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*Abstract: In his analysis, Hugo Carrión reflects on the political and economic context in which universal access funds emerged in the Andean Region and their evolution as mechanisms for achieving the objectives of universality in telecommunications. He also reflects on the current role of the state regarding provision of public services and reviews the situation in Andean countries. Carrión concludes that regulation and control are inherent to the role of the state which is responsible for assuring universal access and seeing that wireless and mobile communications are exhibited as a strategic element in achieving the goals of universalisation. Provision of universal access, according to the expert, should consider these technologies as well as assure access to groups traditionally marginalised.

*Keywords: Access, Network, Telecentres, Andean region.

Universal Access Funds in the Andean Region Analysis, reflections and proposals[1]

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Indice

1. Introduction

Universal access funds (UAFs) are mechanisms specifically designed to achieve the universalisation of telecommunications. These funds are generally administered by an agency independent of the incumbent operator.

Subsidies paid out of these funds are normally used to contribute to financing specific projects, such as the expansion of networks or the installation of public payphones or telecentres. Effective UAFs, although they may take different forms, share a number of common features.

UAFs can serve to subsidise existing levels of universal service or to reach a higher level of universal access or service through network expansion. In general terms, UAFs have been the mechanism most commonly used to subsidise further expansion of networks in order to extend universal service to areas that are not economically profitable.

This study presents an analysis of UAFs in the Andean region. It begins with reflection on the role of the state with regard to the provision of public services, followed by an overview of UAFs to situate them in the political and economic context that led to their creation.

This is followed by an analysis of the specific cases of Venezuela, Colombia, Ecuador and Peru, which demonstrates that in spite of the particularities of each country, there are trends common to the region as a whole.

Finally, this brief study concludes with the proposal of new strategies to confront the challenge of universal access in the context of new technologies and the new world economic order.

2. Background

Public goods and private goods

It is essential to begin with a brief reflection on the difference between private goods and public goods.

On the one hand, as noted by Barrantes,[3] private goods are rivalrous (consumption by one consumer prevents simultaneous consumption by others) and excludable (it is possible to exclude some people from consuming them, e.g., those who have not paid for them). They are also subject to individual ownership. Public goods, on the other hand, are the opposite: non-rivalrous and non-excludable. There can also be different degrees of rivalry and excludability, which gives rise to

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[3] Barrantes, Roxana. Los fondos públicos o de cómo el presupuesto público va perdiendo capacidad redistributiva. Documento de Trabajo N° 152, Instituto de Estudios Peruanos, junio 2007.

different categories of public goods: purely public goods, local public goods, club goods, congested goods, etc.

For example, a vaccine has the characteristics of a private good and a public good at the same time. An individual who receives it is protected from the disease that the vaccine is designed to prevent, which is a trait of a private good, but at the same time it protects the other people with whom this individual is in contact from being infected, which is a trait of a public good.

When there is a market for private goods, and in the absence of market flaws, it can be stated that the decentralised provision of these goods through private exchanges is efficient. However, the market alone cannot provide the desired level of public goods, in other words, those which are non-rivalrous and non-excludable. This is both the result of the high cost of exclusion and the fact that if the good is not fully consumed by the individual, then once it has been provided, other consumers become "free riders" – they can consume without paying. As a result, private agents have no incentive to provide public goods, and so it is up to the state to organise their provision.

Therefore, an important component of theories that describe states and the policies they implement relates to their decisions on the types and degrees of public goods they provide. At the same time, when the provision of public goods is funded through taxes, voters and their preferences as to types and degrees of public goods can influence the decisions adopted by the state.[4]

Consequently, the decision to create public funds in general and UAFs in particular is not solely based on the criteria of distribution of wealth or the provision of services, but is also a decision with political connotations.

From state monopoly to free-market logic

The emergence of UAFs is not an isolated incident, but rather a measure responding to a certain economic and political logic. The prevalence of the capitalist model and the implementation of its postulates were undoubtedly the main source of inspiration for the creation of these funds.

