NEWSLETTER No.7 March 2009

POLICY INSTRUMENTS AND STRATEGIES

This is the second in a series of six thematic bulletins dedicated to each chapter of: eLAC 2010

CONTENTS

The region's evolution in formulating national ICT policies and agendas 02

Opinion column: Challenges for creating ICT policy instruments and strategies 04

@LIS2 Programme gets underway with 3 projects to promote the Information Society in Latin America 04

First eLAC2010 follow-up meeting to be held in Santiago in April 05

Opinion column: Non-governamental diplomacy as a political tool for social change 05

OSILAC to launch online statistical system to support ICT policy creation 06

eLAC2010 confronts the problem of e-waste in the region 07

Challenges in the implementation of national ICT policies 08

Guatemala to launch its first National ICT Policy 09

Government officials sign regional innovation agreement at ECLAC 10

Citizens prioritize public infocentres through participative budgeting 10

ICT related news briefs 11

Recent publications on ICT policies and strategies 12

www.eclac.org/socinfo

Photo: ECLAC

The region's evolution in formulating national ICT policies and agendas

The main article offers an overview of the current evolution of policies, strategies and national ICT agendas in 25 countries. The level of institutionality, coordination between agencies and the degree of maturity of existing policies are mentioned. With recommendations for the development of digital strategies, this article serves as a guide for achieving several of the goals in the chapter on policy instruments and strategies of the Regional Action Plan eLAC2010. (More on pages 2 & 3)

Photo: European Union

@LIS Programme gets underway with 3 proyects to promote the Information Society in Latin America

The European Union has renewed its @LIS Programme, with a financial contribution of €22 million for three projects to promote ICT-for-development in the region. They will seek to improve infrastructure and advanced research networks, bring regulation up to date, and continue inclusive political dialogue and support for the eLAC process. (More on page 4)

Photo: ECLAC

OSILAC to launch online statistical system to support ICT policy creation

This new online statistical system collects and harmonizes data on ICTs, including variables on use and access to these technologies, based on household surveys. It also offers tools that allow users to compare indicators and generate their own graphs, tables or charts. (More on page 6)

Photo: Conama Chile

eLAC2010 confronts the problem of e-waste in the region

Each day more electronic waste is discarded, leaving behind elements that are toxic to human health and the environment. Most countries in the region lack the appropriate infrastructure to recycle this waste, as well as laws and rules for its management. This article details the efforts of the new eLAC Working Group towards a law to manage this waste. (More on page 7)

Photo: ECLAC

Challenges in the implementation of national ICT policies

Various obstacles emerge when initiating a national policy in such a cross-cutting area, such as: a lack of political commitment, institutional weakness, integration in development policy, and insufficient resources for its implementation – factors that can determine the success or failure of this stage. (More on pages 8 & 9)

United Nations ECLAC · IDRC CRDI Canada · European Union · @LIS EuropeAid Co-operation Office · IADB · Global Alliance for ICT and Development G@ID

The region's evolution in formulating national ICT policies and agendas

The sudden development of the Information and Knowledge Society has surprised governments across the region, which in the majority of cases had not finished covering the basic pillars of development in their communities. This reality deprives them of the time needed to assimilate and appropriate Information and Communications Technologies (ICTs) as they are understood today; that is, as key motors for economic and social development.

This is a relatively recent topic that is evolving rapidly and unpredictably, which results in a complex scenario that is not easy to digest. Governments have pursued various different paths to including technological issues within their political agendas. In the beginning, it was understood as a computer or IT issue with a primarily technological vision that required skills and capabilities on the part of programmers, systems analysts and technicians.

Subsequently, given the potential of ICTs for globalization and economic development trends, a growing recognition arose in some countries of the need to approach this topic from a political perspective. That learning process continues until today. Many elements of dissemination and positioning have been taken on by individual leaders, which deprives these initiatives of stability and continuity.

One of the common characteristics of the region in confronting technological issues has been the absence of appropriate institutions to take responsibility for the degree of penetration of the issue in the various social spheres and its future implications. Precisely because this is a cross-cutting issue in constant evolution, it has been difficult from the onset to categorize which portfolio it falls under and how it should be coordinated with the other sectors, agencies and ministries. In some countries the leadership has fallen under a given ministry, be it finance, economy, information and communications, or directly under the Presidency of the Republic, in the form of a Ministerial Committee or specific Commissions created specifically for leading a digital or e-government strategy.

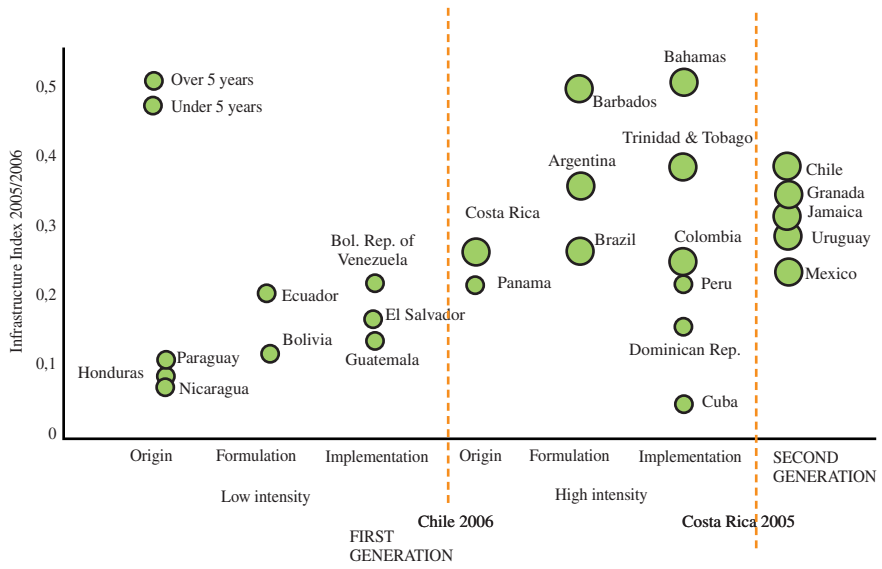
This variety of approaches to confronting the issue can be seen as an almost 'structural' condition of the region, given that institutional processes were not consolidated in preceding decades. Such conditions can also indicate a country's degree of development as well as the level of urgency or priority that policy-makers assign to ICTs.

