



GPOBA
The Global Partnership on Output-Based Aid



THE WORLD BANK



NACIONES UNIDAS

CEPAL



A programme
of the European
Commission



**TELECOMMUNICATIONS UNIVERSAL ACCESS PROGRAMS IN
LATIN AMERICA:**

**LESSONS FROM THE PAST AND RECOMMENDATIONS FOR A
NEW GENERATION OF UNIVERSAL ACCESS PROGRAMS FOR THE
21ST CENTURY**

**DRAFT EXECUTIVE SUMMARY
FOR REGULATEL MEMBERS REVIEW¹**

VERSION: OCTOBER 5, 2006

¹ This is a draft version for review by Regulatel members and key stakeholders. A final version will be produced upon receiving feedback from Regulatel members and key stakeholders.

AUTHORS:²

PETER A. STERN, DAVID N. TOWNSEND AND ROBERT STEPHENS³

² The views and information presented in this report are the views of the authors and do not necessarily represent the views, opinions, conclusions or findings of the Forum of Latin American Telecommunications Regulators (Regulatel), the European Commission, the World Bank, the Economic Commission for Latin America (ECLAC), the Public Private Infrastructure Facility (PPIAF) or the Global Program on Output Based Aid (GPOBA) who financed this study. PPIAF and GPOBA are multi-donor technical assistance facilities administered by the World Bank aimed at, respectively, stimulating private sector investment in infrastructure and the use of OBA-based mechanisms.

³ The authors wish to acknowledge the invaluable support and comments provided by José Monedero, Caio Bonhilo, Gustavo Peña, Edwin San Roman, Alvaro Diaz, Jorge Bossio, Eloy Vidal, Juan Navas Sabater, Arturo Muenta Kunigami, Lucy Cueille and Carolina Camacho.

Buenos Aires, October 2006

Dear Regulators

It is a great pleasure for me to submit to you the Executive Summary, an Abbreviated Summary and the full report (in electronic form), "New Models for Universal Access in Latin America", on a major research project sponsored by the Forum of Latin American Telecommunications Regulators (Regulatel), the World Bank (including the Public Private Infrastructure Facility (PPIAF) and the Global Program on Output Based Aid (GPOBA)), and the United Nations Economic Commission for Latin America and the Caribbean (ECLAC).

This study resulted from a Memorandum of Understanding between the World Bank and REGULATEL signed on 15 September 2003.

Inputs from the REGULATEL members was coordinated by a Lead Consultant (Peter A. Stern) supported by several specialist consultants and 10 local consultants. Several meetings were organized during the course of the project to evaluate progress including: REGULATEL's VII Plenary Meeting in Cusco, Peru (Nov. 2004), IV Meeting of REGULATEL Member contact points (Corresponsales) in Lima, Peru (January 2005); the special REGULATEL Universal Access Workshop in La Paz, Bolivia, (April 2005), REGULATEL's VIII Plenary and Summit with the European Independent Regulators Group (IRG) in Sintra, Portugal (Nov. 2005); V Meeting of REGULATEL Member contact points (Corresponsales) and Universal Access Workshop in México DF (February 2006); IX REGULATEL-AHCIET Summit in El Salvador (July 2006) and in several project review meetings held with the sponsors at the World Bank in Washington.

The research included a detailed evaluation of universal access programs and the effectiveness of universal access projects, their efficiency, sustainability and their impact on socioeconomic development objectives and communities in each country. The universal access programs were studied in terms how they operate, results obtained, key activities, lessons learned, problems encountered and their causes.

Among the more interesting findings revealed by the special gap analysis done for the study, was the continuing existence of an unsatisfied demand for voice services in some countries leading to the conclusion that there is a clear requirement to use resources from these countries' Universal Access Funds to reduce and/or eliminate these gaps; however, the gaps analysis also showed that in most countries 90% of the population lives in an area where there is mobile coverage. Unfortunately, the situation is not the same for broadband where it will require a large effort by each country to close the gap.

I present the results of this study in which all REGULATEL Members and in particular OSIPTEL and its President, Edwin San Roman, have actively participated to the different stakeholders in the region so that they may evaluate them and offer us their observations with the objective of enriching this already very important study, which without doubt will become a very relevant basis for implementing new methods of developing the telecommunications sector in the region.

Sincerely yours,



Hector Osuna Jaime
President of REGULATEL and COFETEL

STUDY BACKGROUND AND OVERVIEW

This executive summary provides key findings and recommendations of a study on telecommunications universal access and universal service policies and programs in Latin America. This study was jointly financed by Regulatel, European Commission through the @LIS program, the United Nations Economic Commission for Latin America and the Caribbean (ECLAC), and two World Bank-administered trust funds -- the Public-Private Infrastructure Advisory Facility (PPIAF) and the Global Program on Output Based Aid (GPOBA). This document highlights some of the key findings and recommendations contained in the full study. The key recommendations highlighted in this executive summary are that there is a need for a redefinition of the concepts and goals of universal access and universal service programs; that legal, regulatory and institutional reforms are needed, that more effort needs to go into data collection and analysis regarding network and market conditions; and that universal service funds need to speed up, simplify and diversify how they use their funds. Furthermore, while the first generation of universal access programs were comparatively simple programs largely focused on voice telephony, the study recommends the new generation of universal access programs will be more complex and should focus on infrastructure and services that use converged Internet-protocol (IP) platforms.

The executive summary is a stand-alone document aimed at senior policy makers, regulators, private and non-profit sector leaders. This document seeks to provide the foundation for stimulating a dialogue among public, private and non-profit stakeholders regarding universal access and universal service programs; to help policymakers, regulators and universal access fund administrators to design a new generation of universal access programs; and to encourage readers to read and use the full study, including the 19 country studies, the economic model, and the extensive number of associated documents which can be downloaded from the Regulatel website (see www.regulatel.org).⁴

Box 1: Definitions of Key Terms

For purposes of this document, the following terms are defined. Chart 1 illustrates some key terms that provide the foundation for these definitions and Box 3 contains examples of how to quantify these terms. The full report contains detailed explanations of each term.

Universal Access: As illustrated in Chart 1 true universal access is achieved when 100 percent of a country has access to a public payphone or telecenter on a shared community basis.

Universal Geographic Coverage: True universal geographic coverage is achieved when 100 percent of the population living in populations centers above a certain size can obtain a given telecommunications service if the user has the ability to pay for the service.

Universal Service: As illustrated in Chart 1, true universal service is achieved when 100 percent of individuals or households are subscribers to a given telecommunications service.(i.e. the service is affordable to all)

Universal Service Funds (USFs): Funds established by governments to finance universal access and/or universal service programs.

Market Efficiency Gap and or Market Gap: As illustrated in Chart 1, the market gap is the difference between the current level of service penetration and the penetration level achievable in a well-functioning competitive market under a stable regulatory environment (i.e. the market efficiency frontier). Improvements to the legal, regulatory and institutional framework can reduce the market gap.

Access Gap: The access gap is the difference between the market efficiency frontier and a 100 percent penetration level. People that fall within the access gap live in areas where private operators will not provide service on a commercially sustainable basis without some form of financial incentive from a USF-subsidy. Well-designed USF fund programs only target the access gap, not the market gap.