Under the economic reform processes initiated in the 1980s, aimed at market liberalisation, state companies that provided services were the first to be privatised. The most coveted were telecommunications companies, which were usually public monopolies controlled by a state agency. For this reason, up until that time, there was little variation in regulatory frameworks across different countries, which merely dealt with one state enterprise regulated by one government agency. As Katz observes, "Approximately 30 years ago, one could say there was a single

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[4] Ibid.

regulatory framework for the telecommunications sector around the world. The telecommunications sector in every country, regardless of its history, culture and political/legal context, was organised around a single operator, generally under state ownership. This monopoly was regulated in most cases by a government agency, although in many cases it was believed that, since it was owned by the state, the public telecommunications monopoly could respond adequately to the needs of consumers."[5]

The telecommunications sector reforms that were initiated worldwide by the United Kingdom and in the Latin American region by Chile in the early 1980s, characterised by the privatisation and liberalisation of markets, created the need to establish regulatory agencies that were independent of political power, responsible for ensuring the proper functioning of the sector and dealing with possible market failures.

Over the course of roughly 20 years, the telecommunications sector was radically transformed. The model of a state-owned monopoly providing a public service has been replaced with a model ruled by commercial rationale in which numerous operators wage fierce competition. The rules that govern the sector, once the exclusive jurisdiction of the state, are now set by an international institution: the World Trade Organisation. Once the all-powerful decision maker, the state has been left with increasingly diminished room for manoeuvre. As Hamelink aptly states: "The international governance system for communication operated during the past hundred years mainly to coordinate national policies that were independently shaped by sovereign governments. Today's global governance system to a large extent determines supra-nationally the space that national governments have for independent policymaking."[6]

The new rules established at the international level have signed the death sentence for instruments traditionally used by the state to finance universal access, such as those based on the redistribution of tax revenues. However, in spite of the limitations described here, it would be wrong to claim that the state has been left with no room for manoeuvre whatsoever.

New mechanisms have emerged: universal service obligations included in the concessions and licences granted to operators, taxes on asymmetric interconnection favouring rural operators, and of course, universal access funds.

Two elements of this evolution should be highlighted. The first is the disappearance of international solidarity on which the system of tax redistribution was based and its replacement by the redistribution of resources on a national level through these new mechanisms. The second is the

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[5] Katz, Raúl L. Note number 92, ENTER-IE, May 2008.

[6] Hamelink, Cees J. The global information society : visions, people and power. In : Swiss Yearbook of Development Policy 2003, Information Society and International Cooperation: development.com, iuéd, Geneva, November 2003. http://www.unige.ch/iued/wsis/DEVDOT/01927.HTM

radical transformation of the notion of public service. Only the final delivery of service is considered part of public service under this new perception, regardless of the status of the actor providing it. This clearly has implications for financing: instead of public telecommunications companies financing the extension of their networks with the profits obtained through international communications, this is now achieved through state subsidies to private operators that commit to guaranteeing service provision.

Today, even these mechanisms need to be rethought, given that major investment projects carried out by the state or contracted out to private companies have not always had the desired success or have proven unsustainable over time. This has led to a questioning of free-market logic and the need for new strategies that incorporate new actors.

3. Conceptualisation of UAFs

Telecommunications and information and communications technologies (ICTs) in general can contribute to combating poverty by providing access to new markets, reducing communication costs, making processes that require interaction more efficient, etc. To ensure access to ICTs in poor communities, the state provides operators with subsidies and incentives to make up for the difference between the actual service rates and the rates charged to these communities.

For this purpose, most of the countries in the region have created so-called telecommunications funds in order to promote access to telecommunications for the segments of the population living in rural areas or marginalised urban areas. There are a variety of mechanisms used to finance these funds, but the most common is to collect a percentage of the turnover of mobile and fixed-line telephony operators to subsidise service provision in the above-mentioned areas.

Sources of revenue for UAFs

Unlike cross-subsidies and the imposition of universal service obligations, UAFs involve the collection and allocation of funds by an independent body. There are various possible sources for obtaining these funds. Some of the most common mechanisms include:

Direct funding allocated from the government's general revenues

Contributions from telecommunications operators (for example, a percentage of their revenues from the provision of specific services)

The proceeds of telecommunications privatisation, spectrum auctions and/or licence or concession fees

A service tax paid by subscribers (for example, per activated line) and collected by telecommunications operators

Funding from international development agencies.

The methods used to obtain and administer these funds should be transparent, non-discriminatory, competitively neutral and no more burdensome than necessary for the type of universal service defined by the country's legislation or policies.

