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Governance of Digital Sequence Information

In the 1980s, the documentation and expose of biopiracy of agricultural seeds and plants with medicinal and cosmetics value and the actors concerned, especially researchers and corporations, triggered widespread protests. This was coupled with growing alarm over the rapid loss of biodiversity and the violations of the rights of indigenous peoples and rural populations caused by unsustainable development. United Nations negotiations that followed resulted in the legal framework of the 1992 Convention on Biological Diversity (CBD) with its 3 objectives: biodiversity conservation; sustainable use of genetic resources; and fair and equitable benefit sharing from that use.

The CBD established that governance over biodiversity is national by reaffirming sovereignty of the State over natural resources within its territory. The concept of biodiversity as a "common heritage of mankind" was rejected by the governments of the Global South, indigenous peoples' organisations and also many civil society organisations. Benefit sharing includes "appropriate access to genetic resources" and such access is granted upon prior informed consent (PIC) and mutually agreed terms. This framework shaped the CBD's Nagoya Protocol on access and benefit sharing and the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) of the FAO.

At the centre of conservation and sustainable use are the traditional knowledge and practices of indigenous peoples and local communities (farmers, fisher folk, pastoralists), and this is recognised in the CBD wherein decisions over the years have put in place direct participation of indigenous peoples and local communities (IPLCs) in the relevant processes of the treaty. Farmers' rights are also in the ITPGRFA but requires national implementation. With digitalisation, biopiracy does not require physical transfers of biological materials triggering a debate on governance over digital sequence information (DSI) and the applicability of the access and benefit sharing regimes of the above 3 treaties where PIC is not only that of the government authorities of the country of origin / source but also of IPLCs.

1. *From unregulated transfer and use of DSI to local biocultural information systems with benefit sharing regimes as one step*[1]

While recognising that benefit sharing for DSI cannot undo historical injustices to IPLCs, it is a legal hook to prevent a total corporate digital takeover by invoking PIC requirements as an example. We need to work with IPLCs and like-minded policy makers to define and entrench the role of IPLCs in governance over DSI benefit sharing to:

- support local knowledge, promote local innovation consistent with the cultures and values of IPLCs;
- develop alternative biodiversity knowledge systems governed by IPLCs themselves.

2. Defining the role of the State in safeguarding the public sphere and localized data ecosystems

There are increasing monopolies over the value from data processing via the legal tools of intellectual property such as patents and trade secrets. The global crisis over access to Covid-19 vaccines developed from gene sequences accessed freely from open data bases and then locked up in proprietary claims is not accidental. There have been moves for several years to make sharing of DSI of pathogens an international obligation in the World Health Organization followed by open access, with public health as the clarion call. But equitable benefit sharing of the resulting medical products does not see the light of day largely because Northern governments leave this to their private corporations and research institutions. Instead, the Northern states' political energy is spent on ramping up intellectual property rights protection and enforcement in the South.

These also expropriate traditional knowledge of IPLCs that often provide the link to the potential commercial uses of biodiversity. Digitalisation cannot exclude the need for knowledge of nature and societies.

We therefore urgently need to push back on the aggressive imposition of emerging digital rules under the rubric of seductive promises of the "digital economy" that essentially seek to not regulate the technology giants while creating more "rights" for them. This entails active advocacy with national governments at the World Trade Organization where "e-commerce" negotiations are on-going, and regional/bilateral trade agreements and economic partnerships that are building a new set of legal norms which are opposed to IPLC rights and the real public interests across generations to come.

In the North, competition law is increasingly used to tackle abuse of market dominance, but this is not enough. Within the realm of competition law, proactive policies and measures on mergers and takeovers need to be prioritised and at the same time a fundamental shift is needed in society's mindset on how we want to value data, information, knowledge and people.

Endnotes:

1. See Hammond, E. (July 2020). *Finding Traditional Knowledge's Place in the Digital Sequence Information Debate.* TWN Briefing Paper.