GLOBAL INFORMATION SOCIETY WATCH 2020

Technology, the environment and a sustainable world: Responses from the global South

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Indigenous peoples' perspectives on environmental sustainability and technology

Joan Carling and Raymond de Chavez
Indigenous Peoples Rights International
https://indigenousrightsinternational.org/

Introduction

Environmental sustainability is now at the centre of deliberations and actions to combat the global crisis of climate change and to advance sustainable development for all. One of the key actors of these global challenges that is often overlooked are the Indigenous peoples who continue to protect and conserve the world's remaining resources. They have the least carbon footprint but are in the frontline of climate change. They provide key solutions and play a critical role for environmental justice and sustainability.

Indigenous peoples as stewards of nature

Indigenous peoples are living in 90 countries and are estimated to number 476.6 million, which is 6.2% of the global population. More than 73% live in rural areas which are largely in Africa and the Asia-Pacific region. Indigenous peoples comprise 15% of the extreme poor, earn 18% less than non-Indigenous people and live 20 years less than the global average of life expectancy.

For centuries, Indigenous peoples across the globe have lived in harmony with nature for their collective survival, well-being and the survival of the future generations. Indigenous peoples continue to conserve more than 50% of the world's remaining biodiversity. They maintain an interdependent and respectful relationship with nature and the environment – the land, seas, rivers, mountains, forests, savannahs, desserts, the sun, moon, sky, wind, the flora and fauna. This is further expressed in Indigenous peoples' social values of cooperation, reciprocity, upholding the common good, doing no harm and using resources only for one's needs, among others. These values are expressed in Indigenous customary laws and governed by Indigenous institutions that uphold cohesion and resilience in Indigenous communities, conserving resources for the future generations. With this, the sustainability of the environment is imbedded in Indigenous peoples' way of life and values. These lifestyles and values mean that Indigenous communities have among the smallest carbon footprints in the world.

Technology and development for whom?

The prevailing dominant economic, political and social systems, which disregard Indigenous peoples' interdependence with their environment, have resulted in the systemic discrimination and marginalisation of Indigenous peoples. The process of industrialisation with the use of technologies for resource extraction, such as wide-scale mining of oil and minerals, have devastated Indigenous territories across the world. Likewise, the building of large dams has severely fragmented the riverine system and has caused the forced eviction of more than 80 million Indigenous peoples. The massive deforestation and grabbing of lands for wide-scale mining and agribusiness have made Indigenous peoples even more impoverished due to forced eviction and the destruction of livelihoods, among others.

For Indigenous peoples, extractive technologies that advance the economic interests of corporations, investors and ruling elites being imposed on them is synonymous with environmental destruction and an attack on their dignity and ways of life. The pollution of rivers and water from mining toxic waste, the dumping of nuclear waste, the destruction of forests resulting in a loss of biodiversity, among others, have profound impacts on Indigenous peoples, not only on their sustainable livelihoods, but also on their distinct cultural heritage, traditional knowledge, well-being and the overall survival of their future generations. It is a matter of social justice. The use of extractive technologies has benefited only a few and caused more poverty and inequality in many countries.

Environmental justice and sustainability require the protection of Indigenous peoples' inherent rights to their lands, territories and resources, and

to self-determination. It also requires the sustainable and equitable use of natural resources. This protection will provide the enabling environment for Indigenous peoples to continue their practice of living in harmony with nature. This will enhance their conservation of biodiversity, strengthen their resilience and contribute to environmental sustainability – not only for themselves but for humanity.

Further, environmental justice should also recognise and acknowledge the vital role and contributions of Indigenous women as knowledge holders and stewards of nature. For Indigenous women, environmental justice should also provide Indigenous peoples the means for women to fully enjoy their rights, against violence and abuse, to health, to a safe environment, to clean air and water, to healthy food and to social equity, ensuring the overall well-being of Indigenous peoples.

Yet environmental justice is not yet a lived reality. While the collective rights of Indigenous peoples, including their right to their distinct cultures, are affirmed by the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP),[1] and while Indigenous peoples claim 60% of the land's surface as their customary land, only 10% is legally recognised by states.

Indigenous peoples and technology

While extractive technologies have been and continue to be used against nature, there are also other technologies that are usefulto Indigenous peoples in the protection of their lands, territories and resources, cultural heritage, traditional knowledge and innovations, among others. It is, however, important to acknowledge that such technologies can also be used by those with vested interests that may in fact also be detrimental to Indigenous peoples.

Whereas Indigenous peoples fully support the just transition from fossil fuels to renewable energy, the transition should be guided by the principles of social equity and respect and protection of human rights – not the business-as-usual approach. Indigenous peoples' lands are often being used for renewable energy projects such as windmill and solar farms and geothermal plants without their consent. These impositions are resulting in land grabbing, worsening conflicts, the destruction of livelihoods, and violence against women, among other problems. Further, the energy to be generated is intended for industries and to support urbanisation, leaving Indigenous peoples' communities without access to energy and thereby causing more inequity and discrimination.