Features of UAFs

In the Telecommunications Regulation Handbook, published by the World Bank's infoDev programme, author Hank Intven notes that "universality funds, sometimes called US funds, USO funds or UA funds, are generally seen as the best option for promoting universality objectives." [7] He lists the features of a "good" universality fund as follows:

Independent administration – not related to telecommunications operators

Transparent financing

Market-neutral – does not favour incumbent operators or new entrants

Funding targeted to specific beneficiaries (e.g., high-cost regions, unserved rural areas, low-income populations, educational and health sectors)

Subsidies should be relatively small; should only subsidise the uneconomic portion of service; private sector operators should finance the rest

Competitive bidding process for implementation of universality projects: i.e., lowest bidder should be awarded subsidy and right to build and operate networks to expand service.

UAFs in the framework of telecommunications reforms

Regulators have assumed as their main task the promotion of competition in order to improve service offerings and thereby enhance consumer well-being. However, many segments of the population are not reached by these market-based solutions. Unfortunately, many countries were so eager to move forward with privatisation that there was not time to clearly define the functions that regulators should fulfil to resolve this inequality, or to establish mechanisms for them to do so. In fact, in the majority of countries in Latin America and the Caribbean, universal service policies and funds to finance them emerged after the processes of privatisation and liberalisation. The particular cases of the Andean region are illustrated in Table 1.

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[7] Intven Hank , Manual de Reglamentación de las Telecomunicaciones,McCarthy Tétrault, Infodev- World Bank Group, 2000

Table 1. Reforms and access funds in the Andean region				
Country	Privatisation	Creation of a regulator	Creation of a universal service programme	Creation of a universal service fund
Bolivia	1995	1994	2001	2001
Colombia	N/A	1994	1999	1999
Ecuador	N/A	1995	2000	2000
Peru	1994	1994	1993	1993
Venezuela	1991	1991	2000	2000

In the case of Colombia and Ecuador, the year of privatisation is not applicable because telecommunications service continues to be provided by the state or by the state and private sector.

Source: Jorge Dussán Hitscherich and Juan Manuel Roldán Perea, DIRSI.

As is well known, many countries undertook privatisation processes as a way of attracting local and foreign investment in the telecommunications sector. The governments of these countries intended for the investment generated to be allocated, to a large extent, to the creation and maintenance of infrastructure that would make it possible to offer telephone services to meet the growing demand, as well as facilitating the entry of new services that would promote the development of the sector. A study published in 1997 by the Inter-American Development Bank (IDB)[8] noted that the countries of Latin America and the Caribbean were lagging ever further behind the countries of North America because of the meagre development of telecommunications infrastructure and the information services industry. The study deemed that without major investment in the telecommunications sector these countries would not be able to achieve the economic and social

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[8] Inter-American Development Bank , Policy and Market Revisions Task Force: Telecommunications Regulatory Affairs in the Americas, Inter American Development Bank Report, I 1997

development needed for full integration in the global economy. It concluded that because of the precarious economies of these countries and the priorities established for their public policy agendas, the investment required could only come from the participation of the private sector in telecommunications.

In this context of privatisation, the goal of achieving universal access is implicit, since the rationale behind privatisation implies that the investment that will improve the availability of telecommunications infrastructure will come from the sale of state-run telephone companies to the private sector. Therefore, whether through the self-regulating mechanisms of the liberalised market, the action of a regulatory agency or stipulations attached to licensing terms, teledensity in these countries will increase and place them on the road to universal access.

The system of subsidies that was developed as part of the telecommunications reform process consisted of the creation of a state fund to subsidise service for consumers who did not have the economic resources to receive service at market rates. The justification for this policy was that if universal access to telecommunications is a merit good supplied by a private agent that is technically capable of excluding consumers deemed unprofitable, then the state would have to implement the mechanisms needed to achieve universal access to service, since the exclusion of consumers was possible but not socially desirable.

4. UAFs in the region

UAF programmes, which first emerged in the mid-1990s, have become world standards for the design and implementation of mechanisms for the allocation of subsidies in the pursuit of universal access goals. While these programmes are all similar in the way that subsidies are processed, they can differ in terms of their legislative basis, administration, sources of financing, the types of projects they finance, the criteria for the selection of the projects and the types of operators who implement them, and the conditions and obligations imposed on these operators. There are many different ways of identifying, developing and financing universal access projects.

