

# 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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## Introduction

Recently, at the 18th Session of the United Nations Commission on Sustainable Development held in New York on 5 March 2010, an official member of Nepal's delegation from the National Planning Commission, in an interactive session on waste management, said: "The management of waste has become further challenging with the increase in hazardous waste as the situation becomes more complicated when it is intermixed with other waste. Today, we have been confronting the continuing and worsening effects of e-waste [electronic waste] as well. Therefore, it has been more critical to effectively implement the Basel Convention [on the Control of Transboundary Movements of Hazardous Wastes and their Disposal]."<sup>1</sup>

Contrary to the rhetoric in the New York session, the story back home in Nepal is not in line with the spirit expressed by the Nepali official. Though a signatory to the Basel Convention as far back as 1996, the implementation of it in Nepal is yet to see the light. The story of its implementation is not any different from other stories that narrate the problems with policies and their failed implementation.<sup>2</sup>

Along with the e-waste, the burgeoning climate change problem in Nepal, as being one of the most vulnerable mountainous countries, is adding more challenges to environmental sustainability. In such a critical situation Nepal needs to explore all the possibilities – including the application of information and communications technologies (ICTs) – available to counteract the environmental sustainability issues.

## Working on policies

Though Nepal signed the Basel Convention more than a decade ago, there is still no sign of e-waste policy in the country. As far as climate change is concerned, the draft of the national climate change policy was made public in late 2009 for comment. It was developed by the government with the assistance of the World Wide Fund for Nature (WWF) Nepal in 2009. But the policy is yet to be promulgated and translated into legislation.

However, the draft national climate change policy does not mention anything substantively about ICTs in combating climate change, except using ICTs like remote sensing technologies in climate change observatories for data collection. The other climate change initiative in Nepal, the National Adaptation Programme of Action (NAPA), a joint venture of the Ministry of Environment, United Nations Development

Programme (UNDP) and some other donor agencies, has a plan to establish a National Climate Change Knowledge Management Platform. In the report of a recent NAPA brainstorming workshop earlier this year it is mentioned that the knowledge management platform will develop a national web-based climate and development portal.<sup>3</sup>

Nepal has formulated a Solid Waste Management Bill 2008. This bill provides the directives for managing and categorising solid waste types, and collecting information and data on solid waste in Nepal. However, it is specifically silent about e-waste management, although it deals with hazardous waste such as chemical waste from hospitals.

## Easier said than done

Nepal is highly vulnerable to the potential negative impacts of climate change. Consistent rises in annual mean temperature, less frequent but more intensive rainfall events, increasing frequency and intensity of floods, changes in the monsoon, a growing threat from glacial lake outburst floods (GLOF), longer dry spells and droughts, and increasingly stronger storms have already been experienced in the past decade. These hazards are not only causing damage and loss of human lives and property, they also undermine development progress in Nepal and put the achievement of the Millennium Development Goals (MDGs) at risk. Poor people in Nepal are disproportionately affected, as their livelihoods often depend on climate-sensitive natural resources, and their capacities to cope with extreme climate events are especially weak.<sup>4</sup>

On the other hand, ICTs in the form of email and the world wide web started becoming accessible to the public in Nepal in the late 1990s. Nepal enacted the IT Policy 2000 with the assistance of the International Development Research Centre (IDRC) in 2000. The vision of the Nepal IT Policy is "[to] put Nepal on the global map of information technology within the next five years." Its objectives are to make information technology accessible to the general public and increase employment using technology; build a knowledge-based society; and establish knowledge-based industries.<sup>5</sup> Though the policy was silent about applying ICTs for environmental protection or sustainable development in Nepal, it was appropriate for the context ten years ago. The context of ICT applications now has changed and Nepal's ICT policy should be amended to be environmentally friendly and useful.

1 [www.un.org/esa/dsd/resources/res\\_pdfs/csd-18/05may/waste/Nepal.pdf](http://www.un.org/esa/dsd/resources/res_pdfs/csd-18/05may/waste/Nepal.pdf)

2 [www.basel.int/ratiff/convention.htm](http://www.basel.int/ratiff/convention.htm)

3 [www.napanepal.gov.np](http://www.napanepal.gov.np) and [assets.panda.org/downloads/climate\\_change\\_policy2066.pdf](http://assets.panda.org/downloads/climate_change_policy2066.pdf)

4 [www.napanepal.gov.np](http://www.napanepal.gov.np)

5 [nitc.gov.np/Admin/downloads/upload\\_doc/itpolicy2057.pdf](http://nitc.gov.np/Admin/downloads/upload_doc/itpolicy2057.pdf)

Currently, Nepal is still one of the countries with the least penetration of new media ICTs like computers, internet and hand-held devices. It is estimated that internet penetration in Nepal is still less than 2% of the total population of about 29 million. Hand-held devices like mobile phones fare relatively better. But when it comes to other ICTs like radios, more than 80% of the population has access.

Given the contrast of Nepal being highly vulnerable to climate change and having low ICT penetration at this point in time (except for radio), is there a role ICTs can play in combating climate change in the country? What about in the future? To what extent should Nepal be using ICTs for combating climate change? What are the possibilities for the effective use of ICTs in combating climate change? Or, given that ICTs have their own carbon footprint as an energy-consuming and e-waste-generating industry, and Nepal is sandwiched between two emerging economies, the emission and e-waste giants of India and China, is there an urgent need for policy response?