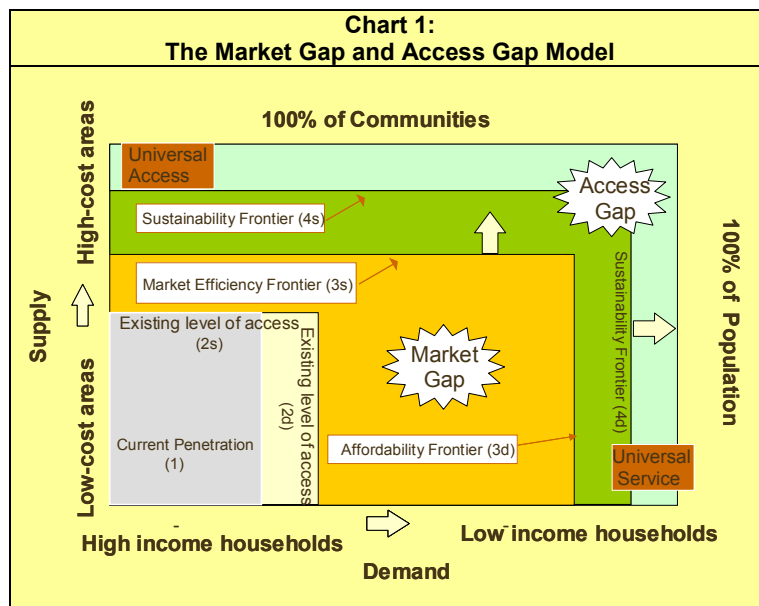
⁴ The full study will be made available to Regulatel members after October 10, 2006 via the Regulatel website.

The objectives of the study were to: review and assess current and planned universal access programs in the 19 countries where regulators are members of Regulatel (herein called “Regulatel countries”),⁵ estimate the market efficiency and universal access gaps⁶ in these countries as well as estimate the public sector investment/subsidy needed in order to reduce the universal access gap, identify new models for universal access programs and provide concrete policy recommendations for a new generation of universal access programs. Another important objective was to assist policy makers and regulators in Latin America and in other regions to learn from the experience of Latin America and to develop a new generation of universal access programs and policies since Latin America pioneered many of the first generation of universal access programs that are currently being implemented in developing regions.

KEY FINDINGS

All 19 members of Regulatel have established during the last decade some form of universal access programs or initiatives aimed at increasing access to telecommunications networks and services. Nearly all countries have implemented a wide-variety of initiatives that use one or a combination of the following four mechanisms that directly or indirectly aim to increase investments and access to telecommunications infrastructure in high-cost rural and low-income areas:

1. Market liberalization combined with regulatory initiatives including universal access obligations and special regulations and conditions which favor projects and operations in high-cost or low-income areas (almost all countries have adopted aspects of this approach).
2. Universal Service Funds (USFs) that provide partial subsidies for programs largely aimed at stimulating private sector provision of infrastructure in rural or unserved regions (12 countries out of which 10 are using funds).
3. Other financing methods and project initiatives by national, state and local governments, cooperatives, NGOs and others (13 countries). An increasing number of private operators are also putting in place programs aimed at expanding coverage in high cost rural areas and to increasing demand among lower income consumers.



⁵ The 19 members of Regulatel are: CNC of Argentina, SITTEL of Bolivia, ANATEL of Brazil, SUBTEL of Chile, CRT of Colombia, ARESEP of Costa Rica, MIC of Cuba, INDOTEL of Dominican Republic, CONATEL of Ecuador, SIGET of El Salvador, SIT of Guatemala, CONTATEL of Honduras, COFETEL of Mexico, TELCOR of Nicaragua, ANSP of Panama, CONATEL of Paraguay, OSIPTTEL of Peru, URSEC of Uruguay and CONATEL of Venezuela.

⁶ See Box 1 and Chart 1 for definitions and illustrations of the market efficiency gap and access gap.

4. State-mandated and controlled approaches using cross subsidies and other financing mechanisms aimed at state-owned companies (3 countries).

The following highlights some of the key findings of the Regulatel study regarding universal access programs or initiatives. Readers, especially universal access practitioners, are encouraged to review the full report which contains extensive information on each of the findings.⁷

Privatization and Competition

1. **Penetration, coverage and access to telecommunications dramatically improved due to privatization and competition (especially in the mobile sector), although in some countries there continue to exist significant portions of rural populations lacking coverage of voice telephone service.** As a result of the above noted four mechanisms the total number of telephones in Regulatel countries between 1995 and 2004 increased nearly six times from 45 million to more than 265 million and total teledensity levels increased from 10 telephones per 100 persons to 50 telephones per 100 persons⁸. The main driver of this growth was the expansion of mobile telephones which grew at a compound annual rate (CAGR) of 54 percent compared to a CAGR for fixed lines of 10 percent. This study also found that not only has the number of mobile subscribers increased dramatically, but that the geographic coverage of mobile networks are rapidly expanding from urban and peri-urban to more high-cost rural areas. Due to decreasing equipment costs, higher than expected demand and market competition, mobile and cellular networks are also expanding more rapidly than expected into areas that previously were considered commercially unattractive. Furthermore, operators are finding ways to sustain commercially viable operations in areas with increasingly lower average revenue per user (ARPU). Finally, cellular telephones are no longer considered luxury items but rather they have become the preferred de-facto basic service for many low income consumers due to lower prices, calling party pays and pre-paid plans.

The study also found a notable increase in access to the Internet, mainly in urban areas. The number of Internet users increased from less than a million 1995 to almost 62 million in 2004 and Internet penetration levels stand at 10 users per 100 inhabitants. Increased Internet penetration is not only the result of increased Internet penetration in the business sector and upper-middle income consumers, but also because of the explosive growth of telecenters. A 2005 ECLAC study of 12 Regulatel member countries estimates that almost 100,000 private telecenters were established by mainly micro and small firms and that there are an additional 50,000 telecenters established that were partly or fully financed with public financing.

