundo de Universalizacao do Servicio de Telecomunicacoes (FUST)	Lei 9.998 (LGT) of 17.08.2000 regulated by Decree 3.624 of 5.10.2000	2000	1% of (private and public) operators' gross operating revenues less taxes, social security and other contributions	Anatel		Ministry of communications defines policy, direction and priorities of FUST and defines programs and projects; Anatel implements projects and proposes program to Ministry	Budget of Anatel	No FUST funds have so far been disbursed	Local communications + other civil and military telecom. And for health and education
<b>Chile</b>	FDT	Ley 18.168 Ley 19.724 DS 353	1995	National Treasury	Subtel		Consejo de Administración de las Telecomunicaciones	Budget of Subtel	Minimum subsidy	Payphones Telecentres

**Table V.3 Characteristics of universal access programs/funds in Latin America**

Country	Fund name	Enabling legislation	Est.	How funded	By whom and how administered				Program definition/Disbursement method	Project types
					Telecom regulator	Other	Nature of adm.	How adm. is financed		
Colombia	FCM	Ley 142/94 (Literal 74.3)	1994	% of net revenues from fixed telephone, VAS, trunking, etc., 4% of net postal revenues and 5% of gross revenues of national and international long distance and cellular mobile services			A director who is a civil servant in the Ministry of Communications	Budget of Ministry of Communications		
	Compartel <sup>22</sup>	Conpes 3032 de 1999	1999	from FCM		Compartel, independent entity within Ministry of Communications	A manager appointed by the Ministry of Communications and FONADE	Budget of Ministry of Communications	Program defined by Conpes (top down)/Minimum subsidy	Payphones Telecentres
Costa Rica	none	not applicable	not applicable	not applicable	not applicable	not applicable	not applicable	not applicable	not applicable	not applicable
Cuba	none	not applicable	not applicable	not applicable	not applicable	not applicable	not applicable	not applicable	not applicable	not applicable
Ecuador	FODETEL	CONATEL Res. 380-17 of 05.09.00	2000	1% of all operators' annual billed and received revenues	SENATEL		Administrative Council	Out of the fund (?)	Plan established by FODETEL/with and without tenders	Community telecentres and residential projects in rural and poor peri-urban areas
El Salvador	FINET	Decree 960 of 1997	1997	98% of telecommunications and electricity concession; spectrum licence fees; fines				Out of Fund; cannot exceed 10% of subsidies and investments of Fund	FINET	

<sup>22</sup> In reality Compartel is a program (not a fund) financed by the universal access fund, FCM

**Table V.3 Characteristics of universal access programs/funds in Latin America**

Country	Fund name	Enabling legislation	Est.	How funded	By whom and how administered				Program definition/Disbursement method	Project types
					Telecom regulator	Other	Nature of adm.	How adm. is financed		
Guatemala	FONDETEL	Ley General de Telecomunicaciones, 1996	1997	70% of spectrum licence fees until 2003		Ministry of Infrastructure, Communications & Housing		Budget of Ministry	Ministry (FONDETEL)/min. subsidy	
Honduras	none	not applicable	not applicable	not applicable	not applicable	not applicable	not applicable	not applicable	not applicable	not applicable
Mexico	FCST	Art.50 y 51 Ley Federal de Telecom.	2002	National Treasury		Comité Técnico del Fondo de Cobertura Social	Committee representing various ministries	Secretaria de Comunicaciones y Transporte	Technical Committee/Minimum subsidy	
Nicaragua	FITEL	Decreto 84-2003; Reglamento de la Ley Orgánica de TELCOR (07.12.04)	2004	20% of TELCOR's budget	TELCOR		Reports to Director General of TELCOR but is independently run with its own budget and accounts	Budget of TELCOR	Projects are proposed by anyone (community, NGOs, operators, local governments, etc.). FITEL evaluates and decides.	Promote private sector participation in universal access projects
Panama	none	not applicable	not applicable	not applicable	not applicable	not applicable	not applicable	not applicable	not applicable	not applicable
Paraguay	FSU	Ley 642/95 de Telecom.	1999	40% of operators' commercial operating taxes	CONATEL (FODETEL)		Administration Council of FODETEL	CONATEL's budget	FODETEL/ auction and CONATEL decision	Telecoms projects in rural and marginal urban areas
Peru	FITEL	Ley de Telecomunicaciones de 1993	2000	1% of all operators' gross billed and received incomes; Other possible sources	OSIPTEL			OSIPTEL's budget (?)	FITEL/minimum subsidy and directly awarded for pilot projects	Payphones Community access projects Pilot projects
Republica Dominicana	FDT	Ley 153-98	1998	2% of operators' bills	INDOTEL		Executive Council of INDOTEL	INDOTEL's budget	Proposed projects	
Uruguay	none	not applicable	not applicable	not applicable	not applicable	not applicable	not applicable	not applicable	not applicable	not applicable

