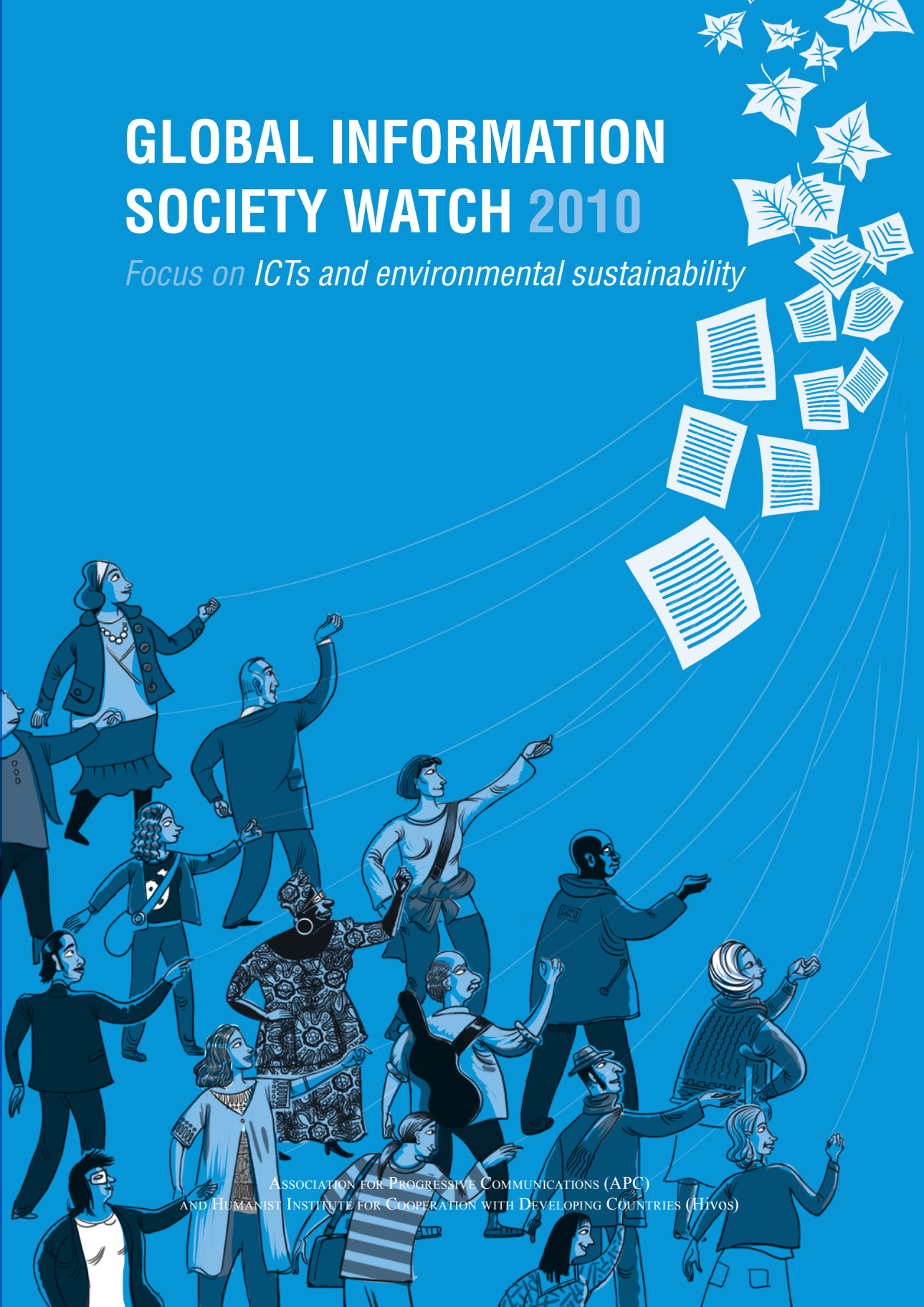
GLOBAL INFORMATION SOCIETY WATCH 2010

Focus on ICTs and environmental sustainability



Association for Progressive Communications (APC)
and Humanist Institute for Cooperation with Developing Countries (Hivos)

Global Information Society Watch

2010

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BOLIVIA

REDES Foundation for Sustainable Development
José Eduardo Rojas
www.fundacionredes.org

Introduction

Bolivia's transition towards the information society presents new, complex and multidimensional issues affecting peoples' daily lives. The exponential increase of the consumption of information and communications technologies (ICTs) is a clear example, since they become electronic waste (e-waste) once their useful life is over. The Swiss Foundation for Technical Cooperation (Swisscontact)[1] confirms that "the formal import of electrical and electronic items rose considerably, from 15,000 to 25,000 tonnes, between 2003 and 2007, particularly in the category of telecommunications and informatics," which become e-waste when no longer in use.