As already discussed, there is a dearth of information and data on e-waste in Nepal. According to data available, it is estimated that 58 municipalities in Nepal produce about 1,369 tonnes of solid waste per day or 500,000 tonnes per year. On average, about 70% of the waste generated in Nepali municipalities consists of organic matter, while 20% consists of recyclable inorganic materials such as paper, plastic and metal, and about 10% is inert material. Of this, the percentage of e-waste is not known.<sup>6</sup>

According to the officials of the Environment Standard Department of the Ministry of Environment, which is concerned with managing e-waste in Nepal, standards for e-waste management and inventory are being prepared. Asked why there has not been a policy response or action given the signing of the Basel Convention by Nepal in 1996, the authorities explained that due to a lack of human resources and expertise the much needed work has not been undertaken.<sup>7</sup>

Though there is no official data or research on e-waste issues in Nepal, it cannot be concluded that there is no generation of e-waste in Nepal and that it does not present a threat to add to the woes of climate change. Like any country in the world, and despite coming off a low base, access to ICTs is increasing day by day in Nepal. According to Internet World Stats, as of September 2009 there were 499,000 internet users, which means 1.7% of the Nepali population has access to the internet.<sup>8</sup> Two years ago the number of internet users in Nepal was only 249,400. This means that internet penetration doubled in just two years. Similarly, according to International Telecommunication Union (ITU) data, the teledensity in Nepal as of 2008 was around 12.49 per 100 (2.99 for fixed lines and 9.46 for mobile phones). This data just the year before, in 2007, was 6.49 (2.46 for fixed lines and 4.03 for mobile phones).<sup>9</sup>

So what can one surmise from the rapid growth of ICT consumption in Nepal? Going by the current rate, in ten years time it can be projected that more than two million Nepali people will be using computers and the internet. And more than 25 people per 100 or 7.5 million Nepali people will be using mobile phones by 2020.

According to information available, 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 flood the market every month, and users who can afford it tend to change their mobiles every six to twelve months. So one can imagine how much e-waste will be generated just by the computers and mobile phones in Nepal in a decade or so.

Having said that, according to the SMART 2020 Report, globally ICTs could deliver approximately 7.8 gigatonnes of CO<sub>2</sub> emission savings in 2020. This represents 15% of emissions in 2020 based on a business-as-usual estimation. It represents a significant proportion of the reductions that scientists and economists recommended in 1990 that needed to be achieved by 2020 to avoid dangerous climate change. On the other hand, in terms of economic or cost savings, ICT-enabled energy efficiency translates into approximately USD 946.5 billion in savings.<sup>10</sup>

Poor countries like Nepal need to grow economically. And there is a need for building roads, houses, hospitals, schools and other infrastructure. But, at the same time, the impacts of climate change in Nepal like brown clouds, GLOFs and climate famine are already being observed. In such a situation Nepal cannot afford to be complacent and should act quickly. There is an urgent need for Nepal to formulate e-waste and climate change policies and, given the SMART 2020 report, make an effort to integrate ICT-enabled low-carbon economic growth in economic growth policies and plans.

Nepal signed the Basel Convention in 1996, and it has been more than a decade now and the country still does not have an e-waste policy. Of course, it is easier said than done. But Nepal cannot afford to squander another decade just making complacent excuses.

## New trends, some hope

Earlier this year (in January) the Computer Association of Nepal (CAN) organised its annual ICT Conference called "Next IT Economy: A Future Talk". It had a session on "The Role of ICTs in Climate Change" and I was asked to present a paper. This was a commendable effort on the part of CAN to recognise the role of ICTs in climate change.

I presented a paper based on the SMART 2020 report titled "Enabling the Low-Carbon Economy in the Information Age in Nepal". The other paper presented in the session was on how ICTs like remote sensing and satellite technologies are being used in the mountains of Nepal to monitor weather

6 [www.wateraid.org/documents/plugin\\_documents/solid\\_waste\\_management\\_in\\_nepal.pdf](http://www.wateraid.org/documents/plugin_documents/solid_waste_management_in_nepal.pdf)

7 Based on the author's personal conversation with ministry officials.

8 [www.internetworldstats.com](http://www.internetworldstats.com)

9 [www.digital-review.org](http://www.digital-review.org)

10 [www.smart2020.org](http://www.smart2020.org)

patterns and glacial activities. A participant from the floor who was representing the Ministry of Agriculture raised a question on how ICTs can be used for collecting data on the impact of climate change on agriculture in Nepal. There were various answers, opinions and comments. But what was important was that somebody representing the government was thinking along the line of applying ICTs in combating the impact of climate change on agriculture in Nepal.

If this was any indication of a new trend, then there is some hope that various stakeholders, the private sector, civil society and the government in Nepal have in their thoughts the role of ICTs in climate change. This suggests that in future policies related to sustainable development, the role of ICTs will be considered and integrated.

### Action steps

As the population of Nepal grows, and ICTs become more integral to daily life, there is a growing threat of e-waste as well as the carbon footprint of ICTs themselves. At the same time there is an opportunity that future leaders in Nepal can use ICTs to better people's lives and the environment. The guardians of the future have a responsibility to act as fast as possible to make it safe and sustainable for the country's children. We can delay and wait for policies, but climate change has already happened and will not wait for Nepal.

To achieve sustainable development in Nepal, the following steps forward are inevitable:

- Nepal must quickly act on adapting the Basel Convention to the national context and come up with national policies and legislation.
- The Ministry of Environment should quickly establish a division on e-waste and start baseline work such as surveys to generate data on e-waste and to help establish monitoring systems.
- The draft climate change policy should be finalised and enacted as soon as possible and should clearly indicate how ICTs can be integrated, as well as including regulations on e-waste.
- The Nepal IT Policy should be revised or amended to include the role of ICTs in sustainable development and climate change.
- The civil society and private sectors should also act on the issues of e-waste and climate change in Nepal. ■

**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).

**GLOBAL INFORMATION SOCIETY WATCH**  
2010 Report  
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