Evolution of Information Society policy issues

Policy topics	Traditional topics	New topics
Access and Infrastructure	Installation of public telephones Creation of telecommunications funds	Increase access to broadband Internet Public ICT access centres (telephone and Internet)
Capacity-building	ICT use (digital literacy)	Awareness of the potential of ICTs in different sectors Digital literacy and professional training Creation of new cognitive capacities according to the needs of the IS
e-Government	Presence of online information for governmental entities	Transactional services Citizens' participation Interoperability of systems
e-Education	Connectivity in schools Distance education	ICTs in the learning process Development of electronic educational content Incorporation of ICTs in school administration
e-Business	Connectivity in businesses Web presence	Digitalization of internal and external processes Integration of productive processes via electronic media
e-Health	Tele-health	Health system management: - electronic clinical history - information systems for managing patients, medication, etc.
Software and hardware industry	Hardware production (only some countries) Open-source software	Development of the software industry for local solutions Development of offshore technological businesses

Source: ECLAC, *Digital Review 2007 of Latin America and the Caribbean: Progress and Challenges: Policies for Development with ICT*. 2008.

Level of insfrastructure development in 2005/2006, status of digital policies, intensity and maturity of the ICT-related activities, 2008



Source: ECLAC, *Digital Review 2007 of Latin America and the Caribbean.* 2008.
Note: The Infrastructure Index from the Digital Opportunity Index of the International Telecommunications Union is used to analyze the level of development infrastructure. The Index is composed of penetration indicators for fixed telephony, computers and Internet access at home; also the individual penetration of mobile telephony and remote access to the Internet are used. The higher the value of the index, the greater is that country's development of infrastructure and access to ICTs.

The development of capacities and contents, as well as e-Education and e-Business also constitute areas of high importance in national agendas or digital strategies; while the development of a computer and software industry seems to arise less frequently. The most neglected areas are e-Health, e-Democracy, disaster management and e-Justice.

The inclusion of the various issues in ICT policy agendas depends on the degree of maturity the issue has reached within the countries of the region, which is reflected in the elaboration of digital initiatives. The document *Digital Review 2007*, published by ECLAC's Information Society Programme, reviews the digital agendas of 25 countries in the region. According to the latest update, the countries that are most advanced in the implementation of public policies in ICT are: Chile, Grenada, Jamaica, Mexico and Uruguay. These countries even have second-generation agendas.

The main determinants of the existence of a public policy for ICT can be divided into exogenous and endogenous factors. Among the former are a country's level of development, stability and political orientation and its general degree of awareness of the Information Society (IS). A country cannot do much to change these factors, at least not in the short term. However, the endogenous factors related to the existence of an ICT policy in which a country is directly involved include: the degree of political participation and consensus of all relevant actors, the hierarchical level of the policy or the institution responsible as well as the administrative management and the availability of resources to develop the issue.

It is with the same asymmetry that countries advance on development matters that public policy agendas aimed at creating Information Societies have emerged. In the majority of such policies the issue of social inclusion figures in the political discourse; in fact, it is often even more present than references to productive areas.

Among the most prominent areas in digital agendas are access and infrastructure and the development of e-Government. The latter constitutes one of the main disseminating areas of uses and capacities among the general population, as long as such practices advance from basic levels of providing information towards more advanced applications of online errands and transactions with citizens. The development of e-Government has given rise to new elements that strengthen the facilitating environment of the IS, such as legislation for digital transactions and validation, digital signatures, cyber-crime, and the confidentiality of data, among others. Despite the promise of e-Government, it is one of the most lagging or absent areas in the digital agendas of the region.

Another round of countries includes those elaborating first-generation strategies (be it at the origin, formulation or implementation stages), which also exhibit a high intensity of ICT-related projects and activities; such as Argentina, Bahamas, Barbados, Brazil, Costa Rica, Colombia and Trinidad & Tobago. Belonging to the same group are: Cuba, Dominican Republic, Panama and Peru; however, their various projects only began within the past five years. Lastly, countries such as Bolivia, Ecuador, El Salvador, Guatemala, Honduras, Nicaragua, Paraguay and Venezuela are still in the stage of elaborating a digital agenda for the first time, they engage in a low intensity of projects and have fewer than five years of experience in the matter.

While making progress from a public policy standpoint, the countries of the region not only need to incorporate the various thematic areas involved but attend to the institutional roles and agencies in charge of elaborating and executing such policies. This necessarily involves strict coordination with other areas and ministries, which also poses challenges in terms of interoperability.

The participation of relevant actors must be granted a guaranteed political space that balances the costs in terms of the time involved in coordinating divergent interests. This surely enriches the discussion and grants legitimacy to the areas being developed. A registry of national ICT spending is another key element in which countries must advance. This aspect helps provide a sense of the hierarchy and order of importance countries assign to the IS as a path for progress towards social and economic development

Opinion column:

Challenges for creating ICT policy instruments and strategies

Photo: ADSIB

Jorge Alejandro Patiño C.
Thematic Coordinator for Policy Instruments and Strategies, eLAC2010. Director a.i., Agency for the Development of the Information Society in Bolivia (ADSIB), Vice-Presidency of the Republic of Bolivia jpatino@adsib.gob.bo

Although motivated by ICTs, the Information Society (IS) is not determined by these technologies. Political, social and economic elements play a more determining role. As such, it is a sensitive area that is permeable by national policies that introduce and generate structural and institutional changes.

The establishment of a Regional Action Plan such as eLAC2010 is a great achievement and our countries are reporting considerable progress in the formulation of policies and strategies to strengthen the Information Society, prioritizing issues of access and infrastructure, e-Government, the development of capabilities, contents, education, and others[1]. Nevertheless, we must ask ourselves if we have the capacity to examine the mechanisms of market development and their implications and whether we are effectively including the coordination and participation of all the relevant actors.

There is evidence of the effective response of the IS and its development to the processes of participation therein – at least in the greater coordination of public institutions. Data from the Digital Opportunity Index (DOI)[2], as well as the ECLAC document *Digital Review 2007*[3], demonstrate that, among 25 countries from Latin America and the Caribbean, four of the first five with the highest DOI[4] have inter-agency commissions in charge of their national IS plans.

Although the challenges in designing and implementing policies and strategies to promote the IS in Latin America and the Caribbean include traditional variables such as political will, financing and strategic planning, among others, they also require the consideration of new variables such as the articulation of networks, the involvement of key agents, their capacity to manage knowledge, local development and institutional integration – which can all be understood as ways to invigorate such policies and strategies. These challenges will be confronted by five of the eLAC Working Groups and by Bolivia, as the coordinating country for this thematic area. Together, we will work to ensure that the goals of the eLAC2010 chapter on policy instruments and strategy are met

1 ECLAC, *Digital Review 2007 of Latin America and the Caribbean Progress and Challenges: Policies for Development with ICT*. 2008.
2 ITU, Digital Opportunity Index, www.itu.int/doi
3 ECLAC, *Digital Review 2007*. pp. 24.
4 Barbados, Bahamas, Chile and Jamaica.