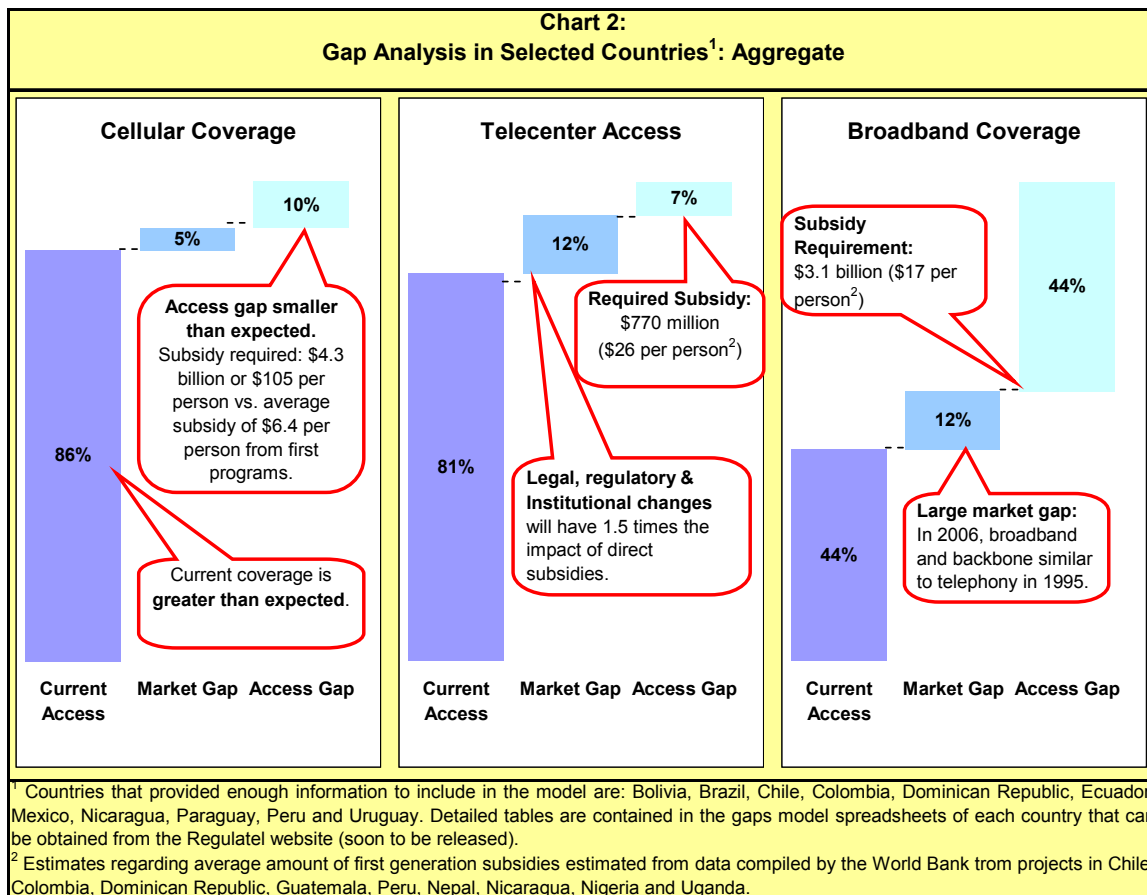
The main driver of improved telecommunications penetration, coverage and access during the last decade has been private sector investments unleashed by privatization and liberalization initiatives. Between 1994 and 2005 the private sector invested more than \$116 billion in the Latin American telecommunications sector. Most of the private sector investment took place during and soon after privatization when operators invested large amounts to meet large pent-up demand and in some cases to meet build-out obligations. Investment levels have decreased after this initial wave of post-privatization investments.

⁷ The full report, for example, contains in-depth assessment of universal access programs in Regulatel countries and extensive discussion of highly innovative technological solutions to providing ICT infrastructure in rural areas.

⁸ As of 2004 there were 96.2 million main lines, 169.6 million cellular phones with penetration levels of 18.1 per 100 inhabitants and 31.9 per 100 inhabitants respectively in the 19 Regulatel countries.

Gap Assessment

2. **The market efficiency gap for telephone service and for community access to the Internet is smaller than expected while the market and access gaps for broadband Internet remains very high.** The analytical framework that provides the foundation for this study is illustrated by Chart 1 with key definitions contained in Box 1. Key highlights from the study findings regarding the market and access gaps in 11 RegulateI countries that provided sufficient data are illustrated by Chart 2⁹. Among the most notable findings is that the market efficiency gap for cellular phones is much lower than initially expected and that the cost of providing public subsidies to address the remaining market access gap for public access to voice telephone service using cellular technologies in many countries will be significantly higher than the per unit costs of the first generation of universal access programs (i.e. the opportunity cost of universal access programs in some countries will be very high).¹⁰



This study found that the private sector could provide cellular signals on a commercial basis to cover more than 90 percent of the population in most countries. However, it also found that cellular or mobile network coverage in a few countries, with extremely challenging geographic conditions and low incomes, have cellular or mobile coverage that is below 60

⁹ The 11 countries that provided enough data to include in the model are Bolivia, Brazil, Chile, Colombia, Dominican Republic, Ecuador, Mexico, Nicaragua, Paraguay, Peru and Uruguay.

¹⁰ The full study contains a detailed explanation of how the market efficiency and access gaps were measured and estimated as well as detailed spreadsheets of the model that was applied to each country.

percent, and that expansion of cellular networks into these isolated rural areas may not be feasible in the near term without additional regulatory or financial incentives.¹¹ With regard to community access to the Internet (i.e. telecenter access), a notable finding is that the market efficiency gap is more than three times greater than the access gap which underscores the importance of implementing legal, regulatory and institutional reforms, rather than relying on public subsidies, in order to stimulate further increases in access to the Internet in rural areas. The study also found that the current coverage of broadband networks is comparable to that of the telephones in the early 1990s and that there remains a large market gap and an even larger access gap.

Universal Access Funds

3. **Universal access programs that have been implemented and that use universal access funds to increase community access to telephones and to leverage private investment have been highly successful.** As summarized in Box 2, universal access programs targeting public payphones have been highly successful. This study found that universal access programs that have been implemented in 12 out of 17 RegulateL countries have brought public telephones on a commercially-sustainable basis to at least 10.7 million people that previously had to travel tens if not hundreds of kilometers to reach a telephone. In some cases the impact has been dramatic such as in Peru where between 1999 and 2002 the average distance 6.4 million rural people needed to travel to reach a public payphone decreased from an average of 56 km to 5.7 km, shortening the travel time from a day or more to at most a few hours. Community telecenter programs have also had a significant impact (though more difficult to quantify) as universal access funds provided financing to at least 19,190 telecenters that benefit a population of at least 9.77 million.¹²

Box 2: Achievements and Shortcomings of Universal Access Programs:

- At least 27,131 public payphones installed in more than 12,927 rural localities benefiting approximately 10.7 million people.
- Installed at least 19,190 community telecenters that benefit at least 9.7 million people.
- Demonstrated that rural areas can be provided service on a commercially-sustainable basis.
- Allocated \$290 million for programs which leveraged on average one to four times additional private sector investment.
- USFs in 12 countries have raised more than \$2.6 billion, but spent only \$297 million (i.e. 10% spent). If one includes only USFs that have spent some of the funds, the disbursement level increases to 40 percent of funds raised though some countries have spent 80% or more of their universal access funds. Disbursement ratio should not be the main mechanism to evaluate USF effectiveness as some of the most effective USF programs are in countries with low disbursement ratios.

As summarized in Box 2, universal service funds that provide a partial subsidy on capital investment, have on average leveraged between one and four times the amount of private

¹¹ This study used “cellular signal” coverage, rather than simple cellular telephone penetration levels to estimate the market efficiency gap and access gap. Using this indicator, rather than penetration levels, results in higher coverage estimates than estimates that rely exclusively on traditional penetration data because it includes not only data regarding current subscribers but also users in a given area covered by cellular signals but that are not subscribers. The gap estimates in this study allow for a better assessment minimum of investment and subsidy needs from a supply-side perspective. Additional demand studies would be required in order to estimate the subsidy needs for universal service programs.

¹² It should be noted that based on anecdotal information it appears the number of private telecenters in rural areas that did not use public financing far outnumber the number of telecenters that received public financing.

sector investment.¹³ As a result, the use of public funds for universal access programs has had a significant multiplier effect which demonstrates the effectiveness of well-designed public-private partnerships (PPP). The study also found that a few new programs (not fully implemented yet) seek to stimulate expansion of mobile networks into rural high-cost areas.

