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Indigenous people Why rights and resources matter

HUMAN RIGHTS

A review of the right to adequate food

CLIMATE CHANGE

Tackling pest-induced post-harvest losses

INDIA Strengthening rural resilience

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Dear Reader,

According to the United Nations, currently, around 477 million indigenous people are living in roughly 70 countries across the world. They speak more than 4,000 of the world's 7,000 languages and they protect roughly 80 per cent of the world's remaining biodiversity. So talking about indigenous people means talking about diversity. But above all, it means talking about inequality. Although they make up slightly more than six per cent of the global population, indigenous people account for about 15 per cent of the extreme poor. And their live expectancy is up to 20 years lower than the life expectancy of other population groups.

One of the reasons for this inequality is that the great majority of indigenous people live under structurally vulnerable conditions. Their communities are often far away from urban areas and have very limited access to basic services, including healthcare, water and sanitation, energy and education. A further reason is that the territories and natural resources which provide livelihoods for a large number of these people are extremely under threat – because of the impacts which climate change is having, because of largescale infrastructure projects, but also because of the growing demand for foodstuffs and forest products, fuels and valuable minerals.

Many of these factors also affect large numbers of other people in rural areas. Nevertheless, there are singularities which have prompted us to specifically devote this edition to indigenous people. For one thing, there is the fact that the territories and natural resources these people depend on are inextricably linked not only to their livelihoods, but also to their identities and their cultures, and to their physical and spiritual well-being. Then it has to be noted that given their special knowledge and knowhow on ecosystems, indigenous people are attributed a major role in conserving biodiversity, protecting the environment and combating global warming - also raising the question of why this knowledge is so seldom consulted at international level. Furthermore, there is the fact that these people's rights are trampled on especially often - and that frequently enough, they pay for claiming these rights with their lives.

We have asked our authors to identify the mechanisms behind the existing inequalities. They demonstrate which international bodies of law indigenous people can refer to and describe the strengths and weaknesses of tools and instruments which have been developed to enhance their access to justice and development. They show the flipside of the green energy transition and give examples of successful advocacy work. And they report how the valorisation of indigenous knowledge can be achieved – including rewarding people for the valuable ecosystem services they provide.

In this context, it was above all important for us to have indigenous people speak out themselves. For instance, Anna Sinkevich, an Indigenous Evenki from Siberia, gives an account of the as yet hesitant efforts at international level to recognise traditional knowledge as a potential subject for intellectual property protection. Together with their colleagues from Helvetas Peru, Duba Tedecha and Abarufa Jatani, both members of the Borana community in Ethiopia, show how precisely such knowledge can be made use of to provide farmers with advisory messages in handling climate change. Joziléia Kaingang, an activist and representative of the Kaingang people of the South of Brazil, reports on the mission the Ministry for Indigenous Peoples, set up by President Lula da Silva a year ago, has entrusted itself with, and Naomi Lanoi Leleto, a member of the Kenyan Maasai community, calls for at last putting an end to the permanent violation of indigenous women's rights.

We wish you inspiring reading.



Patricia Sumus Silvia Oliceto

Partner institutions of Rural 21



Federal Ministry for Economic Cooperation and Development







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Reducing toxic impacts of agriculture

In March 2024, the governments of Ecuador, India, Kenya, Laos, Philippines, Uruguay and Vietnam launched a 379 million US dollar initiative to combat pollution from the use of pesticides and plastics in agriculture. The Financing Agrochemical Reduction and Management Programme (FARM) is a five-year initiative, funded by the Global Environment Facility (GEF) and led by the United Nations Environment Programme (UNEP), with the support of the United Nations Development Programme (UNDP), the United Nations Industrial Development Organization (UNIDO) and the African Development Bank (AfDB).

Chemicals play a crucial role in farming, with nearly 4 billion tons of pesticides and 12 billion kg of agricultural plastics used every year. Despite their benefits for food yields, these chemicals pose significant risks to human health and the environment. As many as 11,000 people die from the toxic effects of pesticides annually, and chemical residues can degrade ecosystems, diminishing soil health and farmers' resilience to climate change. The open burning of agricultural plastics also contributes to an air pollution crisis that is causing one in nine deaths world-wide.

Highly hazardous pesticides and mismanaged agricultural plastics release toxic persistent organic pollutants (POPs) - chemicals which don't break down in the environment and contaminate air, water and food. These inputs are generally cheaper than sustainable alternatives, giving farmers little incentive to adopt better practices. FARM seeks to change that, elaborating the business case for banks and policy-makers to reorient policy and financial resources towards farmers to help them adopt lowand non-chemical alternatives to toxic agrochemicals and facilitate a transition towards better practices.



The programme is projected to prevent over 51,000 tons of hazardous pesticides and over 20,000 tons of plastic waste from being released, while avoiding 35,000 tons of carbon dioxide emissions and protecting over 3 million hectares of land from degradation as farms and farmers convert to low-chemical and non-chemical alternatives. To do this, the programme will support government regulation to phase out POPs-containing agrochemicals and agri-plastics and adopt better management standards, while strengthening banking, insurance and investment criteria to improve the availability of effective pest control, production alternatives and trade in sustainable produce.

(UNEP/ile)

New study sheds light on farmers' awareness of antibiotic risk

Farmers in Kenya have "considerable knowledge" on different aspects of antibiotics risks - including antimicrobial resistance associated with their use on livestock in Kenya. This conclusion is arrived at by a joint study by scientists of CABI's regional centre for Africa in Nairobi, the University of Nairobi, the University of Warwick, UK, and Vétérinaires sans Frontières (VSF) Suisse. The researchers conducted a survey among 319 farming households in five counties in Kenva and found that 19 of 21 knowledge statements on antimicrobial resistance (AMR) and safe use of antibiotics were answered correctly by 55 to 89 per cent of respondents. While the number of livestock owned was the factor most positively influencing farmers' knowledge on AMR and safe use of antibiotics, certain knowledge gaps remain, and their "practices continue to constitute considerable risk of further AMR development", the researchers maintain.

According to the study, around 80 per cent of households surveyed use antibiotics in their livestock, and 58 per cent administer the antibiotics themselves. The vast majority of farmers (95 %) bought antibiotics without a prescription. Antibiotics are used for both therapeutic and non-therapeutic purposes, the latter in form of growth promoters and feed enhancers in poultry. Although many farmers reported risky antibiotic practices, most (76 %) were aware of bacterial AMR. Here, family or friends were the most common source of information, accounting for 46 per cent of respondents seeking information

from this informal network. About a third of farmers (31 %) had received information from medical doctors and other health professionals, while only 24 per cent had been informed about AMR information by trained veterinarians and animal health workers. One further important finding of the study is that the withdrawal periods reported by farmers are shorter than the officially recommended periods, the study points out.

"Kenya has made notable progress towards creating knowledge and awareness of farming communities on the risks and requirements associated with antibiotic use in livestock," says Harrison Rware, Monitoring and Evaluation Officer at CABI and lead author of the study, summarising the findings. "Nonetheless, farmers' antibiotics practices continue to constitute considerable risk of further AMR development. This shows that knowledge is not enough to ensure fundamental behavioural change."

Rware demands an enabling environment driven by effective policy interventions and enforcement to ensure compliance with set guidelines for antibiotic use as well as research on and deployment of alternatives, such as probiotics, vaccinations, and disease prevention measures. "There also needs to be continued public awareness raising and education using multiple channels to reach farmers and strengthen cross-sector, multi-stakeholder collaboration to address the multi-national complexities of AMR," he stresses.

(CABI/sri)

Advancing African land restoration by providing native tree seeds

An ambitious six-year climate initiative led by the Center for International Forestry Research and World Agroforestry (CIFOR-ICRAF) was launched in Nairobi, Kenva, in March 2024. The Right Tree, Right Place: Seed Project aims to advance African land restoration goals by enhancing the availability of high-quality native tree seeds across Kenya, Uganda, Ethiopia, Rwanda and Burkina Faso. "Africa faces alarming degradation of its landscapes. Over 50 per cent of the continent's land area is classified as degraded, costing billions in lost productivity annually and threatening livelihoods," says Ramni Jamnadass, Senior Advisor of Biodiversity and Trees Genetic Resources at CIFOR-ICRAF and Principal Scientist of the project. The initiative seeks to bridge the gap between planting policy and execution, improve coordination between the public and private sectors in seed accessibility, and establish viable business models to promote the adoption of native tree seeds, all of which allow a unique combination of skills.

"By nurturing native species, we are not only safeguarding our

environment but also partnering with local communities and fostering resilience. Investing in seed systems is to preserve our heritage, protect biodiversity, build a global commons that can ignite high-quality tree seed systems, including the private sector, and secure a sustainable future for generations to come," Éliane Ubalijoro, Chief Executive Officer of CIFOR-ICRAF, emphasises.

Key indicator targets of the initiative are to cover 20 million hectares of land by 2045, conserve an extra 4 million tonnes of soil per year and achieve an extra 19 million tonnes of sequestered CO, and an increase in employment of over 80,000 jobs in harvesting additional tree products. The project is funded by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMUV) through the International Climate Initiative (IKI) and is implemented by CIFOR-ICRAF, Unique land use GmbH, BGCI, the Global Landscapes Forum (GLF) and the University of Copenhagen (UCPH)/Denmark.

(CIFOR-ICRAF/ile)

Climate change exacerbating inequality

Each year, in low and middle-income countries (LMICs), female heads of households in rural areas suffer significantly greater financial losses because of climate change than men. According to the Unjust Climate report, published by the Food and Agriculture Organization of the United Nations (FAO) in March 2024, on average, female-headed households lose eight per cent more of their income due to heat stress and three per cent more because of floods compared to male-headed households. If the average temperatures were to increase by just 1 °C, these women would face a staggering 34 per cent greater loss in their total incomes compared to men. Considering the significant existing differences in agricultural productivity and wages between women and men, the study suggests that if not addressed, climate change will greatly widen these gaps in the years ahead.

Climate change impacts differ not just by gender but also by socioeconomic status. Heat stress, or overexposure to high temperatures, exacerbates the income disparity between rural households classified as poor, who suffer a five per cent greater loss than their better-off neighbours, and the figures for flooding are similar. Extreme temperatures, meanwhile, worsen child labour and increase the unpaid workload for women in poor households. Indeed, barriers such as access to resources, services and employment opportunities affect rural people's capacity to adapt to and cope with climate change. For example, discriminatory norms and policies place a disproportionate burden on women for care and domestic responsibilities, limit their rights to land, prevent them from making decisions over their labour and hamper their access to information, finance, technology and other essential services. Similarly, households led by young individuals have an easier time finding off-farm job opportunities during extreme weather conditions compared to older households. This makes their incomes less susceptible to these events.

Extreme weather also compels impoverished rural households to resort to maladaptive coping strategies. These may include reducing income streams, selling off livestock and shifting spending away from their farms. These actions, however, exacerbate their vulnerability to long-term climate changes.

The study also finds that rural people and their climate vulnerabilities are barely visible in national climate plans. In the nationally determined contributions (NDCs) and national adaptation plans (NAPs) of the 24 countries analysed in the report, only six per cent of the 4,164 climate actions proposed mention women, two per cent explicitly refer to youths, less than one per cent mention poor people and about six per cent refer to farmers in rural communities. Similarly, of the total tracked climate finance in 2017/18, only 7.5 per cent went towards climate change adaptation, less than 3 per cent to agriculture, forestry and other land uses, or other agriculture-related investments, and just 1.7 per cent, amounting to roughly USD 10 billion, reached smallscale producers.

Agricultural policies also miss the opportunity to address gender equality and women's empowerment and intersecting vulnerabilities such as climate change. An analysis of agricultural policies from 68 low- and middle-income countries done by FAO last year showed that about 80 per cent of policies did not consider women and climate change.

(FAO/ile)



Between aspiration and reality

Despite the pledge by the 2030 Agenda for Sustainable Development to "leave no-one behind", even today, a disproportionately high number of indigenous people live in poverty. One of the reasons for this is their limited access to productive assets. Our author gives an overview of the forces that have shaped the land and resource rights of these people and explains why the existing conventions and declarations of securing these rights often do not take effect.

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urrently, there are some 477 million In-✓ digenous people (IP) living in 70 countries world-wide, who together make up about six per cent of the total world population. Their lives are being changed by forces and events over which they have little control. Indigenous people across the world face mounting threats which simultaneously impact on their livelihoods and the health of the planet. Global competition for land, grazing, timber and minerals are rapidly diminishing the vital natural resources on which the health of all depends. Estimates vary as to the amount of land managed by IP. According to the United Nations and their Food and Agriculture Organization (FAO), IP utilise 22 per cent of the global land surface. A 2018 spatial overview of the global importance of indigenous lands for conservation calculated that IP land amounted to 37 per cent of all remaining natural lands across the Earth. Significantly much of this land is rich in biodiversity.

Seeing the big picture

IP custodianship of this land is increasingly recognised to be of global significance - particularly when we locate it in a wider historical perspective. The world we live in has been completely redrawn over the last 300 years. In 1700 there were just 600 million people living on the planet. For the previous 3,000 years living standards had largely remained unchanged. Between the 16th and 19th centuries enormous social and demographic changes resulted from slavery, colonial conquest and dispossession. Some 12.5 million people indigenous to Africa were enslaved and forcibly transported to the Americas. The geographies of existing polities and their territories were erased as colonial powers contested with each other to grab land and established new states with new boundaries.

In the post war era of the 20th century waves of economic and social change triggered by technological innovation, mass industrialisation and information technology raised living standards, albeit highly unequally, sharply increasing population growth. Today there are more than eight billion people living in the world. Since 2007, more people live in towns and cities than in rural areas. Cities are growing at unprecedented speed, with 34 megacities world-wide, each of them home to more than ten million people.

Economies powered by fossil fuels have triggered concatenating climate change. IP, the majority of whom live in remote and fragile environments, have found their livelihoods and resource base threatened. Mounting pressures on land and natural resources have major implications for IP and rural communities, whose rights are often easily brushed aside, despite the pledge by the 2030 Agenda for Sustainable Development to "leave no-one behind".

Who qualifies to be regarded as an "indigenous person"?

How do we distinguish between indigenous people, local communities and everyone else? The diversity of indigenous groupings and the many landscapes they occupy makes definition difficult. This is further complicated by the ways in which the social outlines of both IP and local communities become increasingly blurred by their interactions over time.

Broadly speaking, IP are descended from populations with long uninterrupted geographical histories prior to conquest or colonisation, and who continue to retain at least some of their own social, economic, cultural and political institutions.

Better known Indigenous Peoples include:

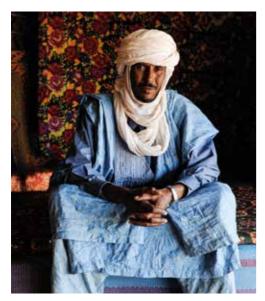
- Aborigines of Australia
- Inuit people of Greenland and Arctic regions
- Maori people of New Zealand
- Métis people of Canada
- Native American peoples
- Saami people of Northern Europe
- San and the Batwa from Southern and Central Africa
- Tuareg from the Sahel

In addition, in Latin and Central America, there are several hundred indigenous groupings whose identities are not widely known. Brazil has some 305 indigenous ethnic groupings speaking 274 languages. In Guatemala, IP comprise 43.75 per cent of the population. A country like Colombia also has numerous indigenous groupings accounting for 13.6 per cent of the population.

The massive global upheaval associated with the transatlantic slave trade between the 16th and 19th centuries raises difficult questions about the dating of the timestamp associated with the definition of IP. Millions of peoples indigenous to Africa were enslaved and forcibly transported as a precursor to full-scale colonial conquest and annexation. This brutal process erased their claims to indigeneity, 8



A young Native American. Photo: Pierre Jean Durieu/ shutterstock.com



A Tuareg from Mali. Photo: Jörg Böthling

identity, space and place in their motherland, while enlarging definitions of community in the lands where they were settled.

What secures the rights of IP?

The first Indigenous and Tribal Populations Convention was drafted by the International Labour Organization (ILO) in 1959. The thrust of the 1959 Convention was that IP needed to be assimilated into "modern society". Article 12 sought to protect the land rights of IP, preventing their removal from their habitual territories without free consent. However, it created wide spaces of exception "in accordance with national laws and regulations for reasons relating to national security, or in the interest of national economic development, or of the health of the said populations".

The 1959 Convention was replaced by the 1989 Indigenous and Tribal Peoples Convention (No. 169) which came into force on the 5th September 1991. Article 2 states that "Governments shall have the responsibility for developing, with the participation of the peoples concerned, co-ordinated and systematic action to protect the rights of these peoples and to guarantee respect for their integrity". The Convention also specifically focuses on land rights. Article 14 recognises "the rights of ownership and possession of the peoples concerned over the lands which they traditionally occupy". Further it requires that governments take measures "to safeguard the right of the peoples including nomadic pastoralists and shifting cultivators to use lands not exclusively occupied by them".

In practice, many countries have shied away from the complex task of trying to disentangle conflicting and overlapping rights in land. Recognising the rights of vulnerable minorities is a highly political process. Conflicts of interest influence how the land and resource rights of indigenous people – mainly nomadic and semi nomadic pastoralists, forest dwellers and hunter gatherers – should be distinguished from settled agrarian communities who access land through customary tenure systems.

By January 2022, only 23 countries had ratified the 1989 Convention, leaving many of the world's IP without specific legal protection. In 2007, the UN General Assembly adopted the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). This is a non-legally binding treaty which envisions how the rights of IP should be protected. Article 26 articulates the rights of IP to the lands, territories and resources which they have traditionally owned or occupied. Article 10 specifies the need to secure their free, prior and informed consent (FPIC) before carrying out any activity that affects their ancestral lands, territories and natural resources within them.

FPIC also applies to local communities, requiring them to be involved in decision-making on how the land and natural resources they hold in common should be utilised. Meaningful implementation of FPIC principles is reported to be slow and uneven. Critiques of FPIC implementation highlight alleged "window dressing" where state- and corporate-initiated consultations are used to legitimise development initiatives, while frequently sowing division amongst IP and local communities.

The rush for resources

Global economic growth in the 20th and 21st centuries has been accompanied by soaring ecosystem costs due to unsustainable changes in land use and dependence on polluting fossil fuels. CO₂ emissions topped 40 billion tons per annum in 2022, up from 6 billion tons in 1950, triggering catastrophic climate change. While global action is being taken to combat this, alternative technologies underpinning clean renewable energy also have human and environmental costs. The clean energy transition depends on the rapid exploitation of critical minerals and rare-earth elements. By 2060, global natural resource extraction is forecast to have increased by 60 per cent. Solutions favouring the industrialised North have significant impacts in the Global South.

Having a documented land right is not automatically perceived as providing security.

The accelerating demand for critical minerals places indigenous groups under enormous pressure to approve new mining projects. Frequently, such approvals are given without the free, prior and informed consent of indigenous groups. Numerous examples show how FPIC requirements can be diluted or evaded in practice.

Peru

Peru ratified the Indigenous and Tribal Peoples Convention of 1989 on the 2nd February 1994. IP representatives immediately pushed for the promulgation of a binding legal framework requiring that they were consulted before any decisions were taken which affected their rights in land. These demands were consistent with the 1993 Constitution, which recognised the collective rights of indigenous communities and their territories. However, ten years elapsed before the passing of the Amazon Investment Law. This required that IP be consulted before development activities were approved. Critics identified loopholes undermining the effective implementation of this law. It was further argued that consultation processes do not in themselves guarantee informed consent. A draft Framework Act on Indigenous Peoples in 2005 was more specific about consultation provisions, but this was never passed. It was only in 2011 that Peru finally enacted the Law on the Right to Prior Consultation of Indigenous or Original Peoples (Law No. 29785).

Despite significant progress towards the recognition of IP rights, questions remain about the adequacy of consultation processes with IP in Peru: Who qualifies to be consulted? How are local communities represented? How should the consultation process unfold? Who makes the final decision resulting in approval, redesign or outright rejection of proposed development initiatives?