In this regard, the use of technologies also needs to be guided by the principles of "do no harm" and to do good to people and the environment; to uphold the common good (over profit or greed), be gender- and culture-sensitive, advance social equity and ensure sustainability. Information and communications technologies (ICTs) can be used by anyone to pursue different interests. Some of these may be used against Indigenous peoples. This may include portraying Indigenous peoples as anti-development, as uncivilised people or even as terrorists in the media when they defend their lands and resources, in order to justify racist policies and actions. There is also an abundance of information that promotes unsustainable practices such as consumerism and the commercial extraction of resources for profit, all in the name of economic growth and national development.

Indigenous peoples around the globe are getting more exposed to and interested in ICTs, particularly the Indigenous youth. They consider these as potential tools – for the preservation of Indigenous cultures, including Indigenous languages, to facilitate the exchange and transmission of traditional and scientific knowledge, and to promote Indigenous arts, crafts, products and food, among others. However, access to the internet and ICTs remains a challenge for Indigenous peoples, especially in the developing world. A majority of Indigenous peoples are impoverished and live in far-flung places with lesser access to social services including information technology. Further, many Indigenous peoples cannot optimise the use of ICTs due to a lack of computer literacy to develop appropriate software programs, among others, that are also culturally sensitive, as well as to counter inappropriate programs that are potentially harmful to them.

Use of technology for sustainability and empowerment

In spite of this, the resilience of Indigenous peoples can be seen in how they are adapting to this situation. When cell sites are available, they maximise the use of mobile phones and data for their communication needs. They complement this with the use of other communication technologies, such as community radios and handheld radios. In areas where internet is available, some Indigenous organisations develop their own websites, maximise social media for their own benefit, and, among the more advanced Indigenous networks, develop their own mobile applications to suit their needs.

1 It took more than 20 years of struggles and negotiations between Indigenous peoples and states to have this international human rights instrument adopted by the UN in September 2007.

For Indigenous peoples, securing control of their Indigenous territories is of primary importance to their survival and well-being. A growing number of Indigenous organisations and communities, with the support of civil society, have equipped themselves with the necessary skills and tools to work for the recognition, protection and management of their lands, territories and resources using appropriate technologies.

In the southern Philippines, Timuay Justice and Governance has used handheld GPS to map their estimated 300,000 hectares of ancestral lands and waters, which is a step needed for their legal recognition – a Certificate of Ancestral Domain Title – by the National Commission on Indigenous Peoples. Several teams of Indigenous peoples from the communities were trained on the use of the GPS handheld devices, which they then used to complete the mapping in 2016.

In 2019, several Indigenous organisations in Asia-Pacific were trained on participatory carbon accounting using, among others, GPS devices to map forests and undertake a forest inventory to support the management and protection of their lands and territories and engage effectively in monitoring REDD+[2] implementation.[3] In Vietnam, several ethnic communities in Thanh Hoa province have been able to secure use rights to their natural forest (1,219 hectares) for 50 years as a result of mapping and developing a resource inventory. Using a combination of modern technology (handheld GPS) and traditional means (measurements and note taking), they were able to measure and identify the boundaries of their forests, calculate the timber volume, and inventory various flora and fauna in the area. As legal owners of the forest, they now have the right to the sustainable use and management of the forest.

ICTs are also increasingly being used to confront worsening land grabs and the criminalisation of Indigenous peoples asserting their control and management of their lands, territories and environment. Social media and mobile apps such as Facebook and WhatsApp are being used by Brazilian Indigenous peoples to share information, provide urgent updates, and mobilise actions against illegal mining and farming, as well as against related acts of violence and killings.[4]

At the global level, the newly established Indigenous-led organisation Indigenous Peoples Rights International (IPRI)[5] has developed a website and an internet-based database of cases of criminalisation, violence and impunity against Indigenous peoples, including laws and policies criminalising indigenous peoples, among others. The database is being used to develop reports and submissions to relevant bodies to address the criminalisation, and to mobilise Indigenous peoples and support groups. IPRI is employing social media to bring cases to a wider global audience.

Community radios and radio programmes continue to play an important role in Indigenous communities. In Cameroon, the Indigenous organisation Lelewal organised several radio programmes on Indigenous peoples' rights and self-determined development. In Kenya, the Mainyoito Pastoralist Integrated Development Organisation uses radio programmes to share information on the impacts of climate change with the wider community, as well as stories of traditional livelihoods and new farming techniques, among others.

