



Indigenous Knowledge and Local Knowledge Dialogues

Global Environment Outlook 7 (GEO-7)

Indigenous Knowledge and Local Knowledge Dialogues

Global Environment Outlook 7

CopIt-arXives

2025

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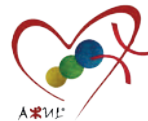
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ABBREVIATIONS

CBD	Convention on Biological Diversity
CLAs	Coordinating Lead Authors
COP	Conference of the Parties to the Convention on Biological Diversity
EAT	East Africa Time
EMRIP	Expert Mechanism on the Rights of Indigenous Peoples
ECOSOC	United Nations Economic and Social Council
FAO	Food and Agriculture Organization
FPIC	Free, Prior and Informed Consent
GEO-7	Seventh Global Environment Outlook
GMOs	Genetically Modified Organisms
IK & LK	Indigenous Peoples' knowledge and local knowledge
ILO	International Labour Organization
IMAG	Intergovernmental and Multistakeholder Advisory Group
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IPCC	Intergovernmental Panel on Climate Change

IPs	Indigenous Peoples
MESAG	Multidisciplinary Expert Scientific Advisory Group
OHCHR	Office of the United Nations High Commissioner for Human Rights
PAHO	Pan American Health Organization
SOD	Second Order Draft
SDG	Sustainable Development Goals
SPM	Summary for Policy Makers
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNPFII	United Nations Permanent Forum on Indigenous Issues
UN	United Nations



INTRODUCTION

1. Introduction

We appreciate the interest in considering “Indigenous Peoples’ knowledge in developing solutions” for the future of life on Earth in this GEO-7 report. However, we also recognize that there is much to be done to truly consider Indigenous Peoples as allies in building collective solutions for the defense of life, sustainability, biodiversity, and the planet.

- Manifesto, Second IK & LK Dialogue, 2024

No dialogue with Indigenous Peoples can take place without a process fostering recognition of the crimes of which they were all victims. We call for reparations for the spiritual and temporal harms suffered by Indigenous Peoples worldwide. We seek effective and not performative reconciliation to break with intergenerational trauma and build a better tomorrow for all.

- Statement of Indigenous Peoples, Third IK & LK Dialogue, 2025

Dialogues between Indigenous People’s knowledge, local knowledge (IK & LK) and scientific knowledge are often marked by both good intentions and strong tensions. When these dialogues occur within a political framework such as that of the Global Environment Outlook (GEO), a dominantly scientific assessment organized by the United Nations Environment Programme (UNEP), the complexities are multiplied by the great diversity of perspectives, themes, agendas and ways of knowing that are sought to be articulated. Notwithstanding numerous challenges, the recognition of the vital role Indigenous Peoples and local communities play in environmental governance, and the valuable insights they offer for the construction of sustainable pathways, has motivated “the systematic inclusion of Indigenous Knowledge into the 7th Global Environmental Outlook” (UNEP, 2025).¹

The incorporation of IK & LK in the 7th Global Environment Outlook Report (GEO-7) is also driven by the need to highlight specific challenges faced by Indigenous Peoples and local communities and contribute to more culturally appropriate and locally relevant solutions

¹ UNEP (2025). *Report of the United Nations Environment Programme submitted to the 2025 session of the United Nations Permanent Forum on Indigenous Issues.*

to environmental problems (UNEP, 2022).² These and other intentions guided the GEO-7 to co-organize three IK & LK Dialogues. The messages that this book comprises come from these events and constitute a clear expression of significant inclusive efforts made by UNEP. Despite the great importance of these efforts and their results, the participants of the Second IK & LK Dialogue warn that “there is much to be done to truly consider Indigenous Peoples as allies in building collective solutions for the defense of life, sustainability, biodiversity, and the planet”.

What should non-Indigenous governments and scientists do to truly consider Indigenous Peoples as allies? What is needed to move from a dismissive or even inclusive approach to reparative practices that allow for reconciliatory alliances and decolonized collaborations between policy, hegemonic sciences and Indigenous Peoples’ sciences? The participants of the Third IK & LK Dialogue help us understand some of the key actions that need to be taken towards reparation. They state that “no dialogue with Indigenous Peoples can take place without a process fostering recognition of the crimes of which they were all victims”. The participants also clarify that the recognition of the colonial harms inflicted over Indigenous Peoples worldwide should not be merely performative, but effective for the healing of past wounds and the creation of a better future for all.

From a macropolitical perspective, the full recognition and exercise of the Indigenous Peoples’ right to self-determination are also highlighted by IK & LK Dialogue participants as indispensable for decolonized and reparative alliances. This is achieved by the full implementation of Free, Prior and Informed Consent (FPIC), the respect for Indigenous Peoples’ lands/territories, authorities and decisions, as well as by actions to put a halt to all types of physical and symbolic violence against Indigenous Peoples (including the criminalization and systematic murder of defenders of their territories and institutional violence).

The path from inclusion of Indigenous Peoples’ knowledge to reparation and equitable forms of collaboration also involves a series of fundamental mindset and actionable shifts. IK & LK Dialogues participants argue that these changes include moving from the exclusivity or alleged superiority of hegemonic sciences in environmental assessments to more symmetric exchanges and co-productions between different knowledge systems.³ They also advocate for shifting the consideration of Indigenous Peoples as marginal or vulnerable to environmental leaders; from stakeholders to rights and knowledge holders; and from policy takers to policy makers.

² See: UNEP (2022). *Scoping of the Seventh Edition of the Global Environment Outlook: Action for a healthy planet*.

³ Participants refer, for example, to *Etuaptumk in Mi'kmaq* or the Two-Eyed Seeing approach to advocate for the “weaving” of Western and Indigenous sciences.