The DRC

The Democratic Republic of the Congo has reserves which amount to half of the world's known cobalt resources. Amnesty International has documented how the expansion of mining has resulted in communities losing their farm land and being forced from their homes. The Indigenous Batwa people have also been dispossessed due to land disputes and the granting of titles to agricultural and mining companies. The promulgation of protected areas has often excluded Indigenous Peoples and communities from their customary lands. Following a 14 year campaign waged by a network of 45 indigenous organisations, a law to protect and promote the rights of indigenous people in the DRC was finally signed by the President in 2022. This provides the legal basis for IP to claim their FPIC rights and secure compensation. However, it remains to be seen how actively and effectively this law will be implemented.

Mongolia

A mining boom in Mongolia has seen the development of what will be the world's third largest gold and copper mine. However, researchers report that the state has delegated some of its roles to the private sector. This has led to selective application of key norms and left local nomadic communities with little voice in decisions over the mine's development and its impact on their livelihoods.

Canada

In Canada, the Future Minerals Working Group has shown that while Indigenous Peoples hold constitutionally recognised rights to land containing valuable critical mineral resources, outdated legislation from the 19th century remains on the statute books which effectively overrides their rights. This contradiction is currently awaiting resolution from a high-level court case.

Protecting community land rights – a challenging task

Both UNDRIP and the Convention on Biological Diversity (CBD) emphasise the importance of recognising the contribution of indigenous knowledge to achieving global sustainability goals. In 2022, the International Panel on Climate Change (IPCC) identified the recognition of land rights both of IP and local communities (IPLCs) as one of five priority areas. The 2012 Voluntary Guidelines on the Responsible Governance of Tenure (VGGT) sets out global norms to secure the land rights of communities holding land and accessing resources through customary tenure systems. While the rights of IP and local communities holding land in common are receiving increasing recognition, many obstacles still need to be overcome before these rights can be fully realised.

In Africa, up to 78 per cent of the land is held under customary tenure. How local communities access and hold land often eludes processes designed to formalise land rights. This is because tenure security/insecurity is context specific and attempts to standardise social relations frequently run into problems. The content of rights and the norms informing land holding systems is in constant flux. Even in countries where there has been substantial investment in land rights formalisation, subsequent transactions may revert to the informal. While Rwanda was the first country in Africa to complete country-wide first-time registration of land rights, recent data suggests that five years later, 87 per cent of subsequent rural land transactions remain informal. Further there is evidence from the wide ranging Prindex survey that having a documented land right is not automatically perceived as providing security. It has been argued that formalisation and documentation of land rights do not in themselves guarantee tenure security and in highly unequal societies may even facilitate elite capture.

Overall IP and community relations to the land are shaped by widely differing local histories of land acquisition and dispossession. They are the product of the complex interplay between social values, customary and statutory law, political contestation, poverty, inequality, relative power and climate vulnerability. It is these foundational factors to which we must attend if we are to make progress in protecting the land rights of IP and local communities, while simultaneously protecting natural resources critical for the health and sustainability of the planet.

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A Saami woman from Norway. Photo: V. Belov/ shutterstock.com



A Bushman woman from South Africa. Photo: Anton Ivanov/ shutterstock.com



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Brazilian society should be proud to have 305 Indigenous Peoples and 274 indigenous languages

"No indigenous land will be demarcated in my government," declared Brazil's former President Jair Bolsonaro at the beginning of his period in office, opening the door for illegal mining and land invasions, with devastating consequences for the indigenous people living there. The newly established Ministry for Indigenous Peoples seeks to give the people their territory back. And not only that. A talk with Joziléia Kaingang from the National Secretariat for the Articulation and Promotion of Indigenous Rights.

Ms Kaingang, in August 2023, you took over the position of Deputy Secretary for the Articulation and Promotion of Indigenous Rights at Brazil's Ministry for Indigenous Peoples. What does the existence of such a ministry and your position mean to you?

The Ministry is a great opportunity for our country and for indigenous leaders who have been fighting very hard for its establishment. And my position as secretary and having the trust of Minister Sônja Guajajara is very important to me. Brazil must build public policies that make sense for indigenous people. Policies that protect women against violence and racism and support them in areas like health and education. There are so many needs that indigenous people have, so it is very important for them that this ministry has been created to address these issues and to have indigenous people as equals in such an institution to discuss public policies that concern themselves. Even though the Constitution has guaranteed many rights for Indigenous Peoples, these rights are often not respected. It is the Ministry's task to implement these rights. So it has an important role to write a new history for Indigenous Peoples, who are the true, original peoples of this country, and who originally occupied this territory.

Where do you see the most urgent tasks?

The main objective of the Ministry is the demarcation of land and territorial management, and to guarantee land tenure. You must know that through the State's own policies, many territories were removed from Indigenous Peoples. The people were forced to leave their land and placed into really small areas. Now they wish to go back, and the State wants to give them back the areas that were originally theirs. There are many invaders in indigenous lands, and most of them go there to plant soybeans or raise cattle. Today, for example, Minister Guajajara visited an area that had been occupied by 2,000 illegal invaders in the State of Pará. So demarcating the territories is an important task of the Ministry, as it means guaranteeing the lives of the people as well as food security.

And the role of the Secretariat?

The Secretariat plays an important role in formulating public policies. It monitors various measures, for instance those concerning gender-related issues and housing, or measures addressing migration. So far, public policies have always been assuming that indigenous people live in small traditional villages, the aldeas, but today we have them living in completely different settings, in an urban context, or in an immigrant context - as in the case of the Warao people from Venezuela's Orinoco Delta. We must be able to welcome these people. Thus the Secretariat is linking the State and the Indigenous Peoples. President Lula da Silva has approved a permanent committee the Committee for the Promotion of Public Policies for the Protection of Indigenous Peoples. It will debate the construction of policies - ones that already exist as well as new ones. Twenty-three governmental ministries are members of the committee, and the respective document was signed by the Presidency of the Republic. The idea is that in case we again have an extreme right-wing government in the future, the Document will still be valid, so that we can go on with the approach of building policies for indigenous people.

I suppose that the fact that Brazil's Supreme Court blocked the "marco temporal" in September last year was a very important achievement?

Indigenous people fought for the marco temporal to be considered illegal for several years. This law stipulates that land can only be designated as a protected area which was inhabited by Indigenous Peoples on the day the Constitution was declared, the 5th October 1988. But many of the people concerned here were violently driven from their territory before that date, and some of them were even killed. So it was very important for the Indigenous Peoples that the Supreme Court recognised this law as illegal. However, the National Congress has approved a draft amendment for the Constitution which resumes the marco temporal, so Brazil's legislative power has engaged in a serious fight against indigenous people. The agrarian lobby is very powerful in the country, and has strong representation in the Congress. It is against demarcation of indigenous territories.

What about Brazil's society – is it taking indigenous people's concerns seriously and supporting them?

As part of the construction of Brazilian society, indigenous people went through a violent process of having their history and memories erased. We do not have the support of all Brazilian people to defend indigenous rights. However, there is a part of society which understands that Indigenous Peoples are guardians of the forests and supports their struggles. We need to bring them into the national scenario. It is necessary to have campaigns so that Brazilians are proud of Indigenous Peoples and proud of indigenous cultures, and of having built this country together with other peoples: immigrants, enslaved black people, traditional communities and others. Moreover, it is important that indigenous people are seen as figures of the present. Often, society views them as stuck in the past and as if they didn't exist anymore, and yet they maintain their traditions and languages. Brazilian society should be proud to have 305 Indigenous Peoples and 274 indigenous languages which have survived, and that these peoples have knowledge and science which they have built and preserved.

Are indigenous issues sufficiently taken into account in the education system, for example in school books and curricula?

Indigenous Peoples are portrayed in history books, and there is a law that prescribes teaching the history of Afro-indigenous culture at school, but unfortunately, in history, until very recently, indigenous people were still portrayed as people of the past. Now things are changing, and there is widespread mobilisation to update history books and acknowledge the presence of Indigenous Peoples in today's spaces.



Joziléia Kaingang is Deputy Secretary for the Articulation and Promotion of Indigenous Rights at Brazil's Ministry of Indigenous Peoples. She is an indigenous woman from the Kaingang people from the South of Brazil and co-founder and coordinator of the National Articulation of Indigenous Women Warriors of Ancestry (Anmiga). Photo: IISD/ENB

And what about indigenous languages?

There is a law that guarantees the teaching of indigenous languages at school, but this is not enough. We would like to have our languages to be present in other areas, too. Unesco is celebrating the Decade of indigenous Languages, and this is a way to strengthen and recognise the languages as part of the national culture. And in the Ministry of Indigenous Peoples, there is a general education coordination that has been stressing the importance of strengthening and recognising these languages. But there is still a lot of work to do.

You are one of the founders and coordinators of Anmiga – an activist group of empowering indigenous women. Could you tell us a bit about Anmiga's work?

On March 8th of this year, we celebrated the third anniversary of Anmiga, but the network was already founded some 30 years ago. In 2015, UN Women launched a project called "Indigenous Women's voice" to address violence against Indigenous women. Domestic violence and gender-based violence is a serious issue, especially for indigenous women. After the launch of the UN project, the network became stronger, and in 2021, we decided to give the network the name Anmiga, which stands

for Articulacão Nacional das Mulheres Indigenas Guerreiras da Ancestralidade, which means National Articulation of Indigenous Women Warriors of Ancestry. The aim of the network is to bring to debate questions of gender, discuss how indigenous women are taking care of the forest and the water, of the territories and of lot of other ancestral knowledge, and empower them in these regards. Moreover, with support of public policies, we want to address indigenous concerns like health, combating violence and still having safe territories to continue living in.

How does this work in practice?

In order to raise awareness, we went through 22 territories with a caravan to hold debates about violence against women, climate change and bioeconomy, and how to act together with other indigenous networks and other networks in general. We took all these topics to debate and succeeded in strengthening the conditions of indigenous women as well. This also resulted in two indigenous women being elected to Parliament - Sônia Guajajara and Célia Xakriabá. Already in the election campaign, the two politicians had decided to form a Bancada de Cocar - a coalition of feather crowns - in order to politically back the setting up of indigenous protected areas, putting an end to logging and illegal mining and opposing industrial agriculture.

But Anmiga is also present in the capital city ...

Yes. We organised an indigenous women's march in Brazil's capital of Brasilia in 2019, with 500 women participating. In a further march in 2021, there were 5,000 women, and last year, in 2023, 8,000 indigenous women were marching through Brasilia. This gave us visibility and drew the attention of the Brazilian media and politicians regarding meeting the demands of indigenous women. During this last march, the women got to the National Congress and had a meeting with Minister Guajajara and the President as well as several other ministers.

Does the Ministry of Indigenous Peoples cooperate with other Ministries?

Yes, for example with the Ministry of Women. We now have technical cooperation within a project for a building to host women who are in violent contexts. In this context, it is very important for the Ministry of Indigenous Peoples to be ruled by an indigenous woman. Having this support within the Ministry is essential to address the particular challenges indigenous women face.

Indigenous communities play a crucial role in protecting biodiversity and the climate. But their knowledge is often not heard and recognised. What can the international community contribute here?

We know that Indigenous Peoples make up six per cent of the population, but protect 82 per cent of biodiversity. So there is a need to recognise the role that they have in taking care of their territories. And we look after it for everyone, not just for ourselves. The clean water we want to drink is the same water that all of us want to drink. The clean air we want to breathe is the same air all of us want to breathe. There is a line by Minister Sônja Guajajara that says: "We don't have a planet B. We only have this planet, and we are responsible for taking care of it." Today, for example, the Mercosur agreement with the European Union is still being discussed. Has the EU already debated how much this agreement will violate indigenous rights? It is necessary for the international community to realise that sometimes, these agreements hurt very badly and actually kill the bodies of indigenous people. In Brazil we have the concept of "body and territory", and both are seen as combined. So these agreements kill body and territory.

In this regard, it is crucial to guarantee the security of human rights defenders. It is absolutely necessary for the Escazú agreement to reach Brazil because indigenous people are the most threatened environmental defenders. So international agreements need to look at Indigenous Peoples and see whether their rights are being violated and their lives are taken.

In 2025, COP 30 takes place in Brazil. What do you expect from this?

I hope that at COP 30, the fight for climate change will reflect the entire fight for life, biodiversity and forest management. We expect commitments by partner countries that will really make a difference, whether it be about reducing carbon dioxide emissions, guaranteeing standing forest or demarcating indigenous lands. And we expect that these commitments will actually be implemented. Every year at conferences, these countries make commitments. Now it is time to honour them so that we can guarantee life on this planet. We as the Brazilian government have to assume responsibility to make this point, but also to ensure that indigenous people will be there as negotiators to bring forward these kinds of reflections.

Joziléia Kaingang was interviewed by Silvia Richter.

Traditional knowledge and intellectual property

Over generations and centuries, Indigenous Peoples and other custodians of traditional knowledge have developed a vast amount of cultural heritage and culture-based practices, creations and innovations. Only recently has traditional knowledge begun to be recognised as a potential subject for intellectual property protection. The following article gives an overview of challenges in this area and of what measures could be taken to ensure such protection.

By Anna Sinkevich

Intellectual property generally refers to the creations of the human mind. These vary widely in their forms and expressions, ranging from inventions, designs and literary works to music, dances and movies.

Intellectual property is protected by legal rights, such as copyrights and related rights, patents, trademarks, industrial designs and trade secrets. Their scope and the specificity of protection vary. What most of them have in common is that their protection is limited in time (with some exceptions) and often requires application or registration, they are required to have an identifiable author or authors, and they are meant to protect new creations. Also, these rights are territorial, meaning that their protection is granted within a country under its national law. Regional or international protection in line with regional frameworks and international treaties is also possible. The protection of intellectual property rights supports and encourages the creative endeavours and innovative solutions of individuals, groups and enterprises, which in the end leads humanity to economic, socio-cultural, scientific and industrial growth.

Traditional knowledge, traditional cultural expressions and genetic resources

While, as yet, there is no accepted international definition of traditional knowledge (TK), the World Intellectual Property Organization (WIPO) refers to TK as a living body of knowledge that is developed, sustained and passed down from generation to generation within a community, often forming part of its cultural or spiritual identity. Traditional cultural expressions (TCEs) are referred to forms in which TK and culture are expressed. As an example, a traditional weaving technique is TK, while the fabric created using that technique or traditional ornaments on it are TCEs. Importantly, "traditional" is not equal to "old" or "outdated", as both TK and TCEs are constantly developing and being recreated within a community, as a response to the changing world.

WIPO often distinguishes between TK and TCEs because a different set of intellectual property rights may apply to their protection. For example, trademark and copyright protection may relate to some types of TCEs, while some TK may be protected under the laws that govern the protection of confidential information. Still, TK and TCEs share many similar characteristics, and sometimes. the TK abbreviation is used as a reference to both TK and TCEs.

Regarding genetic resources (GRs), Article 2 of the Convention on Biological Diversity defines them as "genetic material of actual or potential value", and its definition of "genetic material" is "any material of plant, microbial or other origin containing functional units of heredity". GRs-based innovations in the modern sciences are often protected under the intellectual property system, especially by patent laws. Some TK associated with GRs derive from Indigenous Peoples, and they often raise questions about the protection of such knowledge. This may for example apply to TK relating to the use of medical plants.

How can TK and TCEs be protected?

TK and TCEs are the creations of the human mind and are intellectual property. The intellectual property protection of TK and TCEs can be understood as taking measures to prevent their unauthorised use or misuse by third parties. The issues around such misuse of TK and TCEs are a big concern for Indigenous Peoples as it may cause spiritual, economic, reputational or cultural harm to them. However, the approaches to protecting TK and TCEs are often complex. One of the reasons is that the conventional intellectual property system was not designed and developed con-

Evenki children from Siberia playing with a reindeer sled. What may seem like a game to one may look to another like the visualisation of knowledge which help generations of Evenki people to maintain their lifestyle and unique culture.

Photo: Anna Sinkevich

sidering the special characteristics of TK and TCEs. For instance, TCEs are often of a collective nature, which makes it difficult or even impossible to identify their author or authors. As a result, they cannot be protected under the conventional copyright system, except for contemporary works that are based on TCEs. Moreover, the protection of intellectual property rights is often limited in time, which doesn't fit the needs of TK and TCE custodians and holders well.

Despite these challenges, there are several options for the intellectual property protection of some aspects of TK and TCEs. Indigenous Peoples can use conventional intellectual property systems to protect and promote indigenous-owned businesses. As mentioned earlier, copyright might be used to protect some contemporary TCE-based creations. National unfair competition laws might be applicable when products are falsely labelled as Indigenous Peoples-made. For instance, in 2019, the Federal Court of Australia sanctioned a company that sold Aboriginal-made labelled souvenirs that were in fact manufactured in another country, which went against Australian Consumer Law.

Several countries have implemented specific provisions to their national intellectual property law that at some point reflect the needs of Indigenous Peoples. For example, New Zealand's trademark law has specific provisions that help to prevent the registration of trademarks that would be considered offensive by Māori people. Furthermore, a number of countries have specific national laws, so-called sui generis laws, that address provisions for the protection of TK and/or TCEs. The Kyrgyz Republic, a country that is rich in its cultural heritage and traditions, has a law on the protection of TK and TK associated with GRs which aims to create conditions for fair distribution of benefits from the use of TK of the people of this country.

In some cases, non-legislative measures can be used to prevent the misuse of TK and TCEs by third parties. This could include awareness-raising campaigns, including in the social media, about the cases of misuse of TK and TCEs, or systematic activities that aim to make a community and its culture more understandable for and recognisable by decision-makers. For instance, a community of the Seto people in Pechory, Russia, had managed to fight against fake "Seto-made" handicrafts by raising awareness about the Seto culture in the region and informing tourists and locals on where authentic Seto products can be purchased.



A wooden curving figure of a Māori male face on a totem pole.

Photo: Rafael Ben-Ari/ shutterstock.com

What does WIPO do?

At the moment, there is no international instrument that would address the intellectual property protection of TK and TCEs. This issue has been discussed at the WIPO Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (IGC) since 2001. The IGC is a forum where Member States develop an international instrument or instruments that would protect TK, TCEs and GRs. Indigenous Peoples, local communities, industries, civil society and NGOs can participate in the IGC as observers. Recently, there has been significant progress in the negotiations. In 2022, WIPO's General Assembly decided to convene a Diplomatic Conference to Conclude an International Legal Instrument Relating to Intellectual Property, Genetic Resources and Traditional Knowledge Associated with Genetic Resources. The Diplomatic Conference will take place in Geneva from May 13th-24th, 2024. If successful, its outcome would be the adoption of an international treaty that aims to enhance the efficacy, transparency and quality of the patent system, and to prevent patents from being granted erroneously for inventions that are not novel or inventive with regard to GRs and TK associated with GRs. In the meanwhile, the IGC's negotiations on the protection of TK and TCEs remain ongoing and will resume at its forty-ninth session in November/December 2024.

Apart from the normative work, WIPO organises activities and programmes for national governments, Indigenous Peoples, local communities and other stakeholders through its Traditional Knowledge Division. As an example, since 2019, WIPO has been organising training programmes for indigenous women entrepreneurs to help them develop their intellectual property strategy for their culture-based businesses and projects, connect them to useful experts within WIPO's networks and build their capacity in other areas that are helpful for entrepreneurs. Besides, WIPO recently launched several activities that aim to build better understanding and potential collaboration between Indigenous Peoples from around the globe and the fashion industry on the use of TCEs.

Strengthening Indigenous Peoples' control over TK and TCEs

To start with, learning about intellectual property rights, and paying attention to the national legislation could be helpful for Indigenous Peoples. Additionally, looking into best practices on the TK/TCE protection in other communities and countries could provide helpful hints and guidelines. Then, moving forward, legislative initiatives that aim to fill in gaps in the existing intellectual property protection and reflect the needs and rights of Indigenous Peoples, or lead to the adoption of specific sui generis regimes on the protection of TK and TCEs, are another important point. Finally, raising awareness about Indigenous Peoples' rights and culture is essential. When other stakeholders, especially decision-makers, better understand the background, needs and challenges of Indigenous Peoples, this could help promote and ensure the communities' rights regarding their TK and TCEs.

