

## **ICTs and Poverty Reduction in Latin America and the Caribbean**

Abridged version

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### **I. INTRODUCTION**

Can information and communication technologies (ICTs) have effective impacts on poverty reduction in Latin America and the Caribbean (LAC)? Can these impacts be seen in the short and medium term? If the impacts are positive, is it the combined outcome of local micro efforts to apply ICTs, or the result of integral state and/or regional programs? How does this affect the differentiated way in which women and men experience poverty and unemployment?

To date, the relationship between ICTs and human development has been inadequately studied, and even less attention has been dedicated to ICTs' relationship to poverty. In spite of the enthusiasm of international organizations, governments and civil society groups regarding ICTs and development processes, there is little understanding of the role these technologies play in such processes.

Since the 1970s, a correlation has been suggested –positive or negative, depending on the different analyses- between the dissemination of ICTs and poverty. Various authors propose that ICTs contribute to the economic development of nations, as in the case of the United States. But they also agree that ICTs tend to deepen inequalities, and that their impact

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on the economies of the countries of the periphery will be rather different than on the economies of the United States or other developed countries. There are several reasons for this: the initial innovators –in this case, North American companies – are the ones who benefit most; ICT infrastructure is more profitable and easier to develop in urban areas, which accentuates inequalities with regard to rural areas; ICT-related employment requires specialized labor and is managed through flexible labor policies; unlike developed countries, the countries of the periphery do not have social security systems backed by adequate and structured public policies, or networks of civil society organizations that help mitigate the effects –unemployment, underemployment– of the transition from the economy of the Industrial Society (which some LAC regions have not reached yet) and that of the Knowledge Society (Proenza, 2002).

This project consists mainly of identifying the strategic policies of governments in Latin America and the Caribbean for incorporating information and communication technologies into economic, social and political development efforts. At the same time we have identified government strategies and policies in LAC countries to stimulate socioeconomic development and fight poverty. In both cases, given the scope of the field of study, we have analyzed *national* strategies and policies.

A gender perspective has been adopted, analyzing on the one hand whether ICTs have different impacts on men and women in terms of reducing (or maintaining or increasing) poverty and, on the other, whether the related policies include strategies with a gender perspective. Finally, we propose strategies and policies for the utilization of ICTs to drive development in LAC.

An extensive review was conducted in LAC countries of government programs, as well as of provincial, federal and international projects. Based on this initial survey we decided to continue working on LAC *in general*, limiting the depth of the study, using a theoretical sample of the nine countries determined to be the most productive and representative in terms of strategies and policies related to the application of ICTs to development, and the population' s access to them: Argentina, Brazil, Chile, Colombia, Cuba, Mexico, Peru, Uruguay and Venezuela.

In the study of government efforts aiming both at the adoption of ICTs and sustainable development, the focus has been to identify those which attempt to reduce the gender gap in terms of economic and educational opportunities. Subsequently, we identified the links between programs, plans and projects whose goals are building the Information Society at a domestic level and incorporating ICTs, and those efforts whose goals are sustainable development and poverty reduction.

The sources of information used in this study were gathered from bibliographies and the Internet, and the analysis of domestic policies in LAC countries regarding ICTs adoption for development, expansion and creation of employment, and reduction of poverty. Information was also collected on domestic policies in LAC countries regarding socioeconomic development.

## **II. Inequality, poverty and the digital divide in Latin America and Caribbean**

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Poverty cannot be ignored when considering the region' s entry into the Information Society. Studies by the World Bank (2003) reveal that, of the 510 million inhabitants of LAC, some 170 million live in poverty; of that total, 70 million subsist in extreme poverty. The number of indigents increased from 48 million in 1990 to 57 million in 1999, and the poor from 121 million to 132 million in that period. As of 2003, an estimated 5 out of 10 Latin Americans are poor, and 58% of children 14 and under live below the poverty line.

The ECLAC<sup>1</sup> Social Outlook (2002) indicated that in the 1980-2000 period, the Latin American population grew by some 50% while the economy overall grew just 7% in that period, which means that the average standard of living fell by half and poverty practically doubled since 1980<sup>2</sup>.