All universal access projects in Colombia, Paraguay, the Dominican Republic and until recently Peru are put forward by the government or the entity responsible for administering the UAF. In Brazil, Chile, El Salvador and Guatemala, projects are requested and/or proposed by communities, municipalities or operators. These proposals are reviewed, evaluated for suitability, refined and clarified, then prepared for the process of financing by the fund administrator. In almost all cases, regardless of whether the project is originally proposed from the demand side or by the government, financing is allocated by means of a lowest-subsidy auction. The other countries of the region, however, have not managed to maintain an operating fund for different reasons, such as the lack of legislation, controversial or inefficient investment of the funds, and a lack of political will to neutralise the pressure from operators.

Projects proposed by the communities that will benefit from the services to be provided or by the operators who will assume the risks have proven to be very promising, more so than those first

designed by faraway bureaucrats or regulators. One of the reasons for the general success of the Chilean model is partly the fact that it is demand-driven. Similarly, small operators in Peru have been able to request subsidies for their self-generated projects since 2004.

A government-driven demand-side approach can also be highly successful for large-scale projects with a national scope, in which each auction involves the allocation of subsidies for thousands of access points. Chile, and perhaps to a lesser extent Guatemala, have managed to combine auctions involving many access points with a market-driven demand-side approach to identify needs. Demand-driven projects for which subsidies are ultimately allocated through auctions are feasible when they are proposed by potential users (communities, municipalities, cities, etc.) but it is unlikely that operators would propose projects for which they might not be selected.

Given the particularities of projects in rural, remote or underserved areas, regulators are contemplating more favourable regulatory and other conditions for rural operators in Peru and elsewhere. These include, among others, a revision of regulated tariffs and interconnection charges; agreements to ensure that prices reflect the higher costs of providing service in rural areas; the reduction or elimination of spectrum royalties and associated licence fees to motivate investment in rural areas; the reduction of coverage obligations for rural operators; and making the licensing process easier and faster.

The strategies used to finance universal access initiatives in the Andean region specifically are summed up in Table 2.

Country	Market	Strategy	Name	Year of creation	Financing	Services
Bolivia	Monopoly	Universal service obligation	Rural coverage obligations	1995	Costs assumed by concession holders	Telephony
Colombia	Partial competition	Universal access fund	Communications Fund	1999	Public and private funding	Telephony and internet
Ecuador	Partial competition	Universal access fund	Communications Development Fund (FODETEL)	2000	1% of operators' turnover	Telephony and internet
Peru	Partial competition	Universal access fund	Telecommunications Investment Fund (FITEL)	1993	1% of operators' gross revenues plus special allocations from public funds	Telephony and internet
Venezuela	Free competition	Universal access fund	Universal Service Fund (FSU)	2000	1% of operators' gross revenues	Telephony and internet

Table 2. Strategies for financing universal access in the Andean region

The rest of this section is devoted to a brief summary of the main findings from each of the national reports on four of the five Andean region countries. Although Bolivia has a regional development fund known as the National Rural Development Fund, it is not a UAF per se. It is funded with proceeds earned from spectrum frequency royalties, fines and other sources, but the implementation of projects to put these resources to use for increasing telecommunications access has been limited. There was a proposal to establish a UAF in Bolivia, to be known as the Universal Access and Service Fund, but the heavy pressure exerted by telecommunications operators forced

the legislature to quash the corresponding bill.

While this overview of national reports reveals different features unique to each country, it is interesting to note that there are also a number of shared characteristics: the partial fulfilment of access programmes, the limited use of the funds, the lack of information available on the funds, and the general absence of civil society in this process. Perhaps the UAF in Peru is an exception, since it has a more integrated approach. One positive finding is that the inclusion of broadband within the concept of universal access appears to be a regional trend.

The case of Venezuela

The national report from Venezuela reveals that progress has only been made in three of the seven projects formulated for the UAF. The three projects underway involve the establishment of CBITs,[9] Infocentres and Access Points. However, the lack of policies for infrastructure maintenance and shortcomings in the contracting of resources threaten the sustainability of these projects.

Between 2001 and 2004 Venezuela's UAF took in close to USD 250 million, but less than 30% of these funds have been used. The national report recommends that fund-sponsored projects should be formulated on the basis of state policies and not the interests of the government in power, because of the risk of distorting the fund's objectives.

The report concludes that Venezuela's Universal Service Fund, in light of its limited outcomes and lack of follow-up, has only partially fulfilled its objectives, which creates the sensation that it still owes a debt to the Venezuelan people.