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This article is not intended to reflect the views of the Member States or the WIPO Secretariat.

The legacy of colonialism is still there

The rights of Indigenous Peoples are laid down in numerous international and national agreements. Our author gives an account of how these sets of regulations developed and points out their strengths and weaknesses. Here, it becomes apparent that while encouraging progress has been made regarding human rights, international law continues to be based on giving territorial nation states a monopoly status largely shaped by colonialism.

By René Kuppe

A description of the establishment of Indigenous Peoples' rights ought to set out from a brief reflection on the formative context which justifies the special character of these rights. Especially in parts of the social sciences, in the course of a critical discussion of colonially influenced terminologies, the conception of "Indigenous Peoples" is often said to be based on an anachronistic stereotypification of the peoples it refers to as "primitive" or "primordial".

A frequently quoted essay by British social anthropologist Adam Kuper sceptically reviewed the "widely accepted premises" that the descendants of the "original inhabitants" of a country ought to be endowed with privileged or even exclusive rights to land and natural resources. In this context, critics also emphasise that these

rights are based on an idealistic view of people living together with nature in harmony. Here, it is said, the ancient notion of primitive peoples is revived in a new guise. Such objections overlook the colonial politics background the more recent debates on the rights of Indigenous Peoples are based on. The legal status of those populations for whom the term "Indigenous Peoples" is used relates to the spreading of colonialism which originated in Europe and, simultaneously, to developments of so-called international law which are directly linked to this colonial globalisation. In the 16th century, Spanish theorists representing Christian universal natural law theory had still assumed that the people encountered in the "New World" formed gentes, i.e. natural political communities. In a similar manner, in the early English or (from 1707 on) British colonisation history of North America, "peace and friendship agreements" with Native American groups play a role. These groups were indeed referred to as "nations" in a true legal sense. It was only in the course of the 19th century, following the Latin American countries' gaining of indepen-



Mariam Wallet Aboubakrine, a Tuareg from Mali and Chair of the UN Permanent Forum on Indigenous Issues, at a press conference on the occasion of the International Day of World's Indigenous Peoples in 2018.

dence and the across-the-board spreading of European colonial empires in Asia, Africa and Oceania, that a single model of political organisation asserted itself: the sovereign territorial state of the "European" type.

The political predominance of this model had already been anticipated by the philosophy of enlightenment. For example, the brilliant English state philosopher John Locke had upheld the notion that the native inhabitants of North America lived in a "state of nature" and had developed no civil and hence also no political society. The 18th and 19th century scholars of international law focused the fundamental assumption that peoples had a right to political self-determination, an assumption which had existed long before the founding of the United Nations, more and more on the notion that this right could only be exercised in the form of a territorial nation state. It was this basic concept that inspired state-oriented nationalism in Europe, spread it throughout the world and resulted in its world-wide superpositioning of all political organisational forms which did

not correspond to the features of this European "nation state" in the context of the colonial system.

Political structures of some non-European societies, ranging from Christian Abyssinia through the (non-Christian) Ottoman Empire and Persia to China and Japan, grew into the so-called concert of civilised nations. However, the many hundred or even thousand political structures of other human societies not only experienced colonisation but also far-reaching ignorance of their own existence in the context of a new, "international", global order. One paradox and tragic aspect for these societies is the circumstance that the very so-called de-colonisation in the second half of the 20th century did not recognise or revive non-European political organisational forms but

once and for all consolidated the idea and form of the European-style territorial state.

Against this background, just as the world was almost fully covered and split up by independent states, activists from colonised population groups living far apart from one another - like the Saami of Northern Europe, Australian Aborigines, First Nations from Western Canada made themselves noticed and demanded the core legal concept which had inspired worldwide decolonisation in the post-founding era of the United Nations: the peoples' right to self-determination. The two core human rights covenants of the United Nations recognise this right, formulated identically in their Articles One, and this recognition was now - also being taken up and demanded by the Indigenous activists.

International sets of regulations

In 1982, in the context of the then United Nations Economic and Social Council, for the

first time, a body was formed the mandate of which included working out appropriate standards for these groups, which were officially still referred to as populations. The Working Group on Indigenous Populations (WGIP), as this new subsidiary organ was called, became the very first United Nations body in which representatives and members of the population groups concerned were able to immediately participate in developing international legal standards relating to them.

A tedious process began. Nevertheless, the preparatory work of the WGIP ultimately flowed into what the United Nations General Assembly adopted as the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) in 2007. This Declaration comprises 46 articles and a long preamble

section explaining its objective and how it is embedded in the system of international human rights. The UNDRIP regulations affect virtually all areas of life, ranging from land, territories and natural resources through political autonomy and self-determination to health systems, traditional cosmovision and media. However, the root idea is that all standardisations are aspects of the Indigenous Peoples' right to self-determination, which is above all to be applied on the basis of independent indigenous institutions. This is why references are again and again made to supporting and developing peoples' own indigenous decision-making institutions or independent political, economic and social systems.

Although the Declaration is not a formally legally binding instrument, experts maintain that in many respects, its contents put already valid international customary law into concrete terms.

In parallel to the drafting process of the Declaration, in the context of a Specialised Agency of the United Nations, the International Labour Organization (ILO), with Convention C169 (the Indigenous and Tribal Peoples Convention), a binding agreement on the rights of Indigenous Peoples was created. This Convention, which was adopted in 1989, consists of 44 articles and is to secure the right of Indigenous Peoples to decide their own priorities for the process of development as it affects their lives, beliefs, institutions and spiritual well-being and the lands they occu-



Grand Chief Wilton Littlechild, a Canadian lawyer and Cree Chief, at the tenth anniversary of the UN Declaration on the Rights of Indigenous Peoples. Photos: UN Photo/ Manuel Elías

py or otherwise use. C169 takes up the aspect that the ILO – in accordance with its mission as the responsible international organisation for social issues – had already long seen itself as responsible for the social and labour situation of so-called native populations and, to this end, had enforced several international ILO Conventions. However, these Conventions were not focused on securing their status as *independent political units*, but – on the contrary – on supporting the integration process of indigenous populations into general working and economic life while preventing hardships.

The consultation and participation procedures stipulated in Articles 6, 7 and 15 form the centrepiece of Convention C169. They are to ensure the participation and voice of Indigenous Peoples in state regulations and projects immediately affecting them and their rights directly. Consultations are to be held in a form oriented on achieving agreement to the proposed measures, although no right of veto is provided for the Indigenous Peoples concerned. Neither is there any mention - on purpose and in contrast to the declaration - of these peoples' "right to self-determination". However, in terms of contents, the UN Declaration and the ILO Convention C169 complement each other and form robust foundations for the internationally recognised rights of Indigenous Peoples. While, as a non-binding instrument, the Declaration is not equipped with a legal complaints procedure, the Convention is anchored in the

ILO monitoring and complaints system. As a special feature among international organisations, in the ILO system, in addition to the representations of the state governments, the national representations of employer and employee organisations also play a leading role. In practice, it is therefore possible for e.g. national trade unions to lodge complaints (called "representations") referring to violations of rights based on the Convention with the ILO Governing Body, which is responsible for such issues. However, indigenous persons or organisations as such are excluded from the organisation's complaints and monitoring system.

Regional protection systems

In addition to the United Nations international human rights system, there are regional protection systems. The Inter-American Human Rights Convention of the Cold War era, which entered into force in 1978 and originally had a strongly "anti-communist" orientation, mentions neither Indigenous Peoples nor their rights. However, Article 21 of this instrument states: "Everyone has the right to the use and enjoyment of his property."

In an important ruling (Awas Tingni v. Nicaragua, 2001), the Inter-American Court of Human Rights extended this protection provided for by Article 21 to communal landed property not based on state civil law but on traditional customary law of an Indigenous People. Awas Tingni is an example of a regional human rights court's jurisdiction referring to and elaborating general human rights provisions to enhance the protection of Indigenous Peoples. In similar rulings, both the Inter-American Court of Human Rights and the African Court on Human and Peoples' Rights have had to judge new constellations of cases and, in this context, regarding the extent of legal protection provided, have occasionally had to go beyond Convention C169 and the UN Declaration. In a presently pending case (Tagaeri y Taromenane v. Ecuador), for the first time, the Inter-American Court of Human Rights is having to judge the rights of an indigenous group living in so-called voluntary isolation and therefore being unable to directly participate in the procedure.

All in all, the core areas of the rights of Indigenous Peoples outlined above show that privileges for groups stereotyped as alien, or fundamentally distinguishing them from a "cosmopolitical modernity" owing to the cultural purity which they have been attributed, are not at issue here. Rather, self-determined control of economic, social and cultural development is to be ensured. Such development is only possible through simultaneously ensuring and elaborating Indigenous Peoples' own political institutions, which have so far been concealed by the cloak of the colonial international system. It contributes to breaking up the monopoly status the territorial nation state holds because of colonialism, and creating a pluralistic and de-colonial international order in which the political institutions and organisations of Indigenous Peoples come out of legal exclusion and epistemological marginalisation and they themselves are attributed the status of International Law subjects without being states in the conventional sense.

Environmental law regulations

Through the development of the central international instruments, the contents of Indigenous Peoples' rights have received relatively clear - and by and large rarely disputed - contours. Presently, however, the important challenge of what outreach the purview of these rights has poses itself. To round off this topic, two important levels of this current challenge are to be addressed. Environmental law regulations are conventionally based on state legislation, which in turn is often oriented on the state of the art and insights in natural science. The apparent "objectivity" of western science eclipses the extensive knowledge of Indigenous Peoples regarding biological diversity and local ecological conditions. Whereas the Convention on Biological Diversity of 1992 already contains a reference to the respect and preservation of knowledge, innovations and practices of "indigenous communities" which are relevant for the conservation and sustainable use of biological diversity, this protection is only recognised in the Convention provided that it is established in state law. The institutions of Indigenous Peoples which are based on handed down experience are not explicitly recognised and safeguarded. States reserve the right to decide whether or not to even include traditional knowledge and practices of Indigenous Peoples in their environmental policies.

A similar deficit becomes particularly apparent in connection with the designation of Protected Areas. Ever since the concept of Protected Areas evolved in the 19^{th} century, designating national parks and similar protected areas has gone hand in hand with the notion of seeking to conserve pristine nature – devoid of humans. Most of the Protected Areas set up throughout the world, including the most extensive ones, were designated in regions which were regarded as *no man's land* in a legal sense, and state institutions were entrusted with their administration.

This had a double effect. The institutions of the population groups in the regions concerned were denied a relevant political existence of their own. Rather, the nation states laid claim to extending the purview of their legal system to these regions. Thus not only the natural resources that needed to be protected but also the members of the societies living there were made subject to state law. Protected areas were turned into a vehicle of forced assimilation and into regions designated for a "civilising mission"; an "indigenisation" of these populations is performed here via political exclusion. Paradoxically, this results in the traditional knowledge and practices contributing to the ecological balance of these regions being ignored, made illegal and, ultimately, destroyed.

At the 2022 Biodiversity Conference, states adopted the Kunming-Montreal Global Biodiversity Framework, according to which conservation areas are to be set up across 30 per cent of the planet's surface by 2030. While the document provides – albeit with a very weak formulation – for respecting the "rights of indigenous peoples and local communities", it remains to be seen whether Indigenous Peoples will indeed also be able to enjoy the right to self-determination in the context of global environmental politics.

The private sector and Indigenous Peoples' rights

The immediate relevance and binding force of Indigenous Peoples' Rights for non-government economic actors, especially in transnational business activities, is a second, important challenge regarding the outreach of Indigenous Peoples' rights.

Even the immediate purview of the universally recognised human rights still remains disputed when it comes to private transnational actors – despite the circumstance that activities performed by power generating companies, agricultural corporations or firms operating in the area of infrastructure development often result in particularly crass impairments of human rights such as resettlements, uncontrolled immigration, the destruction of habitats and the food base, etc. For more than a decade, a debate has been intensifying at global level on the obligation of states to legally require that firms under their jurisdiction observe human rights. However, regarding contents, the contours of this debate are by no means clear. On the one hand, it focuses on whether such regulations only have to address core human rights or, for example, also ought to be extended to Indigenous Peoples' rights, and on the other, to what extent corporations are also responsible for the companies participating in their international value chains (subsidiaries as well as regular business partners).

Developments in this area are highly topical, and are still in progress. In mid-2023, a European Union Regulation entered into force stipulating in a binding manner that a number of commodities brought into circulation in the EU must not contribute to deforestation and degradation of forests in the EU and elsewhere in the world. In their value chains, firms are legally bound to the objectives of this directive. In several instances, the recitals for the Regulation address in detail the close relationship between Indigenous Peoples and forest areas, for instance serious consequences of the destruction of forests "for the livelihoods of the most vulnerable people, including indigenous peoples and local communities who depend heavily on forest ecosystems". However, the core provision of the Regulation's Article 3 stipulates that relevant products may only enter the (EU) market if they are deforestation-free and "have been produced in accordance with the relevant legislation of the country of production". So it is up to the exporting country to determine how and whether Indigenous Peoples' rights are protected or even considered. This example shows that despite progress made in the true human rights sector, international law continues to be based on a largely colonially shaped exclusivity of territorial nation states.

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Indigenous women from communities in the province of Jujuy demonstrating for their rights in Buenos Aires/Argentina.

Photo: Fundación Plurales

Reconciling the green energy transition with the rights of Indigenous Peoples

The green energy transition is creating a huge demand for minerals like lithium. Extracting such minerals is highly landintensive, and largely takes place in Indigenous Peoples' territories, impacting habitats and populations' health. In this context, our authors call for a range of measures to safeguard Indigenous Peoples' rights and protect their interests.

By Nicolás Avellaneda, Maria José Guerra, Johanna von Braun and Jeremy Bourgoin*

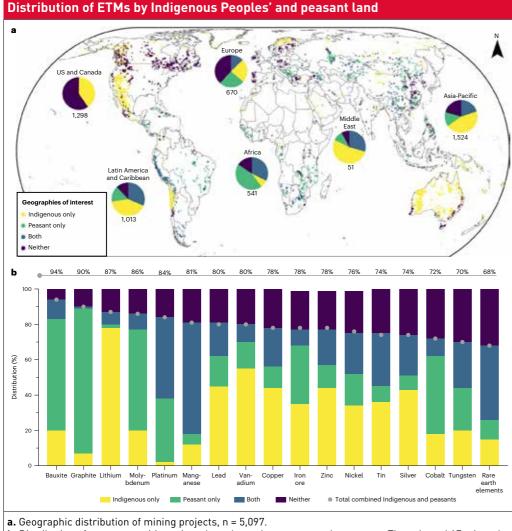
"Our struggle as Indigenous Peoples is legitimate. We are not asking for anything, only to continue living in peace, as we have for centuries, in harmony with nature and protecting the Pachamama. Today, our lands are seen as 'empty spaces', because big mining corporations come to our lands to make money, even if it means leaving us without critical natural resources, such as water. And those who supposedly govern for the people allow them without hesitation to do so [...]. As Indigenous Peoples we demand the cancellation of the reform that benefits foreign companies to exploit our natural resources leaving only pollution and dispossession! Jallalla ..." (Personal, interview, Mujeres Defensoras del Hábitat Natural, 2023).

This is a statement by women who are defending their territory in the province of Jujuy, in the north of Argentina, which is part of the famous lithium triangle in the large salt plains of Argentina, Bolivia and Chile. Recently, the local government of Jujuy enacted a speedy reform to the provincial constitution, undermining community property rights, limiting the right to protest, and providing enabling conditions for the extraction of strategic resources like lithium, one of the most important energy transition minerals (ETMs).

The reform has since faced significant scrutiny from human rights organisations and Indigenous Peoples, also because it took place without proper debate, participation of Indigenous Peoples, or adherence to the principles of free, prior and informed consent (FPIC). Water resources in the region, as well as the rights and livelihoods of Indigenous Peoples and peasant communities in Jujuy, hang in the balance. The escalating criminalisation of Indigenous Peoples defending their territory is deeply concerning and underscores the government's bias favouring the extractive mining sector under the guise of promoting the benefits of the energy transition.

In Argentina, home to about 20 per cent of global lithium deposit, lithium exploitation began in the 1980s, but between 2015 and 2020 its production increased by 72.2 per cent. In 2022, the country produced 33.000 tons of lithium, which is equivalent to five per cent of global production, and ranked as the fourth international producer after Australia, Chile and China. According to Argentina's government, it is estimated that by 2030, the main source of lithium demand world-wide will be lithium-ion batteries, chiefly associated with the increase in the use of electric vehicles and overall demand from the Global North. According to the International Energy Agency (IEA), lithium is expected to see the steepest demand for growth compared to all other energy transition minerals.

The ever-increasing and often scrupulous pursuit of lithium felt by the Indigenous Peoples of Jujuy is not unique to the region but replicated across the globe in areas where



 b. Distribution of energy transition minerals and metals reserves and resources. The selected 17 minerals and metals have the highest number of extractive projects worldwide. Percentages at the top of the figure represent those for the 'total combined Indigenous and peasants' variable.
 Source: Owen et al., 2023

ETMs are located. As history is repeating itself in an ongoing cycle of demand for resources, in this case, to fuel a global transition towards net zero economies, those most affected find themselves in conflict against a bulwark of geopolitical forces working against them.

The IEA anticipates a requirement of 48 trillion US dollars in investments by 2035 to fulfil global energy demands. At least half of this sum is earmarked for renewable electricity sources and energy efficiency initiatives, a goal supplemented by the UN Framework Convention on Climate Change COP28 presidency, which called for a tripling of clean energy production by 2030. Despite the crucial need for investments in cleaner energy generation, this transition will incur significant, yet under-recognised, costs due to its land-intensive nature. Green energy production is estimated to be ten times more land-intensive than its fossil fuel equivalent. It is also highly mineral-intensive, driving a growing demand for energy transition minerals such as lithium, cobalt, nickel, copper and others, with many of these commodities subsequently hitting record high prices in the early 2020s.

Estimates vary about the quantity of transition minerals located in Indigenous Peoples' territories, ranging from more than half of global deposits being located in or near Indigenous Peoples' lands and territories to nearly 70 per cent. Inevitably, Indigenous Peoples are thus poised to experience the most significant impact from the escalating demand and subsequent increase in land conflicts on the horizon. Socio-environmental conflicts frequently lead to heightened tensions between mining operators and/or governments and the communities entangled in the disputes. Recent analysis by the Land Matrix Initiative shows that the mining sector is already a major driver of large-scale land acquisitions in developing countries, with current transnational mining deals often situated in areas

characterised by high land tenure and food insecurity.

The conflict between Indigenous Peoples and the mining industry originates from a fundamental clash over the state's customary assertion of ownership over subsoil resources, irrespective of whether these areas are inhabited by local communities. This divide sets the stage for a distressingly familiar cycle of conflict reminiscent of fossil fuel extraction, encompassing environmental degradation and habitat disruption, the displacement and resettlement of populations, pollution and its adverse effects on public health, the criminalisation of grassroots movements, pursuit of indigenous, land and environmental defenders, and the influx of foreign workers, bringing with it associated social challenges.

Based on ongoing projects, Owen et al. (2023) mapped the regional hotspots and underlined the considerable pressure on Latin America and Asia Pacific (see Map). Africa, in turn, has the highest number of projects located in peasant land, or land that is characterised as that of both Indigenous Peoples and local communities, with significant global reserves in cobalt, platinum and iridium.

Why do land rights matter?

The stress inflicted by energy transition and increased demand for resources further underline the fundamental importance to protect legitimate tenure rights. Securing the rights of those who live and work on the land is the cornerstone of a just energy transition. Under a business-as-usual scenario regarding land rights, the growing demand in minerals associated with the energy transition will reproduce existing patterns of injustice.

It is key to adopt a human rights-based approach to the mining sector of ETMs, which fully enshrines the UN Declaration on the Rights of Indigenous Peoples. It needs to recognise the importance of land rights as well as ensuring meaningful engagement, equitable benefit sharing and providing fair compensation for any adverse impacts, and establishing transparent mechanisms for resolving conflicts. Ensuring accountability across scales is important, from different layers of responsibility in local/national institutions to operating companies and their shareholders. But thus far, while increasingly targeted guidelines are starting to emerge, they remain mainly voluntary and are characterised by the lack of enforcement, control and sanction mechanisms.