Despite the lack of a law for integrated management of solid waste,[2] some municipalities, specifically department capitals and intermediate towns,[3] have carried out e-waste collection initiatives since the mid-2000s. Environmental NGOs, international aid agencies and – on a smaller scale – universities and institutes, as well as civil society, are aware of the problem. Sadly, it is not on the agenda of ICT stakeholders.

Although no enterprises exist that recycle e-waste, in 2001 some private proposals were developed to collect and export the waste. At present most of the country's 327 municipalities lack the sufficient technical, financial and human resources capacity to assume this task.

Regulatory and institutional framework for e-waste management

At the international level, Bolivia has signed Agenda 21, the Millennium Declaration, the Convention on Biological Diversity, the Vienna Convention, the Montreal Protocol, the UN Framework Convention on Climate Change, the Basel Convention, the Cartagena Protocol and the Kyoto Protocol.

National regulation shows significant progress in the New Political Constitution of the State,[4] the Law on the Environment No. 1333 (1992), its regulations,[5] and Rules 759[6] (1994) and 758[7] (2005). The laws also establish administrative responsibilities in the areas of Customs (1999), Municipalities (1989), Popular Participation (1994), and Administrative Decentralisation (1995). In February 2009, Supreme Decree 29894 declared the Ministry of Environment and Water the sector's national authority, and established the Department of Integrated Waste Management under the Vice Ministry of Drinking Water and Basic Sanitation.

Experts confirm that "in spite of the progress in the country's legal framework, it still lacks an integrated vision, and the means for its application are missing, as well as the instruments to make it work. There are voids in the definition of institutional competences and responsibilities, as in the determination of functions of the entities involved in integrated solid waste management, which confirms the need for a national framework."[8]

Integrated management of e-waste: Bringing sustainable development, digital inclusion and technological consumption together

Environmentally sustainable development gives priority to actions that will mitigate the social and environmental impact caused by contamination and exposure to dangerous waste. Technical and financial assistance is directed towards strengthening institutional and technical components, as well as regulations.

Stakeholders working in the area of ICT for development (ICT4D) focus on bridging the digital divide and, guided by this objective, push for access and widespread use of new technologies. However, they are not considering sustainable strategies for their management once their useful life is over.[9] Various stakeholders (prefectures, municipalities, NGOs, social organisations, and the academic, education and health sectors) promote the acquisition of new and/or second-hand equipment via donations, not taking into account that they will become an environmental problem in the near future.

Consumption patterns, powered by the lack of rules to control the entry of ICTs under strict environmental protection standards, result in an increasing e-waste problem. E-waste creates new responsibilities for municipalities, without the participation of producers and importers.

1 Delfín, M. et al (2009) *Diagnóstico de Residuos Electrónicos en Bolivia*, Swisscontact/CAINTEC/Delfín Consultora, p. 1.

2 In May 2010 a tender for a proposal for the law was launched.

3 La Paz, Santa Cruz, Cochabamba, Oruro.

4 In addition to references to environmental aspects, Article 33 and Article 344 establish reforms regarding the territorial organisation of the state and regional, indigenous, departmental and municipal autonomies, proposing new planning strategies that include e-waste.

5 Including, for example, General Regulations on Environmental Management, Air Pollution, Solid Waste Management, and Management of Substances that Deplete the Ozone Layer.

6 Referring to "characteristics for sites confining dangerous waste."

7 Ibid.

8 Abasto, S., García, G. and Zarco, A. (2010) *Dos décadas de la historia de la basura en Bolivia*, Colegio Departamental de Arquitectos de La Paz/Fundación EMEGECE, La Paz, p. 34.

