

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

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Steering committee

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Karen Banks (APC)
Monique Doppert (Hivos)
Karen Higgs (APC)

Project coordinator

Karen Banks

Editor

Alan Finlay

Assistant editor

Lori Nordstrom

Publication production

Karen Higgs

Graphic design

MONOCROMO
info@monocromo.com.uy
Phone: +598 2 400 1685

Cover illustration

Matías Bervejillo

Proofreading

Stephanie Biscomb, Lori Nordstrom, Álvaro Queiruga

Financial partners

Humanist Institute for Cooperation with Developing Countries (Hivos)
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Introduction

South Asia, home to more than one billion people, is also a region where information and communications technology (ICT) usage and adoption are growing exponentially. ICTs here do not mean a computer as a dedicated device only. Rather, “the miniaturization and embedding of microelectronics into non-ICT objects and wireless networking have made ICT ubiquitous.”¹ India alone has 52 million internet users and 362.3 million mobile phone subscribers – 15.3 million new subscribers were added in June 2010.² Bangladesh has a total of 59.98 million mobile phone subscribers and sold about 230,000 PCs and 65,000 notebooks so far this year.³ Another populous country in the region, Pakistan, has 18,500,000 internet users and was set to hit 100 million mobile phone subscribers by August 2010.⁴

The pace and the extent to which these products are penetrating society pose two types of problems. One is increasing cost, scarcity and consumption of energy through ICT tools or products that have an impact on the environment; and the other is the life cycle of ICT products and management of waste that has a considerable effect on health, safety and the environment. According to *infoDev*, ICTs contribute just over 2% of global greenhouse gas emissions, while they can play a significant role in reducing the remaining 98%, in particular by enabling smart energy efficiency and providing a substitute for the physical transport of goods and people.⁵

In South Asia more work is done in the context of ICTs being a part of the problem – for example, with regard to electronic waste (e-waste) – rather than technology being a solution to environmental challenges, such as climate change.

Climate change policy and legislative context

Policy or legislative discussion in the region has little to say about ICTs, although reference to the use of technologies is pretty clear. For example, ICTs are not directly included in the present National Environment Policy of India; but the use

and application of new technology such as energy-efficiency technology, remote sensing, natural resource management, local information management and dissemination, and disaster management has been emphasised. The government of India has set up the National Natural Resources Management System (NNRMS) for optimally managing and mapping the natural resources and environment of the country using a mix of remote sensing and conventional techniques.⁶ Similarly, the draft National Climate Change Policy of Nepal does not mention anything about ICTs, except using remote sensing technologies in climate change observatories for data collection.⁷ A draft National Environment Policy of Sri Lanka⁸ emphasises the introduction of cleaner energy production through the development and promotion of technology, and reducing the use of hazardous substances through the application of alternative technology or management practices. The Bangladesh Climate Change Strategy and Action Plan 2008 talks about technology transfer and a virtual technology bank on climate change adaptation and mitigation.⁹ The Pakistan National Environment Policy 2005¹⁰ explains the best use of available technologies as one of its guiding principles to achieve its objective of attaining sustainable development by protecting the resource base and environment of the country and ensuring the effective management of the environment.

It seems that many countries in the region have multiple policies or acts with regard to environmental issues, and there is a trend to bring those under one umbrella. India leads the way. For example, the National Environment Policy of India was announced on 18 May 2006 as an umbrella policy to accommodate other existing policies, including the Environment (Protection) Act, 1986; National Forest Policy, 1988; National Conservation Strategy and Policy – Statement on Environment and Development, 1992; the Policy Statement on Abatement of Pollution, 1992; National Agriculture Policy, 2000; National Population Policy, 2000; and National Water Policy, 2002. The National Environment Policy is likely to work as a guide to take action in several areas, such as regulatory reform, programmes and projects for environmental conservation, and the review and enactment of legislation by central, state and local governments.¹¹ In Bangladesh, the Climate Change Strategy and Action

1 Global e-Sustainability Initiative (GeSI) (2008) *The Contribution the ICT Industry Can Make to Sustainable Development: A Materiality Assessment*. www.gesi.org/LinkClick.aspx?fileticket=yUzW4/uE15E%3D&tabid=60

2 Telecom Regulatory Authority of India (TRAI) www.trai.gov.in

3 Bangladesh Telecom Regulatory Commission www.btrc.gov.bd

4 Pakistan Telecommunication Authority www.pta.gov.pk

5 *infoDev* (2009) *ICTs and Climate Change*. www.infodev.org/en/Document.658.pdf

6 Global Information Society Watch 2010, India country report.

7 Global Information Society Watch 2010, Nepal country report.

8 www.dailynews.lk/2001/pix/ministry-environment.pdf

9 www.indiaenvironmentportal.org.in/files/Sep08-Bangla-CC-moef.pdf

10 www.environment.gov.pk/nep/policy.pdf

11 Global Information Society Watch 2010, India country report.

Plan 2008¹² talks about establishing a dedicated web portal, which would track all national policies, rules and regulations, and news related to climate change debates. The country has nineteen different related policies or plans, including the Bangladesh National Adaptation Programme of Action, 2005; Bangladesh Environment Conservation Act, 1995; and the Environment Conservation Rules, 1997.