Financed by the EU:

@LIS2 Programme gets underway, with three 3 projects to promote the Information Society in Latin America

EUROPEAN UNION

In conflictive times such as the current global economic crisis, developing Information and Communications Technologies (ICT) and improving the efficiency of their use are fundamental for the region, given the potential of these technologies to generate productivity gains and improve the coverage of public services such as education, health and e-Government. Studies by the United Nations Economic Commission for Latin America and the Caribbean (ECLAC), in the first phase of the European Union's @LIS Programme – Alliance for the Information Society, show that investments in ICTs have had significant impact on economic growth in the region. This impact could be even greater if countries were to make more intense use of these technologies and if their benefits were to reach the entire population. As such, innovation in the use of ICTs, particularly in the productive sector, is key to escaping the current crisis.

With this objective, the second phase of the @LIS2 Programme is now underway for the period 2009-2012. It includes €22 million from the European Union (EU) for the implementation of three projects executed by ECLAC, Latin American Cooperation for Advanced Networks (CLARA), and the Latin American Telecommunications Regulators Forum (REGULATEL). The @LIS2 Programme will promote the use of ICTs for development and social inclusion. Its three projects will build on the success of the @LIS1 Programme (2004-2007); strengthen cooperation within Latin America and with Europe; support dialogue on political, social regulatory and technological issues related to the Information Society; and promote scientific investigation through the expansion and interconnection of advanced networks between universities and research centres.

The project "Inclusive political dialogue and exchange of experiences," is co-financed by the EU (€9 million) and by ECLAC (€3 million) and is coordinated by ECLAC's Information Society Programme, of the Division for Production, Productivity and Management of this UN Commission. Its objectives include analyzing and disseminating best practices and progress in five strategic areas: e-Education, e-Health, Access and infrastructure for e-Inclusion, Productivity, innovation and economic growth, and e-Government. The project will assist the countries of Latin America in the definition and adoption of policies and strategies for the construction of Information Societies, while raising awareness of the potential these technologies offer. To this end, it will support the implementation and evaluation of the eLAC Regional Action Plan, which the countries of the region have been executing since 2005.

The project "ALICE2: Latin America Interconnected with Europe 2," co-financed with €12 million from the EU and €6 million from the countries of the region, is implemented by CLARA, which develops and operates an advanced Internet network established in 2004 to interconnect the countries of Latin America (RedCLARA). During the first phase –until March 2008– the region was connected to GÉANT2 (the high-speed pan-European network). In this second phase –until mid-2012– a fiber optic network will be implemented. Moreover, CLARA will stimulate and support investigation within Latin America, in collaboration with Europe, by strengthening RedCLARA and by creating and maintaining research communities working on development issues.

The third project, "Regulatory dialogues," implemented by REGULATEL, is financed with €1 million from the EU and €252,800 from regulators of the countries of the region. To promote harmonization and regulatory integration in Latin America, it will facilitate the application of best practices via the exchange of information and experiences among telecommunications regulators in the region and in Europe. As such, it will support cohesion and social inclusion in the construction of the Information Society in the region

In preparation for Lima:

First eLAC2010 follow-up meeting to be held in Santiago in April

In order to achieve the effective implementation of the eLAC2010 Regional Action Plan, it is necessary to revise the progress and challenges in its adoption, as well as define strategies and lines of action for its realization.

With this objective in mind, the Technical Secretariat for the Regional Action Plan, which is UN-ECLAC, is organizing the First Follow-up Meeting of eLAC2010 in preparation for the Ministerial Conference in Lima in 2010. The meeting will take place in Santiago, Chile, from 28-29 April, 2009.

This first in-person meeting is expected to include all of the members of the eLAC2010 Secretariat, including: the four Presiding Officers of the Regional Follow-Up Mechanism, the two observers to the Mechanism (one for civil society and one for the private sector), the thematic coordinators for the six chapters of eLAC2010, more than 20 National Focal Points, and coordinators of the 13 Working Groups.

It is also important to build relationships and interactions between these actors, so as to improve the coordination of their efforts and encourage more focused collaboration that generates synergies.

The objectives of this meeting will be to: revise the implementation of eLAC2010, evaluate progress and challenges in meeting the goals established in the Plan, discuss strategies for improving its visibility, and plan activities leading up to Lima. To this end, each National Focal Point and thematic coordinator will have time to present progress in promoting and implementing eLAC2010 in their country, including their reflections on the challenges they face. The coordinators of the 13 Working Groups will each present their Work Plans, and answer questions.

Identifying achievements and difficulties is fundamental to making the eLAC goals more effective, so the meeting will also include roundtables to give all members the chance to debate and share such experiences. The meeting will conclude on April 29 with a roundtable where activities and strategies will be defined to continue and improve the implementation of the Regional Action Plan prior to the Ministerial Conference in Lima in 2010, which will review the progress of this second phase in the eLAC process.

There will also be a presentation of the activities to be undertaken by ECLAC's Information Society Programme under the @LIS2 Programme, which is co-financed by ECLAC and the European Union. The overarching goal is to promote inclusive political dialogue in the region, under the eLAC2010 framework

Photo: RITS

Opinion column:

Non-governamental diplomacy as a political tool for social change

Carlos Antônio da Silva
Observer for Civil Society, eLAC Regional Follow-Up Mechanism
Coordinator for training and social networks,
Information Network for the Third Sector (RITS) and APC.
cantonio@rits.org.br

Over the years, non-governmental organizations have attempted to have a say in strategies and public policies by undertaking actions to influence heads of State. They have managed to transform ideas into laws or movements with the power of political suasion. In the struggle around recognizing the right to information and communication, civil society managed to incorporate human rights and equity-oriented language in official documents at the World Summit on the Information Society (2003-2005).

Non-governmental diplomacy has gained relevance in the international diplomatic community over the past two decades, complementing 'official' approaches or serving an auxiliary role as an integrating party to such processes. Such diplomacy offers an opportunity for individuals or organizations to monitor, contribute, and participate in agreements or affairs that were previously the sole domain of State-appointed diplomats.