9 Amongst the main strategies regarding digital inclusion are the ICT Strategy for Development (ETIC, 2005), the National Plan for Digital Inclusion (PNID, revived in 2009), the NICT Programme from the Ministry of Education, the Total Coverage Project by ENTEL, and the *Evo Cumple* ("Evo Delivers") programme from the Ministry of the Presidency.

According to the Law on the Environment, the person "who generates hazardous waste is responsible for it and has to guard and store it *until a viable environmental alternative exists*. Therefore, the population needs depots for the equipment they are discarding because the municipal garbage collecting agency does not take them as trash."[10] This perspective tends to only focus on the final users of ICTs without taking into account the structural factors that determine the consumption of technology.

To address this problem, REDES proposes to analyse the "structural chain of e-waste production", in order to identify the levels of participation and responsibility of all the stakeholders involved in the generation of e-waste, from the moment of production, to import, trade, use and final disposal.

Need for an official classification of e-waste

Bolivia lacks an official classification of its e-waste. The integrated management of e-waste, from all angles, requires differentiated treatment and a specific, official classification that qualifies and quantifies the levels of danger for each component, particularly taking in consideration that many appliances contain hazardous and non-hazardous components.[11]

Three suggestions to categorise e-waste in Bolivia are the following:

- The Customs Tariff for Import to Bolivia: A system of codes exists that includes general and specific characteristics of all imported products, which could be recognised by the National Institute for Statistics (INE). Nevertheless it requires an in-depth study to assess its feasibility.[12]
- Swisscontact, based on a Diagnosis of Electronic Waste in Bolivia conducted in 2009,[13] proposes ten categories of e-waste: large domestic appliances, small domestic appliances, ICTs, electronic consumer goods (such as TVs and DVD players), light bulbs and lighting equipment, electrical tools, toys and sports equipment, medical appliances, security equipment and vending machines.
- The REDES Foundation, which represents Bolivia in the E-Waste Working Group of the ECLAC Information Society Programme (eLAC 2010), proposes differentiating e-waste into three broad categories: electronic (informatics, entertainment and telecommunication equipment), electrical (household and office appliances, among others), and batteries.[14]

This process of categorisation is not complete. However, it shows a favourable outlook for a collective take on the e-waste concept that the country needs.

E-waste in numbers: The strategic importance of data systems

Sergio Toro, an expert in ICT and development, says that "it is necessary to develop reliable data systems that include the participation of sectoral stakeholders, including the National Customs of Bolivia, and the National Institute for Statistics.[15] Various stakeholders from the private sector (formal and informal), organisations of users and the public in general need to be informed and know more about the practices and responsibilities regarding the disposal of their ICTs once their useful life is over."[16] However, Bolivia lacks indicators to measure e-waste.

According to the national newspaper *El Deber*, in its response to the Swisscontact report:

> [E]ach Bolivian produces more than 2 kg of electronic waste annually. According to predictions, within five years, each Bolivian will be responsible for 3.3 kg of electronic scrap. This means that we have to face a mountain of 33,000 tonnes per year. And the numbers are likely to rise, since the formal import of electronic equipment increased from 15,000 to 25,000 tonnes during the period 2003 to 2007, not taking into account that informal import or smuggling is high.[17]

The Swisscontact report itself[18] offers the following:

- During the period 2008-2015, the amount of imported electronic and electrical items will double to 53,000 tonnes, of which 11% will be made up of large household appliances and ICTs.
- By 2015, the generation per capita of e-waste will grow by 50% compared to 2008 – which means from 2.2 to 3.3 kg/inhabitant/year – and the ratio of e-waste to urban solid waste will rise from 1.2% to 3%.
- With regard to households, the highest demand for electronic and electrical items that become e-waste is for lighting equipment, including light bulbs and lighting

10 Interview with Pablo Sauma, Foundation for Recycling (FUNDARE), 7 June 2010.

11 Neighbouring countries like Chile (CONAMA) and Peru (CONAM–DIGESA) regulate e-waste specifically (e.g. PCs, laptops and mobile phones).