This growing disparity fosters digital illiteracy. According to worldwide indicators published by the ITU<sup>3</sup>, the estimated number of Internet users in the Americas in 2001 was approximately 182.51 million, distributed as indicated in tables 4 and 5:

**Table 4: Internet Users in the Americas as of 2001 (millions)<sup>4</sup>**

	1997	1998	1999	2000	2001
United States	60	84.6	102	124	142.8
Canada	4.5	7.5	11	12.7	13.5
Rest of the region	3	6.5	10.6	19.3	25.8

Source: ITU, 2002

**Table 5: Internet Users in LAC, 1998-2003**

1998	1999	2000	2001	2002	2003	1998-2003 GAR
5,282,260	8,665,386	13,313,347	18,296,126	23,547,712	29,596,186	41%

An Internet user with access from both home and work is counted as one user.

[http://cyberatlas.internet.com/big\\_picture/geographics/article/0,1323,5911\\_323391,00.html](http://cyberatlas.internet.com/big_picture/geographics/article/0,1323,5911_323391,00.html)

According to data from Prince & Cooke (2003<sup>5</sup>), just 8% of the LAC population utilizes the Internet. Of the 335 million people living on the world' s fourth continent, only 27 million access the Internet. Half are in Brazil, but the penetration in that country is just 8%. Chile has the opposite situation: while there are only 3.1 million Internet users, penetration reaches 20%. In 2003 there are 201 Internet access providers offering their services in the region and, paradoxically, they are most concentrated in the places where there are fewer users. It is worth noting that the digital divide is far bigger than the gap existing between rich and poor.

### III. ICT assessment in LAC

<sup>1</sup> <http://www.eclac.cl/>

<sup>2</sup> <http://www.eclac.cl/cgi-bin/getProd.asp?xml=/publicaciones/xml/5/12165/P12165.xml&xsl=/deype/tpl/p9f.xsl>

<sup>3</sup> [http://www.itu.int/newsarchive/press\\_releases/1997/itu-15-es.html](http://www.itu.int/newsarchive/press_releases/1997/itu-15-es.html)

<sup>4</sup> Adapted from the journal "Actualidades de la UIT", indicadores mundiales, tecnologías de la información para la región de las Américas. Mayo de 2002.

<sup>5</sup> Com.Letter de Prince & Cooke, 2 de junio de 2003, Buenos Aires.

It is impossible to separate poverty reduction from the drive for development in the region' s countries. While it is true that economic development does not automatically imply an equitable redistribution of wealth, it is also true that to implement effective social plans of broad social and geographic scope the countries must have the funds to do so. This is particularly important in LAC, where low-production activities absorbed 7 out of 10 workers in the 1990s. We agree with Boscherini, Novick and Yoguel (2003) that it is urgent to obtain relevant information in order to establish public policies regarding: A) The true significance of ICTs in the LAC context and their insertion in the region' s production models. B) How the societies and companies that experienced difficulties in previous stages can be inserted into this paradigm. C) Whether ICTs allow leaps in societies with significant technology gaps, with respect to reference points in the international panorama, and if such leaps require specific policies to maximize the economic and social potentials of the ICTs. D) What types of institutions and supports are required for optimal implementation. E) How the different social actors can participate in this process. F) How the ICTs can contribute to creating a more equitable society and what types of policies are needed to achieve this.

As for the national plans in LAC countries regarding the dissemination of ICTs and construction -in varying degrees- of the Information Society: are they aimed at economic recovery, poverty reduction, greater gender equality, and sustainable development? Do there exist policies for integration with a global Information Society? Are strategies being promoted for the active utilization of ICTs in social development plans? In order to answer these questions, emphasis has been placed on the following development-related areas: *Digital governance. Science and technology systems. Education. Connectivity programs and projects. Applications of ICTs in the economy.*

With respect to the first question, we have not found regional projects or plans for disseminating ICTs for social ends by macro-regional LAC organizations. The fact that the countries of Mercosur -such as Argentina, Brazil, Uruguay, and associate member Chile- produce strategies and policies in this direction does not mean that Mercosur as an entity creates plans for ICTs use in reducing poverty or stimulating sustainable development. Below are the priority areas of investment in economic, human and technological resources by LAC governments in the integration of the region' s countries with the Information Society.