Such is the case of the eLAC2010 plan, where the Association for Progressive Communications (APC) participates in the delegation of Latin American civil society, helping follow-up on the goals and results of this political process.

A recent publication, *Analysis of participation and incidence in the eLAC process* (ITeM and APC, 2008), measures perceptions of the participation of civil society in this process. Based on multisectoral surveys, the study notes that governmental representatives assign a greater level of relevance to the role of non-governmental actors in the eLAC process than those actors do themselves. A positive consensus exists around the importance of civil society's participation while at the same time underlining the need to increase that participation.

To make the participation of civil society more effective and 'incisive', the document recommends more serious and united proposals, as well as sustained work and continuity over time. Moreover, it identifies the need for governments to open more instances –at a national and regional level– for civil society to make contributions, based on their concrete experiences, to the formulation of ICT policies

OSILAC to launch online statistical system to support ICT policy creation

The Observatory for the Information Society in Latin America and the Caribbean (OSILAC) has created a new online Statistical Information System on ICTs (http://www.cepal.org/tic/flash/default.asp?idioma=IN) which allows the general public to access indicators specifically about information and communications technologies (ICTs) found in 52 household surveys from 17 countries in the region.

This tool responds to Goal 66 of eLAC2010 and to the Action Plan adopted during the World Summit on the Information Society, both of which recommend developing indicators to evaluate the state of ICTs and monitor application of these Plans so as to determine progress.

In order to elaborate, implement and evaluate policies and strategies for the Information Society (IS), policy-makers need dependable tools to measure the current state, the evolution, and changes in access and use of these technologies in their countries and across the region. Given this need, and in response to the lack of comparable data on ICTs between countries, this system has been created to allow users to make queries and compare indicators on the use and access to ICTs.

While other information systems for general data exist at a regional level, the novelty of the OSILAC System is that it makes it easier to generate ICT-specific indicators at a national and regional level, and over time. The user can make the query of their choice and create their own charts or tables. One need not be an expert in statistics to obtain these results quickly and easily from a user-friendly interface.

The System includes socio-economic variables on access to and use of ICTs, which have been harmonized to make them comparable. Among the 47 variables on ICTs are: frequency of Internet use, home access to a computer, use of the Internet for electronic banking operations, among others. Among the 20 socio-economic variables are: income, educational level, occupation, gender and geographical area (urban/rural). The System allows for comparisons over time, within countries, between countries, and at a regional level.

Within a given country, one can track the evolution in access or use of ICTs over time. For example: In Mexico, the percentage of people who use the Internet has increased from just 8% in 2001, to 22.2% in 2007.

Between countries, one can characterize the digital divide in terms of access to and use of ICTs, according to socio-economic factors. For example: In El Salvador, 49% of households in urban areas have access to a mobile phone, while 39% of households do in rural areas. In Bolivia, however, a much greater gap can be observer, given that 56% of urban households have a mobile phone versus just 9% in rural areas.

At a regional level, one can measure progress or get a sense of the existing digital divide between countries. For example: In 9 of the 13 countries analyzed in the region, the richest segment of the population was more than 50 times more likely to have access to the Internet from home than the poorest segment (see graph).

By quantifying these divides and advances, the System makes it possible to identify potential targets for public policies in those populations that illustrate the greatest disadvantages in the adoption and productive use of ICTs. As such, the system is a powerful tool for the formulation and monitoring of public policies related to ICT.

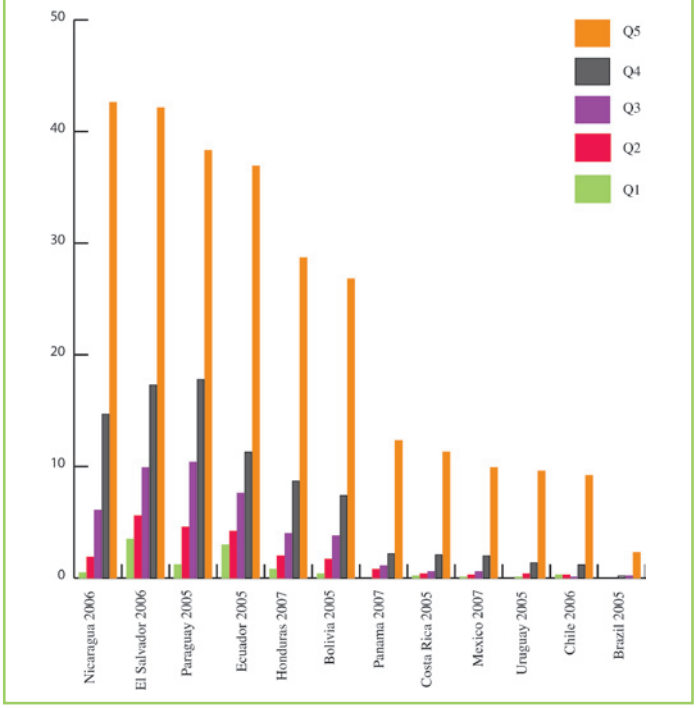
Financed with the help of Canada's International Development Research Centre (IDRC), the System takes advantage of the link between OSILAC and the National Statistical Offices of the countries of the region. The harmonization of data for their comparison is based on the basic indicators approved by the Partnership on Measuring ICT for Development, which unites various international organizations and statistical offices around the world. At a regional level, the submission and dissemination of this data are in keeping with the resolutions of the Statistical Conference of the Americas (SCA) in its fourth meeting in 2007. At the same time, the confidentiality of data at an individual level is maintained, according to United Nations recommendations.

The System will be launched during the V Workshop on Measuring the Information Society, to be held 6 to 8 April in Rio de Janeiro, Brazil

The Statistical Information System is available online, at:

http://www.cepal.org/tic/flash/default.asp?idioma=IN default.asp?idioma=IN

Households with Internet access by country and according to income quintiles (%)



Source: OSILAC Statistical Information System. http://www.cepal.org/tic/flash/default.asp?idioma=IN . OSILAC calculations are based on national household surveys. Most recent year available.

eLAC2010 confronts the problem of e-waste in the region

Technological change and the ever-lower costs of mobile phones, computers and other electronic equipment have increased sales by an average 20% per year. According to the European Commission, each of its citizens produces an average of 14 kg of electronic waste per year.

Official statistics on the situation in the region are lacking; however, it is known that Mexico generates 257,021 tonnes of e-waste per year and Argentina produces 40,184. By 2010, CONAMA estimates that Chile will have more than 10,500 tonnes of tossed computers. Moreover, it is believed that the quantity of electronic waste and residues is increasing three times faster than that of traditional urban garbage.