Recognizing diverse forms of historical and ongoing colonialism and constructing equitable collaborative processes are as necessary as they are challenging. Much critical and self-critical reflection, intercultural sensitivity, solidarity and collective power are needed to accomplish these pending tasks. And there is no simple, progressive, unified or infallible path towards decolonized collaborations. As facilitators of the Indigenous Knowledge and Local Knowledge Dialogues and editors of this book, we humbly hope to have somehow created conditions for meaningful exchanges and critical learnings, thus, perhaps, contributing a small step towards ontological and epistemic justice.

Even though the IK & LK Dialogues focused on environmental issues, the intentions and tensions that characterize the inclusion of Indigenous knowledge and local knowledge in the GEO-7 assessment are latent throughout this book. Each of its parts includes the respective messages shared by participants of the First, Second and Third Dialogues on Indigenous Knowledge and Local Knowledge conducted as part of the Seventh Global Environment Outlook Report (GEO-7). The First IK & LK Dialogue focused on diverse conceptualizations of nature, environmental changes, their impacts and causes, as well as actions to be taken to construct desirable futures. This first Dialogue was held through a virtual workshop on the 25th, 26th and 27th of March 2024. The purposes of the Second IK & LK Dialogue were practically the same as those of the First Dialogue, with the extra focus on filling identified gaps in the GEO-7 report. This time the gathering took place on the 11th, 12th and 13th of June 2024, in the city of Oaxaca, Mexico, at the facilities of the University Extension Unit of the National Autonomous University of Mexico (UNAM). The Third IK & LK Dialogue occurred from the 12th to the 15th of January 2025 in the city of Chiang Mai, Thailand. Its objective was to carry out a dialogical review of the GEO-7 drafts by participants from different Indigenous Peoples. In total, 53 participants (24 female and 29 male), from 28 countries across the 7 sociocultural regions, voiced the messages presented in this book. They are from 40 Indigenous Peoples, and 3 local communities recognized for having historical linkages to their land and non-hegemonic worldviews. Their critical authorship and inspiring leadership are hereby recognized, with deep gratitude and hope.

2. Background

Despite continuous calls, both in the scientific and political spheres, to build bridges with Indigenous Peoples' knowledge and local knowledge (IK & LK),⁴ these systems remain significantly ignored. The GEO-7 process reflects a growing recognition of the need to reconcile efforts with IK & LK within global environmental governance and scientific research. As stated in the methodological and procedural approach of the GEO-7 Scoping:

The assessment will also draw from key findings from major global assessment, regional and country-level assessments [...] including Indigenous knowledge, and where possible local knowledge [...] The Secretariat will guide experts preparing this assessment to work with relevant experts engaged in other major assessments through the Adhoc Global Assessments Dialogue to avoid duplication [...] The approach to recognizing and working with Indigenous knowledge, and local knowledge in GEO and other relevant guidance (e.g. from IPBES) will be factored into the assessment (UNEP, 2022).⁵

This process seeks a holistic approach to address environmental challenges, gathering lessons and learnings from other successful experiences such as that of the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES).⁶ IPBES implemented a dialogical approach to recognize, value, and include IK & LK in its assessments, acknowledging the indispensable contributions of Indigenous Peoples, as well as local communities, to enhance the understanding of environmental changes, challenges, and solutions' pathways. Additionally, the methodology of the IK & LK Dialogue process in GEO-7 has been informed by the Pan American Health Organization (PAHO) Knowledge Dialogues.⁷ A definition of what a dialogue is in the scope of the GEO-7 process is addressed in **Box 1**.

⁴ See: 1) Vijayan, D., Ludwig, D., Rybak, C., Kaechele, H., Hoffmann, H., Schönfeldt, Hettie. C., Mbwana, H. A., Rivero, C. V., & Löhr, K. (2022). *Indigenous knowledge in food system transformations*, *Communications Earth & Environment* 3(1): Article 213; 2) Sidik, S. M. (2022). *Weaving Indigenous knowledge into the scientific method*. *Nature* 601: 285-287; and 3) Adeola, O., Evans, O. & Ngare, I. (2024). *African Indigenous Knowledge and Climate Change Mitigation: Towards an Afro-Sensed Perspective*. In: *Gender Equality, Climate Action, and Technological Innovation for Sustainable Development in Africa*. Cham: Palgrave Macmillan.

⁵ See: UNEP (2022). *Scoping of the Seventh Edition of the Global Environment Outlook: Action for a healthy planet*

⁶ See: IPBES' *Indigenous and Local Knowledge Dialogue Reports*.

⁷ See: PAHO (2022). *The Knowledge Dialogues Methodology*. Washington, D.C.: Pan American Health Organization (PAHO).

Box 1. What is a dialogue?

A dialogue is a type of conversation based on trust that creates opportunities to exchange different experiences and knowledge, while respecting the principles of Indigenous Peoples' right to Free, Prior, and Informed Consent (FPIC). A dialogue creates synergies and new views, whilst enhancing previous understandings. During a dialogue, it is not expected that participants defend a position, but rather foster a type of communication that will help all to listen deeply, communicate respectfully and learn from each other. An important component of a dialogue is the recognition that power asymmetries may exist among the participants as well as different perspectives and worldviews, thus it is important to consciously make efforts to ensure that diverse perspectives are included, heard and respected.⁸

An IK & LK Taskforce was established in the GEO-7 process to promote collaboration and reconciliation between IK & LK and scientific knowledge. Researchers and Indigenous knowledge holders participate in the IK & LK Taskforce and collaborate with other GEO-7 lead authors to:

- Identify existing literature and evidence on IK & LK that could complement and strengthen the GEO-7 assessment
- Conduct a series of Dialogues with Indigenous Peoples' representatives to allow for different forms of knowledge to inform the GEO-7 assessment.