**Table V.3 Characteristics of universal access programs/funds in Latin America**

Country	Fund name	Enabling legislation	Est.	How funded	By whom and how administered				Program definition/Disbursement method	Project ty
					Telecom regulator	Other	Nature of adm.	How adm. is financed		
Venezuela	FSU	Ley Orgánica de Telecomunicaciones Ley 36.970 de 12.06.00 (Art. 54)	2000	All licenced telecommunication operators must contribute 1% of their gross incomes to the Fund.		Junta de Evaluacion y Seguimiento de Proyectos	Council headed by the Director general of Conatel and with representatives of various ministries and the operators.	Out of resources of the FSU	CONATEL; min. subsidy tender	Telecentres Projects of a socioeconomic nature

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\* abandoned

#### **V.4 Other financing initiatives**

A number of other universal access programs have been introduced not through the country's universal access fund or as a result of universal access obligations imposed on operators, but through the financing initiatives of national and local governments, non-governmental organizations (NGOs), local associations, other civil society and public interest groups, and sometimes the private sector. Many have had positive results for increasing access, and are worthy of study and potential emulation. Often these projects have their origins directly within the communities or with interest groups that eventually stand to benefit from the connectivity which has been provided.

One of the earliest examples of this type of initiative can be found in Bolivia where the Ministry of Transportation and Communications has since 1979 been operating a national rural telecommunications service (Servicio Nacional de Telecomunicaciones Rurales or SENATER) consisting of a network of 347 HF radio stations in rural areas in 88 of 111 provinces (in all the 9 departments) in the country. An operator in each station helps attend to customers. (Figures V.1 - V.3). The services offered are radio-to-radio at pre-booked times, radio-to-fixed telephone, telegram, and radiogram services. These services continue to be in demand even if the quality is not always very good because the subsidized prices are accessible to the low income users of these services.



**Figure V.1**  
**Servicio Nacional de Telecomunicaciones Rurales (SENATER), HF radio station in Potosi, Bolivia**



**Figure V.2**  
**Customer making a booking at the SENATER, HF radio station in Potosi, Bolivia**

Many of the more recent projects have an agricultural and fish farming focus and an objective of promoting the development and use of ICT in this sector by

educating, facilitating exchange of information, providing market and other information, strengthening the productive capacity, and promoting exports and diversification of product markets for the indigenous and other farmers in these largely agricultural regions. Often they have also resulted in introducing ICT into the education system in these regions. Their objectives have been attained through a variety of actions including the installation of community telecenters, information centers and connections to the Internet, education programs for farmers and students and services of translation into local tongues.

Bolivia has several projects of this type. The Programa de Infraestructura Descentralizada para la Transformación Rural (IDTR) is a top-down initiative (originating with the government) whose objective, inter alia, was to provide electricity and access to ICTs (including expansion of cellular coverage) for 15,000 rural households, micro enterprises, schools and health centres with about 40% of the financing being local private and 60% from a World Bank loan. The program was not successful as is shown in the next chapter. More successful programs can be found among the many bottom-up initiatives also in Bolivia including:

- The *Red de Centros de Información Agroecológicos* project of the Bolivian Ecological Producers Association (Asociación de Organizaciones de Productores Ecológicos de Bolivia or AOPEB) to establish an information access service for rural and indigenous communities to promote the production of organic agricultural products and provide training and technical advice.
- The *Sistema de Información Campesina-Indígena* project of the Fundación Acción Cultural Loyola (ACLO) which helps develop the agricultural productive capacity of farmers and indigenous people in several municipalities in the Department of Chuquisaca including information on markets for their products. The Sopachuy wireless mesh network described in Chapter VIII is part of this project.

- The Instituto de Capacitación del Oriente (ICO)'s *Proyecto Sistemas de Información y Monitoreo Agrícola en los Valles Cruceños* of community telecentres in Vallegrande Province in the Department of Santa Cruz.
- The *Apoyo para Campesinos Indígenas del Oriente Boliviano* (APCOB) project which promotes and facilitates the exchange of agricultural information among the Chiquitana indigenous communities in Concepción, San Javier and Lomerío via AM and FM radio and access to the Internet in community telecentres which also provides a electronic based, multicultural and multiethnic education, training, advice and counseling and basic municipal government services.
- The installation of satellite links in 60 local offices of FINRURAL (Asociación de Instituciones Financieras para el Desarrollo Rural) to facilitate and speed up the process of awarding of micro credits in these rural localities;
- A project sponsored by the Coordinadora de Integración de Organizaciones Económicas Campesinas de Bolivia (CIOEC), which helps small agricultural and sea food producers access information on possible governmental and non governmental funding sources as well as markets for their products;
- The *Adolescentes y al Proyecto Aprender Creando* project of the Fundación AYNÍ which helps to introduce ICTs in schools in the department of Oruro.