In the policies for integration with the Information Society (or the construction of it), one perceives a *dis-integration*, at three levels in particular:

*At the regional level: the lack of coordination among the LAC countries and regions.* The production of projects, plans and strategies related to the Information Society is entrusted mainly to national and state institutions that do not interact through inter-regional networks.

*Lack of coordination among national policies with regard to the IS and provincial, state and local policies.* This frequently leads to overlapping of parallel, but non-integrated programs, as is seen in examples of connectivity.

*Lack of integration among social actors.* In general, state policies are relatively reluctant to alliances, consensus and concrete links with other social actors: the academic world, private companies and civil society organizations. In certain sectors, such as e-government and connectivity, there is a closer relationship between the state and private enterprise, but this

does not necessarily lead to an integration of the interests and needs of the educational sector or of civil society.

Most Latin American countries place emphasis on two aspects of the Information Society: *connectivity and electronic governance*. Most national policies are oriented towards reinforcing connectivity, stimulating the telecommunications and computer markets and generating a critical mass of users in the region, with sights on dissemination of the electronic government -in the sense of e-management- and of Internet transactions. As such, the connectivity plans and projects identified in this study, whether social or economic and technological, aimed at increasing the penetration of Internet services, are considered a priority by the governments with respect to other sectors (such as development of their own technologies, or investment in science and technology for that purpose). However, these same governments are not negotiating policies for reducing the costs of telephone or Internet services to increase the population' s access to connectivity.

Education is one of the areas in which ICTs have been most applied. But here, too, we have found three major problems. The first is that most of the educational plans and projects are concentrated in basic, primary education, and only in a few cases is the emphasis on higher education. Insufficient effort is aimed at stimulating higher studies of IS or creating new educational degrees to train professionals for generating the appropriate knowledge.

The policies and strategies found in the LAC countries emphasize computer equipment and, to a lesser degree, connectivity in the schools -and in a few cases the production of content. Equipping and connecting schools to the Internet, although necessary, does not in itself mean producing education for the Information Society. A review of the educational concepts is necessary: from the traditional, based on the incorporation and retention of information, to the innovators: stimulus for research, search for information, its re-creation and processing to transform it into knowledge, and the generation of content necessary to Latin American societies for their development. The third problem is the lack of a relationship between the educational system and the science and technology sector. To enter into the Information Society on solid footing, the educational system must aim to train researchers who can produce knowledge for the science and technology sector, which then invests the produced knowledge back in the educational system.

As for the science and technology systems, in most of the countries studied, the focus is on two areas: availability of information on the IS for the academic community in the first place and later for the broader community, and technological modernization of the productive sector, and of the small and medium businesses in particular. With the exceptions of Mexico, Brazil, Venezuela and, more recently, Argentina, relationships have not been established between technological modernization of the productive sector and the generation of employment and social plans. Even in those science and technology systems that make the IS a priority, there are no plans or programs oriented at producing innovation at the national level with the objective of breaking LAC' s technological dependence on the developed countries.

Finally, the role of ICTs in the economy is still in its embryonic stage: with the exception of Brazil, which has implemented interesting national projects for the production and export of software, for techno-centers and business incubators, there are few initiatives that propose the construction of an IS economy, in the sense of fomenting industries dedicated

to the production of goods and services intensive in ICTs or that utilize ICTs and e-networks as a form of organization, whether internally or in business networks.

#### **IV. Assessment of ICTs, development and poverty reduction**

The national policies found in regards to promoting sustainable development and fighting poverty were not oriented towards empowering communities, but rather focused on problems of the moment. Although the LAC countries have conducted poverty estimates and the countries studied have implemented plans to reduce poverty, particularly in periods of acute crisis, few have set concrete, feasible goals for eradicating extreme poverty or for substantial and structural reduction of poverty in general. This is a grave deficiency: poverty does not refer only to family income, but rather is a multidimensional phenomenon.

A general deficiency of the programs studied is their lack of integration: they consist of a set of interventions aimed at helping populations with few resources during times of crisis, a series of projects, of various scales, that are not integrated into the overall national policy. Furthermore, as the UNDP (2000) has indicated, there is a gap between economic policy and social policy. Another component of the policy is the habit of thinking in sector-focused terms and organizing the governmental departments along sectorial lines, while poverty, being a multidimensional problem, does not necessarily fit in any one department or ministry.