The study found that there are a growing number of initiatives, some very innovative, aimed at increasing access to telecommunications that are being designed or implemented by private operators and on a sub-national level by cooperatives, small operators, community organizations and NGOs. Only three countries, those that have not privatized and reformed their sectors, continue to rely on universal access obligations imposed on state-owned or partly state-owned operators with varied results.

The study also found that the most common mechanism used to allocate universal access funds has been the minimum subsidy tender¹⁴ and payment of subsidies over a period of time – which are classified as forms of output-based aid (OBA).¹⁵ The use of publicly competitive tenders has been highly successful in terms of increased transparency and leveraging additional private sector investments. Furthermore, due the competitive nature of tenders the amount of subsidies required have often been lower than initially estimated by universal service funds (in some cases no subsidy was required).

4. **Some universal access funds are underutilized and disburse funds inefficiently.** Disbursement ratios of USFs (i.e. the amount of used as a function of the amount raised) should not be the main mechanism used to evaluate USF effectiveness as some of the most effective USF programs are in countries with slow disbursement ratios due to reasons beyond the control of USF administrators. However, as summarized in Box 2 and detailed in Table 1, 13 countries raised \$2.61 billion for universal access programs of which only \$297 million or 11.3 percent have been disbursed or used to date (if one excludes countries that have not disbursed any funds, the average disbursement ratio increases to 40 percent.). Only three countries have utilized or allocated 90 percent or more of the funds they have collected, four have used or allocated between one and 40 percent of the funds while six funds have not been utilized.

Non-disbursal of universal access funds is largely a function of: (a) jurisdictional and/or legal disputes between universal access fund administrators and other ministries, (b) diversion of universal access funds for uses other than that for which they were initially designed, and (c) restrictions imposed on USFs to improve fiscal balances.

Inefficient disbursal of funds is due to: (a) the fact that policymakers narrowly defined eligible programs to be those linked to public payphones and community Internet;¹⁶ (b) the

¹³ Estimates regarding the multiplier effect of USF subsidies are taken from an internal World Bank study on USFs in Chile, Colombia, Dominican Republic, Guatemala, Peru, Nepal, Nicaragua, Nigeria and Uganda.

¹⁴ Minimum subsidy tenders are open and competitive tenders that are awarded to the company that requests the lowest amount of public subsidies.

¹⁵ OBA programs are programs that link the payment of subsidies to meeting pre-defined performance criteria such as installation of rural telephones in a certain areas and pay subsidies over a period of time based on meeting pre-defined performance or continuous service milestones. OBA programs often use minimum subsidy tenders. However, OBA programs can also be awarded and allocated using other criteria.

¹⁶ If universal access funds adopt use the definition of universal access funds recommended in this study, the demand for using funds from universal access funds will likely increase. See recommendations section of this report.

fact that in many cases policy makers over-estimated the amount of subsidies that operators would request for universal access projects; (c) requirements that universal access programs be approved by two or more ministries, that they must comply with all public expenditure review and monitoring procedures and in some cases to conclusively demonstrate that the subsidies are well-designed and not financing planned private sector investments; and, (d) as currently designed, tenders impose significant legal, administrative and financial burdens that act as a barrier on operators' participation in tenders (especially for smaller operators'). In addition, well-designed universal access programs have required carrying out extensive supply and demand studies in the field, a design and public consultation process and a tender process which typically take one to two years to complete and creates further delays in the use of universal access funds. In several countries, universal access funds have also been diverted to finance other government initiatives in other sectors.

5. **Universal access programs are largely self-financing and provide sufficient funding given current goals.** The two predominant mechanisms used to finance universal access programs are taxes or assessments of one percent to three percent imposed on the revenues of telecommunications operators or periodic allocations from general government revenues. These mechanisms provide in most Regulatel countries more than sufficient financing for universal access programs as currently defined. As noted in prior findings, the current challenge is to effectively use and disburse in a timely manner the funds that are being raised. Some developed countries impose significantly higher universal access assessments on their operators, but these funds are generally used in a timely manner and finance a wide-variety of universal service programs targeted at low-income, senior citizens and disabled communities as well as programs aimed at increasing access to the Internet in schools, libraries and public areas.

Universal Access Programs

6. **Mixed track record on the use of universal access funds for community telecenters as such programs require complementary programs to ensure effective use of the Internet.** Many universal access programs have financed the establishment of general-purpose community Internet telecenters. Telecenter programs have been fairly successful in terms of providing community access to the Internet to many rural communities for the first time which is an important achievement. However, many of these general-purpose telecenters – especially those that have been developed with limited consultation with local communities – require on-going subsidies in order to finance operations and they have a mixed track record in terms of their effective use and adoption by the targeted communities. The most successful community telecenter programs are those that are linked from their inception to specific goals such as e-education and e-government and that include a wide-range of capacity-building and support programs -- often implemented in coordination with other government entities, local communities, businesses and non-governmental organizations (NGOs).
7. **Universal access programs are no substitute for sector reforms and periodic updating of the legal, regulatory and institutional framework.** Universal access programs are most effective when they are part of a broader effort to reform the entire legal and regulatory framework of the telecommunications sector in order to attract more investment, foster competition and put in place transparent and accountable regulatory institutions. In addition, operators are indicating that in some cases the greatest challenge to provide services in rural areas are not commercial but rather legal or regulatory barriers, notably obtaining all the required licenses and permits, spectrum management and fees, interconnection, securing

rights of ways, paying taxes or other fees imposed by state or local governments and lack of infrastructure sharing requirements. This study found that in some countries regulatory barriers are hindering the use and deployment of new market and technological innovations, such as Voice over IP (VoIP), WiFi, WiMAX and other wireless technologies that could lower the cost and improve ICT access in rural areas.

The success of the first generation of universal access programs was due partly to the fact that they were part of wide-ranging government reform initiatives aimed at reforming the role of the state in the economy, increasing private sector investment and stimulating the development of the telecommunications sector. Their success was also due to the fact that they delivered voice services using traditional technologies. However, as the first wave of reforms have matured and the range of ICT services has broadened to include the Internet, universal access programs have increased in complexity. As a result, coordination between universal access programs and other government initiatives has generally grown weaker and has often resulted in duplication of government initiatives and programs that sometimes undermine each other and result in the inefficient use of public financial resources. Increased coordination between government initiatives in some countries has proven to be very challenging even when such efforts are supported by USF administrators and regulators.