The case of Colombia

In 1976 Colombia established the Communications Fund[10] for the purpose of covering the logistical costs of stations providing telecommunications services and the costs of participation in international organisations and technical consultancy services for the Ministry of Communications.

In 1999 the objective of the Communications Fund was defined as that of financing plans, programmes and projects to facilitate access for the entire population of Colombia to telecommunications and postal services, as well as supporting the activities of the Ministry of Communications and enhancing its administrative, technical and operating capacity for the fulfilment of its functions.

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[9] Bolivarian Centres for Informatics and Telematics, educational centres equipped with multimedia and computing resources that serve teachers, students and the general public.

[10] Additional information for this section was obtained from documents published by the Ministry of Communications of Colombia and from interviews with the coordinator of the Communications Fund, Juan David Olarte, and the administrative director of the e-government programme, Isabel Abello.

One of the main targets of the fund is the promotion of so-called Social Telephony Programmes, for which the Communications Fund must submit pluri-annual plans for approval by the National Council on Economic and Social Policies (CONPES) within the framework of the National Development Plan. These social telephony programmes are aimed at guaranteeing the provision of community telecommunications service to all localities that are currently unserved; improving coverage in population centres that are underserved; and generally satisfying the telecommunications needs of all Colombians and especially those who live in rural areas through the promotion of universal service.

There is currently a bill being debated in the Colombian Congress which defines principles and concepts related to the information society and organisation of ICTs. The bill proposes changing the name and scope of the Communications Fund to the Information and Communications Technologies Fund. This new fund would support the activities of the National Spectrum Agency, a telecommunications sector agency that would be created to provide technical support for the management, planning, monitoring and control of the radioelectric spectrum. The fund is to be financed with contributions from communications network operators and service providers on equal terms.

The case of Ecuador

Ecuador's UAF, known as the Telecommunications Development Fund (FODETEL), was created in 2000 to promote telecommunications development in rural areas and marginalised urban areas.

The national report from Ecuador draws two main conclusions. First, from the viewpoint of the goals established in the Universal Service Plan, which were to be fulfilled by 2007, the outcomes have been relatively limited. A 65% fulfilment of the target for fixed-line telephony and 20% for internet service reveal poor performance on the part of FODETEL. It is also troubling that adequate follow-up mechanisms have not been created for the new goals established in 2007, which means it will be difficult to monitor progress in their fulfilment.

The failure of the ambitious PROMEC project[11] has had a serious impact on goals for closing the digital divide, as it represents a lost opportunity for the creation of more than 1,000 telecentres in rural areas. Moreover, the projects actually implemented by FODETEL are very few in number, since most are still in progress and quite a few have not even moved past the planning and design stage.

Second, despite the fact that annual revenues in the sector are roughly USD 2 billion, barely USD 2 million has been contributed to the fund over the course of eight years. This demonstrates a failure

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[11] A project aimed at reducing the digital divide in Ecuador through the establishment of public internet access centres. In 2006 a concession agreement was signed with Globalnet S.A., which was contracted for the installation of 1,120 of these telecentres.

to properly and effectively enforce the obligation on telecommunications operators to contribute 1% of their annual turnover to the fund.

The national report concludes that FODETEL has only partially fulfilled its objective of ensuring universal access for the most disadvantaged sectors of the population. Nevertheless, the upcoming reorganisation of telecommunications sector regulation presents the opportunity to re-establish the fund's objectives in terms of mechanisms for the fulfilment of universal service obligations and the collection of contributions from operators.

The case of Peru

The creation of the Telecommunications Investment Fund (FITEL) in Peru has helped to make telecommunications services available to the most disadvantaged sectors of the population, those who live in rural areas. Since its founding fifteen years ago, FITEL has gone through a lengthy learning process. As the fund has matured, it has progressed from mere infrastructure provision to projects implemented from a socio-technical perspective. In addition to making technology available, these projects promote the use of services and help create future users through awareness raising, training and content development. As a result, the technology is transformed into an information resource for local use.

The national report from Peru notes that the inclusion of broadband within the fund's mandate opens up a range of possibilities for promoting development through the use of this new technology. Without a doubt, this ambitious goal will require policies aimed at the socioeconomic development of the populations involved and integration with other public sectors, as well as civil society organisations, for the design of joint strategies.

The participation of civil society organisations is considered to be of key importance, since their current role is limited to the implementation of pilot projects. One of the challenges for civil society is to play a more active role in promoting debate and formulating policies. At the same time, it is important to open up the fund to civil society participation to prevent its politicisation.