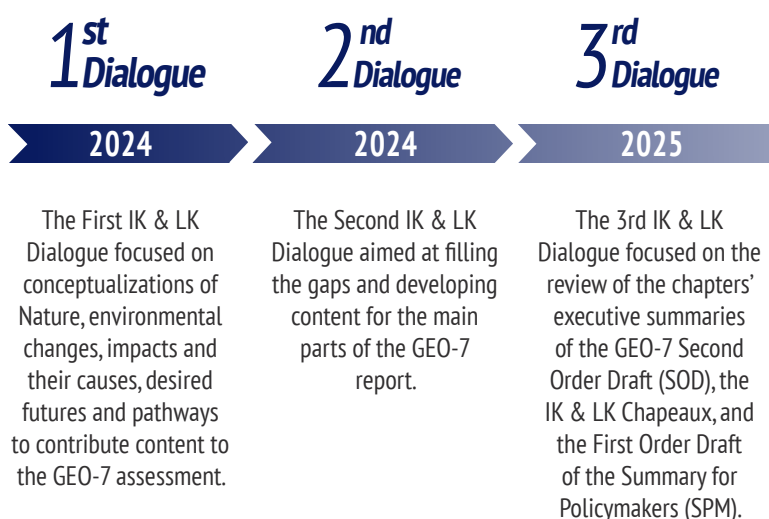
2.1. Indigenous Peoples' knowledge and local knowledge Dialogue process within the GEO-7

The GEO-7 recognizes the pivotal role of Indigenous Peoples' knowledge and local knowledge to enhance the objectives of assessing the current state of the global environment, co-constructing desired futures and pathways towards these futures. This includes recognizing the challenges that Indigenous Peoples face regarding the planetary crisis and their impacts. Additionally, GEO-7 acknowledges the solutions that Indigenous knowledge and local knowledge holders have developed to address environmental challenges, as well as prospects for the future.

⁸ Adapted from PAHO (2022). *The Knowledge Dialogues Methodology*.

Therefore, GEO-7 is committed to incorporate IK & LK through a structured process with clearly defined stages (**Figure 1**). This process ensures that the Dialogues are interconnected and are part of a broader ongoing engagement to inform the GEO-7 report, while recognizing the contributions of all participants in each Dialogue report.

Figure 1. Indigenous Knowledge and Local Knowledge Dialogues Process



2.2. Free, Prior and Informed Consent (FPIC)

The Indigenous Knowledge and Local Knowledge Dialogues conducted within the framework of GEO-7 have been established in accordance with the principles of Free, Prior and Informed Consent (FPIC),⁹ as a fundamental Indigenous Peoples' right. To uphold this right, an FPIC document was shared and signed by the participants, prior to each Dialogue (**Annex 1**).

⁹ Free, Prior, and Informed Consent (FPIC) is a specific right granted to Indigenous Peoples which aligns with their universal right to self-determination. FPIC allows Indigenous Peoples to provide, withhold or withdraw consent, at any point, regarding projects impacting their territories, and to engage in negotiations to shape the design, implementation, monitoring, and evaluation projects. The normative framework of FPIC consists on a series of legal international instruments including the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), the International Labour Organization Convention 169 (ILO 169), and the Convention on Biological Diversity (CBD), among many others, as well as national laws. See: FAO (2016) *Free Prior and Informed Consent –An Indigenous Peoples' right and a good practice for local communities. Manual for project practitioners*. Italy: FAO.

The FPIC framework is grounded on key principles and proposals aimed at preventing the Dialogue from causing harm or being 'extractive', while fostering reciprocity and ensuring benefits for communities. The FPIC also safeguards participants' voluntary involvement, ensuring that their contributions of knowledge, information and experiences are given with full consent, trust and a clear understanding of the process.

Additionally, the FPIC agreement stipulates that the information shared during the Dialogue will not be used for purposes beyond those explicitly consented by the participants. This document expressly requests consent for photography, video and audio recording, which were only conducted after obtaining prior authorization. Furthermore, it establishes that the report will be reviewed by participants before its formal publication.



Image 1.1. Llaca Lagoon, in the Ancash region of Peru, born from the sacred Quechua's glaciers, one of the origins of the Santa River. Glaciers or snow-capped mountains are know as deities that take care of the community members dedicated to family or small-scale agriculture, and they also punish if the community rules are broken.
Photo: Carol Zavaleta-Cortijo.



PART I

**First Indigenous Knowledge
and Local Knowledge Dialogue
Global Environment Outlook (GEO-7)**

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1. Introduction

The following document synthesizes the outcomes of the first Indigenous Knowledge and Local Knowledge Dialogue conducted as part of the Seventh Global Environment Outlook (GEO-7). This first Dialogue was organized as a series of online interactive sessions held on the 25th, 26th and 27th of March 2024, and brought together 26 participants of Indigenous Peoples and local communities from the sociocultural regions of Africa, Asia, Central and South America and the Caribbean, Eastern Europe and the Russian Federation, North America, and the Pacific. The Dialogue also included the participation of 7 observers¹ from the GEO-7.

The First Dialogue aimed at understanding Indigenous Peoples' perspectives, experiences, challenges, actions and desired futures related to the environment and their communities. The objective was to serve as a valuable resource for understanding such perspectives and to contribute to global efforts toward sustainability by fostering dialogue, knowledge sharing, and advocating for inclusive decision-making processes.

This document begins with a description of the 1st IK & LK Dialogue's objectives and methodology, as well as the background and experience of its participants. Subsequent sections present Indigenous Peoples' conceptualizations and views about Mother Nature² shared by the participants, as well as their discussions on environmental changes and impacts, causes of these changes, proposed actions, and desired futures. Each section includes conclusions drawn from the Dialogue sessions, summarizing key messages for the GEO-7 process. To ensure transparency and accountability, the document includes references and annexes with supplementary information such as the [Agenda](#), and the Free, Prior and Informed Consent (FPIC) document ([Annex 1](#)).

¹ In this 1st Dialogue, the observers consisted of three Coordinating Lead Authors (CLAs) and four members of the Multidisciplinary Expert Scientific Advisory Group (MESAG).

² In this first report, the concept of "Mother Nature" will be used to refer to the environment, Mother Earth, and other associated concepts and understandings of Nature and human-Nature relations, as presented in section 3.