Photo: Conama Chile.

There is a lack of awareness among the general public and within the political classes of the region on this and other environmental issues. Programmes to reuse donated computers exist, but some of these initiatives have had the unintentional effect of converting the region into a dumping zone for obsolete electronics. In the end, each day more electronic waste is discarded, leaving behind elements such as lead, mercury, beryllium, selenium, cadmium, chrome, plastic and halogen substances, which are highly toxic to human health and the environment.

While the ICT industry is starting to design electronic products to reduce such impacts, their reuse and recycling continue to be the best methods of disposal. However, most countries in Latin America either lack the appropriate infrastructure or coordination to manage this waste, as well as the capacity or training to properly dispose of these products. Moreover, few national laws exist to regulate or manage e-waste in the region.

The countries of the region decided to confront this issue during the Ministerial Conference on the Information Society in San Salvador in February 2008, establishing a goal in the Regional Action Plan eLAC2010, which seeks to "promote the design of national strategies and regulation of technological waste management … as well as to create a working group to address this subject."

The Government of Chile leads this new Working Group, coordinated by Hans Willumsen and Gerardo Canales, of the Solid Waste Management Area of the National Commission for the Environment (CONAMA). This institution is currently working on a national agreement with relevant actors from the private and public sector and civil society for a regulation that would incorporate the concept of Extended Producer Responsibility (EPR), in which the producer or importer of a given product agrees to handle its end-of-life cycle.

"We were really surprised by the support we've had from the private sector," explains Canales. "When they heard about our efforts last year, we received a visit from an association of mobile phone producing companies. And against our expectations, they showed tremendous commitment to the issue. In fact, they wanted to make sure that our policy would be just as strict as the European regulation."

The European Union implemented the Waste Electrical and Electronic Equipment (WEEE) Directive in 2003, which makes manufacturers financially or physically responsible for their equipment at its end-of-life. Under the "Polluter Pays" concept, manufacturers are expected to recycle 15% of their products, and every country has to recycle at least 4 kg of e-waste per capita, per year. Canales expects that CONAMA's initiative will result in a national law on e-Waste to encourage the prevention, reduction, reuse, recycling and other alternatives to final disposal. He says he hopes such regulation could be passed on to a regional level, through the exchange and collaboration provided by eLAC.

Among the activities the e-Waste Working Group has planned for 2009 are: technical assistance between specialists from various countries and multinational or regional exchanges for normative and technical harmonization, fora to share experiences and best practices in the elaboration of national policies, and legal and technical discussions around the elaboration of a draft agreement on prevention methods and the management of e-waste. They also plan to promote initiatives to train human resources in WEEE management in the region, and create a virtual environment for regional information on best practices in the prevention and management of e-waste by the end of 2009.

Until now, several countries have used the Basilea Convention as a starting point for drafting national regulations. Adopted 22 March 1989 and ratified by all of the countries of the region except Haiti, it is considered an appropriate legal framework both for reducing imports and exports of e-waste as well as for grounding national policies about its disposal.

During the International Seminar on e-Waste Management, organized by CONAMA in Valparaiso, Chile, in December 2008, Leila Devia, of the Regional Centre of the Basilea Convention for South America, offered her diagnosis of the challenges pending for achieving a law or effective regulation based on the Convention. In terms of the WEEE market, Devia recommends: greater transparency in the supply-demand relationship, providing businesses with tools to reduce the costs and improve their competitiveness in waste management, and reducing the costs of treatment and final disposal. Norms and economic incentives are needed for differential collection, temporary storage, dismantling, and the commercialization of electronic junk. Moreover, she says there is a need for environmental norms and procedures to regulate such activity from an environmental, social and workplace security standpoint, as well as greater commitment from industry and Governments to support these processes

Challenges in the implementation of national ICT policies

Most of the countries of the region possess some type of national strategy or plan to promote Information and Communications Technologies (ICT), but the mere existence of a public policy agenda does not necessarily guarantee it will be followed. In fact, of the 17 countries that have such policies, only 13 are in the phase of implementation.

Initiating a policy generates many expectations and opportunities, workloads and responsibilities, operations and decisions, with various powers and interests at stake, which make implementation a very complex, elusive and conflictive process. Factors such as the degree of commitment of the various agents, the institutional framework tasked with coordinating the multiplicity of actors that must make consensual decisions, and the availability of resources can all determine the success or failure of this phase.

Political commitment

The *Digital Review 2007* (ECLAC, 2008), observes that the most successful experiences have featured leaderships backed by the highest-level political authorities from each country. The dynamic between 2000 and 2007 reveals that it has been indispensable to use an approach based on shared responsibility, which makes use of decentralized group intelligence, from the bottom-up, combined with the legitimacy of the highest-level public officials, from the top-down.

In Paraguay, various attempts were made to define a digital strategy, but it got stuck at the project stage after not being championed by decision-makers in the relevant sectors. "From the beginning the great challenge has been and continues to be the legitimation of the plan as a national or sectoral policy," explains Maria Angelica Cano, National Focal Point for Paraguay to the eLAC2010 process. "The greatest challenge continues to be appropriation by the relevant actors in the general public: entrepreneurs, politicians, local authorities, youth, seniors, the poor, etc."

In order to achieve greater political commitment, the search for consensus and integration of all sectors aims to transform a national agenda into a State policy, rather than a Government strategy. "The success of the elaboration of Policies and Strategies in Guatemala has been that experts from various sectors sat down on their own will (an initiative of the private sector, non-governmental organizations, academia and governmental experts), to present the proposal for a National Agenda (GuateSI) and socialize it," explains Aldo Bonilla, National Focal Point for Guatemala, a country that is about to announce its first National ICT Policy as a result of these efforts.

Lack of institutionality

Despite progress in the treatment of this multi-disciplinary challenge, difficulties at the implementation stage have been observed related to the lack of institutionality and political backing needed to execute actions. According to ECLAC studies, policies have been characterized by a lack of coordination, reduced and fragmented budgets, changes in emphasis and severe discontinuity over time, situations that are exacerbated by changes of government or in those responsible for implementing these policies. Individual leaders have often emerged, with the necessary political backing. But the creation of Information Societies (IS) involves a transformation of all aspects of society and is incompatible with the centralization of activities under a given actor. Close collaboration with other sectors, ministries and organizations is necessary.