The first four of these (AOPEB, ACLO, ICO, APCOB) are part of a “shared satellite connectivity” model which these local organizations have implemented since 2003 jointly with the Netherlands-based NGO, International Institute for Communication and Development (IICD) and are currently running on a trial basis in 11 communities in the Departments of Santa Cruz, Chuquisaca and La Paz. Under the shared satellite connectivity model local community organizations (i.e local government, schools, hospitals, agricultural and other

associations) and possibly even small privately run businesses share a VSAT link among themselves with one of them (in this case an agricultural association) contracting a VSAT based Internet access service from a satellite services provider (ISP). Investment and operation costs are shared among the participating local organizations which are all linked to the community VSAT terminal through a wireless WiFi mesh network (See Chapter VIII for discussion of wireless meshes using WiFi technology). While the cost of the VSAT link for each community is shared among organizations in the community, IICD along with its local partners (*Apoyo para Campesinos Indígenas del Oriente Boliviano, Fundación Acción Cultural Loyola, Instituto de Capacitación del Oriente, and Asociación de Organizaciones de Productores Ecológicos de Bolivia*) and FINRURAL organized a tender to obtain bandwidth from a single satellite service provider for all of IICD's 11 and FINRURAL's 60 connection points. Originally they were able to negotiate prices of between US\$ 350 and US\$ 450/month for a 512 Kbps (downlink)/128 Kbps (uplink) circuit. In 2005 following new negotiations this was reduced to US\$ 200 – 250/month.

At the beginning of the implementation phase two-week training courses in VSAT installation, maintenance and administration of the information centres were organized. Later a technical seminar on connectivity in the community to exchange experiences among the different partner organizations was held in Santa Cruz.

This IICD project is part of a broader 15 project "ICT for Development" *ticbolivia* program ([www.ticbolivia.net](http://www.ticbolivia.net)) which has installed information centres and school laboratories in all departments of Bolivia and provided radio programming, websites and printed information for farmers, indigenous people, teachers and students. The program, which involved local grass-root organizations and NGOs who joined their efforts to search for more effective technical and organizational models for rural connectivity, resulted from a realization among the partners that (i) the lack of access, poor quality and high prices for telephony and Internet were a key limitation to effective and sustainable implementation of ICT for development; and (ii) despite multiple efforts of the government to implement rural universal access schemes and to

deregulate the sector, access to information and communications facilities outside the main urban centres remained largely absent. IICD's contribution is its support of pilot projects in the Municipalities of Sopachuy, El Villa, Alcalá, and Presto in the Department of Chuquisaca, in the Municipaliites of Lomeria, Concepción, San Javier, Valle Grande, Comarape and Mairana in the Department of Santa Cruz, and in the Municipality of Carnavi in the province of Carnavi, Department of La Paz resulted from this reflection.

In Costa Rica government ministries and agencies have also set up computer laboratories in schools, comprehensive community based telecentres and an information system for the agriculture and fishing sectors (Sistema de Información del sector Agropecuario Costarricense = Infoagro)<sup>23</sup>

In other countries similar financing initiatives have involved establishing and operating different types of telecentres. Several of these are described in greater detail in Chapter VIII of this report. They include:

- The privately financed, established, owned and operated “cabinas publicas” in Peru inspired from a model created by the Red Cientifica de Peru (RCP) in 1993. These are self-sustaining, do not require subsidies and have been widely emulated.
- The 3,031 Internet access points installed throughout Argentina in 1999 and 2000 under the Argentina@Internet.todos program (later changed to Programa Nacional para la Sociedad de la Información or PSI) by the Menem government, at an estimated cost of US\$ 60 million, financed in part from Argentina's share of the privatization of Intelsat and in part on fines imposed on Telefonica and Telecom (which was paid in kind

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<sup>23</sup> Infoagro is the umbrella information and communication system for the Costa Rican agriculture sector that facilitates the information flow and knowledge generation to improve its competitiveness, especially for small and medium sized producers. It is a nationwide system of public nature, which relies on an ICT network supported by local information and communication centers hosted by public entities and producers and other private organizations. It was established in the late 1990s by the Ministry of Agriculture in response to a lack of available information to producers in rural areas in Costa Rica on prices, markets, services, technology, business organization, soil fertility, etc. Its objective was to promote the use of information technologies at different levels of the agricultural production chain and to support the decision-making process of both producers and the public bodies involved in the sector.

mainly in the form of equipment). This program made Argentina an early telecentre leader in the region. 1,281 of these were public telecentres (known as Centros Tecnológicos Comunitarios (CTC), with 5 computers and software each and 1,750 were public libraries with two computers each. They were all installed within a period of a year and a half.