For this report, a qualitative analysis of the virtual workspace utilized in both sessions was made. The data was organized to ensure that its systematic arrangement would lend contextual validity to the report. This qualitative work was complemented by a review of materials generated during the Dialogue sessions, such as recordings, notes, and videos. Throughout this report, some quotations from Dialogue participants are included as references to shared ideas.

2. Objectives and Methodology

Through the creation of conditions for inclusivity, respect, and mutual enrichment among the participants, the 1st IK & LK Dialogue aimed to promote learnings about:

- Different ways of conceptualizing the environment, Nature, or humans-Nature relations
- Environmental changes and their impacts
- The main causes or drivers of environmental changes and impacts
- Actions that can be taken in response to environmental changes and impacts
- Desirable futures and pathways

2.1. Participants

A diverse group of participants from several Indigenous Peoples' sociocultural regions³ participated in the 1st Dialogue ([Table 2.1](#)). The group was composed of 26 participants, 16 women and 10 men. Africa was represented by participants from Alexandria (Egypt) and Lofa (Liberia), and from the Amazigh (Moroccan), Edo/Bini (Nigeria) and Zvamapere (Zimbabwe) peoples. Participants from Asia represented Dayak Iban and Jagoi Bidayuh (Malaysia), Thakali Nationality and Tharu (Nepal), Kankanaey-Igorot (Philippines), Mukkuvar (India), and Turkmen (Iran) peoples. Central, South America and the Caribbean region was represented by participants from the following Indigenous Peoples: Kurripaco (Venezuela), Inga, Uitoto and Mirití Paraná (Colombia), Kalinago and Warao (Trinidad and Tobago), Quechua (Bolivia),

³ The seven sociocultural regions of Indigenous Peoples are: i) Africa; ii) the Arctic; iii) Asia; iv) Central and South America and the Caribbean; v) Eastern Europe, the Russian Federation, Central Asia and Transcaucasia; vi) North America; and vii) the Pacific. The IPs' regional groups, aforementioned in the UN Secretary General's report ([A/HRC/21/24](#), para 14), were adopted by the Human Rights Council Resolution ([A/HRC/RES/33/25](#)). These sociocultural regions have been determined to give broad representation to the world's Indigenous Peoples and serve as a basis for representation of IPs in several UN bodies, such as the UNPFII (ECOSOC resolution 2000/22), the EMRIP, the system's reports on the State of the World's Indigenous Peoples (SOWIP), the [World Conference on Indigenous Peoples \(A/RES/65/198\)](#), and the Facilitative Working Group of the Local Communities and Indigenous Peoples Platform (LCIPP), within the UN Convention on Climate Change and the Paris Agreement. These regions have also been adopted by the Decade of Action for Indigenous Languages (IDIL 2022-2032).

Ėyuujk/Mixe and Yucatec Maya (both from Mexico). The Pacific region included participants from Trawlwulwuy, Woppaburra and Ngadju peoples in Australia. The North America region was represented by participants from the Anishinaabe people (Canada). Lastly, the Eastern Europe and the Russian Federation region was represented by the Kumandin people (Russia) and the Uppsala people (Sweden).

This diverse group of participants embodies a wide range of knowledge from their Indigenous Peoples and local communities, experiences from different regions, as well as knowledge from diverse fields of expertise, such as legal advocacy, cultural preservation, environmental stewardship, food systems, education, community development, and scientific research. **Table 2.1** briefly describes the diversity of participants of this 1st Dialogue. Due to representation across regions, the Dialogue included translation and interpretation in English, French, Russian and Spanish, increasing accessibility and inclusivity across linguistic boundaries.

Table 2.1. Participants of the First Indigenous Knowledge and Local Knowledge Dialogue (GEO-7)

Sociocultural region	Name	Indigenous People or local community, land, country	Short biography
Africa	Prof. Amina Amharech	Amazigh, Morocco	Activist, teacher, artist, and poet. Advocates for Amazigh and Indigenous Peoples' rights, focusing on land, cultural, identity, and linguistic rights.
	Mrs. Dorine Dorcas Ngwarati Washaya	Zvemapere, Zimbabwe	Focuses on leadership and community development.
	Ms. Kona Kollie	Lofa County, Zorzor district, Liberia	Advocates for community development and Indigenous Peoples' rights.
	Dr. Marwa Halmy	Alexandria, Egypt	Egyptian Associate Professor and expert in traditional and local knowledge. Focuses on environmental sustainability, cultural and educational empowerment.
	Mr. Philemon O. Ogieriakhi	Edo/Bini, Edo State, Nigeria	Agriculturist / researcher. Works on agricultural development and Indigenous knowledge.

Sociocultural region	Name	Indigenous People or local community, land, country	Short biography
Asia	Dr. Johnson Jament	Mukkuvar, India	Freelance researcher in Marine Social Science from the Mukkuvar community. Works on coastal Indigenous Peoples' rights and the documentation of Indigenous knowledge and cultural/linguistic diversity of Mukkuvar.
	Dr. June Rubis	Jagoi Bidayuh, Malaysia	Co-Founder, Building Initiatives for Indigenous Heritage (BiiH) in Sarawak. Expertise in Indigenous Peoples' rights, environmental advocacy, orangutans, decolonising conservation.
	Ms. Florence Daguitan	Kankanaey-Igorot Philippines	Researcher. Advocates for Indigenous knowledge and rights.
	Dr. Hanieh Moghani	Turkmen, Iran	Legal counsel and advocate for Turkmen people. Focuses on legal rights and Indigenous Peoples' advocacy.
	Miss. Indu Chaudhary	Tharu, Nepal	Activist and writer. Works on Indigenous Peoples' rights and cultural preservation.
	Mr. Nicholas Mujah Anak Ason	Dayak Iban, Sarawak, Malaysia	Legal expert. Focuses on Indigenous Peoples' rights and legal advocacy.
	Miss. Saraswati Sherpa	Sherpa, Nepal	Activist from the Sherpa community. Advocates for Indigenous women's rights and community support.
	Ms. Yasso Kanti Bhattachan	Thakali Nation, Nepal	Indigenous Peoples expert from the Thakali Nationality, Nepal. Advocates for the rights of Indigenous women against multiple forms of discrimination.
Central and South America and the Caribbean	Ms. Caroline Mair-Toby	Kalinago and Warao, Trinidad and Tobago	Focus on environmental justice, Indigenous Peoples' rights and systemic change.
	Dr. Francisco J. Rosado-May	Yucatec Maya, Mexico	Founding President of the Intercultural Maya University of Quintana Roo, Mexico. Full Professor, Expertise on IP's food systems from the field of agroecology and intercultural education.
	Miss. Gladys Lorena Terrazas Arnez	Quechua, Bolivia	Bolivian Indigenous Peoples' expert on Climate change from the Quechua community. Focuses on environmental advocacy and Indigenous Peoples' rights.