While the demand for mineral commodities is ever increasing, mapping rights of Indigenous Peoples is an urgent step to ensure the inclusion and legitimacy of previously excluded rights-holders. Mapping rights isn't just a quick fix – it's part of a bigger attempt to address power imbalances. These efforts focus on the root causes of vulnerability and are part of a larger movement urging us to rethink how we approach social transformation and development models in a just way.

"

Green energy production is estimated to be ten times more land-intensive than its fossil fuel equivalent.

Recycling, circular economy models and investment to increase material efficiency are also proposed as positive pathways to support the just energy transition. Recycling minerals will be a key component of any calculations towards how to meet the increasing demand for raw materials to fuel the energy transition. But even if by 2040, countries manage to secure supplies of significant shares of selective ETMs such as lithium and copper through recycling secondary minerals, this will still be outmatched by the projected surge in demand. Therefore in the foreseeable future, the initial phase of the value chain (extraction of ETMs) as well as deployment (infrastructure, e.g. in the form of wind farms) will continue to burden developing countries abundant in critical minerals with the social and environmental costs of the energy transition. Within these countries, Indigenous Peoples, such as those impacted by lithium mining in Argentina, are going to bear the brunt of these effects.

Where to from here

With a wealth of experiences across the globe of "how not to do it", we would appear to be wiser and more equitable today when it comes to reconciling the global demand of resources with the need to protect the most vulnerable on the ground and ensuring that their rights are safeguarded and their interests are protected. The pressure stemming from energy transitions and the rising need for land and resources underscores the critical necessity of safeguarding rightful tenure and honouring the principle of free, prior and informed consent (FPIC).

Ensuring the rights of those living on and from the affected land must form the bedrock of an equitable energy transition. Otherwise, the increasing demand for minerals linked to the energy transition will perpetuate and worsen prevailing injustices. A rights-based strategy on all levels is urgently required in renewable energy governance to adequately tackle the negative human rights impacts and associated risks. This must include the following:

- 1. Clarity on land tenure. Land lies at the centre of ongoing and future conflicts relating to the majority of resource extraction and infrastructure development required for reaching a net zero economy. Those who live on and from the land have to be involved in any decision-making that may affect them. Appropriate legal frameworks, such as the new Customary Land Rights and National Land Commissions Act of Sierra Leone (2022), could serve as examples of the most progressive legal frameworks protecting communities against unwanted mining, including women.
- 2. Full implementation of the right to FPIC. Indeed, a recent report by Oxfam highlights that current company policies within the mining sector regarding ETMs inadequately acknowledge Indigenous Peoples' right to FPIC. We need to do better than that and follow the best practice standards that have been developed in this field.
- 3. Beyond FPIC, adopting other business procedures that are aligned with the UN Guiding Principles on Business and Human Rights, or more targeted ones, such as the Initiative for Responsible Mining Assurance. This needs to include the introduction of dispute settlement, grievance and redress mechanisms that are available and accessible to Indigenous Peoples.
- 4. Protection of indigenous, land and environmental defenders (ILEDs). In 2020, the NGO Global Witness documented the killing of 227 land and environmental defenders, with over a third of those being indigenous people. The Alliance for Land, Indigenous and Environmental Defenders (ALLIED) further estimated that for every killing, nearly four non-lethal attacks were documented on ILEDs, 83 per cent of these against indigenous people and other community leaders. Between 2010 and 2022, the



Lithium-ion batteries for electric bikes. Photo: Jörg Böthling

Business and Human Rights Resource Centre reported 510 allegations of human rights abuses related to energy transition minerals. While we all recognise the importance of phasing out fossil fuels, it is critical for the energy transition to be just as accountable to human rights abuses as all other industries.

5. Shared ownership and prosperity models. In addition to accountability mechanisms, FPIC and other safeguards, new development models have emerged over recent years which move beyond due diligence to proposals of co-ownership and co-development. Such models, which exist for both energy production and mining, must be celebrated and mainstreamed. For examples, explore the "Shared Prosperity Hub" co-hosted by the Business and Human Rights Resource Centre and Indigenous Peoples' Rights International.

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FPIC protocols – rebalancing power by changing the rules of the game?

In order to operationalise their internationally recognised right to free, prior and informed consent (FPIC), many Indigenous Peoples are developing FPIC protocols. Our author explains what is behind these instruments and gives an overview of community experience with them so far.

By Cathal Doyle

Indigenous Peoples' protocols governing engagement with third parties are embedded in their customs and laws transmitted through oral traditions and occasionally reflected in treaties and agreements with states and other actors. Contemporary international human rights law recognises them as peoples vested with the rights to self-determination and to lands, territories and resources, free to determine their social, economic and cultural development. To safeguard these rights, it requires their free, prior and informed consent (FPIC) whenever external activities may impact on them. Despite this, experience with FPIC implementation is disappointing. Control over FPIC recognition and definition remains in the hands of states and corporations, and is divorced from Indigenous Peoples' self-governance, territorial and cultural rights. Instead of protecting Indigenous Peoples' rights, consultation and "FPIC" become box-ticking exercises used by outsiders to coercively legitimise the unprecedented scale of extractive, agribusiness, energy and infrastructure projects in indigenous lands with profound impacts on their well-being and survival.

A growing response of Indigenous Peoples is to codify their laws and governance rules in the form of consultation and FPIC protocols, laws and polices (henceforth FPIC protocols), in which they define how they are to be consulted and their FPIC is to be sought. They capture Indigenous Peoples' conception of FPIC as a manifestation of their control over the development of their territories and as inseparable from their diverse decision-making practices, laws and customs. This practice emerged in the early 2000s when Canadian First Nations developed protocols, templates and policies to negotiate directly with mining companies. A second wave of "bio-cultural protocols" emerged in the late 2000s in the context of access and benefit sharing agreements under the Convention on Biological Diversity, but tend to have a limited focus on state duties in relation to FPIC. The third wave of FPIC protocols followed the adoption of the UN Declaration on the Rights of



Community members participating in a meeting of the Autonomous Territorial Government of the Wampis Nation (GTANW), Peru.

Photo: Elena Campos-Cea / GTANW

Indigenous Peoples, and these are self-governance instruments that address state and corporate obligations and Indigenous Peoples' rights under international, national and indigenous customary law. They are most common in the Americas, and communities in Argentina, Belize, Brazil, Canada, Colombia, Costa Rica, Chile, Ecuador, Guatemala, Guyana, Honduras, Paraguay, Peru, Suriname and the United States have developed or are developing them.

Growing recognition

These FPIC protocols are increasingly recognised by national, regional and international judicial and quasi-judicial bodies, such as Federal Prosecutors in Brazil, the Argentinian Ombudsman, Constitutional and Federal Courts in Brazil and Colombia, the Inter-American Commission on Human Rights, the Committee on Economic, Social and Cultural Rights, the UN Special Rapporteur on the Rights of Indigenous Peoples, the Expert Mechanism on the Rights of Indigenous Peoples, the UN Working Group on Business and Human Rights, and by international bodies such as the Office of the High Commissioner on Human Rights, the United Nations Development Programme and the Green Climate Fund.

Implementation is at an early stage but there are several positive examples. Canadian First Nations protocols draw on land claim agreements to regulate if and how consent is granted to mining companies, and some have been used to negotiate impact-benefit agreements and establish contractual commitments for consent for mineral exploitation or invoked when seeking injunctions against mining. The Afro-Descendant Palenke people's FPIC protocol was affirmed in a Colombian Constitutional Court decision and used post-facto to regulate the conduct of impact assessments for a large-scale hydroelectric dam. In Honduras, the Miskitu Indigenous people used their protocol in a consultation with the State and the BG Group to agree certain conditions prior to the commencement of oil exploitation. Communities in Brazil, Suriname, Belize, Costa Rica and Ecuador are developing, using or considering developing protocols in the context of REDD+ projects. In the Philippines, the Subanon FPIC protocol helped catalyse reform of national FPIC consultation guidelines to be more culturally appropriate and consistent with customary laws. The Khoikhoi and San peoples' 2019 benefit-sharing agreement with the South African Rooibos industry requires FPIC for access to their traditional knowledge, while Indigenous Peoples in Kenya, Zimbabwe, Nepal and the USA have invoked their protocols in engagements with governments, corporations, financial institutions and international organisations.

Emblematic examples in Brazil and Colombia

The Juruna, one of the peoples of the Xingu River in the State of Pará in Brazil, finalised their protocol in 2017 when faced with the Belo Sun mining project in the absence of prior consultation or FPIC, following a profoundly negative experience with the Belo Monte Dam. A notable feature is its emphasis on their role in designing participatory environmental impact assessments. In 2018, the Juruna won a case in the Federal Court suspending the Belo Sun mining project and affirming the need to respect their FPIC Protocol, which led to an environmental approval for the mine being declared invalid. The case also provided the basis for the Indigenous Peoples of Xingu to insist that State agencies comply with their protocol in the context of the proposed construction of a highway and the development of the Central West Integration Railway, and that international investors ensure FPIC is verified by agreements that are not repudiated by Indigenous Peoples.

In 2012, after mining concessions were issued without consultation in the Resguardo Indígena Cañamomo Lomaprieta, Caldas, Colombia, the Embera Chamí developed an FPIC protocol as part of their regulatory framework governing mining in their territory. In 2016, the Colombian Constitutional

Court affirmed that the State must respect the Embera Chamí protocols. In March 2024, the Resguardo launched a revised FPIC Law that serves as a model for Indigenous Peoples in Colombia and beyond. It addresses developments in international, national and regional jurisprudence and standards, and places indigenous law at the centre of decision-making, identifying its relevance to new threats, such as nature markets. The FPIC protocol had a deterrent effect, as no company has managed to commence large-scale mining activities in the Resguardo since its adoption. However, widespread intimidation, death threats, attacks and killings of community leaders is a huge challenge to the implementation of FPIC protocols by Indigenous Peoples in Colombia and elsewhere.

Opportunities and challenges

A core feature of FPIC protocol development is its contribution to strengthening Indigenous Peoples' representative structures and internal consultation mechanisms, building community unity and enhancing networks with regional indigenous organisations and improving access to technical, political and financial resources - all key determinants of successful outcomes in consultations with external actors. Another benefit of developing them is that by defining what FPIC means in their particular context, Indigenous Peoples can infuse international law with their customary laws and perspectives. This in turn incentivises and empowers international and government bodies, including Courts, that recognise indigenous rights to insist on such interpretations and to reject state actors as the only legitimate interpreters of Indigenous Peoples' collective human rights at national level. As legal instruments grounded in distinct international, national and indigenous law bodies, they serve as vehicles for legal plurality and offer pragmatic and constructive responses to questions of why and under what conditions the requirement for FPIC exists and how and by whom it should be obtained.

Significant challenges remain for the full potential of FPIC protocols to be realised. The unwillingness of many states to recognise indigenous peoples' rights and to reform legislative and policy frameworks continues to constrain autonomy and territorial rights. This lack of rights recognition is compounded by discrimination against and misunderstanding of indigenous cultures and legal systems and the enormous influence extractive, energy and agribusiness corporations wield over decision-making processes impacting on Indigenous Peoples' rights. The presence of both armed and illegal actors and the failure to address on-going harms of externally imposed development activities are major obstacles to the development and implementation of FPIC protocols.

Outlook

Indigenous Peoples are developing FPIC protocols in good faith as a proactive means of operationalising their internationally recognised right to FPIC. However, the failure of states and businesses to respect the collective rights that FPIC aims to safeguard means that instead of being used to regulate consultations, FPIC protocols primarily serve as tools for strengthening self-governance and political mobilisation, for education, and as a means of resisting rights-denying projects.

The growing recognition of the authority of FPIC protocols by regional and international human rights, international developmental bodies and funders, and by some national actors, is encouraging. Developed in specific local contexts, FPIC protocols are more than the sum of their parts. As more Indigenous Peoples develop and demand respect for them, their impact will be magnified. The emergence of a body of practice in this area by Indigenous Peoples could, in time, establish a de-facto regulation of consultation and FPIC processes in accordance with international human rights law and indigenous customary law that states, corporations and international organisations cannot ignore.

International community legal, technical and financial assistance that empowers communities to assert their protocols through judicial and quasi-judicial processes and enables them to learn from each other's experiences through people-to-people exchanges at national, regional and international levels could help catalyse this much needed transformative change and better position Indigenous Peoples to realise their self-government and territorial rights.

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Haki Ardhi – the women's land rights reporting tool

Access to land is vital for rural communities, but climate change and a growing demand for this resource have exacerbated conflicts over land that disproportionately affect marginalised groups, especially women and indigenous people. Haki Ardhi, a decentralised land justice tool, addresses these challenges by empowering women and communities to report land conflicts and hold those responsible to account.

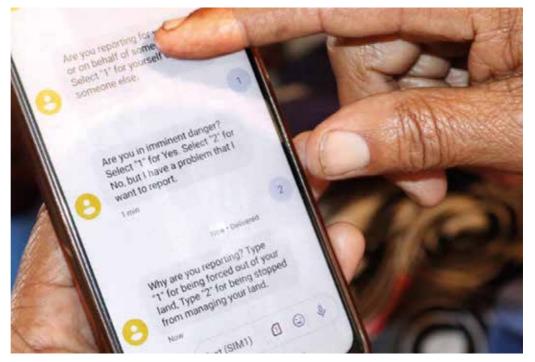
By Frederike Klümper and David Betge

While women are often taking care of their family's food and nutritional needs and managing household resources, they account for less than 20 per cent of landowners world-wide. In some Asian and African countries, this figure is even lower. Despite favourable legislation in recent years aimed at protecting women's land rights, these rights are often effectively denied due to deeply rooted patriarchal norms and women, men and powerholders lacking awareness of such rights. In addition, customary land governance systems often do not allow women to inherit land, making access to justice and dispute resolution related to land difficult.

The genesis of women's land rights reporting in Kenya

This inequality is also evident in Kenya, where more than 70 per cent of women do not have title deeds. As a result, they are at risk of being displaced in the case of divorce or the death of their husbands. Widows and unmarried women in particular have difficulty claiming the land of the deceased and are often unfairly excluded from secure land rights. This denial not only jeopardises survival but also violates fundamental human rights, including access to justice, redress, compensation and participation.

In response to the urgent need to address climate challenges, to reduce or compensate carbon emissions, Kenya is (becoming) a hotspot for external investment and global initiatives for carbon markets. This leads to land-intensive projects that risk disregarding the rights of rural communities and especially the rights of indigenous people and women. To tackle these risks, it is imperative for communities and individuals to be able to monitor and report on land rights infringements, as well as to ensure that project implementers and duty bearers are held accountable for upholding and protecting these rights. Responding to the increasing threats to tenure rights, the idea of Haki Ardhi (Swahili: Land Justice) was born. By providing a community-based platform for women to report land conflicts and receive support, Haki



Land rights' violations can be reported via various channels.

Photo: Kenya Land Alliance

Ardhi not only becomes a transformative tool for women; by addressing land conflicts and advocating for women's land rights, it seeks to bring about change benefiting the community as a whole.

Accessibility for everyone

Haki Ardhi was jointly developed by TMG Research, Kenya Land Alliance and Rainforest Foundation UK between 2022 and 2023. It integrates digital reporting to document evidence, data collection and processing with innovative, social support structures that are already existing and well-established. The tool takes a multi-layered approach to empowering individuals and communities by providing accessible reporting options through multiple channels, including a toll-free, automated SMS hotline (accessible via standard mobile phones), paralegals and community workers, and office consultations. These different reporting channels ensure inclusivity and cater to the varying levels of technological literacy among women.

Beyond reporting, the tool can equip community-based organisations with data to provide targeted support to women affected by rights violations and provide evidence of recurring or urgent issues to conduct targeted advocacy work and hold those responsible accountable.

Currently, the Haki Ardhi Rights Reporting Tool is being piloted in two Kenyan counties that are struggling with widespread violations of women's tenure rights. Three community-based organisations, one in Kakamega (Shibuye Community Health Workers) and two in Taita Taveta (Taita Taveta Human Rights Watch and Sauti Ya Wanawake) counties, are actively using Haki Ardhi and offering reporting options. So far, through concerted outreach campaigns and radio broadcasts, the tool has successfully reached and engaged with more than 1,000 women, enhancing awareness and support.

One of the key achievements of Haki Ardhi is that it puts monitoring and reporting directly in the hands of communities or com-

Alarming trends in forced evictions reported

Reporting on forced evictions and interference in land management processes through Haki Ardhi reveals a concerning reality in Taita Taveta and Kakamega counties. From June 2023 to February 2024, 124 cases were reported. The specific figures highlight the urgent need for comprehensive measures to protect the rights of individuals and communities. The numbers show that forced evictions are an increasing concern in both counties. The reported perpetrators varied, ranging from government officials (33.3 %) and family members (33.3 %) to company representatives (13.3 %) and others (20 %).

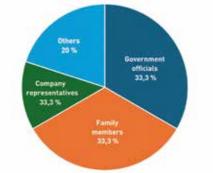
The in-person consultations further highlighted the gravity of forced evictions. A striking 95.3 per cent of cases occurred on private or family-owned land, with 4.65 per cent affecting community-owned or communal land. Almost 56 per cent of reporters

munity-based organisations, allowing them to collect their own data in a decentralised way and use it according to their own priorities and needs. This is in stark contrast to the usual top-down monitoring and reporting practices where state actors or companies collect data, and it suggests that Haki Ardhi has potential for widespread adoption, particularly among Indigenous Peoples and local communities.

The idea of reporting via Haki Ardhi goes beyond individual cases. Civil society organisations (CSOs) can use the data generated to consistently monitor and formulate advocacy strategies and address systemic issues that contribute to the violation of land rights. So far, the tool has made contributions in two key areas. Firstly, it has successfully identified the prevalence of women's tenure rights violations in two Kenyan counties (see Box). Secondly, community-based organisations and the national umbrella body (Kenya Land Alliance) have effectively channelled targeted support to women who have experienced infringements on their rights.

The Haki Ardhi tool has been well received by powerholders, who have been actively and consistently involved since the inception of its development and implementation. Local chiefs perceive the issue of women's land rights as an urgent and unresolved problem, one that they also recognise as relevant to their own political roles and interests. Men in the community actively participate in awareness-raising activities related to the Haki Ardhi tool. While some

Reported Perpetrators in Cases of Forced Evictions



were widowed, emphasising the vulnerability of this demographic. But the impact on rural families goes even further as 54 per cent of cases involved children. In 51 per cent of cases, violence was not reported, but nearly 34 per cent involved verbal violence, and almost 14 per cent involved physical violence, which is a significant number showing signs

initially expressed concerns about their own rights, many have shown a willingness to engage in discussions about the urgent need for better protection of women's land rights.

Moving ahead

The Haki Ardhi tool builds on existing community structures and support actors. Addressing land rights violations can only happen through improved governance and accountability processes. A safe reporting space is necessary to minimise the risk of escalating conflicts and violence. Haki Ardhi has the potential to address the emerging challenge of "green grabbing" through actively involving communities in countering exploitative practices and ensuring they can safeguard their rights. Given the ongoing land rush and the growing need for climate action through landbased interventions, it can contribute to justice and accountability. By providing them with a tool for monitoring and reporting, Haki Ardhi also enables Indigenous groups to protect their ancestral lands from encroachment and exploitation. This is particularly important as Indigenous Peoples are often disproportionately affected by land grabbing and environmental degradation, which threatens their cultural heritage and traditional livelihoods.

Accountability based on the ability of communities and individuals to monitor and report infringements of their rights plays a central role in the concept of "just transition", ensuring both of gender-based violence connected to land conflicts. Intra-family land issues are usually standing out. Also, the reported cases confirm that husbands were identified as the perpetrator in roughly 34 per cent of violent cases.