8. **Lack of sufficient domestic backbones and last-mile broadband networks are bottlenecks for universal coverage and universal access goals.** With a few exceptions, the expansion of commercially viable networks -- especially those designed to provide more bandwidth-intensive applications and integrated voice-data IP services -- into more rural areas and into the interior of many countries is limited by the lack of affordable backbone infrastructure and insufficient last-mile bandwidth. To date, universal access programs narrowly focused on increasing telephony or community access to the Internet have not created sufficient incentives for increased backbone or broadband infrastructure investments. No universal access program in Latin America has explicitly set as a goal to expand backbone infrastructure which is a major roadblock to the provision of last-mile broadband solutions using new wireless technologies. Furthermore, there is increasing pressure that last-mile infrastructure provide more than narrow-band/dial-up Internet access as consumers and applications require more bandwidth in order to make effective use of the Internet. However, recent technological and market innovations -- especially in the terms of terrestrial and satellite technologies -- have reduced the cost of backbone and last-mile broadband infrastructure and dramatically expanded the range of viable solutions that use less bandwidth.¹⁷ In summary, technological and market innovation, as well as changing consumer needs are increasing the demand for more bandwidth while at the same time enabling more bandwidth to be provided using a variety of low cost wireless solutions.
9. **Universal access programs focus largely on stimulating supply and are largely designed by government agencies to follow a top-down approach.** To date, most universal access programs have focused on stimulating increased supply of telecommunications infrastructure in rural areas. These supply-side initiatives are largely aimed at channeling resources directly to operators and/or suppliers of telecommunications and ICT equipment based on objectives that are set by government agencies. A few countries have recently allowed operators and local communities to propose universal access programs or pilots but these “bottom-up” approaches pose special challenges for financing with public sector funds without going

¹⁷ Readers are encouraged to review the full report which contains extensive descriptions and assessments of how a wide range of technological, financing, business and service delivery innovations are creating new and commercially-sustainable options for the provision of ICT infrastructure and services to rural areas.

through a public tender process or some other mechanism to assess the proper subsidy level. Recently, a few countries have also begun to use some of their universal access funds to partly finance small pilots generated by local communities and/or operators. However, to date, universal access funds have not been used to provide low-cost loans for rural operators (as has been the case in some developed countries), to create rural access venture capital funds, or to use some of the funds to assist operators to apply for or comply with the legal, financial and administrative burdens that are required to participate in tenders or universal access programs or to support training and assistance for small rural operators and cooperatives to adopt innovative business, administrative, marketing and service delivery practices, among other innovative potential uses for such funds.

10. **Lack of clear goals and inadequate metrics to design effective universal access programs and monitor progress.** The most successful first-generation publicly-financed universal access programs are those that established clear, measurable and achievable goals. These goals mainly related to universal access such as the average distance people need to travel in order to reach a community payphone and/or community telecenter. However, few countries have established similarly clear, measurable and ambitious goals for their second or third-generation of universal access programs that address issues related to ensuring existing telecommunications networks provide sufficient geographic coverage and access to new generation services and infrastructure.

The most widely-available statistic used to measure universal access -- penetration statistics on a national or sub-national level -- provide a basic, but inadequate benchmark to measure the success or failure of universal access programs. Furthermore, penetration statistics do not provide sufficient guidance for policy makers, regulators or universal access fund administrators to design effective universal access programs or to design, estimate and justify the nature and amount of public subsidies or incentives for universal access programs. Lack of adequate and timely metrics for a dynamic sector such as telecommunications makes it especially challenging for policy makers to gain support for universal access programs and to measure progress which is critical to all publicly-financed programs. Furthermore, existing statistics do not readily enable benchmarking of universal access goals and programs between countries, or between regions within countries. Countries that have implemented the most effective universal access programs carry out extensive field studies that inventory existing infrastructure and estimate demand that enable policymakers to estimate the nature and amount of public subsidies or incentives. Though several countries have conducted such studies, these studies need frequent updating due to the dynamic nature of the ICT sector and variations between the studies make it difficult to make regional comparisons.

11. **Universal service is not yet a goal.** To date no Regulatel member country has implemented any program aimed at true “universal service” in terms of ensuring that service is affordable to virtually all individuals or households in a given area, since the priority has been on “universal access” at a public level. The focus on “universal access” rather than “universal service” was a rational decision regarding the use of limited resources during the first generation of universal access programs. Despite the lack of government-financed “universal service” programs, private operators have put in place initiatives – such as subsidized handset programs, pre-paid calling plans and calling party pays – that have acted as de-facto universal service programs insofar as they made it easier for low income people to purchase and use cellular telephones.¹⁸ More recently some countries that have reached their initial

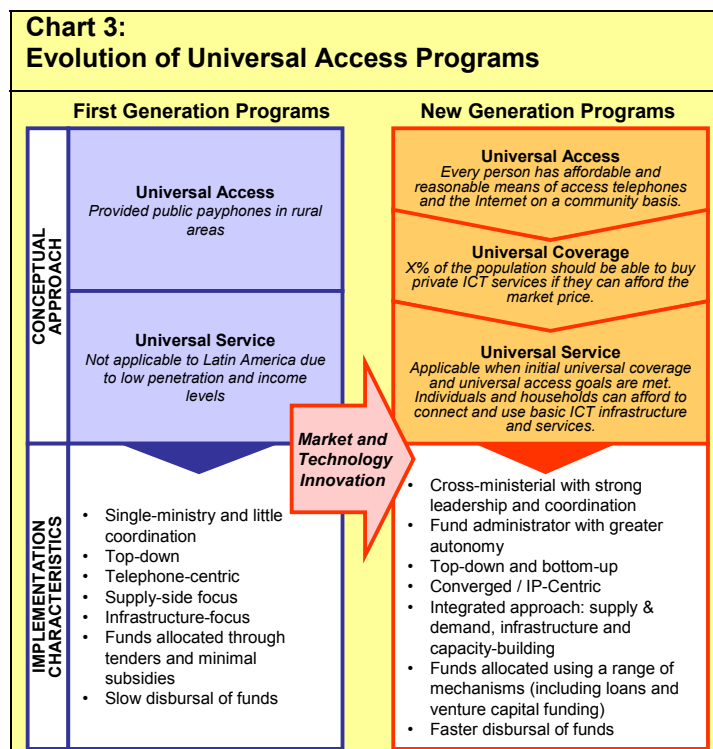
¹⁸ This study did not examine in detail or assess the nature and impact of these private sector programs or assessed their impact and affordability for low-income communities.

“universal access” program goals have begun to consider whether they should put in place some “universal service” programs or pilots alongside with a new generation of “universal access” programs.

RECOMMENDATIONS

The full study provides a wide-range of recommendations aimed at policy makers, regulators, universal access funds, the private and non-profit sector, Regulatel and financial institutions. Though the recommendations are closely linked to each other, they can be broken out into the following three main groups:

1. **UPDATE AND REDEFINE UNIVERSAL ACCESS AND ESTABLISH NEW GOALS.** Policy makers and regulators responsible for universal access should update and redefine universal access programs and establish new and measurable goals consistent with the framework outlined in Chart 3 and Box 3. In general terms there should be a greater focus on improving access to and productive use of the Internet. The new generation of programs need to take into account the achievements of and lessons from the first generation of universal access programs, the nature and size of the market efficiency and access gaps, market developments, technological innovation as well as different income profiles and distributions, geography and politics in each country. Goals should be set by policy makers and regulators for their countries accordingly. Few, if any, countries need or can afford to pursue all goals at the same time, but policymakers should be provided with clearer and more explicit choices between policy goals. There will be variations between countries in terms of the exact definition, goals and priorities. However the new generation of goals should be framed by the following common set of guidelines:



and more explicit choices between policy goals. There will be variations between countries in terms of the exact definition, goals and priorities. However the new generation of goals should be framed by the following common set of guidelines:

- a. **Develop a new framework that includes concepts and definitions that are more nuanced and allow for policy makers to make clearer and more explicit decisions regarding goals and priorities.** As illustrated in Chart 3 and quantified in Box 3, what was defined as “universal access” goals during the first generation should now be broken out into two distinct goals – the first being “*universal geographic coverage*” which refers to ensuring key ICT infrastructure (such as signals from mobile networks, or interconnection points to backbone infrastructure) are available for a given geographic area, while “*universal community access*” refers

to ensuring affordable community access to a defined set of services such as community payphones and/or community Internet telecenters.