Revitalising Indigenous languages and cultures has also been a focus of the increasing use of these technologies by Indigenous peoples. The Cook Inlet Tribal Council in Alaska partnered with a private company to develop a video game. The game, called Never Alone, was developed based on an Indigenous story handed down through generations. The video game reinforces the objective of "sharing, celebrating, and extending Alaska Native culture, stories, and language."[6] The game has been downloaded by millions of gamers on several platforms, including Android and iOS devices. The Kanari Indigenous peoples in Ecuador are developing mobile apps that will be able to teach children the Kichwa language in a child-friendly manner. In Mexico, the Indigenous and Afrodescendant Women's News Agency is doing a project using ICTs (social media, video, radio) to revitalise the languages and Indigenous knowledge of, among

2 Reducing emissions from forest degradation and deforestation, including enhancement of forest carbon stocks, sustainable management of forests and conservation.

3 Tebtebba. (2020, 29 May). Training of Trainers on Forest Carbon Accounting. https://www.tebtebba.org/index.php/projects-articles/in-sdgs-all-articles/workshop-reports/training-of-trainers-on-forest-carbon-accounting

4 Pinto Ido, V. H. (2018, 17 December). How indigenous peoples are using technology to protect their rights in Brazil. *Mapping Digital Humanitarianism*. https://humanitarianism.digital/2018/12/17/how-indigenous-peoples-are-using-technology-to-protect-their-rights-in-brazil

5 https://indigenousrightsinternational.org/index

6 Encelewski, I. (2019, 11 March). The Making of Never Alone (Kisima Inŋitchuŋa): Celebrating a People and a Language. *Cultural Survival*. https://www.culturalsurvival.org/publications/cultural-survival-quarterly/making-never-alone-kisima-innitchuna-celebrating-people

others, the Zapoteca, Mixteca and Nahuatl Indigenous peoples.[7]

During this COVID-19 pandemic, Indigenous peoples are responding to its impacts in creative ways. Several Indigenous organisations have deployed technologies to monitor the coronavirus situation and impacts on their communities, including governments' health responses.[8]

The Alliance of Indigenous Peoples of the Archipelago (AMAN) of Indonesia has developed its own monitoring system called AMANkanCovid19. This is a web-based system, where Indigenous peoples can report on the status of their food supply and harvests, their health, and the availability of medicines and medical personnel, among other things.

Indigenous peoples can either download the app to their smartphones or, in cases where there is a lack of internet, share the data with members of AMAN, who will then upload the information. Because of this initiative, AMAN is able to quickly respond to the needs of their communities or is able to use the information to reach out to the government. Its community radio programmes also share health updates and information, including on how to make masks.

In Palawan in the Philippines, the Indigenous organisation SAMAKANABA has deployed several handheld radios to monitor the COVID-19 situation in their communities. These are also used to provide and pass on health and other relevant information to different communities, given the lack of mobile signal in their areas. They are also using the radios to monitor illegal logging, poaching and the encroachment on their forests.

Indeed, while Indigenous peoples continue to be confronted with challenges in relation to access to ICTs, including relevant and Indigenous-sensitive information, they are proactively employing these technologies in a manner that responds to their realities, needs and priorities in building a sustainable world for all peoples. As Indigenous peoples pursue environmental justice and sustainability, it is critical to understand the historical realities resulting in their marginalisation. At the same time, they remain a critical actor in addressing the global climate crises through the practice of their principles and values for environmental sustainability, including in technology development. It is thereby imperative to build and strengthen partnerships with Indigenous peoples not only for environmental sustainability but also for social justice.

7 Pawanka Fund. (2019). *When Indigenous Languages Are Threatened, So Are Indigenous Peoples: Pawanka Thematic Report on Indigenous Language*. https://www.pawankafund.org/blog-and-news/2019/4/19/when-indigenous-languages-are-threatened-so-are-indigenous-peoples

8 For a brief overview of some of the initiatives undertaken by Indigenous communities around the world to address COVID-19 impacts, see: https://www.tebtebba.org/index.php/covid-19

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The world is facing an unprecedented climate and environmental emergency. Scientists have identified human activity as primarily responsible for the climate crisis, which together with rampant environmental pollution, and the unbridled activities of the extractive and agricultural industries, pose a direct threat to the sustainability of life on this planet.

This edition of Global Information Society Watch (GISWatch) seeks to understand the constructive role that technology can play in confronting the crises. It disrupts the normative understanding of technology being an easy panacea to the planet's environmental challenges and suggests that a nuanced and contextual use of technology is necessary for real sustainability to be achieved. A series of thematic reports frame different aspects of the relationship between digital technology and environmental sustainability from a human rights and social justice perspective, while 46 country and regional reports explore the diverse frontiers where technology meets the needs of both the environment and communities, and where technology itself becomes a challenge to a sustainable future.

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