In Venezuela, the main challenges to the implementation of an ICT Policy have been: "managing to get all of the actors to take responsibility for the execution of the plan, its articulation with other sectoral plans, and the dissemination of the strategy," explains Nadia Márquez, National Focal Point for the Bolivarian Republic.

At the same time, institutional weakness has been accentuated by the lack of an integral model which could be used as a sort of manual for state action towards the IS in Latin America. "Various excellent efforts have been made towards creating a theory for the Information Society, and the model devised by ECLAC's Martin Hilbert (2002) is particularly noteworthy," suggests Rubén Días Silva, Presidential Advisor for the Solidarity Fund and National Focal Point (alternate) for Ecuador. "Nevertheless, we must continue along the same line of investigation and above all we must do more to disseminate such work at the level of universities and decision-makers in Latin America."

Días believes that a theoretical framework must distinguish between two agendas that, while similar in title are quite different in their objectives and strategies: the agenda of development supported by ICTs, or ICT-for-development (ICT4D), versus the agenda of technological development or development of ICTs as such.

Integration within development policies

This distinction between these two ICT development agendas is the main point of the book *The Information Society in Latin America and the Caribbean: Development of technologies and technologies for development* (ECLAC, 2009), which suggests that a digital agenda cannot exist independent from political priorities and a country's vision of national development. Achieving this integration implies the work of promoters or opinion-shapers who can explain the importance of ICTs for economic, social and political development. To change the development approach of the SI, it is necessary to focus on the beneficiaries of digital development, promoting their integration in the areas of education, social inclusion, health, public management and the production sector.

The issue of ICT has taken on increasing importance in the countries of the region, to the extent that digital agendas are becoming part of the lines of action contained in their national development plans, which no doubt raises the hierarchy of these policies. According to the *Digital Review 2007*, Barbados, Bolivia, Chile, Colombia, Guyana, Jamaica, Mexico, Trinidad & Tobago and the Bolivarian Republic of Venezuela possess policies within the framework of their National Development Plans, while Cuba, the Dominican Republic, Ecuador, El Salvador, Guatemala, Peru and Uruguay have specific ICT policies, although the issue is not conceived within wider plans.

Lack of resources

For many countries, the main challenge for the implementation of ICT policies has to do with insufficient, fragmented or inappropriately coordinated funding, given that countries generally depend on the scarce resources of different national authorities involved in the digital challenge.

The Executive Director of El Salvador's e-Country Programme, Sigfredo Figueroa, singles out the lack of sufficient resources needed as well as the lack of protagonism or interest from the relevant institutional actors in order to achieve the implementation of the national plan in his country. "The multiple needs for resources to cover structural necessities have not permitted them to proceed from a planning to an action phase, to the extent that the executive body would like." On the other hand, he says there are "various isolated efforts that lend greater protagonism to the institutions that are undertaking them, but they have yet to achieve the integration of these efforts as part of a national plan."

The lack of coordination results in wasted resources and obstacles to improving interoperability between agencies. In some countries, funding has been allocated to the entity that coordinates the execution of a plan, as well as external financial support, as is the case in Bolivia, Paraguay and Peru. Nevertheless, the vast majority of public resources destined to digital policies are hidden under the activities of the various agencies that are undertaking initiatives in their sectors.

Chile is the only country in the region that has isolated ICT spending within public spending (DIPRES, 2005). The identification and dissemination of this information supports the coordination of activities, while greater transparency in public accounting can reveal repeated efforts and allow for better negotiation with providers. The coordination of these resources is the central drive of a national strategy for the development of the IS.

The Director of Colombia's National ICT Plan, Victoria Kairuz, identifies "the assignment of financial resources for investment in difficult financial times" as one of the main challenges in her country, as well as how to make people understand that "a National ICT Plan is, in the end, a great alliance between the public and the private sector."

The lack of human resources is another issue that is even more pronounced on islands and in small countries. "Many believe that merely announcing policies, purchasing computers and software is sufficient," explains Raymund Michael Flood, Public Utilities Officer for Saint Lucia. "Of the challenges we face, human resource constraints is the most basic. We have been experiencing a dearth of trained personnel; this factor impacts every level of policy implementation." Flood also highlights the difficulties related to inadequate legal and regulatory instruments in his country's attempt to liberalize the telecommunications sector.

Conclusions

After several years of failed attempts, an incipient consolidation of national strategies can be observed in the region, characterized by a greater maturity in the issue of ICT. In this second phase, digital strategies are getting closer to being part of national development plans, as well as orienting themselves towards incorporation of such technologies as a tool for growth and economic development. A successful strategy for the IS has to establish and open up functional communication channels with all the sectors, while at the same time assuring that the voices of national promoters are heard. Finally, information on the resources involved is a prerequisite for effective coordination during the operative stage of a strategy

Guatemala to launch its first National ICT Policy

With the goal of ratifying its international commitments, Guatemala has approved a national strategy that seeks to give impetus to economic activity and social harmony in the area of Information and Communications Technology (ICT). The National ICT Policy was ratified by the Consultative Council of the National Commission for Science & Technology and it will be officially launched in early 2009 by the Vice-President of the Republic, Dr. Rafael Espada, as President of the National System for Science & Technology.

The development of this policy has been a multi-stakeholder effort that began in the year 2002 and which has been based on various inputs, such as: the commitments of the World Summit on the Information Society in Geneva 2003 and Tunis 2005, Guatemala's Information Society initiative (GuateSI), the National Plan of Science, Technology and Innovation 2005-2014, the National Competitiveness Agenda 2005-2015, the National Agenda for the Information and Knowledge Society of Guatemala 2008, among others.

One of the most notable achievements of Guatemala's ICT Policy in 2008 was the approval of a bill presented by the Congressional Commission for Economy and Foreign Trade, known as the Law for the Recognition of Communications and Digital Signatures (Decree 47-2008). The law offers a combination of general rules that are accepted in the international sphere and which allow one to contemplate specific legal aspects. The goal is to create a legal framework for a more secure development of electronic negotiation, documents and digital signatures.

The approval of this bill is an important element of Guatemala's ICT Policy, given that there is currently no legislation related to legal and technical security in the transmission of electronic messages, or the validity and effectiveness of electronic documents and/or electronic signatures for business transactions or e-Government. This, coupled with the advent of the electronic receipt recently created by the Superintendency of Revenue Administration, and the electronic payment of taxes, provides a working platform for Guatemala's ICT Policy. With this initiative, Guatemala aims to create the conditions to generate wealth and prosperity with infrastructure based on knowledge and intellectual capital

Government officials sign regional innovation agreement at ECLAC

To strengthen innovation for development, a regional cooperation protocol on science, technology and innovation was signed during the 2008-2009 Inter-Sessional Panel of the Commission for Science and Technology (CSTD), a high-level international meeting which took place at ECLAC headquarters from 12-14 November, 2008.