From all reported cases, more than 51 per cent of individuals had already been displaced from their homes or lands, illustrating the urgency of the situation as these women face serious problems in managing their livelihoods. Additionally, nearly 63 per cent reported seeking assistance by visiting government offices, emphasising the need for intervention at the institutional level. Since June 2023, when the tool was first used, first cases have been resolved in favour of the survivor. In most cases, community mediation and/or judicial proceedings have been used to solve the cases, with the first one usually being preferred.

environmental sustainability and social equity. There is a growing focus on rights-based approaches to implementing the three Rio Conventions. For example, the Convention on Biological Diversity recognises the important role and contribution of Indigenous Peoples and local communities as custodians of biodiversity. Goal 22 specifically aims to ensure the full, equitable, and inclusive representation and participation of Indigenous Peoples and local communities in decision-making. In this endeavour, reporting and monitoring tools like Haki Ardhi are pivotal in empowering marginalised communities and fostering inclusive and sustainable land governance for all.

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The Indigenous Navigator – data for and by Indigenous Peoples

By documenting and reporting their situation, Indigenous Peoples can enhance their access to justice and development. The Indigenous Navigator provides them with the necessary tools.

By Carol Rask

To respect, protect and fulfil the human rights of Indigenous Peoples, states have, among others, an obligation to monitor the degree to which national strategies, policies and plans address the inequalities and discrimination that many indigenous communities face. To do this, states need reliable data on the situation of Indigenous Peoples. The lack of this data invariably impacts on the adequacy of state measures in both recognising the contributions of Indigenous Peoples and implementing their rights.

The Navigator and its main tools

To address this gap and support states' efforts in this regard, the Indigenous Navigator initiative works with Indigenous organisations and their communities to generate data on the status of the implementation and realisation of their rights based on international human rights and labour standards. As an online portal, the Indigenous Navigator provides Indigenous Peoples and their organisations with free access to an internationally recognised framework and set of data generation tools and guidance. The tools are grounded in the UN Declaration on the Rights of Indigenous Peoples (UNDRIP), ILO Convention 169 (ILO C169) and binding human rights instruments. The main tools of the Indigenous Navigator are described in the following.

Indicator framework

The indicator framework is the backbone of the Indigenous Navigator. It was developed using the methodology for the human rights indicators of the United Nations Human Rights Office (OHCHR). The indicators are structured around the twelve thematic domains as reflected in UNDRIP (see Figure). They were developed by further identifying the sub-categories of human rights covered under each of these domains and clarifying the key attributes or characteristics of the rights in question. Three types of indicators were then developed to monitor different aspects of state obligations to respect, protect and fulfil these rights:

The structural indicators measure the extent of the state's commitment to Indigenous Peoples' human rights. In other words, they monitor whether the state has



ratified the relevant treaties or has adopted the necessary national legislation or policies. This includes, for example, whether there is a recognition of Indigenous Peoples' distinct identity in the constitution or national legislation based on self-identification.

- The **process** indicators measure the efforts made by states to implement these commitments, e.g. whether they have developed adequate programmes and budgets to implement their obligations. An example of such a process indicator is whether public funds from central or local government have been allocated from central and/or local government to Indigenous Peoples' self-government institutions.
- The outcome indicators measure the degree to which Indigenous Peoples actually enjoy these rights in practice, e.g. whether they report that there are consultations with their autonomous institutions before approval of measures and projects that may affect them.

The indicator framework, as an independent tool, can be used in analyses and baselines to identify gaps in the implementation of UNDRIP and as a basis for policy dialogue.

Comparative matrix and data base

The comparative matrix exemplifies the methodology described above, showing how indi-

cators are linked to the twelve domains and sub-categories. It also reflects how these indicators have been developed into specific questions which can be found in questionnaires (see below) on the portal. Importantly, it illustrates the direct linkages between UNDRIP and legally binding international human rights and labour standards. Since UNDRIP does not provide for an institutionalised monitoring mechanism, these linkages to binding instruments with monitoring mechanisms allow Indigenous Peoples and other interested stakeholders to use data collected based on the provisions of UN-DRIP in the reporting and monitoring processes established in the respective legally binding instruments for increased accountability. These include, among others, the International Covenant on Economic, Social and Cultural Rights, the International Covenant on Civil and Political Rights, the International Convention on the Elimination of All Forms of Racial Discrimination and the Convention on the Elimination of All Forms of Discrimination Against Women.

National and community questionnaires

Based on the indicator framework presented above, the Indigenous Navigator includes two questionnaires:

■ A national questionnaire for use in country profiling. It is designed to assess the lev-

el of recognition and implementation of UNDRIP in a particular country, focusing primarily on the existence of laws, policies and programmes.

A community questionnaire for use by indigenous organisations and communities. This questionnaire helps document the human rights situation of particular indigenous communities.

Indigenous Navigator Index

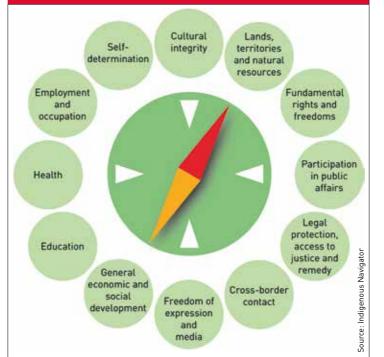
Two Indigenous Navigator indices have been developed to assist in the visualisation of the results from the data collection. They allow for the ranking of countries' performance in recognising and implementing Indigenous Peoples' rights in line with UNDRIP. These indices can be used in briefings, reports and publications to highlight gaps in the states' implementation of Indigenous Peoples' human rights. The Index Tools assign a numerical value to the responses of the questions chosen from the two questionnaires respectively. A "better" response option means that there is a higher level of human rights compliance or enjoyment of the right than a "worse" response option. The higher the level of human rights compliance, the higher the score of the response option in the index. To make the response options of the different questions comparable, the scores have been "normalised", meaning that the value ranges from 0 to 100 depending on the level of recognition and implementation of Indigenous Peoples' rights. The category score is calculated as the average score (simple mean) of the questions included in the given sub-category for both the national and the community questions. The same goes for the domains, where the index value of a domain is given by the average score (simple mean) of the included categories. The overall index score is a simple mean of all twelve domains.

When an Indigenous Navigator Community Index and an Indigenous Navigator National Index have both been generated for the same country, a comparison of the two will show whether communities' experiences of actual respect for their rights reflect the level of recognition of their rights in national legislation, policies and programmes. Likewise, index values can be compared across communities, across countries or over time if the data gathering is repeated.

Data explorer and index explorer

Anyone can explore the data on the online portal once consent has been obtained for making the data public. The data explorer visualises all the submitted answers and comments, while the index explorer allows users

The twelve domains in the Indigenous Navigator



to explore the calculated index values and implementation status.

From sensitisation to self-determined development

The Indigenous Navigator has been used in the following ways by Indigenous Peoples:

Sensitisation and data collection: At the community level, data is collected through a full community meeting, a focus group or a community seminar. The process is aided by a facilitator and often combined with training sessions. Data collection must respect the principle of free, prior and informed consent, including consent to upload data to the Indigenous Navigator Data Portal. The community must be fully informed about external uses of the data and any further developments. Results must remain easily accessible to the community, which the data is meant to serve. Experiences to date have shown that applying the Indigenous Navigator tools has had an empowering effect on Indigenous communities.

Advocacy and policy influence: The data is used by Indigenous Peoples to produce data-driven reports and policy briefs for engaging a range of stakeholders. The latter have included national governments, UN agencies, development agencies, the private sector and other civil society organisations. The Indigenous Navigator has already facilitated improvements at national level. For example, in Nepal, advocacy efforts using the Indigenous Navigator have led to a series of reforms. Provincial and local governments for have, instance, started consulting Indigenous Peoples in local development planning and have allocated funds for the general socio-economic and cultural development of Indigenous Peoples.

Self-determined development: Key to the Indigenous Navigator initiative is supporting Indigenous Peoples to create their own development paths, informed by their own cultural values, traditional

knowledge and cosmovisions. The collected data is thus also used to assist Indigenous Peoples in designing and implementing projects that address their specific needs and challenges, as revealed in the data. The initiative provides small grants to Indigenous communities to facilitate these community-led projects. For example, in Palmira, in the Lomerío Indigenous Territory in Bolivia, the indigenous communities identified that there was no clear policy on implementing bilingual intercultural education in the territory. They consequently decided to embark on a project to revive the Bésiro language through a small grant and were able to study the language alongside Spanish.

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The Indigenous Navigator is a collaborative initiative co-ordinated by five partners: Asia Indigenous Peoples Pact (AIPP), Forest Peoples Programme (FPP), Tebtebba Foundation, the International Work Group for Indigenous Affairs (IWGIA) and the Danish Institute for Human Rights (DIHR). The author would like to thank the Consortium for their valuable input to this article.



Collective efforts for successful advocacy

Indigenous peoples in rural areas face many challenges: poverty, hunger, weak access to basic social services and productive assets like land, water, or seeds. The root causes are inequality and exclusion from political discourse. However, the communities have long refused to accept these conditions. Supported by international development cooperation, they are demanding that their rights be enforced as well as being involved in decision-making processes. With success, as our example from Kenya shows.

By Ralf Kaminski and Christa Suter

Judy Kipkenda belongs to the Ogiek people, an indigenous hunter-gatherer community in Central Kenya. She is 35 years old, a mother of three, and farms in Koibatek, in the Great Rift Valley. She also founded an organisation to help local indigenous farmers with the adaptation to climate change, particularly women and young people. As executive director of the Koibatek Ogiek Women and Youth Network (Kowyn), she even participated in a side event of the 51st Session of the UN Committee on Food Security in Rome, Italy, last autumn. "Governments and organisations should acknowledge the value of indigenous knowledge systems in promoting sustainable practices and conservation," she said in her presentation. "This involves incorporating traditional knowledge into climate action plans and agriculture policies." Kipkenda also emphasised that indigenous people should be included in decision-making processes concerning climate action and food security. "They need to be part of the negotiations, not just on the side-lines," she said.

Elevating the voices of indigenous communities

The young woman not only represented her own organisation in Rome but also Cemiride, the Center for Minority Rights Development. This Kenyan organisation was established in 2001 to strengthen the capacities of minorities and Indigenous Peoples - pastoralists, forest peoples and fisher communities - to advocate for their rights. Raise, a project that seeks to promote the agroecological transition and the implementation of peasant rights as enshrined in the UN Declaration on the Rights of Peasants and Other People Working in Rural Areas (UNDROP), recently started supporting the organisation in this endeavour. Although Kenya and 120 other countries voted in favour of UNDROP, the translation of peasant rights into national laws is routinely lacking, and even when progressive laws exist, their systematic implementation is often not guaranteed. The Raise partners, which are coordinated by the Swiss NGO Fastenaktion, want to ensure that peasants know their rights - and are empowered to demand their implementation at national and international level. Kipkenda's presentation in Rome shows just how important such advocacy work is. She was the only indigenous young woman participating in this event. And she feels that

she has made an impression.

"Overall, we have made substantial progress in Kenya," comments Nyang'ori Ohenjo, team lead at Cemiride. "Together with representacommunity tives for Cemiride and Raise, the Kenyan policy-makers formulate plans that incorindigporate food enous and systems the recognise relevance of agroecology," explains. he One importa n t achievement is that Indigenous Peoples' needs and experiences have been integrated in Kenya's National Climate Change Action Plan (2019 - 2024) and that they are addressed in politics via the Climate Smart Agriculture Multistakeholder Platform. Cemiride also facilitated the active participation of Indigenous Peoples at the international UN climate conferences COP27 and 28 and at regional forums. "During these engagements, the African Commission on Peoples and Human Rights unequivocally aligned with Indigenous Peoples, emphasising the critical nature of land and land rights in ensuring the right to food and food security," Ohenjo notes. Successful engagement in these forums had elevated the voices of indigenous communities, fostering a broader understanding of their rights.

Implementation remains a challenge

"However, the path has not been without hurdles," Ohenjo adds, looking back at the last one and a half years. "Not only did we have to cope with a famine, but there was also a change in political leadership, which to some extent led to a restart with the newly elected leaders." In addition, there is the change in weather patterns because of climate change. "Prolonged droughts impact our agricultural activities, affecting the very core of the Raise project which revolves around sustainable agroecology," Ohenjo explains. And, despite a positive change of Kenyan policies, the practical implementation of these commitments remains an ongoing challenge, he says. "It demands sustained efforts from various stakeholders."

Judy Kipkenga is campaigning for policy change in Kenya's legislation on seed so that traditional indigenous seeds can be widely used and exchanged through seedbanks.

Photo: Fastenaktion

Integrated approaches are crucial to the success of these efforts. Just like in many other countries, in Kenya too, agricultural policy dialogue is often detached from the land issue. And economic development policy is often separate from land rights. It takes holistic advocacy work with an integrated reference to land rights to satisfy the needs of indigenous communities, farming families and pastoralists. Cemiride's advocacy work always includes the active participation and empowerment of Indigenous Peoples themselves. Developing and strengthening networks within indigenous communities is another key factor, as is using UNDROP as an important advocacy tool with policy-makers.

Improvements in daily life

Judy Kipkenda sees considerable progress in the lives of the people she works with. The Ogiek community - in total around 52,000 people - has only a little land left for beekeeping and agriculture after the government evicted them from their forests in 1987 to harvest timber and other natural resources. "So, we trained the farmers to still grow enough food through agroecology with traditional seeds and kitchen gardens. This not only helped with food security, but it also reduced the cost of planting, created a feeling of togetherness, and promoted cultural traditions," Kipkenda explains. The situation of women has improved as well. They do most of the agricultural work and can sell some of the produce. "Their confidence has grown, since they earn their own money and get more respect and recognition from the men," she maintains.

However, that progress is limited to the people in her project, around 100 households, the farmer explains, adding that the overall situation of Indigenous Peoples in Kenya is challenging. "There are still many land evictions, culture and language continue to deteriorate, and food security remains an issue as well," she points out. Then again, there are many small indigenous communities which benefit from similar projects by Cemiride and Raise, for example the Endorois and Ilchamus people. "And that collective effort also has an effect on the national level," Kipkenda notes.

The struggle against powerful business interests

Judy Kipkenda's current big project is to push a policy change in Kenya's seed laws, so that traditional indigenous seeds can be widely

Strong partnerships

The Koibatek Ogiek Women and Youth Network (KOWYN) was founded in 2021 with the aim to improve the living standards of the Ogiek community – by enhancing food security and food sovereignty. In addition, the organisation seeks to amplify the voices and capacities of women and youth to tackle the Community's economic, social and environmental problems for sustainable community development. More information: koibatekogiek.org

The **Kenyan Center for Minority Rights Development (CEMIRIDE)** was established in 2001. The initiative was prompted by the denial of citizenship rights for the Nubian community in the country. Cemiride was thus established to "bring the conversation of the existence and violation of the rights of minorities and indigenous peoples in Kenya into the public and explore redress mechanisms especially with the Kenyan government". **More information: cemiride.org**

The RAISE project stands for Rights-based and Agroecological Initiatives for Sustainability and Equity in Peasant Communities. In this context, "peasants" refers to smallholder farmers, pastoralists, fishermen/ women, and farmworkers; it also considers that many of them are women, youth, ethnic minorities, or Indigenous people. The project partners are especially concerned with the right to food, land and seeds, and with strengthening the rights of peasants – including Indigenous Peoples – to participate in decision-making. Its partners in the international consortium are the Rural Women's Assembly (RWA), Vétérinaires sans Frontières Suisse and their local partners Cemiride and Réseau Billital Maroobe, as well as DKA Austria and their local partner organisations. The consortium is led by **Fastenaktion**, a Swiss NGO which focuses on the right to food and is committed to achieving a more equitable world and to overcome hunger. Drawing on local knowledge, it develops approaches in dialogue with partner organisations in 14 countries across Africa, Asia and Latin America.

RAISE is co-financed by the Swiss Agency for Development and Cooperation (SDC). Its activities take place in Kenya, South Africa, Burkina Faso, Niger, Mali, India and Nepal. **More information: fastenaktion.ch/projekt/raise/**

used and exchanged through seedbanks. Those seeds are not only part of the cultural identity, but also work better under climate crisis conditions. "This change would be a very important step for us; there is however considerable opposition from the business people who profit from the current law. And they have more money and power to influence politicians," the young farmer explains.

This national law prohibits farmers from sharing, exchanging or selling uncertified and unregistered seeds – which most of the seeds of the Indigenous Peoples are, because registering them is expensive. Offenders are punished with a high fee or even a prison sentence of up to two years. Kipkenda hopes that the combined lobby efforts will at least help to change the policies of some of Kenya's counties, even though the regulation of seeds is a matter of national policies. For example, Kenya ratified the International Union for the Protection of New Varieties of Plants (UPOV) convention to this end in 1999. Nevertheless, local authorities, such as county governments, do have the possibility to influence national policies. "Then the national government would have to come around at some point," she says.

From where does she take the energy and the time to do all this, next to caring for her children and running her own farm? Kipkenda smiles. "I was inspired by my mother who already started to work with indigenous seeds," she recalls. "And I have a supportive husband and family, which helps a lot. Most of all though, I see the changes our work achieves for indigenous women. That is very satisfying and gives me the energy to go on."

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Combining indigenous knowledge with meteorological expertise

In order to address the challenges climate change is posing, we have to make use of the traditional knowledge of local communities. Nowadays, this requirement is hardly ever missing in international agreements. Nevertheless, it is seldom implemented in practice. However, there are exceptions, as the examples of the Borana people from Ethiopia and the Acora communities in the Peruvian Andes show.

By Ana Maria Vela, Maruja Gallardo, Abarufa Jatani, Duba Tedecha, Meron Wubishet and Jane Carter



Boru Malicha, a traditional forecaster in Ethiopia. Traditional forecasters include in their predictions not only the expected rainfall, but also the likelihood of disease outbreaks and of conflicts.

Indigenous Peoples living in semi-arid parts I of the world are amongst those with particular reason to be concerned about the impacts of climate change. For them, it has always been a challenge to manage water resources and maximise the use of scarce rainfall, and they have learned ways to do so. Yet in some cases, the indigenous knowledge acquired by peoples over centuries of experience and observation is being overtaken by unpredictable and intensifying new climatic patterns. What can be done to ameliorate such situations? This article explores two initiatives with indigenous people in Ethiopia and Peru that seek to combine their detailed local knowledge with meteorological expertise. As a result, accurate, readily accepted predictions of weather in key seasons are possible; responses can then be planned accordingly. The Ethiopian project works with the Borana pastoralist people of Borana region in the southern part of the country. The Peruvian project works with the indigenous Aymara-speaking and Quechua-speaking peoples of the Acora district in the Andes – peoples who trace their origins to before the Incas.

The Borana people

The Borana people are traditional pastoralists who have been living in the area that they currently occupy, most of which falls within the boundaries of present-day southern Ethiopia (Oromia region), since at least the 13th century. The area is characterised by open savannah grassland dotted with scattered thorny trees and scrubby vegetation; raising livestock, predominantly cattle, is an occupation well suited to such conditions. With an average annual precipitation of 500 to 700 mm, and rain falling in two main rainy seasons, water resources are limited. In response, the Borana developed a traditional system of pasture and water resource management that treats both as common property, subject to clearly defined

rules determining access to and use of predefined dry-season and wet-season rangelands. Timed livestock movements ensured that, overall, pastures maintained good grasslands, thorny bushes were kept in check, and animals remained nourished throughout the year. Meanwhile, a system of shallow ponds (*haroo*) and deep wells (*elas*) served both domestic needs and for watering animals, with the former being used first, during the dry seasons, and the deep wells later, when other sources had dried up. While occurring from time to time, droughts were manageable.

The traditional management system of the Borana has been enforced over the years by respected elected elders, all men. However, circumstances are changing. One factor is the intervention of the Ethiopian government, which has its own administrative system and has brought development interventions such as borewells and ideas for agriculture in enclosed areas, and has encouraged sedentary settlements. Another factor is the growing population of people and animals. A third and crucial factor is the changing climate. Temperatures are mounting, rainfall is increasingly erratic and unpredictable, and droughts are becoming more common.