As detailed in Box 3, what was once defined as “universal service” should also be broken out as two distinct universal service goals – the first being “*affordable connectivity*” which refers to reducing the entry cost for targeted low-income, elderly or disadvantaged individuals or households to purchase or lease a telephone, cellphone or ICT device. The second universal service goal should focus on “*affordable service*,” which refers to making monthly or recurring costs for using ICTs more affordable to specially targeted individuals or households. With regard to universal service programs, policymakers should proceed very cautiously with pilots and take extra care to ensure that even these pilots do not provide subsidies to non-targeted communities or beneficiaries.¹⁹

- b. **Measurable goals** should be set for at least five-year periods with an interim set of goals that are revised and updated every two years. Box 3 contains examples of how to establish measurable goals. Specific goals should be set by policy makers and regulators for their countries while at the same time regional goals should also be set.
- c. **Identify trade-offs and the opportunity costs of choosing between different goals and priorities.** Some countries, for example, may have dramatically improved their “universal community access” and reached a certain threshold where the per-unit cost of further improving such community access may be two or more times more expensive than it was to reach their initial universal community access goals (i.e. the opportunity costs of further increases in universal access are very high). In such cases, policy makers may decide to change their priorities from further improving universal community access to devoting an increasing share of their universal USFs to improve “universal geographic coverage,” and/or “universal service” goals. In general terms, countries should first prioritize reaching initial “universal community

**Box 3:
Setting Measurable Goals for
New Generation Programs**

The success of new universal access programs is linked to setting clear, realistic and measurable goals. Regulator members should agree on a common set of indicators, set regional average targets based on each country setting their own numerical goals (i.e. the “x’s” detailed below) using the same set of indicators. An example of the types of indicators follows:

Universal Community Access: X% of the population of a country is within X km of a public payphone and/or Internet community telecenter.

Universal Geographic Coverage: X% of inhabitants of all municipalities with populations greater than X should be covered by the signal of a mobile/cellular network and/or the signal of an Internet access point irrespective of ability or willingness to pay.

Universal Service Part 1: Affordable Connectivity: Once universal access and universal coverage goals are met, then the end-user price of a telephone/IP device should be affordable to X% of the population income of a country, as evidenced by actual subscription and use results.

Universal Service Part 2: Affordable Service: Once universal access and universal coverage goals are met, the end-user recurring price of a minimum level of telephone or Internet service usage should be affordable to X% of the population of a country, as evidenced by actual subscription and use results.

¹⁹ Subsidies, for example, should not subsidize management costs and should be structured to stimulate private sector investment. For e-education or e-government programs, the USFs should largely focus on infrastructure while other ministries should be responsible for financing the other component.

access” and “universal geographic coverage” goals. After these initial goals have been reached the new generation of goals should include new goals for universal access, universal geographic coverage and universal service.

- d. **Define what services and/or infrastructure to include in the definition of the “basic basket” of universal access, universal coverage and universal service programs.** Policymakers need to clearly define what types of ICT services, infrastructure and/or equipment, as well as support services such as capacity building, will be included under programs that promote universal access, universal coverage and/or universal service. Some countries may decide to include the same set of services, infrastructure and/or equipment under all programs, while others may chose a different set for each program.
 - e. **A key goal should to be to stimulate faster build-out and expansion of backbone networks beyond the major urban areas.** Technological innovation is enabling backbone infrastructure or faster speed connectivity to be provided on a commercially-sustainable manner to increasingly smaller markets. Universal service funds policies should stimulate the expansion of backbone infrastructure into more rural areas where it is commercially sustainable in order to reduce the backbone bottleneck in these areas. Some governments – in order to complement universal access programs -- could allocate funds to develop backbone infrastructure as part of broader e-education and/or e-government programs based on public-private partnerships.
 - f. **Stimulate development and innovative use of new wireless technologies that provide Internet access in rural and low-income areas.** USFs, on their own, or as a complement to other public sector programs, should be used to stimulate the development of and use of innovative wireless technologies that could be used to provide improved Internet access in rural and low-income areas.
2. **ACCELERATE, SIMPLIFY AND DIVERSIFY THE USE OF UNIVERSAL ACCESS FUNDS.** Policy makers and administrators responsible for universal access funds should implement a range of innovations aimed at reducing or eliminating the bottlenecks that are slowing the use and disbursement of universal service funds. Specific steps will vary by country, but examples of include the following that address the main bottlenecks identified by this study:
 - a. **Provide greater autonomy, accountability and transparency of universal access funds and minimize ex-ante approvals.** Insofar as possible, universal access funds should be structured in a manner to minimize ex-ante approvals from more than one or two ministries in exchange for increased autonomy, accountability and transparency for the administration of the universal access funds. Some countries should also consider outsourcing to a private company the administration of universal access funds though the government/regulator remains responsible for setting goals and overseeing the program. If properly done, outsourcing the administration of universal access funds can enable policymakers to focus on substantive policy matters and can further increase the transparency, accountability and efficiency of universal access funds.
 - b. **Simplify and streamline the allocation of universal access funds.** While universal access programs should maintain financial discipline required of publicly-financed programs, they should also avoid long delays in the review process, which can

undermine the rationale and support for universal access programs.²⁰ Many universal access programs have taken two to four years to go from design to implementation – far too long a life-cycle for a dynamic sector such as the ICT sector. This long life-cycle can create challenges for governments which often face budgetary restrictions that do not allow them to make financial commitments beyond a single fiscal year. Some countries have overcome this limitation by creating special escrow or trust-fund accounts, but these add an additional layer of complexity to universal access programs. In addition, efforts should be made to streamline and simplify the process of applying for and using universal service funds by operators by eliminating unnecessary administrative requirements and providing some assistance to operators to comply with these.