Both community development policies, characterized by assistance-based approaches, and employment policies, which do not include as a priority the training of the labor force -whether employed or unemployed- in the tools of the new economy, contribute to greater fragmentation of policies and programs for fighting poverty. Although many countries possess or obtain the financial resources for their assistance programs, as well as infrastructure networks for Internet access, these resources do not tend to be utilized for massive training of the population in ICT use.

Employment policies are frequently linked to policies aimed at developing small and medium businesses as the primary potential source of jobs and to objectives of technological modernization, referring both to business models and paradigms for reorganization of production. There also exists a disconnection from community development policies and food plans. The use of ICTs and Information Society tools would facilitate such coordination. However, in general, few strategies, policies, plans or programs were found that consider the potential of ICTs for these objectives. The design of programs that include ICTs as tools for the fight against poverty is likely to be left to a second phase.

On the positive side, ICTs are utilized by many programs and plans for modernizing and increasing efficiency, and for providing information to health professionals and to health services users alike.

#### **V. Assessment of ICT initiatives and gender**

In general, the programs studied that were aimed at promoting and disseminating the use of ICTs do not take gender-related factors into account: very few are focused on training women in ICT tools or their employability in jobs that involve ICT use. In these programs in plans, there were no references found about the gender inequalities in ICT access and training, despite the clear gender differences found in the LAC countries. Rarely are components incorporated in ICT that are favorable to women, nor is there consideration to how they could benefit poor women.

In contrast, in the policies and programs aimed at reducing poverty and fomenting development, there are numerous references to poor women, and many are centered on women in regards to food policy and fighting poverty. As is mentioned above, there are few cases in which these two areas are coordinated. In the case of gender, whether in community development or poverty reduction programs, or the use and promotion of ICTs, they are compartmentalized.

## VII. Lessons learned

ICTs have already proved their potential in cutting costs and extending services to economically disfavored populations, including unquestionable usefulness in education, whether in-class or distance learning. These technologies can reduce substantially the costs of education and health services by maximizing efficiency through network management systems. They also play a role in creating and maintaining environmental awareness and publicizing the actions of polluting companies, in preserving and disseminating cultural information, in helping keep ethnic identities alive, and in many other areas of sustainable development. They play an important role in reducing the social vulnerability of the poor, whether through disaster prevention and humanitarian assistance, or making the voice of disadvantaged groups heard. They also build bridges between remote communities and suppliers: markets, government institutions, national and international agencies, NGOs.

ICTs can and should play a key role in social and economic development in LAC, but it is a reduced role under the current circumstances of globalization. Castells (1999) states: "... to the extent that the creation of value increasingly depends on the capacity to process information and on the technological infrastructure this implies, the inequality in education and technological and cultural resources amplifies social inequalities... Because information capacity is concentrated in certain social sectors and countries, educational inequality is transformed into social exclusion." *Information capacity is not limited to connectivity and adequate education, which should be extended through reinforcement of the IS paradigm: production of knowledge that is applied in technological innovation, which in turn facilitates the production of new knowledge.*

As Gómez, Martínez and Reilly (2001) state: "The ' digital divide' , which usually refers to the inequalities in access to the new ICTs, particularly the Internet, is not a cause, but rather an expression of the existing social, economic and political divides at the national, global and local levels. Focusing on the digital divide will not in itself help communities to improve their living conditions, escape poverty or have more equitable access to goods and

services<sup>6</sup>". [TRANSLATION FROM WHAT LANGUAGES? NOT CITED IN BIBLIOGRAPHY] Therefore, *one of our fundamental conclusions is that in the LAC countries it is essential to build a new economy, the economy of the Information Society, adjusting it to the needs, advantages, challenges, obstacles and potentials of the region, even though we do not yet know if this would effectively reduce poverty in the region.*

Most government programs place emphasis on connectivity. Some of them directly identify the IS with connectivity. In order for ICTs to have positive impacts on human development processes, it must be taken into account that connectivity is not an end in itself, but a tool that can help create concrete solutions to the problems and needs of the people: employment, health, social plans, food plans, social development, economic development, generation of income, community organization, political participation, etc. Connectivity alone is not the important thing, but rather how it is utilized. Promotion of sustainable development and reduction of poverty are not achieved merely through access to ICTs. Also needed is reinforcement of the capacities to use, adopt and produce these technologies. These are key aspects if the Internet is to be used as a tool in the service of human development processes.