"We are a pastoralist community, and drought is a part of our life. In my lifetime, we used to experience drought once in every gada [eight years]. But now it is repeating within the gada period. We would usually have three to four years of good rains to fully recuperate, and in the earlier droughts, the calves and heifers survived, so we saved the core breeding stock. But currently, even the young and strong animals are starting to die, threatening herd regeneration. And that is unprecedented."

> Aba Kubsa Kuroftu (aged 51), pastoralist, Gayo kebele, Borana

Indigenous Acora communities

Shaped by the Andean high-altitude environment with an average altitude of some 3,800 metres above sea-level, the indigenous Acora communities specialise in traditional crops such as potatoes, quinoa, and other Andean grains, along with pastoralism based on sheep, cattle and camelids. Their agricultural practices reflect a commitment to tradition but also their adaptation to the diverse ecosystems within the Acora, which is divided into four zones: Lake, Middle, High and Cordillera (mountain).

In the highest zones, the breeding of South American camelids predominates, making water resource management and pasture coverage crucial. The grazing of alpacas and llamas rotates according to the dry and rainy seasons; to higher ground during the latter, and to lower areas, especially wetlands, during the dry season. Additionally, grazing is rotated between different areas, the restoration of the native grasses being ensured by the creation of enclosed fields using fences of mesh, stone or wood. Communities are aware that these native grasses, unlike cultivated ones, contain higher nutrients. Once the grasses are restored, they are propagated in other areas.

In the middle and lakeside areas, crops resistant to poor weather conditions, such as cañihua (Chenopodium pallicadicaule, an Andean grain), are often cultivated. Preferred crops like potatoes and quinoa are only planted when communities observe positive bioindicators. For example, the very yellow flowering of the karihua or q'ariwa (Senecio clivicolus) signifies a good planting year. Without such flowering, communities generally decide not to sow and to wait for a better year. In the four zones of the district, livelihood changes are evident. A 13-year period of insufficient rainfall has severely impacted agriculture, reducing water availability for livestock breeding. The National Service of Meteorology and Hydrology of Peru (SENAMHI as per its Spanish name) forecast below-average rainfall until March 2024, with extended dry periods and rising temperatures in the southern region. Temperatures since early October last year have ranged from 20 °C to 24 °C, against a previous average of around 15 °C.

Traditional ways of forecasting the weather

Amongst both the Borana and the Acora indigenous communities, there has always been a need to adapt to prevailing weather conditions; accordingly, means of forecasting have been developed. These represent an important part of the traditional belief system of both the Borana and the Acora peoples and are generally based on detailed observations made at a local level.



Luzmila Mendoza plants seed in her land, after making furrows in the soil and turning it over, which are traditional practices deeply rooted in Andean family farming. Photo: Claudia Pancava

Amongst the Borana, there are certain men who are recognised to have specialist knowledge in weather forecasting. They generally specialise in one of three different techniques, although some use all three. One technique focuses on astrological indications in the night sky, another entails observing the patterns of animal behaviour, including different bird songs, whilst a third technique is based on an examination of the entrails of slaughtered animals. Some particularly senior elders also try to relate forecasts for the coming season with past events. Whatever their method, the forecasters generally reach agreement - with specific predictions for each of the five traditional agro-ecological areas recognised by the Borana. Traditional forecasters include in their predictions not only the expected rainfall, but also the likelihood of disease outbreaks and of conflicts. They thus provide a rounded picture of the immediate future through their eyes.

Indigenous communities in the Acora region also have ways of anticipating the weather, which they integrate into agricultural or livestock-related decisions. For instance, if the liquichu (or lequecho (*Vanellus resplendes*, a typical bird of the Andean region in Peru) places its eggs on the furrows of land accompanied by small stones and grass seeds, this is taken to mean that it will be a rainy year. Farmers decide accordingly about where to plant. In years of expected poor rainfall, they sow in the lowlands; if heavy rainfall is expected, they choose to cultivate along the slopes. Amongst the Acora communities, there is also the *Yatichiri*, "the one who knows and teaches, educates or instructs". Typically, such a person is a community member who has recognised first-hand knowledge of farming in the local agroclimatic conditions. The *Yatichiri* traverse their community, teaching and providing advice, which is often based on ancestral practices. One example is the excavation of small *qochas* (earthen ponds) to expand wetlands, preparing for years with pronounced droughts.

Especially in the high-altitude areas where there is little or no radio or social media coverage, indigenous techniques have prevailed until very recently. Yet collective and individual knowledge of past weather patterns is no longer enough to make accurate forecasts for the future, as commented by Aldo Coila, a community member active in the PGA (see page 30):

"We have knowledge of ancestral wisdom. For instance, if the fox cries in the months of September or October, it signifies a good year. Another example is the season when sancayos [Corryocactus brevistylus] bloom, used for deciding cropping patterns. We look at all these things to make predictions," he says. However, he adds that times have changed: "In the past, when the sancayo bloomed, we made a second planting, but now things have changed, and such indications are failing due to climate change. They fail, but not entirely." (Alberto Ñiquen, 2021)

Bringing traditional and scientific knowledge together

Both the Borana and Acora communities clearly recognise a changing climate and a need to supplement their own knowledge system with that of modern science. There is also benefit to modern science in listening to people who know their territory well.

In the case of the Borana, traditional forecasters and experts from the Zonal Meteorological Department are coming together in bi-annual meetings that take a Participatory Scenario Planning (PSP) approach. This is supported through the Swiss Agency for Development Cooperation (SDC) and funded by the Regional Livestock Programme (RLP), which is managed by Helvetas in collaboration with Welthungerhilfe and the non-governmental Ethiopian Institute of Peace and Action for Development. The PSP meetings are held before the expected long and short rainy seasons, and result in the detailing of a "most likely scenario" that is jointly agreed. That is, it combines traditional and meteorological knowledge. The scenario is then relayed to the communities, allowing them to plan accordingly. All key development actors in the Borana zone (13 woredas or districts) are invited to the PSP, to ensure that information is widely shared. Remarkably, in all the PSP meetings held to date, there has been broad agreement between the predictions of the traditional forecasters and the government meteorologists. For example, after many years of very poor rainfall and extensive drought, both traditional forecasters and meteorologists predicted that the 2023 Hageya season (September - November) would be wet, with above average rainfall across the entire Borana zone. This is indeed what happened. The way in which the PSP predictions are used to formulate advisory messages is provided in the Table.

Amongst the indigenous Acora communities, similar initiatives have taken place, with the National Meteorology and Hydrology Service (SENAMHI) of the Peruvian Environment Ministry (MINAM) playing a key role in recognising and documenting indigenous knowledge linked to weather phenomena. In addition, an Agroclimatic Management Platform (PGA for its Spanish name) has been formed in Acora district. Established in 2022 and now in a second phase, the PGA model seeks to strengthen agroclimatic governance to improve agricultural productivity and competitiveness. The PGA brings together organisations from different sectors, civil society, academia and other public-private actors in

Examples of advisory messages produced through the PSP in Ethiopia

Below average rainfall, leading to drought	Normal rainfall	Heavy, above average rainfall
 Careful management of pasture and water resources, reserving as much as possible for the dry months after the poor rainy season. Likely concentration of livestock in certain areas due to limited grass growth. Likelihood of livestock diseases arising from concentration of livestock and poor fodder availability. Crop cultivation only recommended for short season crops such as beans. Careful follow-up to initiate early warning of drought and any necessary humanitarian response. 	 Pasture likely to be adequate for good livestock health; wide- spread livestock mobility over the entire Borana pastures. Fodder production expected to be adequate for dairy produc- tion. Crop cultivation recommended for a variety of crops, including vegetables, maize and teff. Floods possible in specific named areas. 	 Flood-vulnerable settlements should be relocated away from low lying areas. Mobilisation of the community to harvest run-off; shallow pond construction and maintenance. Protection of deep wells from structural damage. Intensified farming with early crop sowing of early maturing species. Early delivery of farm inputs by concerned bodies. Road protection from run-off as far as possible.

the territory. It serves to give a voice to small farmers, to generate climate and agroclimatic information, and to provide technical assistance on cropping and livestock breeding that builds on indigenous knowledge and meteorological forecasts. A monthly agroclimatic bulletin is co-produced combining weather forecasts and local observations by farmers. It also includes technical recommendations for the treatment of crops and breeding, based on local knowledge. This newsletter is shared in the PGA's own WhatsApp group and is constantly nourished by local monitoring of farmers and active participation and dissemination in the district. To date, there are three PGA in Peru; the number is expected to grow to twelve platforms in the country by 2030.

In the case of the PGA Acora, implementation has been carried out by the SENAMHI Zonal office in Puno, local agencies of the Ministry of Agrarian Development and Irrigation (MIDAGRI), the Regional Government of Puno and the Municipality of Acora. The articulation between various national and local stakeholders to develop this initiative was supported by the SDC regional project Andes Resilientes al Cambio Climático, facilitated by the Helvetas-Fundación Avina consortium.

Summing up ...

These brief insights into combining traditional indigenous knowledge and scientific data in two very different parts of the world have a number of points in common. The first is that indigenous methods of weather prediction are generally rooted in minute, careful observations of the environment, the fauna and fauna. This knowledge of the local biodiversity and how it is changing is important to record. The second point is that anchoring state-of-the art scientific predictions within a familiar knowledge system can render it particularly accessible to the people who need such information. A third, and less positive, observation is that the position of traditional knowledge holder is often taken by older men, with the opinions of women being often overlooked or undervalued. Yet this can be turned constructively: introducing new sources of knowledge can be turned into an opportunity to promote inclusion and wider participation in decision-making.

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Rewarding ecosystem services – an example from Central America

Indigenous Peoples and local communities (IPLCs) steward over 80 per cent of the planet's remaining biodiversity. However, they do not economically benefit from protecting these ecosystems and the services they render. This also applies to Central America, one of the regions richest in biodiversity in the world. Therefore, via KfW Development Bank, the German Government is supporting an innovative financing approach that recognises and rewards the ecosystem services provided by IPLCs.

By Susanne Berghaus

Indigenous Peoples and local communities (IPLCs) in Central America conserve large biodiversity-rich forest and wetland areas, both inside and outside what is nationally protected. These areas render critical ecosystem services at regional and global scale, such as drinking and irrigation water, pollination of agricultural crops, carbon sequestration, buffering of extreme weather events, air purification, and others. Although IPLCs provide these services, they are usually not rewarded for them. At the same time, their living conditions, often characterised by hunger and a lack of income and development opportunities, may force them to exploit the very ecosystems they have protected, leaving them all the more vulnerable to the consequences of climate change.

One step towards more social and economic support is the recent signing of a grant agreement to the tune of ten million euros between KfW Development Bank, on behalf of Germany's Federal Ministry for Economic Cooperation and Development (BMZ), and the Asociación Coordinadora Indígena y Campesina de Agroforestería Comunitaria Centroamericana (Acicafoc), an umbrella organisation for indigenous and Afro-descendant communities and smallholder farmers in Central America. The second implementing partner is the Fondo Indígena para el Desarrollo de los Pueblos Indígenas de América Latina y El Caribe (Filac), an intergovernmental body that supports the self-development processes of indigenous peoples, communities and organisations in the region, and the dialogue between the main actors of indigenous development.

The project "Environmental Management with Indigenous Peoples", which is set to start in mid-2024, seeks to strengthen IPLCs in their role as conservationists and knowledge bearers of sustainable management practices in order to preserve biodiversity, secure their livelihoods and strengthen their self-determination. It is to benefit IPLCs in six Central American countries – Belize, Costa Rica, El Salvador, Guatemala, Honduras and Panama. Acicafoc, in its role as the Project Execut-



The project "Environmental Management with Indigenous Peoples" seeks to benefit Indigenous Peoples and local communities in six Central American countries – Belize, Costa Rica, El Salvador, Guatemala, Honduras and Panama.

Photo: LecVisual/ ACICAFOC

ing Agency, will support local organisations of IPLCs in the preparation of small-sized sub-projects (250,000 to 600,000 euros each).

The sub-projects consist of two main components. With the Management Plan for the ecosystems, their protection is measured, monitored, and (annually) rewarded for an initial period of four years. The relevant criteria for the calculation of the payments are the size and the biodiversity "value" of the land that is collectively conserved by the IPLCs. The second main component is a Community Development Plan defining public welfare-oriented and production-improving investments that are eligible to be co-funded via the payments made under the project. These are in kind, and not in cash. Ecosystems to be recognised for promotion under the project must be outside of the national protected area systems and already under the collective conservation of the IPLCs.

In Guatemala, through funds also provided by BMZ, KfW has already supported a similar approach, co-financing conservation of biodiversity by IPLCs in a project of the national Protected Area Authority CONAP. The lessons learnt in the context of this project – as part of the LifeWeb Initiative of the Convention on Biological Diversity (CBD) – were used to develop the project with Acicafoc.

A participatory approach

Local first or second-level organisations representing the interests of the IPLCs sign a formal project agreement with Acicafoc, committing themselves to implement a set of prior agreed conservation measures as defined in the respective Management Plans. However, it is the Community Development Plans which are at the heart of the project approach. Here, local communities identify, internally negotiate and collectively agree on the development activities to be co-funded with the payments they receive for the environmental services they provide. A pre-determined share of the funds is managed exclusively by women. The related participatory processes can be time-consuming, but they are essential to ensure social agreements and commitment within the local communities that reflect the communities' ideas and values and that meet their actual needs.

The proposed investments need to be in accordance with the project's funding lines. The first funding line focuses on social, cultural and governance-related development activities.

Eligible measures could for instance improve food security through investments in storage systems and seed banks or provide basic community sanitation infrastructure. The second funding line targets economic development aimed at the sustainable use of natural resources. Eligible measures include activities such as the restoration and/or conservation of forest remnants that protect water sources or the production of vegetables in greenhouses managed by organised user groups (especially by women). Also, production and marketing infrastructure, for example for coffee, ecological processing and storage or infrastructure for pulp and honey water treatment, is eligible for funding.

During the implementation of the sub-projects, the responsible organisations representing the interests of the IPLCs are supported in project management and monitoring by Acicafoc. This contributes to local capacity-building, which is important for the organisations' long-term development, even beyond the project. In the long term, decision-makers at regional, national and local level are to be strengthened in their rights and knowledge about collective and culturally appropriate forms of biodiversity conservation. The project thus directly contributes to achieving the goals of the Kunming-Montreal Global Biodiversity Framework.

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Supporting indigenous communities' forest conservation efforts in Latin America and the Caribbean

A recent report by the UN Food and Agricultural Organization (FAO) and the Fund for the Development of the Indigenous Peoples of Latin America and the Caribbean (FILAC) demonstrates that the forests of Latin America and the Caribbean's indigenous and tribal territories contain almost 30 per cent of the carbon of the region's forests and 14 per cent of the carbon in tropical forests world-wide, making them key for global, regional and local climate mitigation and resilience.

According to the Economic Commission for Latin America and the Caribbean (ECLAC), 826 different Indigenous Peoples, with an estimated population of 58 million people, are living in the region. Out of these 58 million, between three and seven million people live in territories with forest cover.

Historically, forests in indigenous and tribal territories have suffered much less destruction than the region's other forests. There are various reasons for this. Many Indigenous Peoples have productive systems that are less harmful to forest ecosystems. Even though to some, this might seem to be a naïve or romantic notion, it is supported by empirical evidence. Here, traditional knowledge about fauna and flora, pests and diseases, and climate and soils plays a crucial role. For example, research in the Plurinational State of Bolivia's Amazon shows that those communities of the Tsimane people that have greater traditional ecological knowledge conserve their forests more and better than Tsimane communities lacking that knowledge. This suggests that people who spend more time in the forest and know how to get greater benefits from them take care of them better. The fact that harvesting non-timber forest products like medicinal plants, wild fruits, bushmeat and fuelwood is an integral part of Indigenous Peoples' cultures in forest regions and contributes notably to their livelihoods suggests that it is logical for them to appreciate forests.

Some community forestry and payment for environmental services policies and programmes favour indigenous territories more than territories of other landowners or users, which also helps to explain why forests in these territories are in better shape - after all, the communities have an extra incentive not to destroy these forests. Examples of this include the Socio Bosque programme in Ecuador, the National Forest Conservation Programme (PNCB) in Peru or the Environmental Payment for Services programme in Mexico. All these programmes have demonstrably reduced deforestation, and it is likely that they have also reduced forest degradation. For instance, Mexican indigenous communities that receive these payments monitor forests, control fires and reforest more and report less commercial hunting and controlled fires than communities not receiving corresponding payments, says the FAO/FILAC report; and Ecuadorian communities in Socio Bosque have less damage in their forests that have been logged, and commercially valuable timber species are more prevalent.

Despite the positive impact of these factors, the people and forests of the region's indigenous and tribal territories are increasingly under threat - also because of growing demand for food, minerals and energy, timber, tourism and other services. To maintain the integrity of the territories' ecosystems and their cultures, the authors of the report call for an increase in investment in these territories, accompanied by policy, procedural and governance reforms. These ought to contain five central components: the recognition of collective territorial rights, compensation for environmental services, promoting community forest management, the revitalisation of ancestral knowledge and the strengthening of grassroots organisations and mechanisms for territorial governance.

(FAO/FILAC/sri)



eferences: www.rural21.com



The right to adequate food cannot be realised in isolation – it is connected to the realisation of other human rights such as the rights to health or social security. Photo: Jörg Böthling

The right to adequate food on the global agenda – a 30-year review

The year 2024 marks the 20th anniversary of the FAO Right to Food Guidelines, which have played a fundamental role in guiding policies to implement a human rights-based approach to food security and nutrition. This article provides an overview of key moments in the decade that preceded the adoption of the Guidelines and the two decades that followed, leading to an advanced normative framework of the right to adequate food.

By Martin Wolpold-Bosien

The global political breakthrough for the right to adequate food came with World Food Summit 1996 and the first paragraph of the Rome Declaration: "We, the Heads of State and Government, (...), reaffirm the right of everyone to have access to safe and nutritious food, consistent with the right to adequate food and the fundamental right of everyone to be free from hunger." Several factors enabled this new level of political expression in support of a human rights-based approach to food security.

Triggering growing attention – the invisibility of human rights

The right to adequate food had been recognised as part of the right to an adequate standard of living in Article 25 of the Universal Declaration of Human Rights of 1948 and in Article 11 of the International Covenant on Economic, Social and Cultural Rights of 1966. Ground-breaking conceptual work was done by Norwegian human rights scholar Asbjørn Eide in his study on the right to adequate food for the UN Human Rights Commission in 1986. The international human rights organisation for the right to food, FIAN, was founded in 1986 and embarked on international advocacy. Fresh dynamics set in when the UN Committee on Economic, Social and Cultural Rights started to work with a mandate as treaty body in 1987.

After the end of the Cold War, the general bias in public attention between economic, social and cultural rights on one side, and civil and political rights on the other, became an issue of discussion. A key shift was achieved with the UN World Conference on Human Rights in 1993 which recognised in Article 5 of the Vienna Declaration: "All human rights are universal, indivisible and interdependent and interrelated." This fundamental recognition brought more political attention to economic, social and cultural rights.

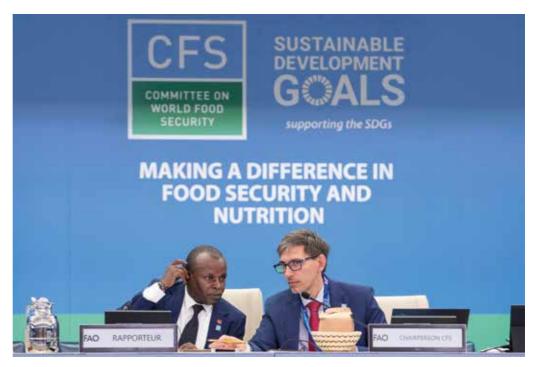
New initiatives opened the way to connect human rights with food security and nutrition. In 1993, the UN Inter-Agency Standing Committee on Nutrition started a process on "ethics, nutrition and human rights", with impulses coming from inside UN agencies, civil society and academics gathering in the World Alliance on Nutrition and Human Rights and some member states. The Civil Society preparatory conference for the World Food Summit (WFS), organised in Quebec/Canada in October 1995, agreed to include the promotion of the right to adequate food into its priorities for the preparation of the WFS and started a comprehensive advocacy strategy with governments and officials of the UN Food and Agriculture Organization (FAO).