The report concludes that it is crucial to evaluate the projects carried out through FITEL, since there are very few assessments available and these primarily address the first projects implemented. Finally, it will be necessary to establish new goals to make further progress in efforts to achieve universal access, as well as to develop indicators to measure the fulfilment of goals related to the use of technology.

5. A regional perspective

This review of regional experiences reveals a relative standstill in the areas of financing and policies for universal access. The fact that the majority of countries in the region have created UAFs that have not been used efficiently shows that the policy challenge often does not merely consist of creating legislation and regulatory frameworks, but rather their effective implementation.[12] In terms of the regional agenda, the issue of UAFs is evolving from a perspective focused almost exclusively on the installation of public telephones towards a new approach aimed at increasing access to broadband and establishing public ICT access centres.

Several years ago, the model of ensuring universal access based on national funds seemed to have run its course. In 2003, this model met with heavy opposition during the first phase of the World Summit on the Information Society (WSIS) in Geneva, where a proposal was put forward for the creation of a Global Digital Solidarity Fund. Two years later, the fund was established with the backing of roughly 20 countries, most of them in Africa. However, it was overshadowed at the 2005 WSIS in Tunis by issues related to internet governance.

These events make it crucial to rethink the role of UAFs in the region. There is a fundamental need to objectively evaluate the degree of fulfilment of this mechanism, and to review the transparent management and use of the funds and the orientation of the projects they finance.

The relationship between public enterprises and the government and the investment of public capital in sectors traditionally managed by the private sector, as a result of the world economic crisis that erupted in late 2008, signal the need to change the functioning of UAFs. The hypothesis that private enterprise, for the mere fact of being private, is more efficient and transparent has been seriously called into question. As a result, it is up to the state to head up the implementation of strategies to reduce the digital divide. At the same time, civil society and the potential beneficiaries of increased access themselves should begin to play more of a leading role.

The development of local projects should focus above all on the real needs of end-users. Community management should not be overlooked, since appropriation and use of technologies is a key element in the success of ICT projects, as has been demonstrated by numerous pilot experiences in the region.

Alternative approaches should not dispense with the contributions that should be made by commercial operators. However, financing mechanisms could also include direct investment schemes, in which the role of the state is to ensure transparent and efficient management of the funds. At the same time, the state itself should make an even stronger commitment to achieving the goals related to universal access to broadband.

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[12] Guerra, Hilbert y otros, Panorama Digital 2007 de América Latina y el Caribe. Avances y desafíos de las políticas para el desarrollo con las Tecnologías de Información y Comunicaciones. CEPAL, November 2008.

6. Conclusions and recommendations

It is important to understand and clarify that regulation and control are inherent to the role of the state, which should be responsible for ensuring universal access. There is currently a trend towards strengthening the role of the state. This is not by chance, because it is the state that must facilitate the normal functioning of private or public enterprises that provide telecommunications services. The challenge for the state is to harmonise regulation and at the same time to stimulate private and public initiatives for the development of ICTs.

An important lesson learned is that UAF programmes that have placed priority up until now on building physical infrastructure should in the future be coordinated with a broader agenda and ICT initiatives at the national level. Until now, the majority of UAFs in the region have focussed on building physical infrastructure to connect rural and remote localities through subsidies for the installation and operation of public telephones and telecentres. There are few experiences in which projects have also sought to promote institutional and community access to a full range of ICTs, including connectivity in schools and public institutions at the regional and national level, as a means of providing the population with access to the benefits of e-education, e-health, e-commerce and e-government services.

At the same time, new technologies, and especially wireless technologies, are creating the potential for an efficient model of universal access provision. Wireless communications are positioned to become a strategic element for reaching universality goals, which makes it very important to ensure flexibility in the issuing of licences, particularly those for radio spectrum frequencies.

Throughout Latin America, and especially in the Andean region, mobile telephony has experienced phenomenal growth and reached extremely high penetration levels. As a consequence, public telephones are increasingly less important. Proposals for communications initiatives in rural areas should take into account the population's preference for this technology.

Universal access programmes have often concentrated on the provision of telephone service in rural areas. However, the concept should include ensuring access to ICTs for population groups who traditionally face discrimination, including people with disabilities, prisoners, the functionally illiterate, children and the elderly, above all.