It is not enough to connect citizens, or to expand the electronic administration of governments. To develop and redistribute the wealth of the so-called New Economy (or Information Society or Economy), it is necessary to have control over it. Internet access, more computers or even telecenter networks do not necessarily insert communities in the new economy. This jeopardizes the proposals that governments may develop, as their objectives are aimed at measuring how connected their citizens are, how many e-government portals they have, or the number of connected schools. And this alone, although a necessary first step, does not develop an IS economy nor does it help fight poverty.

In most of the policies and strategies studied, the creation of knowledge, management of information and distribution of goods and services intensive in ICTs are not considered a source of wealth, and therefore are not considered in improving social plans and poverty-reducing strategies. Part of the cause of this confusion, shared by businesses and government -with science and technology systems and civil society included in this disinterest- is found in the distrust created as a result of the international ICT crisis and the decline of the United States economy, whose previous growth was supposedly driven by the technology industry engine. But that crisis did not mean that the Information Society failed to continue advancing in the United States and the developed countries, as well as in the rest of the world. IS technology was incorporated into many companies, it innovated modes of production, accelerated and optimized processes, and created innovative media.

It is true that the dynamic of a new economy will not produce results in the short term as far as reducing poverty in the LAC countries: it is a medium and long-term wager, and a wager that involves risk. As such, the strategies and plans for sustainable development and poverty reduction will not only have to continue, but must also be intensified in this period, but making maximum use of the tools of the Information Society. This implies learning from past experience in LAC and from best practices and mistakes, both in LAC and in developed countries, as well as other regions of the periphery.

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<sup>6</sup> Translation ours.

However, the policies and strategies identified regarding the dissemination of ICTs among the population, particularly in the low-income strata, currently appear to be designed and executed without the benefit of in-depth study of experiences, best practices and obstacles found in other countries, nor studies of possible social impacts (though there are exceptions, such as Brazil).

In social programs, policies and programs aimed at fomenting development and reducing poverty, there are numerous mentions of poor women. Nevertheless, the plans studied are either assistance-based or tend to provide training for women in traditional areas: childcare, textiles, arts and crafts - "women' s work." This situation is more acute in the context of programs oriented towards promotion and dissemination of ICT use: they do not take the gender question into account at all.

Just like ICT access alone will not reduce poverty in LAC, ICTs alone will not resolve gender inequalities. But encouraging equitable access, learning, use and appropriation of ICTs would indeed contribute to changing traditional roles and power relations. However, few policies focus on training women in ICT tools, nor women' s employability in jobs that involve the use of these technologies. These programs and plans do not even denounce the gender inequalities in access to and training in ICTs. Rarely do they involve components that favor women or assess how they might benefit poor women. In the case of gender, worse than in other areas, there is practically no coordination between social plans and ICT-related plans aimed at women.

Although women represent a growing proportion of Internet users, they are underrepresented among engineers, technicians, leaders and entrepreneurs in the emerging IS in LAC. Women who have the necessary training and education in jobs and careers related to ICT are a minority. Studies conducted by international institutions show that when women and other disadvantaged social groups do not receive training in new technologies, their disadvantage is increased, both economically and politically. This trend suggests that access to and use of ICTs are not sufficient indicators for equitable participation of women in the new economy. *What determines the role that women play in the new economy is how they use the Internet and the knowledge and technical training with which they equip themselves.*

If women are to participate in the economic and social benefits of the IS, they need to educate themselves for careers at all levels of the ICT sector, ranging from the design of web sites, software and hardware, and network management, to business administration. When considering ways in which women can benefit from the Internet, one must think beyond using it to sell their arts and crafts or traditional services on-line. Plans should involve women as web site designers, webmasters, network managers, consultants for clients in major cities and other countries. These ICT-related jobs offer women better income, which would improve their own quality of life, and that of their families.

