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Moving Beyond the Tool: ICTs in the Sustainable Development Discussion at Rio+20

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Written by Shawna Finnegan and Lisa Cyr

Rio has a long history with information and communication technology (ICT). The Earth Summit in 1992 was one of the first United Nations conferences to be set up with "communications centres," which facilitated online discussion and kept civil society around the world informed about the UN talks.

Twenty years later, ICT featured prominently in the day-to-day activities of the Rio+20 conference. ICTs could be found everywhere: from interactive information kiosks and super-WiFi demonstrations for participants, to overflowing computer labs, blogging rooms and media areas, with rows of wireless devices plugged into every available electrical outlet. People were connected, and the Internet was a vital part of the daily interactions and work being carried on throughout the summit. Participants tweeted, blogged, uploaded photos, shared and gathered information at rates far greater than could ever have been possible at the original Earth Summit.

Ironically, despite the dependence on and ubiquity of technology at the Rio+20 conference, there was very little reflection on the ways that technology has shaped economic, social and political structures in the 20 years since the first Earth Summit or on the challenges to sustainable development that ICTs present.

This paper examines the ways in which ICTs were addressed in the formal and informal summits, noting critical discussion points as well as highlighting gaps and missed opportunities.

ICT as a Facilitator of Sustainable Development

The International Telecommunication Union (ITU) was the main ICT actor at Rio+20, hosting three side events alongside the Global Alliance for Information and Communication Technologies and Development (GAID) and the Office of the UN Chief Information Technology Officer (CITO). With speakers from government, the United Nations and civil society, along with the private sector, the panels covered an array of topics, focusing primarily on the opportunities for ICTs to connect, educate and empower.

In one (GAID and CITO hosted) multistakeholder panel on the impact of new technology and ICTs on sustainable development, panellists described how online mapping tools facilitate participatory governance by allowing anyone to submit geo-located information on incidents such as natural disasters, government services, crime and corruption. These online mapping tools allow users not only to submit data, but to tailor the basic mapping structure to any situation or issue, whether social, economic or environmental. Local entrepreneurs are empowered through start-up communities—such as the iHub in Nairobi—that support the development of online tools and projects.

The private sector was represented primarily at the ITU's final, afternoon-long event at Rio, which provided an opportunity for companies to highlight efforts to "green" their activities, as well as to discuss future plans for green technology. Most described innovative programs to implement sustainable development, including Microsoft's demonstration of the potential for unused radio frequencies to expand network connectivity, and a presentation from Ericsson on the benefits of telecommuting and digital delivery in transitioning to the low-carbon economy.

At the same time, some of the most obvious threats that ICTs pose to sustainable development, such as e-waste and the extraction of conflict minerals, were largely absent from the discussion. Qualcomm, for example, described how 3G technology can enhance sustainable fisheries management in Brazil, but failed to address the energy-intensive process by which these 3G devices are manufactured or their impacts on the environment when discarded. The Brazilian telecommunications regulator, Anatel, proposed a green agenda during its presentation at the ITU event,

including energy efficiency standards and green labelling, but it was unclear what level of commitment the agency has in taking that agenda forward. No opportunities were provided for audience questions or discussion during the ITU event, suggesting that this was not a space for critical analysis of ICTs and sustainable development.

While ICTs were mentioned on several occasions in the outcome document as enablers of sustainable development, including sectoral inclusions in farming, forestry, fishing, energy efficiency and education, these inclusions were minor and barely skimmed the surface of how ICTs have changed the landscape of sustainable development economically, socially and politically. Moreover, the absence of technology and e-waste mentions in sections such as Article 213, which deals with hazardous waste, suggests that those drafting the outcome document were not interested in addressing even the most obvious challenges posed by ICTs.