The Biodiversity Action Plan (BAP)¹³ in Pakistan is the first comprehensive attempt in that country to compile all contemporary policies related to biodiversity, including the Pakistan National Conservation Strategy, 1992; Forestry Sector Master Plan, 1985; Biodiversity Action Plan, 1998; and Pakistan Environmental Policy, 2005.

Climate change issues have resulted in countries going in different policy, action plan and strategy directions. Bangladesh has developed the Climate Change Strategy and Action Plan (BCCSAP) 2008, formulated in the aftermath of COP 13 in Bali,¹⁴ and the National Adaptation Programme of Action (NAPA). Its main purpose is to articulate a strategy that prioritises adaptation and disaster risk reduction, low-carbon development, mitigation, technology transfer and the provision of adequate finance.

India signed the UN Framework Convention on Climate Change (UNFCCC) in June 1992. It released its first National Action Plan on Climate Change (NAPCC)¹⁵ on 30 June 2008, which identifies eight core national missions, including those dealing with solar energy, energy efficiency, sustainable habitats, water, and the Himalayan ecosystem. The National Adaptation Programme of Action (NAPA), both in Nepal and in Bhutan, were designed to address climate change issues and included points such as forest reforms, water conservation, and the health impacts of climate change.

E-waste policy and legislative context

Although climate change is a much talked-about issue, the waste generated by ICT equipment and the policies to support the management of this waste are equally important a discussion in the region. E-waste has a direct and visible impact on people's health, environment and livelihoods and is considered to be an unregulated domain. Computers, refrigerators, televisions and mobile phones contain more than 1,000 different toxic materials. Chemicals such as beryllium, found in computer motherboards, and cadmium in chip resistors and semiconductors are poisonous and can lead

to cancer. Chromium in floppy disks, lead in batteries and computer monitors and mercury in alkaline batteries and fluorescent lamps also pose severe health risks.¹⁶ A typical personal computer has three to five years of good use before it needs to be replaced or upgraded or completely discarded. The disposal of mobile phone waste is more rapid than computers, as new and cheaper models of mobile phones flood the market every month.¹⁷

Many countries do not have much longitudinal data on the extent of e-waste. Heavy use of ICT devices is one reason, but another important reason is that these countries are increasingly being used as a dumping ground for different electronic products. One study shows India generates around 300,000 tonnes of e-waste annually, which is estimated to grow to 1.6 million tonnes by 2012.¹⁸ Apart from this, an additional 50,000 tonnes of e-waste are illegally imported into the country. The informal sector processes close to 100% of the total amount of e-waste in India by recycling and backyard scrap trading.¹⁹

A recent study in Dhaka, Bangladesh, shows that the city produced close to 16,000 tonnes of PC e-waste and 2,600 tonnes of mobile phone e-waste this year alone.²⁰ According to a *Dawn Newspaper* report, more than 500,000 used computers (or 50,000 tonnes of e-waste) are dumped in Pakistan every year.²¹

According to Amit Jain, hundreds of workers, including teenage children, earn their livelihoods by dismantling electronic scrap and extracting valuable components in South Asia. No fresh data is available, but Jain's study in Delhi shows that during 2002-2003 the recycling sector had a trade turnover of about USD 5 million with a yearly investment of close to one million person hours, where the profit ranges from 10% to 20%.²²

In Sri Lanka, according to its scrap export association, the industry generates about LKR 1.5 billion (over USD 13 million) per annum – a part of which comes from e-waste.²³

16 Beary, H. (2005) Bangalore faces e-waste hazards, *BBC News*, 31 January. news.bbc.co.uk/2/hi/south_asia/4222521.stm

17 Global Information Society Watch 2010, Nepal country report.

18 Puducherry Pollution Control Committee (2008) e-Waste, *Quarterly News Letter of the ENVIS Centre*, January-March. dste.puducherry.gov.in/envisnews/tenthnewsjan-mar-2008.pdf

19 Energy and Resources Institute (2008) Climate Change Mitigation Measures in India, International Brief. www.pewclimate.org/docUploads/India-FactSheet-09-08.pdf

20 Sarwar Uddin Ahmed (2010) *e-Waste: A Growing Concern for ICT-based Growth and Development: A First Cut Analysis*, D.Net, Dhaka.