Sociocultural region	Name	Indigenous People or local community, land, country	Short biography
Central and South America and the Caribbean	Taita Hernando Chindoy Chindoy	Inga, Colombia	Represents various Indigenous Peoples in Colombia. Focuses on Indigenous Peoples' rights, Nature, and cultural preservation.
	Mr. José Gregorio Díaz Mirabal	Kurripaco, Venezuela	Leader from the Kurripaco people. Focuses on Indigenous Peoples' rights and environmental advocacy.
	Ms. Lena Estrada Añokazi	Uitoto, Colombia	Uitoto people representative. Works on Indigenous Peoples' rights within environmental frameworks.
	Mr. Rodrigo Yucuna	Mirití Paraná, Puerto Lago, Colombia	Traditional Authority from the Mirití Paraná Indigenous Reservation, Colombia. Advocates for Indigenous Peoples' territorial rights and cultural preservation.
	Dr. Tania Eulalia Martínez Cruz	Ēyuujk, Mexico	Mexican Indigenous advocate researcher from the Ēyuujk community. Expert on IPs' food and water systems. Works on language revitalisation.
Eastern Europe and the Russian Federation	Mrs. Gulvayra Kutsenko	Kumandi, Russia	President of the L'auravetl'an Information & Education Network of Indigenous Peoples from the Kumandin people, Russia. Works on Indigenous Peoples' rights and cultural preservation.
	Dr. Håkan Tunon	Uppsala, Sweden	Director at the Swedish Biodiversity Centre. Works on biodiversity conservation and Indigenous knowledge integration.
North America	Dr. Myrle Ballard	Anishinaabe, Lake St. Martin First Nation, Canada	Chief Indigenous Science Advisor and Associate Professor. Expert on Indigenous Science and Reconciliation of Indigenous and Western Sciences in water/climate research.
The Pacific	Mr. Bob Muir	Woppaburra, Keppel Islands, Australia	Australian Institute of Marine Science (AIMS), Indigenous Partnership Coordinator, Australia. A Woppaburra elder focusing on marine science and Indigenous partnership.
	Dr. Emma Lee	Trawlwulwuy, Tebrakunna country, Tasmania, Australia	Professor at Federation University, Australia. A trawlulwuy woman advocating for Indigenous Peoples' rights and environmental management.

2.2. Methodology of the First Dialogue

This section outlines the methodology, structure and stages of the first sessions held as part of the Indigenous Knowledge and Local Knowledge Dialogue process within the GEO-7. This first Dialogue was carried out over three days, and each day was dedicated to specific themes and objectives. To secure inclusivity and participation from different regions, the Dialogue was divided into two identical and parallel sets of sessions conducted on different time zones: 09h00 to 12h00 East Africa Time (EAT) for participants from Asia, the Pacific, Africa, Eastern Europe and the Russian Federation; and from 18h00 to 21h00 EAT for participants from Central, South and North America, the Caribbean and Western Africa.

The Dialogue used a methodology that was designed to facilitate a respectful and meaningful exchange among Indigenous knowledge holders about their worldviews, experiences and reflections related to the environment. In breakout and plenary sessions, the dialogues were facilitated by key questions, collaborative activities, and arts-based co-creations to enable knowledge sharing regarding the meanings of Mother Nature, environmental changes and impacts, their causes, actions that can be taken, and pathways towards desirable futures. The general agenda can be consulted in [Annex 2](#).

2.3. Creating a safe and caring space for the Dialogue

Before starting the dialogue in breakout sessions, the participants suggested a series of principles for creating a safe and caring exchange. Each participant was invited to contribute their insights towards crafting dialogue agreements by responding to the question: “What can we do to create a safe and caring space for our dialogue?”. This initial phase involved prompting individuals to co-create their perspectives on attitudes that could be implemented to cultivate a secure space along the dialogue sessions.

- The participants emphasized the importance of **respecting different types of knowledge**. They also advocated for **free communication**, emphasizing the need for an atmosphere where individuals feel uninhibited to express their thoughts. This was closely linked to the importance of **allowing time for processing and reflecting**, especially when confronted with new or challenging ideas.

- An **holistic approach** was also defined as a necessary element for the dialogue, with participants proposing a comprehensive perspective **that integrates balance, sincerity, respect, solidarity, and openness**. This approach, inspired by values that are deeply rooted in Indigenous Peoples, aims to create a harmonious environment that recognizes all the ideas with respect.
- The Dialogue also emphasized the importance of **seeking assistance when needed**, encouraging participants to ask for help in sharing ideas or addressing concerns. This fosters a supportive community where individuals can trust each other, further enhancing the collective learning experience.
- **Valuing the knowledge and resilience of Indigenous Peoples** was a central principle defined for the Dialogue process, with participants urging for the recognition and promotion of Indigenous Peoples' wisdom, practices, and sustainable approaches. The principle of **"Nothing about us without us"** was highlighted, stressing the importance of listening to and involving Indigenous Peoples directly in conversations that concern them.