The program was initiated by the Secretaria de Comunicaciones which gave over responsibility to operate and administer the telecentres to a number of education, non profit and public sector agencies. The International Telecommunication Union was responsible for administration during the installation phase. In an agreement between the Secretaria and the selected administrators of the centres the former committed to handing over a functioning telecentre to the selected administrator and responsibility for (i) web page design; (ii) training of local coordinators; (iii) providing support in the operation and administration of each telecentre; (iv) developing control and evaluation procedures; and (v) assuming the cost of telephone and Internet access. The selected administrator committed to (i) providing an appropriate site with adequate comfort and toilet facilities; (ii) offering free Internet service; (iii) ensuring that the centre was properly staffed including with both technical and pedagogical people; (iv) providing adequate service to the public and publishing the centre's opening hours; (v) providing the Secretaria with any information it required; and (vi) freeing the Secretaria from any liabilities imputed to the centre.

- The LINCOS (Little Intelligent Community) self contained community telecentres inspired by a model created at MIT's Media Lab and installed and operated in rural communities with the financial support of the Entebbe Foundation in Costa Rica and the President's Office in the Dominican Republic. These offer not only telephone and Internet access but also banking, postal services, computer training and also include a low power community radio station;

- The Infoplazas telecentres in Panama installed and operated with financial and technical support of the Inter-American Development Bank (IADB), the Fundación Infoplazas de la Secretaria Nacional de Ciencia Tecnología (SENACYT), other government departments, local and municipal governments, NGOs, civil groups and private enterprises.
- In Brazil: (i) the Federal Communication Ministry's GESAC Program with over 4,000 installed telecentres in public locations and schools in 27 states targeting people from the C, D and E (lower) social classes in urban, rural, native and borders communities; (ii) the State of Sao Paulo's Acesa Program which has deployed more than 200 telecenters and Internet access booths in urban and rural communities throughout the State also serving mainly the C, D and E social classes.; and (iii) the Pirai (Rio de Janeiro State) Digital Project with telecentres in public places schools and public libraries coordinated by the City of Pirai which has a network which covering the whole city using WiFi technology.

## V.5 State controlled mandates

Before 1990 the traditional structure of the telecommunications sector throughout most of Latin America for many decades involved state-owned and operated monopoly telephone utilities, which had exclusive responsibility for building networks and delivering services. Decisions to invest and expand and choices as to which customers, services, and locations to serve, were usually based on government-dictated priorities and budget allocations. Most Regulatee member countries have since then privatized their state monopolies and liberalized their telecommunications markets. (See Chapter II). Four countries (Costa Rica, Honduras, Uruguay, and Cuba), however, have to a certain degree continued to emphasize the state's primary role in the oversight and operation of the telecommunications sector<sup>24</sup>. As mentioned with the exception of Cuba, this role has nevertheless been conducted in conjunction with other governmental and non governmental financing approaches.

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<sup>24</sup> In Paraguay the state continues to maintain ownership of COPACO, the fixed line operator. There is competition in all market segments except fixed line public switched telephone. (See Ley No. 642/95 Art. 21)

In Costa Rica and Uruguay initiatives for providing universal access come not from the government or the telecommunications regulator but from the administration of the monopoly operator, namely, ICE in Costa Rica and ANTEL in Uruguay, acting on their own initiatives. These have involved installing public payphones, extending coverage of the fixed telephone network in the entire territory, and ensuring that basic telecommunications services are affordable. In Uruguay ANTEL has also implemented various information society and ICT projects either on its own or in coordination with the Ministries of Education, Public Administration, Labour and Social Security, local governments and the private sector and civil society, including telecentres, education centres and a comprehensive e-government program. In Costa Rica RACSA, the value added services subsidiary of ICE, has established free telecentres in post offices throughout the country.

In Honduras, where the state owned HONDUTEL, enjoyed a monopoly until the end of 2005, the government's 2003 "Telefonia para Todos" initiative had as its objective to add 200,000 new fixed telephone lines to the then 300,000 by the end of 2005<sup>25</sup>.

In Cuba universal access objectives and connectivity are being pursued through a combination of obligations imposed on Empresa de Telecomunicaciones de Cuba S. A. (ETECSA), the partially privatized monopoly telephone company (see above), and initiatives of the Ministry of Informatics and Communications (Ministerio de Informática y Comunicaciones). The latter include establishing training centres, Joven Club de Computación y Electrónica (JCCE), offering free IT (computers and electronics) instruction to anyone of any age who wants it, putting computers in all schools and universities, and implementing a comprehensive e-government program, emphasizing health, culture, and social security.

Results achieved and critical analyses of each of these four approaches to achieving universal access in Latin America are presented in the next chapter..

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<sup>25</sup> Decreto Ejecutivo PCM 138-2003