12 For example, the importation code for ink printers is (8443.39.10.00), for laptops (8771.30.00.00) and domestic and electrical batteries (85.06). www.aduana.gov.bo

13 This study offers solid groundwork for e-waste management, focusing on the problem in Santa Cruz, La Paz, Cochabamba, Oruro, El Alto, Montero and Quillacollo. Furthermore, the technical and financial assistance that the foundation offers a number of municipal governments for the management of solid waste and e-waste is significant.

14 Fundación REDES para el Desarrollo Sostenible (2010) *Hacia la conceptualización integral de los RAEE*, working document.

15 According to information from the Agency for the Development of the Information Society in Bolivia, INE included indicators of ICT access and use in the National Household Survey for the year 2010.

16 Interview with Sergio Toro, coordinator of the TICBolivia National Network and ICT4D specialist, 8 June 2010.

17 Published in the EXTRA supplement, 7 March 2010.

18 We appreciate the effort by the Swisscontact Foundation, which provided a copy of its report to complement this report on request.

cables (used in 96% of homes), mobile phones[19] (95%), refrigerators (90%), sound equipment (83%), cathode ray tube (CRT) TVs (77%), and central processing units (CPUs) (76%). The average life span of refrigerators, TVs and sound equipment is between eight to ten years. Monitors, CPUs, mouses and irons have a life span of between four and six years. For mobile phones and light bulbs, the life span is less than three years – light bulbs can even be considered a disposable good.

- Most of the demand from businesses is for telephones (92%), CPUs (83%) and printers (79%). The useful life of these items is no more than four years, reflecting the depreciation policies applied to asset administration. Printers are not kept longer than two years. CPUs and telephones have 3.7 years of useful life.[20]

Action steps

- The design of effective e-waste management policies calls for the effective integration of three key areas: environment (with a focus on the reduction of the impact on the environment), digital inclusion (an integrated, ICT-driven approach to environmental sustainability), and patterns of usage and consumption of ICTs (which should include a focus on civic and environmental education campaigns).
- As e-waste is a complex and multidimensional problem, it is recommended to design and implement trans-disciplinary proposals based on the analysis of the e-waste production chain, including the design of multi-sectoral working methodologies and establishment of multi-stakeholder networks.
- Based on the success of sub-contracting small and medium businesses for urban sanitation, the municipal regulation framework should stimulate small business activities in e-waste management, and explore the possibility of subsidising appropriate recycling technologies.
- To implement the extended producer responsibility model, it has to be complemented with an extended consumer responsibility model through the design of a system that responds to the socio-cultural characteristics of the country.
- It is imperative to design and implement an integrated system of e-waste indicators. ■

19 "As of March 2010 there were 6,145,570 registered mobile phone users. Cultural tendencies show that three out of every ten people replace their mobile phone every year (either due to technical failures, obsolescence/renewal, loss or theft), resulting on average in 1,843,671 discarded mobile phones per year." Fundación REDES (2010) op. cit.

20 Delfín et al. (2009) op. cit., p. 1-2.

GLOBAL INFORMATION SOCIETY WATCH 2010

GLOBAL INFORMATION SOCIETY WATCH 2010 investigates the impact that information and communications technologies (ICTs) have on the environment – both good and bad.

Written from a civil society perspective, **GISWatch 2010** covers some 50 countries and six regions, with the key issues of ICTs and environmental sustainability, including climate change response and electronic waste (e-waste), explored in seven expert thematic reports. It also contains an institutional overview and a consideration of green indicators, as well as a mapping section offering a comparative analysis of "green" media spheres on the web.

While supporting the positive role that technology can play in sustaining the environment, many of these reports challenge the perception that ICTs will automatically be a panacea for critical issues such as climate change – and argue that for technology to really benefit everyone, consumption and production patterns have to change. In order to build a sustainable future, it cannot be "business as usual".

GISWatch 2010 is a rallying cry to electronics producers and consumers, policy makers and development organisations to pay urgent attention to the sustainability of the environment. It spells out the impact that the production, consumption and disposal of computers, mobile phones and other technology are having on the earth's natural resources, on political conflict and social rights, and the massive global carbon footprint produced.

GISWatch 2010 is the fourth in a series of yearly reports critically covering the state of the information society from the perspectives of civil society organisations across the world.

GISWatch is a joint initiative of the Association for Progressive Communications (APC) and the Humanist Institute for Cooperation with Developing Countries (Hivos).

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