The WFS Plan of Action, adopted in Rome/ Italy, then included a specific commitment (Objective 7.4.) that shaped the further process and set the agenda for the next ten years: "To clarify the content of the right to adequate food and the fundamental right of everyone to be free from hunger, (...) and to give particular attention to implementation and full and progressive realization of this right as a means of achieving food security for all." Two major tasks resulted from this objective: clarifying the normative content, and developing policy guidance for implementation.

Developing contents and supporting implementation

The follow-up to the WFS focused on these two tasks. Civil society organisations drafted their own Code of Conduct on the Right to Adequate Food, which was presented in 1997, endorsed by hundreds of organisations, and used in the further advocacy and negotiation process. The UN Committee on Economic, Social and Cultural Rights, which was asked by the WFS Plan of Action to do so, started working on its General Comment 12 on the right to adequate food, which was adopted in 1999 as an authoritative interpretation of the normative content. In 2000, the Mandate of the UN Special Rapporteur on the right to food was established by the Human Rights Council. In 2002, the proposal to negotiate Voluntary Guidelines to foster and give guidance to the implementation of the right to food was brought to the WFS+5 Conference, which endorsed the initiative.

Between 2002 and 2004, the Committee on World Food Security (CFS) became the venue for the negotiations of the Voluntary Guidelines for the Progressive Realization of the right to Adequate Food in the Context of National Food Security. These were the first intergovernmental negotiations in Rome to actively involve civil society actors in such talks, although they only had the formal status of observers. The Right to Food Guidelines were adopted unanimously by all Member States of the FAO Council in November 2004. Hence,



Plenary Session of the Committee on Food Security's 51st Session (CFS51) at the United Nations Food and Agriculture Organization Headquarters. The role of the CFS as the global multilateral normative body for food security and nutrition has been widely recognised.

Photo: FAO/ Giulio Napolitano

a global consensus document was reached on how to apply a human rights-based approach to food security.

From 2005 onwards, there was a strong focus on national application. The FAO Right to Food Unit was established to support countries in applying the Right to Food Guidelines in national policies, legal frameworks and programmes and was equipped with substantial resources over the next ten years. Many countries, governments, parliaments, civil society and Indigenous Peoples' organisations, social movements, human rights defenders and academics collaborated and supported efforts on awareness raising, capacity building, policy initiatives, legislative or constitutional reforms or case-related justiciability and accountability campaigns.

The Right to Food Guidelines successfully pioneered national policy implementation for economic, social and cultural rights. They also became a cornerstone of the multilateral governance reform on global food security, with the reform of the CFS in 2009 in response to the global food crisis in 2008. The progressive realisation of the right to adequate food was explicitly included in the Vision statement of the reformed CFS, and the social participation experience of the Guidelines negotiations was institutionalised in the new setting of the CFS – a milestone for governance with a direct rights-holder participation in UN bodies.

Controversies, decline, comeback?

However, the more influential the right to adequate food and its related human rights perspectives became in policies that directly or indirectly affect food security and nutrition, the more it got under attack. Even within the reformed CFS, delegates from several countries started to question the human rights mandate of the CFS, by arguing that it should not deal with human rights since this was an issue to be discussed by the UN human rights bodies in Geneva/Switzerland. However, the right to adequate food cannot be realised in isolation but is connected to the realisation of other human rights, such as women's rights and the rights to health or housing.

Unfortunately, within FAO, the support from top management for the right to adequate food declined over the years. The FAO Right to Food Unit shrunk to a tiny team, highly committed and professional but without the necessary resources and political support for serving the institution to mainstream and implement the right to adequate food comprehensively into its programmes and collaboration with countries. In 2017, delegates from committed Member States founded an informal Group of Friends of the Right to Food in Rome, to join hands in defending and strengthening human rights perspectives within the CFS and the Romebased agencies.

Recent developments seem to indicate that winds are changing. Influential countries from the Global South and North have expressed that the right to adequate food should again become a priority for FAO. The CFS Multi-Year Plan of Work for 2024-2027, which was negotiated in the first semester of 2023, is particularly strong in mainstreaming the right to adequate food throughout the upcoming years, connecting it to the 20th Anniversary of the Right to Food Guidelines, to cooperation with the three Rio Conventions on Climate Change, Biodiversity and Desertification, to the inequalities' agenda, to the CFS global policy coordination function in response to food crises, as well as to the rights of food systems workers.

The Global Forum for Food and Agriculture (GFFA), hosted by the German Federal Ministry of Food and Agriculture in January 2024, highlighted the importance and visibility of the Right to Food and the CFS in its Programme and final declaration. The Final Communiqué, which was signed by 61 Agriculture Ministers, called for renewed efforts to implement the right to adequate food as an international priority commitment, and to strengthening the CFS in its role as the foremost inclusive international and intergovernmental policy coordination platform, promoting the uptake of its policy outcomes.

Specifically, the Ministers "acknowledge the important contributions of FAO and the other Rome-based agencies during the past 20 years in supporting countries to implement the right to adequate food and encourage FAO to enhance its technical support to member states' efforts to further promote the right to adequate food on the national level".

Brazil's new Global Alliance against Hunger and Poverty, to be launched in November 2024 at the G-20 Summit, includes specific provisions to advance the right to adequate food as essential part of this initiative which aims to transcend the G-20 membership. The outline of the new alliance explicitly recognises the CFS as the global multilateral normative body for food security and nutrition and includes the promotion of its policy outcomes as part of the intended support to participating countries.

An advanced normative framework of the right to adequate food

One of the major achievements of the Right to Food Guidelines, and the many years of

The new Right to Food Project at the German Institute for Human Rights

One of the crucial and urgent tasks of the international community is a human rights-based transformation of food systems. How can countries transform their food systems in such a way that all people can feed themselves adequately and that the limits and challenges of the triple ecological crisis – climate change, biodiversity loss and desertification – can be respected? This is a central concern of a project run by the German Institute for Human Rights which aims to support the progressive realisation of the human right to adequate food.

The project, which is supported by the German Federal Ministry of Food and Agriculture, is being implemented in collaboration with committed actors of the international community, the United Nations, civil society and Indigenous Peoples. For the year 2024, the 20th anniversary of the Right to Food Guidelines, the focus is on strengthening the right to adequate food and to foster a human rights-based transformation of food systems in the relevant international fora, and supporting an enhanced use and application of the policy outcomes of the UN Committee on World Food Security (CFS) at national level. The project started in December 2023 and runs until the end of 2025.

thoughts and deliberations prior to them, is that they have inspired and contributed to the development of several other normative instruments in the realm of the UN. They have deepened the understanding and the interrelatedness of the right to adequate food in several policy areas which matter to many rights-holders and duty-bearers. In consequence, a more advanced and elaborate normative framework based on the right to adequate food has evolved.

One example is the Voluntary Guidelines on Responsible Governance of Tenure of Land, Fisheries and Forests (VGGT), adopted by the CFS in 2012. On land tenure issues, the VGGT have become the main normative reference that connects land tenure issues with the right to adequate food. Many of the other CFS policy outcomes of the last ten years have made significant contributions to further developed human rights-based standards in their respective areas, including on water, social protection, smallholders to markets, conflicts and protracted crises. One of the main normative and standard setting documents that should be highlighted in this context is the Voluntary Guidelines on Gender Equality and Women's and Girls Empowerment, approved by the CFS in October 2023.

In parallel to the new instruments developed in the CFS, other normative instruments on areas dealt with at FAO and the CFS and with specific relevance for specific rights holder groups were developed in other UN Fora, for example: the UN Declaration of the Rights of Indigenous Peoples (UNDRIP), the UN Declaration of the Rights of Peasants and other People Working in Rural Areas (UNDROP), the FAO Voluntary Guidelines for Small-Scale Fisheries (VGSSF), and the ILO Policy guidelines for the promotion of decent work in the agri-food sector.

The advanced normative framework is certainly an achievement. It can guide state policies at the national and international level that are oriented to fulfil their human rights obligations. Today, the main task is to ensure that they are effectively used to foster the progressive realisation of the right to adequate food, particularly for rights-holders most affected and most at risk. The CFS has defined this use and application tasks as a priority area of the work plan 2024-2027, and this requires that all the committed hands work together. The other major potential of the advanced normative framework is that it provides guidance for transforming food systems towards more equity and equality, social participation and accountability, diversity and human rights coherence.

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Strengthening rural resilience in India

India's rural communities are severely affected by the consequences of climate change and the Covid-19 pandemic. The project "Enhancing Rural Resilience through Appropriate Development Actions" aims to improve the livelihoods of vulnerable households based on locally available natural resources and development support programmes.

By Meekha Hannah Paul, Nisha Singh, Lukas Graf and Pronamika Goswami

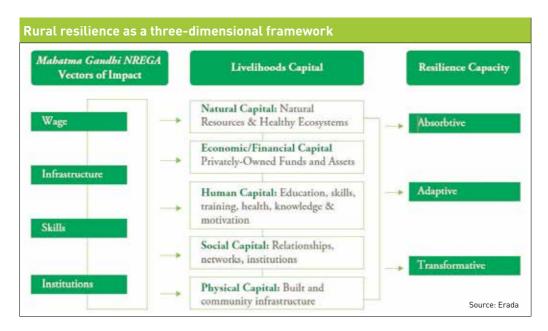
India, with a population of 1.4076 billion people, sees 70 per cent of its inhabitants living in rural areas. Despite constituting the majority, rural areas contribute only 46 per cent to the national income. There is a need to help rural individuals develop alternative livelihood options that would improve their income and living expense metric while helping them find a sustainable living in rural India itself.

The recent experiences of the Covid-19 pandemic, which witnessed a mass exodus of millions from cities back to their rural roots, have underscored the imperative for resilient strategies in rural development. It is within this context that the Indo-German Development Cooperation Project "Enhancing Rural Resilience through Appropriate Development Actions" (Erada) emerges as a pivotal initiative. The project aims to achieve its goal through providing for sustainable livelihood opportunities and developing alternative income options, including developing a support system that buffers exigencies and ensures success in earning improvement. These endeavours empower rural populations and maximise the utilisation of natural resources. The project also enables local communities to effectively face and withstand future challenges and become shock-proof. The project is commissioned by the German Federal Ministry for Economic

Cooperation and Development (BMZ) and implemented by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) in cooperation with the Ministry of Rural Development (MoRD), Government of India.

The resilience framework

The project conceptualises resilience as a three-dimensional framework comprising absorptive, adaptive, and transformative components (see Figure). Absorptive resilience involves effectively handling infrequent and low-intensity risks. It includes anticipating and taking pre-emptive actions as well as responding promptly to shocks. Adaptive resilience focuses on making minor adjustments to existing risk management strategies of households, including diversifying livelihoods based on changing conditions. Adaptive capacity aims at developing resources which include assets, economic stability, social and institutional stability, social capital and access to resources and power. Transformative resilience emphasises a system's capacity for structural or functional changes, adopting innovative strategies to surpass vulnerability thresholds. Factors contributing to transformative resilience include governance mechanisms, policies, cultural norms, psychosocial elements and access to markets and infrastruc-



ture. The Erada project mainly concentrates on adaptive resilience and thus aims to fortify rural resilience in the face of multifaceted challenges. This capability is critical for rural populations encountering diverse shocks, be it economic fluctuations, environmental changes, or other stressors inherent to their context.

The Erada approach

To address challenges in rural resilience, the project directs its efforts towards women, youth, migrants and vulnerable communities, including tribal groups and scheduled castes. The focus spans across eight blocks (a cluster of villages and the middle tier of local government) in eight districts (administration including a cluster of blocks) of the Indian states of Rajasthan, Bihar, Madhya Pradesh, and Jharkhand, chosen specifically for their significant representation of these identified groups. All of them are also Aspirational Districts as designated by the national think tank of the Indian Government, NITI Aayog, for their lower ranks in the multidimensional poverty index among other indicators such as climate vulnerability, unemployment levels, lesser uptake of government programmes, etc. This strategic selection process ensures a comprehensive understanding of the socio-economic landscape, enabling Erada to effectively address the unique challenges in each location.

The project adopts a targeted approach by aligning its measures with the concept of local living income - the minimum monthly amount essential to adequately support a family in a specific geographic location. This metric considers various factors such as demographic profiles, food and nutrition expenses, housing costs, medical needs, transportation, and education. By formulating a living income benchmark for each observed block, the project aims to bridge the gap between this benchmark and the actual average household income. The annual living income gaps in the eight pilot blocks range from 61,585 Indian rupees (681 euros) in the Gola block of Jharkhand to 24,612 Indian rupees (272 euros) in the Bamori Block of Madhya Pradesh.

One pivotal tool in narrowing the income gap is the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), the world's largest public work programme, benefiting nearly 150 million Indian households annually. Erada educates vulnerable communities about acquiring vital job cards for MGN-REGA benefits. Concurrently, by utilising the workforce available through MGNREGA, especially on public and tribal community lands, Erada concentrates on building infrastructure for diversified livelihood activities and longterm income generation. This involves practical initiatives like constructing goat or cow sheds and plantations of local crops like Moringa (drumstick) and other fruit-bearing trees, initiating aquaculture in freshwater ponds, mushroom cultivation among landless households and minor forest produce collection for forest dependent communities, among others. Augmenting these efforts is the integration of various technologies like an Interactive Voice Response (IVR) Tool for effectively reaching women and vulnerable communities through phone calls and audio messages. Geographic Information Systems (GIS)-based thematic layers are used for land use and livelihood planning for identifying suitable works to be taken up through MGNREGA. The implementation phase involves collaboration with local Women Self Help Groups (SHGs) engaged under the National Rural Livelihood Mission programme, serving as hubs for knowledge dissemination, information distribution, capacity enhancement and financial support.

Over three years, Erada has contributed to including more than 30,000 households into the MGNREGA programme and further strengthening the livelihoods of above 14,000 households through diversified opportunities. Through these concerted efforts, the project strives to create a lasting positive impact on rural communities, promoting resilience and sustainable development.

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Leela Mahajan's moringa plantations in Madhya Pradesh

Leela Mahajan and her husband initially earned 50,000 rupees (552.87 euros) annually through agriculture. Through moringa cultivation and management of moringa nurseries, Leela's annual income increased by 45,000 rupees (498 euros) in 2023, with a projected increase to 1 lakh (1,105 euros) in the next two to three years. The support under the Erada project included awareness creation on the nutritional and market potential of moringa, developing the plantation through MGNREGA and other support programmes on one acre of her land, as well as trainings at the Krishi Vigyan Kendra (agriculture extension centre) on maintenance, bio-inputs and value addition possibilities of moringa, a certified micro-enterprise development programme by the Entrepreneurship Development Institute of India and further technical support for unlocking access to credit and market linkages.

Leela Mahajan is also the leader of the Cluster Level Federation, which includes several women SHGs in the Khalwa Block of the Khandwa District in Madhya Pradesh. She led the 'Har Ghar Moringa' campaign (translates from Hindi to English as 'moringa tree in every household') and motivated more than 2,000 women SHG members to undertake moringa plantations.



Leela Mahajan with her moringa harvest. Photos: GIZ/ Ishika Ladha

Fagnu Bai's goat farm in Rajasthan



Fagnu Bai with one of her goats.

Fagnu Bai, from the Churlikhera village in Pindwara Block of Sirohi District in Rajasthan, formerly travelled 2.5 hours to remote markets, earning 20 rupees (0.22 Euros) per package from wood and coal production. With the added challenge of managing childcare, household responsibilities, and cultivating maize once a year on her halfacre of land, her income was strained. Traditionally, most tribal households in Rajasthan maintained three to four goats for financial stability against unforeseen expenses. Erada's intervention significantly expanded opportunities by organising and uniting households engaged in goat rearing. Through a meticulous market analysis, the initiative increased the number of goats to 10-15 per household. Participating households received crucial support, including goat sheds and fodder plantations facilitated by the MGNREGA. Clusters introduced goat weighing machines to enhance income and bargaining power,

while Interactive Voice Response technology kept farmers informed about market demand and best practices. The community resource persons called 'Pashu Sakhis' (translates from Hindi to English as 'Livestock Friend') were capacitated to provide vaccination and deworming services to goat farmers. Fagnu Bai's income from goats increased by 5,000 rupees (55 euros). With 35 goats and 12 bucks, she prefers goat farming over crop cultivation, planning to reinvest in and expand her venture.

This initiative positively impacted 4,934 households in the Indian states of Rajasthan, Madhya Pradesh, and Bihar states, providing an additional annual income ranging from approximately 5,000 to 8,000 rupees (55 to 88 euros) per household.



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Indigenous women's rights are human rights!

Combining scholarly insights with on-the-ground practical research and original fieldwork, our author intends to highlight voices that have so far been marginalised or silenced to preserve existing power structures.

By Naomi Lanoi Leleto

According to the UN Food and Agriculture Organization's Global Study on the situation of Indigenous Women and Girls, there are an estimated 477 million indigenous people in the world, 238 million of whom are women. Overall, they represent 6.2 per cent of the world's population, but account for 15 per cent of the world's poorest. In all regions, poverty is identified as a multidimensional problem affecting indigenous women, one that represents a serious barrier to equality and full enjoyment of human rights. Despite the reality that is threatening indigenous women on a daily basis, both individually and collectively, and especially in the private sphere, they have demonstrated their resilience and contributions, putting their knowledge to the service of their peoples and humanity. In turn, they are challenging the extremely adverse situations in which they find themselves.

Historical marginalisation in violence towards women and girls

The plight of indigenous women and girls facing violence and discrimination is profoundly troubling and warrants immediate attention. They disproportionately endure various forms of violence and discrimination globally due to intersecting factors such as gender, ethnicity and socio-economic status. Of particular concern is the heightened prevalence of violence against indigenous women and girls, including physical and sexual violence, domestic abuse, human trafficking and femicide. Research consistently indicates that indigenous women are more likely to experience violence compared to non-indigenous women, often encountering additional obstacles in accessing support services and seeking justice.

One example of this is Nepal, a Himalayan nation in which indigenous women and girls are particularly vulnerable to trafficking. Many are lured with promises of better employment opportunities or education, only to be forced into domestic servitude, sex work or bonded labour. For example, within the Badi community (in mid-western Terai district), many women are forced into commercial sex work, with 30-40 per cent reported to be girls below 15 years. Trafficking of young women from Nepal to India for sexual exploitation is a particular problem. Between 5,000 and 7,000 Nepali girls are trafficked every year across the border to India, where most end up as sex workers in brothels in Mumbai, Calcutta and New Delhi. Indigenous women and girls may face additional vulnerabilities because of intersecting factors such as ethnicity, poverty and lack of access to education and healthcare.

After nearly 20 years of collective actions and advocacy across the seven socio-cultural regions of the world, the indigenous women's movement succeeded in getting the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) to develop a specific recommendation on indigenous women and girls. General Recommendation 39 (GR39) promotes the voices of indigenous women and girls as agents of change and leaders both inside and outside their communities and addresses the different forms of intersectional discrimination frequently committed by State and non-State actors. However, it also recognises indigenous women's key role as leaders, knowledge holders and transformers of culture within their families, villages and communities.

Notably, the acknowledgment of collective rights within the UN Declaration on the Rights of Indigenous Peoples holds particular importance, especially for indigenous women. It underscores the imperative to confront historical discrimination, as evidenced in the United Nations Committee Declaration on the Elimination of Violence against Women, which sheds light on the historical imbalance in power dynamics between genders. These inequities have resulted in male dominance over women and discrimination against women by men, a situation further exacerbated for indigenous women.