Challenges to Effective Use

While sessions mainly focused on the positive impacts of ICT, there was some discussion of the awareness and capacity to fully utilize the benefits of emerging technologies. As Quinn Sutton, a panellist from Digital Alliance, pointed out, "As much as the digital divide is an important issue, what is more important is the knowledge and skills divide between nations" (Sutton, 2012). Technology is merely a tool, and just as the failure of the One Laptop Per Child program in Uruguay has demonstrated, unless a user has the capacity to use a tool, it will continue to be underutilized. At the same time, the development and successful use of innovative online tools, including crowd-sourced mapping, suggests that as ICT—particularly mobile technology—has become more prevalent, individuals are finding ways to use that technology to meet their day-to-day needs, including their development needs.

Despite large-scale uptake by most of the world—particularly in the case of mobile technology—barriers still exist, especially for women who lag behind in terms of access to education, employment income, and therefore the income necessary for access to ICTs. Such were the observations by Lakshmi Puri of UN Women—one of only two women among the more than 30 panellists speaking at the three ITU events. The observations made by UN Women echoed what women's organizations involved in the ICT movement have been expressing for years: ICTs are pivotal to gender equality and play out in women's "productive, reproductive and community roles and in exercising their rights" (Puri, 2012). Investing in women and ICTs also has a multiplier effect and is vital to women's empowerment and quality of life—but we must be deliberate in ensuring that women also benefit from ICTs. Puri urged for gender-specific and gender-responsive strategies in order for women to truly benefit from ICTs. While some women do have access to ICTs, in general, they still have less access to technology, ICT employment skills, and relevant content addressing their needs, and they have lower digital literacy. This needs to change, Puri urged, and she recommended that the outcome document address this specifically, which it ultimately did not do.

James Fahn, director of the Internews environmental program, spoke on behalf of alternative media, suggesting that we have only barely scratched the surface on how ICTs are revolutionizing the way we deal with information. Certainly, they have been extremely useful in allowing journalists and civil society to learn about and act on things in collaboration with one another, but they also have allowed for previously unreleased data to be accessed by virtually anyone. The challenge is what to do with this flood of information and how to use it.

According to Fahn and others, the main challenges moving forward are how to interpret and "translate" newly-available information so that it is meaningful to a general public, particularly to those who most need access to it (for example, information concerning logging in the Amazon). Accessing the information is in and of itself a challenge; even if information is made available, large file sizes and graphics make accessing data prohibitive without a broadband connection.

Broader Discussion of ICT: Civil Society and Sustainable Development Professionals

Outside of those sessions specifically focused on ICT, discussion of technology as a tool for sustainable development was sporadic and shallow. At a side event hosted by the UN Department of Economic and Social Affairs (UNDESA), which reported on progress since the original Earth Summit, the rise of information technology, open databases, and opportunities for e-governance were mentioned briefly, without an examination of the challenges of implementation or the risks of unintended consequences and negative impacts. Even in those sessions focused on youth engagement, only social networking sites such as Facebook and Twitter were mentioned, without any consideration of access, privacy or content ownership. Within the official conference, new technologies appeared to represent benign tools for some, while they were altogether ignored by others. This superficial approach is reflected in the Rio outcome document where, for example, in Article 109, the promotion of universal access to social services is discussed, but there is no mention of the role technology might play in this process.

ICT was also largely absent in discussions at the People's Summit, the alternative civil society space at Rio+20, in part because access to technology is still very limited in many of the communities represented at the summit. Farming and indigenous communities in many parts of the world are still lagging in access because large telecom companies have not yet found it profitable to set up much-needed infrastructure, and governments have not established universal service obligations with supporting financial mechanisms.

Although organizers and participants at the People's Summit struggled with broad issues of environmental justice, participatory governance and intersecting movements, there was no discussion regarding the potential of ICT to facilitate the realization of those objectives. At a session on representative environmentalism, some speakers expressed concern about the green economy, including the relationship of market and environmental outcomes, and highlighted the potential for community ownership and management to protect important natural resources. Rainwater harvesting, rather than the development of large-scale dams, was presented as one community-based alternative. However, the knowledge transfer needed to harvest rainwater effectively (and for other community-based management projects) was not discussed, nor was the potential of ICTs for facilitating that knowledge transfer.