The protocol arose after a special session on regional cooperation in science and technology among government officials from Latin America and the Caribbean responsible for innovation policies, from: Argentina, Brazil, Chile, Costa Rica, Cuba, Mexico, Nicaragua and Uruguay. In addition to these countries, the agreement has been signed by Peru.

Innovation is increasingly a process undertaken in networks that requires interaction and cooperation from various actors from the public and private sector. The creation of cooperation mechanisms in science, technology and innovation responds to the increasing concern with improving the region's insertion in the global knowledge economy.

The agreement identifies the need to provide a space for open dialogue between the countries of the region, where they can pose questions and make proposals to address the challenges in the management and implementation of science, technology and innovation policies. This would be an open and informal forum for the discussion of substantive issues related to science, technology and innovation policies of regional interest.

Various discussion forums on issues of regional interest are foreseen, as well as the creation of the first high-level training course for science and technology policy-makers in the region. The objective is to exchange experiences among countries and strengthen regional dialogue in the implementation of policies and preparation of studies. The agreement calls for joint efforts in the generation, dissemination and application of capabilities in new technological paradigms, such as ICT, biotechnology and nanotechnology.

It also recognizes the importance of training and developing human resources to jointly manage science and technology policies among various countries, to support the exchange of experiences and articulate the relationship between different plans and projects. Moreover, permanent institutional mechanisms to support this cooperation are needed

Citizens prioritize public infocentres through participative budgeting

So that policies may be more inclusive and participatory, citizens seek and require opportunities to influence the decisions of Governments, particularly when it comes to the creation of policies and the assignment of resources at a local level. In response to this objective, a democratic process of public participation was born in Medellin, Colombia, in which the Municipal Administration sets aside a part of its local resources so that their allocation can be decided by the inhabitants of the various neighbourhoods in the Municipality. Thanks to this Local Planning and Participative Budgeting Programme, various ICT-related initiatives have been generated, including public infocentres (or telecentres) as well as alternative community media.

Initially, when a public infocentre was solicited, the Participative Budgeting Programme limited itself to providing the resources needed to purchase the equipment and provide basic training. Nevertheless, today Medellin City Hall is supported by civil society organizations that are following through with the process of opening and following-up on these infocentres. To guarantee their self-sustainability, communities who request these public access centres must ensure their technical and social viability. During 2009, this process of demonstrating their viability is being led by Makaia Corporation, a non-profit organization that promotes the institutional strengthening of civil society organizations, which has ample experience in ICT-for-development. The Municipality depends on such knowledge and experience to strengthen its infocentres, seeking the articulation between social and economic factors and taking advantage of the potential of teamwork among its participants.

Participative Budgeting was first implemented four years ago in the city of Medellin. In 2006 and 2007, the first 11 infocentres that arose out of this Programme were installed. Three were installed in 2008 and the viability of 15 new telecentres is being analyzed for 2009. Their sources of financing include: the Secretariat of Social Development of the Municipality of Medellin and donours such as the Antioqueña Federation of NGOs and Makaia Corporation.

This project directly contributes to improving access to ICTs, starting from the needs of communities, and strengthening democracy in the process. Communities get to decide how to invest a portion of municipal resources and prioritize such investments. Public infocentres help to increase social inclusion and improve users' employment opportunities. As such, this project fulfills goals 60, 76 and 77 of the eLAC2010 chapter on policy instruments and strategies – which aim to: strengthen IS policy through the participation of civil society; promote the progressive allocation of resources for ICT development; and promote the greatest possible access for citizens to public information

ICT-related news briefs

Two new Working Groups created under eLAC2010

During the first in-person meeting of the Regional Follow-Up Mechanism to eLAC2010, which took place on the eve of the CSTD Panel in Santiago, Chile, from 12-14 November 2008, a request from Brazil was approved to create a new Working Group on Interactive and Interoperable Digital Contents, under the coordination of the Brazilian Institute for Information on Science and Technology (IBICT). At the same time, a petition from Peru to resuscitate and lead the eLAC2007 Working Group on e-Government was accepted. The coordinating countries for two of the Working Groups created during the Ministerial Conference were also chosen: Chile is leading the new group on e-Waste, with the National Environmental Commission (CONAMA) as coordinator, and after receiving four submissions, Ecuador's proposal to lead the new group on ICTs & disability was chosen, under the coordination of the Fund for Telecommunications Development (FODETEL) of CONATEL-Ecuador.

GAID holds two regional seminars on ICTs & education

Organized by the Global Alliance for the Development of ICTs, of the United Nations Department of Economic and Social Affairs (UN DESA GAID), the Government of Cuba and ECLAC, the Regional Seminar on ICTs and Education in Latin America and the Caribbean took place in Havana, Cuba, on 9 February 2009. Coinciding with the XIII International Fair and Convention "Informática 2009," the GAID seminar brought together 120 multisectoral participants from across the region.

The seminar included presentations on the central role of education in the social and productive development of countries that display weakness in the area. One panellist observed that the design and implementation of public ICT policies in education is very irregular and that national agendas are not approaching this issue as their number one priority, as does the eLAC2010 Plan. The event also served as a preparatory meeting for the GAID Global Forum on ICTs for innovation and education, to be held in Monterrey, Mexico from 10-12 June 2009.

ACORN-REDECOM Congress to analyze the policy impact of ICTs

From 22-23 of May, the III Congress on "ICT and its Social Economic and Policy Impact in the Americas" will take place in Mexico City. It is being organized by ACORN-REDECOM (the Americas Communication Research Network), a cross-disciplinary academic network of research centers which seeks to advance knowledge on the social, economic and political impact of Information and Communication Technologies (ICT) in the Americas. Among the topics to be analyzed are: the future of ICT regulation, market environment and industry structure, economic development and competitiveness through ICT, emerging technologies and their impact on the market and regulation, and ICTs and social development.

Feminist Technological Exchange to take place in Mexico this March

From 22-25 March, the Mexican city of Cuernavaca will host a technological exhange between feminists from Latin American and Caribbean. The workshop will generate a space for reflection, debate and knowledge-exchange on the use of Internet-related technology for feminist political action, while emphasizing the importance of ICTs in the defense of women's human rights and in building joint actions between activists and organizations. Following the XI Latin American and Caribbean Feminist Meeting (LACFM), the initiative aims to encourage more women to make strategic use of these new technological tools. The meeting will include a feminist debate on the current state of the Internet and the use of ICT for action, interaction, dissemination and political impact.