Additionally, indigenous women and girls frequently encounter systemic inadequacies and failures within legal frameworks and justice systems, which fail to address their specific needs and provide sufficient redress for the injustices they face, perpetuating a cycle of impunity and further marginalisation (see Box). It is essential to recognise that violence against indigenous women and girls cannot be divorced from the broader context of colonisation and historical marginalisation. Many of the harmful customs and societal roles that adversely affect indigenous women do not originate from indigenous cultures themselves; rather, they are a product of colonial legacies that sought to suppress indigenous identities and impose dominant cultural norms. Through colonisation, indigenous communities were forcibly assimilated into Eurocentric systems that devalued indigenous knowledge, traditions and gender roles. This process not only eroded the autonomy of indigenous societies but also facilitated the perpetuation of violence and discrimination against indigenous women and girls. Recognising the role of colonisation in shaping these harmful dynamics is crucial to understanding and addressing the complex challenges faced by indigenous communities today. Efforts to combat violence against indigenous women must involve decolonising approaches that prioritise indigenous self-determination and cultural revitalisation.

Indigenous women's rights to land and natural resources

Four years ago, I had a project in Turkana County, in Northern Kenya, that aimed at sensitising grassroots women on Community Land Act 2016 and their need for participation and inclusion in the process. After the threeday workshop, an old man who had accompanied his wife to the session came to me and asked: "My daughter, how can my property own my property?" This is common belief among many indigenous men, and the notion of women having independent land rights is an anomaly to them. Through payment of dowry, an African woman is considered the chattel of her husband, his possession. Remember, property has no voice and cannot shape policy or choices. Property can be moved, discarded or demolished, and if it breaks under the load, it can easily be replaced. And that's how it has been for women for a very long time.

While indigenous women are often still viewed as property, a deep-rooted patriarchal analogy that they themselves now accept due to conditioning and socialisation, they have nevertheless been at the forefront of a longstanding struggle to protect their ancestral lands and preserve their unique identities since the era of invasion and colonisation. Independently forming organisations and networks worldwide, they tirelessly advocate for the rights of Alma, an indigenous woman from Guerrero in Mexico, faced pressure from hospital staff to undergo sterilisation after giving birth. This practice is widespread, with 124 complaints reported to the National Commission for Human Rights alone in 2017. However, the actual number of cases is likely higher due to underreporting. Forced sterilisation is especially a problem for indigenous wom-

women and girls. Through spiritual ceremonies, they engage in healing practices and seek harmony with the land, fostering a deep connection to landscapes and seascapes that aligns their existence with nature.

In Cape Town, the Ubuntu Rural Women and Youth Movement have faced significant challenges because of sea mining activities. They have shared how ocean mining has deeply impacted their coastal communities, revealing a complex interplay between human activities and the environment. Employing large machinery and extraction methods, the process of ocean mining disrupts marine ecosystems, leading to a decline in fish populations. This has severe consequences not only for food security but also for cultural practices intertwined with fishing traditions. Moreover, the contamination of water renders traditional healing practices impractical, disrupting cultural heritage passed down through generations. The disruptive noise from explosives and machinery further disturbs the delicate balance of ecosystems, exacerbating the vulnerability of indigenous populations living along the shores and impeding their efforts to preserve their cultural heritage. Given the unfortunate mining activities, the women are concerned because the ocean, whom they have a strong bond with and affectionately call their "sister", is affected, and when this happens, they are also affected. Through songs and storytelling, the Ubuntu women demonstrate their profound connection with the ocean, inviting appreciation and respect for the depth and complexity within every woman. As a story told by Ubuntu women goes:

In the narrative of nature, the ocean serves as a poignant symbol reflecting the myriad moods and nuances of womanhood. In its dance between calm and storm, the ocean embodies the duality inherent in womanhood, representing both serene beauty and formidable strength.

In 2016, African women originating from diverse countries and regions joined forces across the continent to confront entrenched injustices. Their symbolic ascent of Mount en, for a wide range of reasons, including discrimination leading doctors failing to feel the need to explain the procedure, its risks and benefits, or to ask for the patient's consent, lack of access to linguistically appropriate health services for women who speak only their native language, and high rates of illiteracy among indigenous women in rural areas.

Kilimanjaro signified their commitment to instigate change, ultimately resulting in the creation of a charter presented to both the African Union and governments. This collaborative endeavour epitomises the unwavering determination of African women to shape a more just future for themselves and forthcoming generations.

This united effort is particularly crucial as resource extraction disproportionately impacts rural women, exacerbating existing socio-political barriers to land access and ownership. For instance, the Rural Women's Rights Charter of Kenya resonates with the concerns of women residing in rural areas, underscoring the significance of secure land rights and sustainable livelihoods. Women from 24 rural counties in Kenya contributed to the development of this charter, reflecting their collective aspirations for a stable and prosperous future.

Recognising the decisive role of indigenous women

The challenges and barriers may vary from country to country and even community to community, but indigenous women in developing countries such as Tanzania and Peru face the same structural imbalance in gender equality as their sisters living in New Zealand, Norway and Canada.

The statistics and observations provided above highlight the significant challenges faced by Indigenous Peoples, particularly indigenous women, around the world. Addressing these issues requires recognising and respecting the rights and agency of indigenous communities, and especially women, in decision-making processes at both local and international levels. Supporting indigenous movements and empowering indigenous women is crucial to promoting social justice, preserving cultural heritage and achieving sustainable development that respects the rights and dignity of all peoples.



Tackling pest-induced post-harvest loss under climate change

Insects are one of the most important factors in post-harvest losses world-wide. In the face of climate change, it is necessary to monitor the invasion pathways of these pests and adapt control strategies to minimise their negative impact on food grains. Our authors provide information on some of the most important pest species and their characteristics, as well as the state of research in this area.

By Sylvanus Odjo and Hannah Quellhorst

Post-harvest loss of grain (maize, rice, wheat) and pulses remains an important challenge, particularly in the tropics where it contributes to food insecurity and negatively affects supply chains. Causes of post-harvest loss are systemic and can be associated with biotic factors, but also with the lack of awareness by farmers and other stakeholders on the extent of the problem or the critical point of losses, bad post-harvest practices, lack of access to market and economic incentives, and the lack of access to appropriate post-harvest technologies.

Insect pests contributing to postharvest loss

Insects are among the most important biotic factors of post-harvest loss, accounting for a significant part of storage loss (upwards of 60 per cent of total grain in some cases). Although hundreds of species of insects can infest grain, most damage is caused by a select few of them. For example, the maize weevil (*Sitophilus zeamais*) and the larger grain borer (*Prostephanus truncates* – LGB) have the heavier impact on maize during storage, while common beans are mostly affected by the bean weevil (*Ac-anthoscelides obtectus*) and the Mexican bean weevil (*Zabrotes subfasciatus*).

Some of the post-harvest insect pests of grains, and of stored commodities in general, are considered as so-called "quarantine pests", i.e. they are not naturally present in an area and could create significant economic damage if introduced. For example, the LGB is such a quarantine pest, and is one of the most destructive insect pests of grain. Originally from Mexico and Central America, this pest was accidentally introduced in Africa, where it is now spread throughout the equatorial region. The LGB's effectiveness in destroying harvests is associated with its varied diet: described as a wood borer, this pest can easily infest other crops, which makes it difficult to control. A typical sign of LGB infestation in a grain stock is the production of flour, which generally leads to the proliferation of other secondary insect pests and fungi. Controlling the



The larger grain borer (Prostephanus truncates).

LGB requires the implementation of an integrated management system (varietal resistance, good post-harvest practices, biological control, hermetic technologies) without systematically relying on the use of pesticides to avoid resistance development.

The khapra beetle (*Trogoderma granarium*) is another invasive pest. It was first identified in India and now has a quarantine status in many countries due to its capacity to quickly establish itself in newly infested areas and its ability to infest numerous commodities and survive in harsh environments with the help of diapause (a physiological state during which insects can decrease their metabolism, and sometimes pause their development, to survive harsh environmental conditions). Even though these post-harvest pests have been known and described for a while, they continue to cause a lot of damage, and their incidence could be heightened by climate change.

Climate change – an accelerating factor for the spread of post-harvest pests

Climate change impacts on agricultural production and mitigation strategies are not new to the global research and development agenda. Nevertheless, while the impact of climate change on crop loss and overall agricultural



The khapra beetle (*Trogoderma granarium*). Photos: Pest and Diseases Image Library/ Bugwood.org

productivity is well investigated, data on global warming and the subsequent increase in temperature on post-harvest pests is insufficiently studied. Several scenarios can be considered regarding how climate change impacts on the physiology and the behaviour of insects. Elevated temperature may, for example, affect insects' life cycle and accelerate their reproduction rate, resulting in more generations per year, higher population densities and greater crop damage. Moreover, warmer temperatures may lead to an expansion of the geographic range of insect pests, by allowing them to thrive in regions where colder temperatures are used to prevent their survival. This change in distribution area can be limited to one and the same country - it has been hypothesised that the confused flour beetle (Tribolium confusum), a pest that generally infests grain and flour in warehouses and silos, could shift habitats from northern to southern Chile, where it does not currently represent a risk - but could also expand beyond countries and regions' boundaries due to international trade. Indeed, agricultural products account for a significant part of global trade, and insects can be transported along with grains across national borders. Many pests have the capacity to infest commodities over long distances and establish themselves in new areas. This is how the lesser grain borer (Rhyzopertha dominica), one of the major wheat pests originating from the Indian subcontinent, was found in Germany. The pest can also act as a forest pest in Europe.

Managing post-harvest pests in the context of global warming

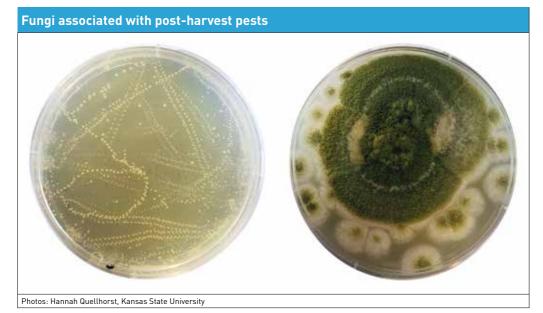
The risk of introducing invasive insects through global trade is not new and is generally managed through monitoring at entry points and the implementation of phytosanitary measures when an invasive pest is identified. However, climate change could have a negative impact on the effectiveness of the insect management tools currently available. For example, the effectiveness of diatomaceous earth (inert dusts), pyrethrins and most pyrethroids (insecticides) in controlling post-harvest insect pests decreases when temperature increases. Moreover, potential negative impacts of climate change on insects' natural enemies like Beauveria bassiana - a fungus which parasitises insects - may also weaken the biological control of post-harvest pests. Therefore, mitigating the negative impacts of post-harvest pests on food grain in the context of climate change requires proactive measures adapted to each context and taking into account that small-scale farmers are particularly vulnerable. These control practices will need to combine chemical, cultural and biological (including the use of pheromones-based tools) methods for a comprehensive management of insect pests.

Monitoring is key in mitigating the projected negative impact

In addition to the development of new integrated post-harvest pest management strategies, it is essential to monitor the invasion pathways of post-harvest pests to allow an early detection and a swift assessment of the likelihood of their establishment in risk areas. The International Maize and Wheat Improvement Center (Cimmyt) and Kansas State University are, for example, partnering to monitor the invasion pathways of post-harvest pests in the Americas, including the larger grain borer and the khapra beetle. These experiments, which are also carried out in various parts of the world, include tracking pests in different areas (prairie, stores and warehouses) using pheromones traps but also examining the fungi communities associated with the collected insects.

Preliminary results show that a variety of fungus species are associated with the two insects, including fungi from the genera Aspergillus, Fusarium and Penicillium. These types of fungi develop during storage because the feeding activities of post-harvest pests increase the temperature and humidity in the storage ecosystem. These toxigenic fungal strains can then in turn produce mycotoxins such as aflatoxins and fumonisins, which are potentially carcinogenic and can cause a variety of health problems for humans and animals. Aspergillus flavus, one of the most important fungi vectors of aflatoxin, was identified and associated with both the larger grain borer and the maize weevil.

Monitoring programmes like this one will help in preventing significant damage caused by these pests. Thus, dealing with mycotoxins requires an integrated approach that includes the choice of varieties, soil health and agronomic and post-harvest practices.





A larger grain borer chewing in a plastic pheromone lure, showing its destructive capacity. This insect is able to damage grain-packaging materials.

Photo: Jessica González Regalado/ CIMMYT

Modelling studies such as the one by Cimmyt and Kansas State University can help predict the potential expansion of post-harvest pests under different climate change scenarios. These works generally include gathering information on the current distribution of the pest considered, physiological information, environmental conditions, host availability and other relevant factors. The validated models are used to generate risk areas and inform pest management strategies.

Understanding the pests' pathways of invasion will help inform the development and implementation of risk management strategies to effectively prevent, detect and respond to invasive pest incursions. Currently, the lack of data at regional and continental levels poses a serious challenge, and data sharing at an international level will be critical for targeted management strategies and policy decisions.

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Improving innovation adoption among African smallholder farmers

The INTERFACES project backs four regional ventures run by the German Federal Ministry of Education and Research and aimed at promoting sustainable land management in sub-Saharan Africa. Its mission focuses on developing change strategies to boost innovation and implementation processes.

By Theodore Asimeng

The development and adoption of innovations have been the main driver of economic growth and other benefits for humans and the sustainability of the environment, without denying that some innovations have contributed to some adverse effects. Globally, improvements in agricultural development have been achieved in many world regions by adopting innovations targeting productivity, resilience, quality and other objectives of farmers and other food system actors such as processors and consumers. However, smallholder farmers in Africa tend to adopt innovations much less intensively than those in other world regions - to the detriment of their situation, their societies and the environment.

Reasons for low innovation adoption

The reasons for the lower adoption rate are manifold and often overlap. They can be grouped into three clusters. An innovation may require resources which are large compared to the farmers' current means. It is difficult for smallholder farmers to adopt innovations that need more land and water, capital and other investments, institutional support, labour and inputs such as fertiliser and pesticides than they have, can afford or can absorb. Moreover, farmers often face difficulties when implementing an innovation requires reorganising their existing farming practices, inputs and longer productivity times than they are used to. And then there are limitations from both the natural environment, such as weather, and the structured environment, like skilled labour in the backward and forward sectors, as well as access to markets. These three reasons for lower adoption rates are further underlined by socio-cultural factors relevant to the community but not considered in the innovation which may affect adoption.

Despite these challenges and many failed efforts, the need to drive innovation among African smallholder farmers has never been higher than now. Africa has a growing population but is saddled with lower food production, re-



Solar panels for solar-powered irrigation pump. Farmers often face difficulties when implementing an innovation requires reorganising their existing farming practices or investments are large compared to their current means.

Photo: Jörg Böthling

sulting in food security concerns exacerbated by climate change and extreme events already affecting agricultural productivity. In contrast, nature-based solutions for climate change mitigation and natural resource management are in high demand. Therefore, fostering innovation development and adoption among smallholder farmers in a delicate balance that ensures economic, environmental and socio-cultural development is crucial.

Factors that foster innovation adoption

Given the challenges above, the Interfaces project – an accompanying project supporting four other regional research and implementation projects funded by the German Federal Ministry of Education and Research (BMBF) to drive change for sustainable land management in six sub-Saharan African countries – conducts several research measures and workshops. At the 8th Africa Agribusiness and Science Week in Durban, South Africa in 2023, it organised a side event to solicit ideas on factors that improve innovation adoption among smallholder farmers. The discussion among the participating scientists and farmers and representatives from agriculture extension organisations, civil society organisations, financial institutions and other local, national and regional institutions yielded some key considerations that are reflected in the following.

Considerations for the physical environment

Since most smallholder farmers depend on elements of nature, such as rainfall and sunshine, for their farming activities, innovations that demand requirements outside the physical environmental conditions, such as irrigation, usually become a problem to adopt. Moreover, smallholder farmers assume a high cost-benefit ratio when changing their current practices because they have minimal support when things go wrong. This naturally makes them hesitant of change beyond the practices they already know. Alternatively, accompanying risk-reducing measures, such as pesticides, improved seeds, crop loss insurance and irrigation, can reduce these vulnerabilities. However, these risk-reducing measures often constitute innovations of their own, and adopting such complex bundles of innovation often requires new organisational arrangements, and may result in new challenges for farmers.

Participatory research and implementation

The linear transfer of technology models where scientists develop the innovation and extension agencies transfer the information to farmers has not been successful in Africa, particularly among smallholder farmers, for the reasons indicated above. This has been compounded by the fact that agriculture is highly diversified and does not have standard crops and cropping systems found elsewhere. Therefore, participatory approaches where farmers are involved in the innovation development often lead to adoption. These can take four forms: contractual, consultative, collaborative and collegiate. The collaborative format, where farmers and other stakeholders are equal partners throughout development of the innovation, has been highlighted as most promising.

The collaborative process allows the uncovering of blind spots which otherwise would have been overlooked. Through the incorporation of farmers from the beginning, their actual needs are directly brought to the forefront, not what researchers, their funders, or other stakeholders consider essential for farmers. Another advantage is that the skills of farmers, labour, inputs and other requirements necessary to implement the innovation become noticeable. Collaborative processes expose socio-cultural issues and norms that can hinder innovation adoption if neglected, as well as indigenous knowledge that helps modify solutions fostering adoption.

Access to land, credit, market, information and labour

Ownership and easy access to specific resources influence people's willingness to invest in innovations and are therefore essential for innovation adoption. Distinguishing target groups for different types of innovations depending on resource access and ownership or developing and propagating accompanying innovative rules of access to land, inputs and Since October 2022, the project **INTERFACES** has been supporting four BMBF-funded regional projects in their endeavour to drive change for sustainable land management in sub-Saharan Africa: COINS (Co-developing innovations for sustainable land management in West African smallholder farming systems), DecLaRe (Decision support for strengthening land resilience in the face of global challenges), InfoRange (Increasing efficiency in rangeland-based livestock value chains through machine learning approaches and digital technologies) and Minodu - Fostering local sustainable development through research and technology.

other resources helps in the adoption of innovations. Farmers who do not own land, for instance, are unlikely to invest in long-term innovations such as tree planting or soil quality improvements, which provide benefits after a longer runtime. The availability of credit facilities enables farmers to take risks to purchase inputs if there is an option for a repayment system adapted to farmers' seasonal cash flow. Again, the availability and access to markets for the produce and, therefore, certainty of income to repay credits is essential. Protections like contract farming or joint marketing would improve reliability and reduce variability in access to land, credit and market.

Access to reliable information through trusted sources is also crucial to increasing innovation adoption. Smallholder farmers often look for evidence on paths to improve their farming practices. Here, farmer organisations frequently become the enabling tool. The same applies to the facilitation of access to credit and new markets. Strengthened farmer organisations are therefore essential for improving innovation acceptance. Where skilled labour and farming inputs are not readily available to farmers, it is important to consider access to and affordable costs of these resources as vital enablers for adoption.

Scaling-out and scaling-up of successful innovations

It is erroneous to assume that an innovation which has worked for an individual or a community will automatically work for others. Differences in social, economic, ecological, organisational and geographic scales may affect the adoption of successful innovations when transferred without proper screening through adaptive research. It is therefore important to propose out-scaling for these "recommendation domains" to avoid offering solutions that will not work in other jurisdictions, making those farmers sceptical to future innovation adoption.

Some innovations can only yield their full benefits when scaled up, so it is crucial to consider the means of up-scaling innovations. Up-scaling the quality or adding certain aspects to the innovation to improve its benefits should be done after proper screening. These may require institutional restructuring of the extension services and further research, which may come with their own innovations.

Conclusion

As argued, improving innovation adoption among smallholder farmers in sub-Saharan Africa depends on addressing various issues. These issues include considering the physical environment in which farming is done, ensuring the inclusion of farmers in the innovation development process from the onset and making sure that the innovation does not widely depart from the current practices and considerations for access to land, credit, market, information, labour, and inputs. Furthermore, adaptive research done before scaling successful innovations in new communities can be crucial. The Interfaces project intends to continue to work on these priorities with the regional projects to improve sustainable land development in sub-Saharan Africa.

Another critical issue that is central to the project is the role of gender and social equity. Women, youth, ethnic minority groups and disabled people are often less considered when it comes to research and development activities and implementation efforts. The project will further strive to understand and promote the consideration of gender issues and the needs of marginalised groups in innovation adoption and implementation among smallholder farmers while identifying ways to make the research findings and information available to all stakeholders in a customised and context specific manner.

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