It is worth noting that many of the issues raised in the People's Summit did not influence debate at the official conference, including perceived risks of the green economy and the danger of co-option by powerful interests. At times it appeared that the benefits of ICTs simply masked underlying challenges and threats to sustainable resource management. Brazil's new satellite mapping technology, for example, which displays up-to-date information on deforestation in the Amazon, was touted as a landmark tool for forest conservation at Rio+20; however, there was no discussion as to the strategies employed to protect the Amazon forest based on the information collected or of the potential for private interests to use satellite data to exert control over the land and its inhabitants.

A Missed Opportunity: Critical Discussion of ICT as a Threat to Sustainable Development

Although ICT was seen as a powerful tool in implementing sustainable development at Rio+20, a number of potential dangers presented by technology were left unaddressed, suggesting that a critical examination of ICT is not taking place.

Many of the trends, including threats, referred to by Jim MacNeill and Vint Cerf in their interviews with the International Institute for Sustainable Development (IISD) were entirely absent from the discussion of ICT at Rio+20, including government oversight or control of the Internet and its usage, the security of information online, reinforcement of unsustainable consumption patterns, and short-term decision making. Dangers associated with e-waste and energy consumption were mentioned only briefly during some sessions, with no substantive discussion of the necessary changes for policy-makers and technology companies, and neither were they addressed in the outcome document.

Despite the good work being done by local ISPs and global technology companies, the link to important conversations surrounding implementation of sustainable development is somewhat tenuous. While many governmental and intergovernmental organizations are working in partnership with these private actors, grassroots civil society was not really engaged, and the potential for "greenwashing" may be a threat that keeps grassroots movements from collaborating with technology companies to move the sustainable development agenda forward.

As Jim MacNeill points out in his interview with IISD's David Souter, ICTs can be used by powerful actors to maintain the status quo. This is even the case, for example, with open data. Access to information and data is a central tenet of sustainable development. However, critics of open data can point to cases where commercial interests have undermined the power of local communities by gaining access to information previously only held within informal knowledge networks (Slee, 2012). In such cases, technology can undermine, rather than facilitate, the efforts of civil society to participate in the management and protection of natural resources. The lack of discussion around these dangers at Rio+20 is further evidence of the need for critical multistakeholder examination of the impact of ICTs on sustainable development.

Conclusion

In each of the three UN-hosted ICT sessions at Rio+20, representatives from the ITU underscored the significance of the 2011 Istanbul Action Plan, in which Least Developed Countries emphasized ICT networks as essential infrastructure for development, on a par with water and transportation (ITU News, 2012). While this statement is indeed an important contribution to the inclusion of ICT in the sustainable development agenda, a more critical discussion is needed around the ways in which technology changes our understanding of sustainable development and how it impacts social equity, economic prosperity and environmental protection.

As was mentioned in one of the ITU panels, information technology has grown at an exponential rate, far surpassing any other modern infrastructure. What this means practically is that policy and development agendas are not necessarily able to keep up with changing technology. Moreover, unlike water and transportation, ICTs are much newer to the development agenda and are tied up in issues of awareness, capacity, privacy, security, freedom of expression and power/knowledge dynamics in ways that are only beginning to be recognized and understood. Although some

of these issues were addressed at Rio+20, many were not, suggesting that the discussion needs to be re-framed—not only concerning the impact of ICTs on sustainable development, but as regards the very meaning of sustainable development in the context of the growing Information Society, including the changing roles of government, business and other actors.

One element of this re-framing is bringing in mainstream civil society actors, including women's organizations, environmental action groups, labour unions, faith groups and local media. ICTs also need to be better woven into general development discussions related to health, education, livelihoods and economics, and the environment. Unless this happens, the discussion will remain within the close-knit ICT-for-development circle. Without critical multistakeholder discussion of the opportunities and threats posed by technology, ICTs may contribute to another 20 years of unsustainable development.

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