21 www.dawn.com/wps/wcm/connect/dawn-content-library/dawn/news/scitech/12-pakistan+a+dumping+ground+for+e-waste--bi-14

22 Amit Jain (2006) *e-Waste in South Asia*, IRG Systems South Asia Pvt. Ltd., New Delhi. www.irgssa.com

23 Ibid.

12 www.sdnbd.org/moef.pdf

13 www.iucn.org/about/union/secretariat/offices/asia/asia_where_work/pakistan/publications/pubs_2000/pubs_bap.cfm

14 unfccc.org/unfccc/event/climate-change/cop-13-and-cop/mop-3.html

15 pmindia.nic.in/Pg01-52.pdf

In Dhaka, Bangladesh 120,000 urban poor from the informal sector are involved in the recycling chain. Most of the recyclers work with their bare hands and extract precious metals such as gold and silver using crude chemical processes.²⁴ Metal extraction processes using acid, open burning and glass recovery from breaking cathode ray tubes (CRTs) are also practised.

Countries in South Asia do not have comprehensive policies to handle e-waste challenges. All South Asian countries including India, Pakistan, Bangladesh, Nepal, Bhutan, Sri Lanka and Maldives are signatories to the Basel Convention prohibiting transboundary movement of hazardous waste. India has drafted e-waste (management and handling) rules, which are in public consultation right now and are likely to be gazetted soon. Prior to this, India enacted its Hazardous Waste Management and Handling Rules (1989)²⁵ where electrical and electronic assemblies are covered under category B-1110 of Schedule 3 of the rules. The rules state that electrical and electronic assemblies are not valid for direct reuse, and may only be recycled. The import of second-hand electronic items for disposal and recycling is also banned in India. Nepal formulated a Solid Waste Management Bill (2008)²⁶ that provides directives for managing, categorising and collecting information on solid waste types. Surprisingly it does not say much about e-waste. In Bangladesh, the National Environment Policy (1992) and Environment Conservation Act (1995) tried to highlight that the government can take action to stop activities that destroy or pollute the environment. Medical Waste Management Rules (2008)²⁷ in the same country address waste management issues for the medical sector, including e-waste.²⁸ The government of Bangladesh is now preparing a solid waste management policy which will cover e-waste issues as well. Section 13 of the Pakistan Environmental Protection Act (1997)²⁹ prohibits the import of hazardous waste and Section 14 disallows handling of hazardous elements. The country also has solid waste management rules and draft hazardous waste management rules. The government of Pakistan has also imposed a 25% tax on computer screens.³⁰

Conclusions

- Although the countries of South Asia are not on the list of high carbon emission countries, their governments should formulate policies and encourage and develop awareness among their citizens to adopt more energy-efficient ICT devices, applications and networks, so that the emission of carbon due to ICT usage is limited. Different ICT companies could be encouraged to use alternative sources of energy (such as solar, biogas or wind) to run their computer networks and devices and more fiscal support or tax breaks could be offered. A McKinsey report shows that boosting the use of intelligent devices and applications could reduce global CO₂ emissions by as much as 15% by 2020.³¹
- More serious and in-depth study needs to be done to identify the nature, extent and impact of e-waste on human health, the environment and livelihoods. The impact is felt, but most of the countries in South Asia do not have any baseline data on this.
- ICT penetration is increasing in the countries of South Asia, but these countries do not have much information on e-waste management systems and recycling processes. Civil society organisations should work more to raise awareness and to translate best practices from other countries to suit the local contexts.
- Countries in the region are being used as dumping grounds for used computers, monitors, mobile phones and other electronic items. The entire trade route of this e-waste import needs to be investigated for proper action.
- Countries need to formulate dedicated policies and legislation focused on e-waste challenges. Policies or acts relevant to e-waste management need to be brought under one umbrella. Often multiple plans or policies work without any interconnection. ■

24 news.bbc.co.uk/2/hi/south_asia/4222521.stm

25 www.envfor.nic.in/divisions/hsm/d/notif.html

26 www.ngoforum.net/index.php?option=com_content&task=view&id=2252&Itemid=6

27 gec.jp/gec/jp/Activities/ietc/fy2010/e-waste/ew_1-9.pdf

28 Fazle Rabbi Sadeque Ahmed (n.d.) *e-Waste Management Scenario in Bangladesh*, Department of Environment, Dhaka.

29 www.environment.gov.pk/act-rules/envproctact1997.pdf

30 Zaigham Abbas (2010) *E-Waste Management in Pakistan*, Ministry of Environment, Islamabad.

31 www.euractiv.com/en/climate-change/ict-and-climate-change-problem-or-solution-links-dossier-188492

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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2010 Report
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