In summary, the First IK & IK Dialogue was based on co-constructed principles reflecting a deep commitment to respect, open communication, holistic understanding, and the valorization of Indigenous Peoples' wisdom. These principles contributed to a respectful and meaningful exchange of ideas during the 1st Dialogue sessions.

3. Indigenous Peoples' Conceptualizations of Nature, Mother Nature or Human-Nature Relations

The aim of this section is to unveil the complexity of Indigenous Peoples' worldviews related to Nature and its connection with the linguistic and cultural diversity. This session endeavored to transcend language barriers, inviting participants to exchange words, meanings, and reflections from their respective Indigenous knowledge.

Throughout the Dialogue, participants were encouraged to share their viewpoints on the concept of Nature or Mother Nature. The dialogue among participants was prompted with questions such as: "Is there a word in your Indigenous Peoples' language for 'environment', 'Nature', or 'human-Nature relations'? What is it? Or what is the closest concept? In a few words, what does that mean?"

3.1. Indigenous Peoples' conceptualizations of Nature and their meanings

"Regardless of where we come from, we all realize that everything we say about Nature, lands, and people is all linked. Everything feels close and similar; it relates to feelings of all Indigenous brothers and sisters."

- Reflection by an afternoon session participant

Through the dialogue process, diverse linguistic expressions and cultural narratives were shared and a certain collective understanding across Indigenous knowledge holders was created. This shared understanding is based on a recognition of the interconnectedness of life, where humans are not dominators of Nature but part of a larger ecological system that demands respect, care, and sustainable interactions. Participants consistently referred to the current state of the environment, its changes and impacts on their communities. Participants explored the intricate challenges and persistent struggles of Indigenous Peoples to endure across generations, particularly considering the alarming rate at which Indigenous

Peoples' languages –and the invaluable knowledge embedded within them– are vanishing. Participants remarked that their knowledge is not always aligned with Western science. As Indigenous knowledge holders, they argued that they do not seek validation from Western concepts, instead, they intend to co-exist with Western knowledge and create novel knowledge together. In **Table 3.1** a list of the concepts of Nature and synthetic explanations that emerged during the dialogue is presented.

Table 3.1. Participants' conceptualizations of Nature and synthetic explanations

Sociocultural Region	Indigenous People or local community, land, country	Conceptualization of Nature	Meaning(s) of conceptualization
Africa	Amazigh, Morocco	Tamazighte / Acal / Awal / Afgan	Land / Territory / Woman ancestral matriarchal culture / Language
		Aman iman	Water is soul
	Alexandria, Egypt	الطبيعة Pronounced: Al-tabi-ah	Natural World / Natural surroundings / Natural Creation
	Edo/Bini, Edo State, Nigeria	Erhan / Eze / Agbon-Egbo / Oha / Igin / Omi / Ugbo	Tree / River / Earth / Forest / Tree / Forest
	Zvmapere, Zimbabwe	Gomorezipwa	Mountain / Wetlands
Asia	Dayak Iban, Sarawak, Borneo island, Malaysia	Panah manua	Comprehensive elements within the ecosystem, including spiritual elements in landscape
	Jagoi Bidayuh, Sarawak, Borneo island, Malaysia	Obut / Topat Pimuung / Tana Tuan / Tiboie / Tibawang / Tinungan	Multiple conceptualizations of ecosystems depict how the Bidayuh people connect with the Natural world, encompassing everything from life to death, incorporating the spiritual realm
	Kankanaey-Igorot, Sagada, Philippines	Batawa	Earth and elements and process / Close connections to land
	Mukkuvar seagoing tribe, South India	Kadamma	Mother ocean who gives us everything
	Teduray, southern Philippines	Refa Lowo	The physical body is an extension of Nature

Sociocultural Region	Indigenous People or local community, land, country	Conceptualization of Nature	Meaning(s) of conceptualization
Asia	Thakali, Nepal	Sa Amo / Tamhangi kai / Mhee Sa Chymba Dhiba	Mother / Mother Nature or/and Mother Earth / Human Nature relations
	Tharu, Nepal	Maati	Land / The Mother Earth
Central and South America	Ėyuujk (Mixe), Oaxaca, Mexico	Et-nääxwiinyëtë / nääx / Tājēw	World-universe, where everything connects and interacts / The earth / lives on earth
	Kurripaco, Venezuela	Piomi Yakaale / Nupaite Nuyakare	Where we come from, where we are born, we are from the river / Our land, our house, and our home
	Quechua, Bolivia	Madre Tierra / Pachamama	Something sacred that must be respected / Connection with the agricultural calendar
	Siona, Eperara Siapidaara, Inga, Colombia	Atawa Alpa / Wuasikamas /Alpa	The relationship between humanity and the other beings that also have their thinker ancestors: rivers, trees, mountains / The essence that shelters us all - guardians of life and the earth / Earth
	Uitoto, Colombia	Territorio / Madre Tierra / Madre Naturaleza	Land / Mother earth / Mother Nature
	Yucatec Maya, Mexico	Kaanan / Ka'ax	Vegetation and members of vegetation such as animals and resources / This concept names what is known in science as Nature / The meaning includes not only living things but also non-living things such as the soil and spiritual beings living there
North America	Anishinaabe, Lake St. Martin First Nation, Canada	Bimatiziwiin, Pimatiziwiin, Pimachiwiin	Every living creature on earth / Well being
Russian Federation	Kumandin, Altai region, Russia	Ene-cher	Mother earth / The entire earth and planet
The Pacific	Trawlwulwuy, Tebrakunna country, Tasmania, Australia	Melythina	Country

*“We don’t have a concept of Nature; it doesn’t exist for us.
It is connected with spirituality. We are of the water, of the freshwater river.
We are connected with our ecosystem, the air, and the food.”*

- Reflection by an afternoon session participant

The concepts and narratives synthesized illustrate different cultural understandings by which Nature is not merely a background for human activity, but a vital living entity that is deeply intertwined with languages, rituality, sentiments, the intangible, intrinsic, oral traditions, customs, spiritual, and physical well-being of Indigenous Peoples. For instance, the Iban language term *Panah manua* reflects an understanding of Mother Nature as encompassing both the physical ecosystem and spiritual elements, emphasizing the need for respectful interaction and permission-seeking from Mother Nature for livelihood activities. Similarly, the Thakali concepts of *Sa Amo* and *Tamhangai kai* articulate a vision of Mother Earth as a nurturing entity, with human-Nature relations governed by principles of reciprocity and respect across four clans, each associated with Natural elements like wind, water, snow, and soil. These perspectives are echoed across different communities, such as the Teduray peoples’ view of Nature as an extension of the human body, necessitating care and protection, and the Kumandin term *Ene-cher* for Mother Earth, highlighting a sense of unity and identification with Nature.