Region participates in global online campaign against climate change

Between September 2008 and January 2009, more than 2000 schools in 158 countries participated in a global campaign that emphasized the importance of individual acts against climate change. The online initiative featured multilingual digital material and was coordinated by Environment Online (ENO), a global virtual school and network for sustainable development based in Finland and supported by the United Nations Environment Programme, UNESCO and ASPNet. To initiate the campaign, more than 500,000 trees were planted around the world. It concluded on 21 January with a global march of thousands of paper maché frogs (the official mascot) which collected more than 60,000 pledges from individuals to reduce the effects of climate change. In Trinidad & Tobago, the International Education and Resources Network (Iearn), organized the participation of more than 30 schools, community centres and Goverment officials.

OSILAC workshops analyze the impact of ICT indicators on policy

The importance of ICT indicators in the development of policies and strategies was one of the main topics of the first Training Course on Measuring ICT Access and Use in Households and Business, organized jointly by ECLAC's Observatory for the Information Society in Latin America and the Caribbean (OSILAC), ITU, UNCTAD and the Ministry of Public Administration from the Government of Trinidad and Tobago. Held in Port of Spain, Trinidad and Tobago, from 26-30 January 2009, the course included 29 participants from 13 countries from the Caribbean, including National Statistical Offices and Ministries that use and encourage the development of ICT indicators. The role of such indicators in the development of national strategies will also be one of the discussion topics of the Fifth Regional Workshop on Information Society Measurement in Latin America and the Caribbean, organized by OSILAC in Rio de Janeiro, from 6 – 8 April 2009.

Recent publications on ICT policies and strategies

Digital Review 2007 of Latin America and the Caribbean: Progress and Challenges: Policies for Development with ICT
Massiel Guerra, Christian Nicolai, Valeria Jordán & Martin Hilbert (CEPAL)
LC/W.210 November 2008. 255 pp. (full text Spanish only – abridged document in English)
http://www.cepal.org/publicaciones/xml/6/34726/W210.pdf
This document provides an inventory of the national policies and strategies to guide 25 countries of Latin America and the Caribbean in their construction of Information Societies. It aims to contribute the understanding of the situations faced by these countries as this process matures.

E-waste Generation in Chile: Situation analysis and an estimation of actual and future computer waste quantities using material flow analysis
Bernhard Steubing (Plataforma SUR/IDRC, with support from EMPA, Switzerland)
February 2008, 84 pp. http://www.rrrtic.net/archivos/ProyectoReciclaje/mastertesischile.pdf
To help develop appropriate recycling infrastructure in Chile this study intends to: analyze the generation and management of electronic waste and estimate actual and future quantities of computer waste.

Analysis of participation and incidence in the eLAC process
The Third World Institute (ITeM) and the Association for Progressive Communications
August 2008, 42pp. http://www.apc.org/en/system/files/APCAnalysisELAC_20081127.pdf
Based on survey responses, this exercise gathered information regarding the views of a number of important regional actors in the area of ICT policies, the eLAC process and the roles of the various parties involved. The results of the report indicate that besides deepening participation by civil society in the process, it is necessary to make it more effective.

Creative Economy as a development strategy: a view from developing countries
Ana Carla Fonseca Reis. Garimpo de Soluçoes & Itaú Cultural.
2008. 277 pp. http://www.garimpodesolucoes.com.br/downloads/ebook_en.pdf
Production that values singularity, symbolism and intangibility: these are the three pillars of the creative economy. This collection of texts examines this concept and its practices through the knowledge of thinkers who understand local realities and take part in the transformational processes that lead communities in their path to development.

Technology policies for schools in Latin America and the World: visions and lessons
Ignacio Jara Valdivia
November 2008. 42 pp. (Spanish only)
http://www.cepal.org/cgi-bin/getProd.asp?xml=/publicaciones/xml/8/34938/P34938.xml&xsl=/ddpe/tpl/p9f.xsl&base=/socinfo/tpl/top-bottom.xsl
This publication presents the central aspects that have characterized public policies in ICT for schools around the World, with particular attention on our region and the countries considered leaders in this area. The main visions and models are reviewed, as well as the results, difficulties and most important lessons. The relationship between these policies and poverty-reduction efforts is also explored.

Global Information Society Watch 2008
Anriette Esterhuysen, Loe Schout & Roberto Bissio (ITeM, APC & Hivos)
February 2009, 203 pp. http://www.giswatch.org/gisw2008/pdf/GISW2008.pdf
The second edition of this report that looks at state of the field of ICT policy at local and global levels focuses on the issue of access to infrastructure, with a view to influencing the development of related policies. It includes reports from 38 countries and six regional overviews.

ICTs: from the classroom to the political agenda
International Institute for Educational Planning (IIPE-UNESCO).
April 2008. 156 pp. (Spanish only)
http://www.iipebairesvirtual.org.ar/file.php?file=/1/Publicaciones_TIC/Las_TIC_del_aula_a_la_agenda_politica_2008.pdf
Presenting the opinions of prestigious international and national specialists who participated in the international seminar "How ICTs transform schools," this document seeks to contribute to the debate and reflection about the inclusion of ICTs in the political and pedagogical aspects of education.

Information and Communications Technologies, social capital and economic well-being in Latin America and the Caribbean
Fernando Toledo. DIRSI
2008 (Spanish only) http://www.dirsi.net/files/youngcompetition/Toledo_esp_050308.pdf
This publication analyzes the impact of ICTs on inequality and social development. It assumes that the incidence of mobile phone and Internet use on inequality and well-being is affected by the social communitarian capital that impacts the population of Latin America and the Caribbean.

This newsletter has been produced with the assistance of the European Union. The contents of this publication are the sole responsability of ECLAC´s Information Society Programme and can in no way be taken to reflect the views of the European Union.
Written by Jennifer Ross with the collaboration of Massiel Guerra. Edited and translated by Jennifer Ross. Designed by Francisca Lira.

ECLAC, SOCINFO Programme, Division of Production, Productivity and Management
Dag Hammarskjöld 3477, Vitacura, Santiago, Chile – Tel.: +562 210 2239 or +562 210 2000 - Fax: +562 210 2590
Internet site: www.eclac.org/socinfo - Email: socinfo@eclac.org