- c. **Establish mechanisms that stimulate smaller operators and venture-oriented companies.** A portion of USFs should be used for micro- financing operations including for loans or grants. Small pilots – with carefully developed criteria, conditions and safeguards -- could also be established that use USF monies to facilitate equity investment in some companies that provide universal access or universal service infrastructure or services.²²
- d. **Diversify mechanisms used to allocate universal access funds.** Universal access/service funds should mainly continue to use minimum subsidy tenders, payments based on performance and limit the use of funds to help finance initial capital expenditures rather than on-going operational costs (i.e. traditional OBA programs). However, universal service funds should also be carefully diversified to include a wider range of activities directly linked to universal

<p>Box 4: Innovative Mechanisms to Award Universal Access Funds</p>
<p>In order to accelerate the disbursement of universal service funds and to stimulate bottom-up proposals, policy makers should experiment on a pilot basis with mechanisms other than minimum subsidy tenders. Funding of these pilots by universal service funds should be limited until they demonstrate their effectiveness. The following innovative approaches could be considered:</p> <ul style="list-style-type: none"> • Provide grants to small pilots: Set aside funds each year to finance pilots to test new approaches and technologies. • Implement a structured approach for developing and vetting universal access projects eligible for funding and consider adopting some procedures (to the extent they are applicable to the telecommunications sector in Regulate countries) from the electricity sector in Ecuador and El Salvador where projects in designated regions are developed jointly by local government authorities and electricity distribution companies and advisors of the fund. The process of developing and approving projects is subject to well defined procedures and strict timetable and a large part of the work in identifying and planning these bottom-up type projects is done “in the field” by engineers and other professionals of the companies that will eventually be implementing them. The turn around time is quite short²¹. There are also strict reporting requirements and getting projects approved depends in part on performance with previous funded projects. • Use of OBA-based mechanisms other than minimum subsidy allocation, e.g. for set a fixed subsidy and award the funds to the operator that provides, for example, the most telephone or Internet connections or social and economic ICT applications for the community such as e-learning tools and facilitating access to health and government services through the proposed network.

²⁰ These delays also undermine USF programs because by the time the USF funds are approved for use there may have been market or technological innovations that require re-evaluating the goals of a specific USF program.

²¹ In El Salvador a project is typically completed and paid for within 4 months of being approved.

²² The use of USF monies for equity investments will need safeguards to ensure these companies do not become public sector companies that could compete unfairly with private operators or that benefit from special regulatory treatment.

access and to test out non-OBA-based mechanisms as well as other OBA-based mechanisms (see Box 4 for some examples).

- e. **Put in place mechanisms that allow and facilitate operator-designed universal access projects.** Universal access funds should put in place mechanisms and guidelines that allow and facilitate operators and the private sector to propose universal access projects that use universal access funds. These mechanisms, however, need to have safeguards to ensure public funds are used in an effective, efficient and accountable manner and that all universal access funds are not entirely used by larger and better-financed operators.

For example, USFs should be used to finance studies every two or three years to assess results achieved, estimate universal access, coverage and service gaps, and educate operators on the USF programs. If there are sufficient funds, some USF's should also launch small-scale pilots to provide loans for operators, venture-capital funds, micro-financing for village-phones, small grants or other types of demand-stimulation technical assistance programs, programs to assist and simplify the process to apply for universal access funds and comply with universal access fund reporting requirements – especially for smaller operators. Universal access funds should also be used to support training and assistance for small rural operators and cooperatives to adopt innovative business, administrative, marketing and service delivery practices for universal access projects. Diversification of the use of USF funds, however, should not undermine the main goal and priority of stimulating private sector investment in infrastructure.

- f. **Finance pilots, bottom-up initiatives and demand-side initiatives.** Set up small-scale pilots that can be quickly disbursed and executed with minimal requirements – the goal is to stimulate innovation and identify lessons – and set up a financial cap for these pilots that could use a given percent of total USF. Furthermore, while universal access programs should continue to largely finance initiatives aimed at increasing the supply of ICT infrastructure in rural areas by channeling funds to operators and suppliers, some pilots should be launched that stimulate both supply and demand.
- g. **Highlight the role of public capacity building and relevant content development in promoting broader demand for and use of ICTs among target populations.** Ensure that funding initiatives incorporate components and requirements for capacity building among target populations, especially those in rural areas who may be unfamiliar with the potential and use of the Internet and other ICTs. Support for programs that encourage development of ICT content and applications that are relevant and useful to local populations can also significantly enhance the value and financial success of such policies.
- h. **If ex-ante approvals and other delays are eliminated, adopt “pay-as-you go” or “use-it-or-lose-it” mechanisms.** In countries where universal access funds are not being used or are being used at an extremely slow rate and where universal service funds are afforded sufficient autonomy and independence to operate in a streamlined manner, policy makers should consider putting in place transitional mechanisms that limit the amount of funds that are collected until the universal funds begin to use these funds for their intended purpose. Policy makers should also consider putting in place transitional programs that link raising funds to disbursement of funds (i.e. pay-as-you-go mechanisms). In some cases this can include provisions that place a cap on

the collection of funds or stop the collection of new funds until the disbursement of universal funds improves. Some countries, in addition, should consider putting in place mechanisms that return a portion or all of the universal access funds to those who provided the funds (i.e. the government treasury or operators) when failure to disburse funds reaches certain pre-defined triggers or targets. When universal access funds improve disbursement and use of the funds exceeds collections, then a dialogue can be initiated to identify whether and how to increase financing for the USF.

3. **IMPLEMENT LEGAL, REGULATORY AND INSTITUTIONAL REFORMS TO CLOSE THE MARKET EFFICIENCY GAP.** Policy makers and regulators need to take action to address one of the key findings of the study – i.e. that private sector investment in ICTs in rural and low income areas could further increase if legal, regulatory and institutional bottlenecks were reduced or eliminated. Putting in place reforms aimed solely at making the spending of public financing for universal access programs more effective and efficient without first attempting to reduce the market efficiency gap will likely undermine private sector investment and hinder competition. While the exact nature of the bottlenecks and needed reforms varies by country, most countries should undertake actions along the following lines:

- a. **Create a strong leadership that coordinates ICT initiatives.** The most effective universal access programs will be those that are part of a broad-ranging and integrated economic and social development program that recognizes that technological innovation – notably the convergence of communications and information technologies over a common platform of the Internet – is acting as a catalyst for changes in how governments. In order to take full advantage of this trend, governments at the highest levels should put in place institutional, legal and regulatory reforms and mandates that forces increased coordination between ministries in order to ensure ICTs are effectively used as a tool to transform and improve governance, education, health, support to small businesses, and to foster economic, social, and cultural development. In countries where such a high-level mandate can not be readily obtained, the regulators and universal service fund administrators can still design and implement effective universal access and service programs on their own although they should attempt to increase coordination and linkages with other ministries and initiatives that use ICTs, notably e-government, e-education and e-health programs.

While the first generation of universal service programs largely focused on telephony, the new generation of universal access programs will be largely focused on the provision of a wide variety of services over converged IP-based platforms. In order to ensure the Internet infrastructure and hardware that is deployed by universal access programs is effectively used, they need to be supported and complemented by capacity-building, training, development of content and applications, and demand-stimulation initiatives that are part of broader e-government, e-education, e-health and/or e-development initiatives that are implemented by other ministries. An integrated approach that aggregates public sector demand for ICTs can also have the added benefit of reducing the amount of public subsidy needed for universal access programs because the aggregation of public sector demand for telecommunications services in rural and low-income areas will make the provision of services more attractive to the private sector.