Nicholas Mujah Anak Ason, from the Dayak Iban people, spoke about the comprehensive understanding of Mother Nature, which includes spiritual elements between power and earth. This highlights how some Indigenous Peoples view the environment not as a physical space but a spiritual one that requires respect and offerings for its use. The livelihood of Indigenous Peoples is intricately connected to the land, which is shared and used with sensitivity, acknowledging that all Nature possesses life. Yasso Bhattachan, from the Thakali people, emphasized on the role of Nature as an extension of the physical body and a guiding principle in leadership, which echoed with the Teduray people’s view of Nature, according to Florence Daguitan. This reflects the deep-seated belief in the symbiotic relationship between humans and the environment, where the care for land and Nature is paramount for the community’s well-being.

Indu Chaudhary and Gulvayra Kutsenko discussed the concepts of *Maati* and *Ene-Cher*, respectively, representing Mother Nature and Mother Earth in their languages. These concepts underline Indigenous Peoples’ perspectives in which humans are part of Nature, and there is a responsibility to protect and respect the environment as one would in relation to their ancestors. Similar positions are echoed by the Mukkuvar in South India: “we belong to the ocean, and the ocean belongs to us”.

Dorine Dorcas Ngwarati Washaya and Marwa Halmy brought attention to the need to predict environmental cycles, and the dependence of their communities on predictive knowledge for livelihoods, particularly in pastoralist communities. This showcases how these Indigenous knowledge systems have developed over generations, allowing communities to live in harmony with Nature.

Francisco J. Rosado-May shared his experience from a conservation project with Maya communities by stating that sustainable initiatives were better assimilated when they were framed as *Kanan Ka'ax*. This perspective did not focus exclusively on the vegetation but also on its complex environment and the importance of sustainable management. Emma Lee shared that *Melythina* (country) encompasses lands, waters and night sky, including the moon. It is a place of togetherness for the more-than-human and human bound together in kinship and reciprocity. Care for the country is the heart of the spiritual and cultural life of Trawlwulwuy people that informs 40,000 years of traditional governance.

“Stupa represents mountains. The eyes mean that we are observant. Hidden gems and treasures signify food security. Stupa stands for interconnectedness between humans and ecosystems.”

- Reflection by a morning session participant



Image 3.1. Sacred mountains cared for by ancestors for future generations. Photo presented in the afternoon session by Tania Eulalia Martínez Cruz.

3.2. Key messages for GEO-7

The ideas below summarize some key messages derived from the dialogue on Indigenous Peoples' conceptualizations of Nature:

- **Interconnectedness.** Indigenous Peoples' worldviews remind us that humans are not separate from Nature but an inherent part of it. This interconnectedness calls for an approach to environmental protection and biodiversity conservation that respects the diversity found within IK & LK systems and reconciles them with science and policy.
- **Care.** The concepts of *Aki*, *Pachamama*, and *Ka'ax* highlight Indigenous Peoples' understandings of caring, where humans have a sacred duty to protect and preserve the Earth for future generations. This perspective encourages sustainable practices that align with the natural cycles and limits of the environment. In this sense, a morning session participant expressed that "it is important to revitalize and draw from ancestral wisdom; take care of the land and the commons, improve it as sustenance of the people, not to privatize the land, the commons, but share resources and land for future generations. This is very different from the culture of profit-making and greed".
- **Spirituality.** Indigenous Peoples' worldviews underscore the importance of customary and spiritual relationships with Mother Nature. Recognizing and valuing the sacredness of Mother Nature for Indigenous Peoples contributes to promoting holistic, customary and biocultural sustainable practices. They invite the rest of humanity to honor these practices.
- **Recognition of Indigenous Peoples' knowledge systems.** The insights derived from Indigenous knowledge, concepts, and principles should inform community, local and global environmental governance. Considering Indigenous Peoples' knowledge and practices in environmental policies can provide innovative solutions to current challenges, fostering resilience and sustainability.

By embracing these key messages, the GEO-7 can advocate for policies and actions that honor the deep connections between humans and the natural world as understood by Indigenous Peoples. Participants highlighted the need to acknowledge the power structures that have disrupted and dishonored those deep connections between humans and the natural world. Therefore, this approach not only contributes to the preservation of Indigenous Peoples' cultures and knowledge, but also enhances global efforts to achieve a more sustainable and harmonious relationship with the environment.

4. Environmental Changes and Impacts Experienced by Indigenous Peoples

On Day 1 of the Dialogue sessions, participants explored different environmental changes and impacts, guided by the question: Do you and your community experience environmental changes and impacts? If so, what are they? Each participant identified and discussed different types of changes and impacts, followed by collaborative reflections on shared experiences. These reflections further highlighted some changes and impacts experienced by Indigenous Peoples' communities, as presented below.

4.1. Experiences related to the past and present of Indigenous Peoples

During the Dialogue, participants shared images, objects, and stories related to the past and present of their communities. Narratives of resilience, adaptation, and biocultural heritage were deeply intertwined with the practices described. Participants noted that Indigenous Peoples, as well as some local communities, have lived in harmony with Nature for centuries, with their livelihoods intricately linked to the rhythms of the seasons and cycles of Mother Nature. Indigenous Peoples' thoughts implies deep circular connection, reciprocity and bonding as part of caring for Mother Nature.