<b>In summary...</b>
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We propose the following scheme for the construction of an Information Society oriented towards economic, social and political development:

1. **Policies and strategies:** Existing studies of experiences, best practices and mistakes made in the construction of the IS. Conception and implementation of national and regional policies and strategies oriented to the IS, with participation from diverse social actors: public and private sectors, academia, civil society. Relation of these policies and strategies with those on social services and sustainable development.
2. **Access:** Physical and cultural access to ICTs. Installation of infrastructures appropriate to the needs of each country and of the region. Establishment of shared and compatible technological norms and standards. National strategies for negotiation and regulation of access costs.
3. **Development:** Identification and reconstruction of urban means of innovation. Amplification of IS compatible productive clusters. Program to advance disadvantaged economic sectors and to improve pre-informational technological practices. Nodalization of urban spaces for innovation, for their incubation and transference. Generation of technological innovations. Association between public and private sectors and the science and technology sector.
4. **Use:** Education about ICTs. Creation and dissemination of own content. Utilization of ICTs for formal and informal education at all levels. E-government. Creation of university, scientific, governmental, community and other networks.
5. **Appropriation:** Creation of IS educational degrees. Appropriation of knowledge about creation of technologies. Adaptation of existing technologies to the needs and advantages of different communities. Generation of technological innovations. Association between the public and private sectors and the science and technology sector.
6. **Production:** Construction of national and regional technological industries. Association between public and private sectors and the science and technology sector. Agreements among the LAC countries on norms, standards, import-export, regional market and international markets.

**Social inclusion, gender and minorities traverse all of these steps.**

**VIII. Toolbox for ICT use in sustainable development and poverty reduction**

What measures should the LAC countries take to ensure that ICTs’ potentials are maximized for sustainable development and poverty reduction, and so that the benefits of the Information Society reach the majority of the population and economic sectors? To facilitate understanding of these proposals we have categorized them as implementable in the short, medium or long term. We have defined the short term as 1-3 years, medium term as 3-5 years, and long term as up to 10 years. Given that technology evolves very quickly, and because we cannot predict its advances in the long term, we have limited ourselves to recommendations that imply use of technology for the short and medium terms. We have reserved the long term for political and social action.

<i>Toolbox for ICT use in sustainable development and poverty reduction</i>			
<i>Actions</i>	<i>Short term (1-3 years)</i>	<i>Medium term (3-5 years)</i>	<i>Long term (1-10 years)</i>
<i>National governments: actors and user models</i>	Promote ICT use at all levels of government and emphasize them in relation to citizens.	Create regional LAC agencies specializing in the IS to coordinate and standardize the policies and initiatives implemented by national governments.	The nations should be the leading promoters and users of ICTs through e-government, education, science and technology, public health, social programs and economic plans.

	Implement massive training and information campaigns on the benefits and potentials of ICTs for government employees at all levels.		
	Implement massive training and information campaigns on the benefits and potential of ICTs for citizens.		
	Encourage citizen participation in the state and government administration, including electronic voting, referendums, plebiscites, government accounting, public opinion polls, etc. in coordination with universal access.		
	Promote transparency: public policies concerning the IS and the use of ICTs in sustainable development and poverty reduction should be the result of clear rules, applied equitably to the overall population, who are informed about them.		
	Create national agencies specialized in the IS, comprising members of the public and private sector, civil society, academia and the science and technology sector.		
<b>Promote the IS economy</b>	Promote the development of small and medium businesses and micro-enterprise based on the use of ICTs, whether to produce goods and services intensive in ICTs, or for their internal and external organization.	Develop national industries to produce goods and services intensive in ICTs, directed at the domestic market, and the LAC and international markets.	
	Promote the participation of national and/or local governments in development of science and technology parks and centers, including the development of business incubators based on ICTs, coordinated with the academic sector (R&D) and science and technology systems, and public and private enterprise.		
	Establish links between the economic plans that promote ICTs and employment plans.		
	Establish links between economic plans that promote ICTs and the production of the science and technology sector.		
<b>Science and Technology (S&amp;T) for the Information Society</b>	Increase national budgets for the S&T sector, particularly in areas related to the IS.	Establish a Regional Observatory for poverty and the IS.	
	Identify and define priority areas for R&D of S&T related to the IS.		
	Foment productive associations between universities, R&D centers and institutions, business, and regional and/or local governments		