- b. **Update and revise regulations to take into account technological and market innovations.** The legal, regulatory and institutional reforms that were implemented in

most Regulatee member countries during the 1990s were highly successful and resulted in dramatic improvements in access to ICTs. However, due to technological innovation (especially convergence based on IP platforms) and market changes, some of these legal, regulatory and institutional frameworks are outdated and need to be revisited. Competition and new technologies have nearly ended existing monopolies (e.g. voice) and are starting to create new ones (e.g. broadband and backbone). Economies of scale have reduced to upstream segments of the industry and relatively small competitive players in final services are not rare. Regulation, however, has not evolved at the same pace and in some cases is still focused on market segments that are competitive and where consumers have a range of choices. Furthermore, the regulatory framework from the 1990s was based on the assumption that urban and rural areas should be regulated in the same manner. However, as a result of technological and market innovations, regulators should begin to consider putting in place one set of regulations for urban and other areas where there is competition and a different set of regulations in rural and other high-cost areas where there is insufficient investment or competition. Some specific barriers to expansion of ICTs to rural areas have been identified in the study. In particular, it is recommended that regulators simplify licensing requirements and procedures, ensure that universal access operators obtain interconnection with other operators quickly and, if and when necessary, help resolve interconnection disputes promptly, implement asymmetrical interconnection arrangements for operators in rural areas, allow more wide-spread use of VoIP, recognize the potential of new wireless technologies to provide cheaper and more accessible broadband access by revising spectrum use policies and regulations including the elimination of licensing requirements for certain key frequency bands (such as those used for WiFi and WiMAX systems) and making spectrum available in the 450 MHz band for rural applications, adopting more flexible quality of service and standards requirements for rural operators, and promoting, if necessary, mandating infrastructure and facilities sharing.

In essence, with notable exceptions, the universal access objectives set by first generation funds is reachable in the short term. However, technological and market innovations pose new challenges for the immediate agenda of USFs, both in terms of services (broadband access to the internet, for instance) and overarching goals (universal access, universal geographic coverage and universal service).

This study has found that in order to close pending universal access gaps and rise to the new challenges, telecommunications funds will have to change dramatically their ultimate goals, their internal organization and their financing mechanisms. Universal coverage is proposed as an intermediate goal towards universal access. However, governments will also have to support cross-sectorial coordination for ICT projects, give greater autonomy to the fund administrator and accelerate the use of USF financing.

**TABLE 1:
OVERVIEW OF UNIVERSAL ACCESS FUNDS IN LATIN AMERICA – DISBURSED RATIO**

Country	Fund	Fund Legally Established ¹	Date of First Use of Fund for telecom ²	Source of Funds ^{3,4}	Fund Goals or Prime Focus	Amount Raised until 2005 (\$ millions)	Committed / Used until 2005 (\$ millions) ⁴	Disbursed Ratio ⁵
Argentina	FFSU	2000	Not used	Sector tax	Public telephones, handicapped, education, health, cultural projects, etc.	Not avail.	Not avail.	N.A.
Bolivia	FNDR	1996	Not used	Sector fees and fines	Public telephones, telecenters and cell phone expansion.	43.5	0.0	0%
Brazil	FUST	2000	Not used	Sector tax	Local communications and other civil and military telecom; health and education.	1,680.8	0.0	0%
Chile	FDT	1982	1995	Budget	Public telephones, telecenters and Internet in schools.	30.0	30.0	100%
Colombia	FCM	1994	1999	Sector tax	Public telephones and telecenters.	448.6	166.0	37%
Costa Rica	No fund	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Cuba	No fund	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Dominican Republic	FONDETEL	1998	2002	Sector tax	Public telephones and telecenters	65.7	10.8	16%
Ecuador	FODETEL	2001	Not used	Sector tax	Telecenters and residential projects in rural and poor peri-urban areas.	1.0	0.0	0%
El Salvador	FINET	1998	Not used	Concessions, Sector fees and fines	Multi-sector (Telecom and Energy)	32.7	0.0	0%
Guatemala	FONDETEL	1996	1998	Concessions & budget	Public telephones.	17.9	7.8	43%
Honduras	No fund	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Mexico	FCST	2002	2004	Budget	Public telephones.	25.3	25.3	100%
Nicaragua	FITEL	2003	2005	Sector tax	Public telephones and telecenters.	4.0	0.8	19%
Panama	No fund	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Paraguay	FSU	1998	2000	Sector tax	Telecom projects in rural and marginal urban areas.	13.0	12.5	96%
Peru	FITEL	1993	2000	Sector tax	Public telephones and telecenters.	143.1	45.1	32%
Uruguay	No fund	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Venezuela	FSU	2000	2005	Sector tax	Telecenters.	113.2	0.0	0%
Total						2,618.0	297.3	11%
Total w/o countries with 0% disbursal ratio						742.7	296.6	40%

Notes:

1. Date when the fund was given an explicit legal mandate to be established.
2. First date when funding was awarded to an operator that used universal access funds.
3. Source of funding for the Fund, not for the administration of the Fund.
4. Sector tax = assessment imposed on operators of telecommunications operators. Budget = revenues from government budget allocated by executive or legislative branch.

**TABLE 2:
OVERVIEW OF UNIVERSAL ACCESS PROGRAMS IN LATIN AMERICA:
SOME NOTABLE ACHIEVEMENTS (NON-EXHAUSTIVE SUMMARY)**

Country	Notable Achievements or Notes
Argentina	3,031 Internet access points established in community centers and libraries. 4,400 telecenters serving more than 4 million people.
Brazil	On-going debate within government over FUST goals and use of FUST funds. On January 1, 2006 the government imposed updated investment obligations on all incumbents to install telephones in every community larger than 400 inhabitants. Investment obligations imposed during privatization were extensive and contributed to dramatically improved universal access.
Chile	Public telephones installed in more than 6,059 communities benefiting 2.2 million people. Funds leveraged significant private sector investment and several tender required no public subsidies. Funds are allocated from government budget when specific projects are launched. Unused funds are used for follow-up projects or returned to the general budget.
Colombia	The Compartel program installed rural payphones in more than 9,745 communities benefiting more than 5 million people.
Dominican Republic	1,500 public telephones across the country and 100 Training Centers in private schools located in rural areas.
Ecuador	288 telecenters installed in 266 localities benefiting nearly 100,000 people.
El Salvador	The fund is a telecom and electric fund. All telecom funds have been used for electricity projects. Recent reports indicate some FINET funds used to finance 41 telecenters. 5,502 public phones installed in 1,885 localities benefiting 1.49 million people.
Guatemala	Funds that were allocated to FONDETEL have been fully used and allocated (i.e. actual allocation for funds that are available is 100%) Significant amount reallocated for non-telecom use under prior government. Universal fund currently financed by budget and limited for only telephone projects.
Mexico	11,430 telecenters established benefiting approximately 9.35 million people.
Nicaragua	At least 343 public telephones installed in 343 localities benefiting 500,000 people. Funds leveraged significant private sector investment. First and only completed tender required a temporary reduction in the tax imposed on the winning bidder of \$0.75 millio. Second tender is under way.
Panama	A telecenter program was established with financing from multilateral agencies and donors.
Paraguay	480 public telephones (prepaid cards) installed in 240 localities (lack information regarding population benefiting)
Peru	Public telephones installed in more than 4,400 localities benefiting 1.6 million people. 80% of rural population need to travel only 5.6 km to reach a public payphone (down from 56 km). Funds leveraged significant private sector investment.
Venezuela	34 access points installed in 24 localities serving a population of 327,000 (possibly in planning stages)

Notes:

5. Date when the fund was given an explicit legal mandate to be established.
6. First date when funding was awarded to an operator that used universal access funds.
7. Sector tax = an assessment imposed on operators of telecommunications operators. Budget = revenues from government budget allocated by executive or legislative branch.