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<i>Education for the IS</i>	Use ICTs to contribute to educational reform, improving information systems, student tracking, monitoring of results.	Establish coordination between the educational and S&T systems. The educational system should aim to train researchers who can produce new knowledge for the S&T sector, which would invest the knowledge back into education.	
	Use ICTs to improve the skills of teachers and parents.	Implement virtual education in general, to benefit the population that works or lives far from the higher education centers, preventing migration and depopulation of small towns.	
	Create new professional degrees for the IS, with the aim of meeting the present and potential needs for qualified professionals.	Encourage the training of technicians and engineers specialized in areas related to the IS.	
	Create networks of universities and research centers for the exchange of experiences and knowledge.		
	Establish links between the educational sector and social plans, for the training of the population in IS tools		
<i>Infrastructure</i>		Negotiate the participation of private enterprise in the construction, distribution and expansion of infrastructure for the IS, through the creation of funds (like the FUST in Brazil) aimed at the social uses of ICTs, financed with a percentage of the private companies revenues.	
		Negotiate reduced costs, flat rates, etc. with providers of telecommunications in order to foment the population's connectivity.	
		Maintain state regulation of the telecomms market, and open it to a greater number of actors and investors, preventing private monopolies.	
		Ensure the extension of infrastructure to areas of low population density and even to areas considered unprofitable.	
<i>Expand physical and cultural access to the Internet</i>	Promote campaigns for ongoing training in ICT use for employees, small and medium businesses and micro-enterprise, and community organizations.		
	Create and manage centers for public access to Internet, particularly in low-income or low-population areas.		
	Implement agreements with community organizations on the management and use of public Internet access centers.		
	Implement agreements between national and/or local governments and telecomms businesses for preferential costs to promote Internet use (i.e. flat rates).		

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	Implement agreements between national and/or local governments and cyber cafés or private Internet access centers to purchase "connectivity hours" for the low-income population.		
<b>Promote growth of the Internet access market</b>	Promote competition among Internet providers in order to lower access costs.		
	Promote new technology alternatives that facilitate Internet access in low-income communities, such as Wireless Fidelity (WIFI) technologies.		
	Foment the dissemination of wide band services, regulating the costs and controlling service quality.		
	Regulate, monitor, assess and, if necessary, intervene, to ensure that Internet access costs remain accessible for most of the population.		
<b>Promote the production of regional and local content</b>	Create and implement a legal framework to protect intellectual property.		
	Organize contests to reward the websites that offer the best local content.	Foment multilingual website content in the languages spoken in LAC: Spanish, Portuguese, Aymara, Quechua, Guaraní, English, French, etc.	
	Provide financing and technological assistance to aid in the production of local content.		
<b>ICTs and poverty reduction: national policies</b>	Implement campaigns to involve the population in a common project and raise awareness of the importance of integration in the IS.	Decentralize governmental actions, offering communities greater opportunities for participation.	Consider poverty reduction as a central axis of national and regional policies, putting ICTs at the service of the population, and as tools for fighting poverty in a structured way.
	Generate on-line services that respond to the needs of the low-income population.		
	Coordinate governmental institutions and communities to implement common actions aimed at reducing poverty, using ICTs as tools.		
<b>ICT, gender and poverty</b>	Make the training of women and girls a priority in general, and of low-income sectors, in particular, in the use of IS tools.	Consider these endeavors when planning business incubators based on ICT.	
	Promote the expansion of micro-enterprise, cooperatives or other ICT-based productive associations aimed at poor women.	Establish financing for ICT-based productive projects aimed at poor women.	
	Encourage women's equitable access to advanced technical training and careers in new technologies; promote the training of women technicians and engineers specialized in IS technologies.		
	Encourage women and girls' access to telecenters, infocenters, cyber cafés etc., through pre-paid cards financed by local governments.	Encourage the production of content oriented towards the problems that women face.	

	Develop resources for computerized information on issues related to improving the condition of women and the promotion of their rights.		
	Support the development of initiatives by women's and citizens' groups in the field of electronic networks to improve the condition of women, and gender equality.		
	Promote among the LAC governments the equitable participation of women in decision-making related to access to and use of IS infrastructure and equipment.		

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