Some participants shared that, in regions such as Zimbabwe, ancient **Indigenous Peoples' technologies** provided defenses against floods, storms, and other environmental challenges. Techniques such as windbreakers and water management systems demonstrated the ingenuity and resourcefulness of Indigenous Peoples in adapting to their surroundings, ensuring the survival of generations. Survival implies adaptation, and a relationship of deep respect and reciprocity with Mother Nature.

Also, participants highlighted how across different continents, traditional ways of life were disrupted by colonial incursions, leading to **forced displacement and the loss of ancestral lands and territories**. Indigenous Peoples' languages and customs were suppressed, and generations were denied the education needed to preserve and transmit their knowledge. Participants pointed out that "many customs were lost due to the colonizers". Participant Johnson Jamet pointed out that in South Asian contexts, it is not only due to the colonizers, but it also rests within the existing hierarchical systems like caste. They did not have the proper education to embrace and incorporate our knowledge." The scars of colonization ran deep, echoing in the struggles of contemporary Indigenous Peoples to reclaim their biocultural heritage and assert their rights.



Image 4.1. The woman in the photo was arrested for defending Indigenous Peoples' rights. Image presented in the afternoon session by Amina Amharech.

Images 4.2 and 4.3 illustrate communities **compelled to evacuate in the face of land use changes, infrastructure and extractive projects, as well as natural disasters**, echoing a history of displacement and resilience. Similar stories resonate throughout Indigenous Peoples' history, as several communities have been uprooted and persisted in maintaining their cultural identity and connection to the land.

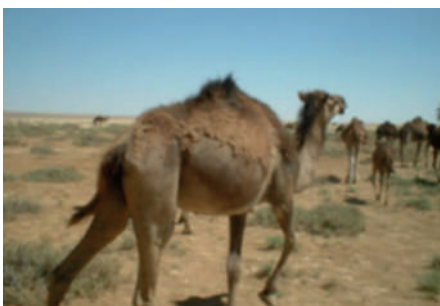


Image 4.2. Land use change and implications on local communities. Photos presented in the afternoon session.



Image 4.3. Participant's community in 2011, when given 24 hours to evacuate their land because of a flood.



Image 4.4. The cedar is an endemic species of the Moroccan Atlas. Photo presented in the afternoon session by Amina Amharech.



Image 4.5. Some traditional livelihoods are linked to the gathering of mushrooms and berries. Photo presented in the morning session by Gulvayra Kutsenko.

The symbolism of trees, standing as sentinels of ancestral wisdom (**Image 4.4**), speaks to the **enduring bond between Indigenous Peoples and their environment**. As different participants explained, the land is not merely a resource to be exploited but a sacred inheritance to be protected and cherished for future generations. Their stories serve as a testament to the enduring power of culture, community, and connection to the land in the face of historical injustices and ongoing challenges.

In the realm of food production, participants emphasized that a significant shift is underway with the new generations. According to Indigenous knowledge holders, the emergence is marked by a notable decline in numbers of traditional farmers, with fewer young individuals opting to continue with these practices. According to participants, there is a general concerning trend, where only a fraction of the younger population is actively engaging in agricultural endeavors. In addition, traditional systems of food procurement are being overlooked. The age-old practices of small-scale farming, community gardens, and traditional agriculture, which have sustained societies for centuries, are being sidelined in favor of large-scale, industrialized methods. Some Indigenous knowledge holders indicate that industrial agriculture has encroached upon remote areas with significant impacts on Indigenous Peoples' traditional food systems. This scenario creates key challenges to protect or recover knowledge, practices, and biodiversity.

4.2. The interconnectedness of environmental and social-cultural changes and impacts

The participants emphasized that it is not possible to divide environmental changes and impacts from social and cultural ones. As shown in the section about Indigenous Peoples' conceptualizations of Nature, humans are considered a part of Nature and, therefore, knowledge, language, human practices, and the environment are necessarily interconnected. The interconnectedness of environmental and social changes and impacts is a theme deeply rooted in Indigenous Peoples' worldviews. Participants observed that alterations in one ecosystem influence the dynamics of the other. For example, deforestation in their lands leads to soil erosion and loss of biodiversity, impacting local communities' access to resources and livelihoods. Due to climate change, ecosystems are changing, affecting plants, animals and livelihoods, like fisher families with economic needs.

The conversations held in different breakout and plenary sessions illustrate the challenges Indigenous Peoples face due to social-environmental changes, such as climate change, driven by capitalist social and economical practices which do not recognize the interconnectedness of Nature and societies. Also, participants highlighted practices such as deforestation, and land grabbing, which in turn lead to land fragmentation directly affecting land management and governance. Moreover, these circumstances have a direct impact on their social structures and cultural practices. Indigenous knowledge and local knowledge systems contribute to understanding sustainability as an inseparable matter of environmental and social justice.

4.3. Social-environmental changes, impacts and causes

The participants of the 1st Dialogue shared significant social-environmental changes and impacts experienced by Indigenous Peoples in their territories. They then identified specific and general causes or drivers for those changes and impacts. In this section, changes, impacts and causes are synthesized, and their relations are briefly explained. Participants noted, for example, that environmental and climate changes have brought about significant shifts in various communities, leading to vulnerabilities with socio-cultural and economic impacts.

A common idea shared along this Dialogue was that the **changes and impacts identified by participants were deeply connected to emotional grief and spiritual anguish**. Participants articulated a poignant sense of loss, not merely of the physical environment but also of cultural heritage, related to negative changes and impacts experienced. Environmental changes affect Indigenous Peoples' emotionally, the sense of loss regarding their territories, lands, and waters are accompanied by feelings that erode their health and well-being. Feelings of abandonment were also highlighted in the conversation as participants expressed how governments prioritize capitalism and profit-making enterprises over Indigenous Peoples' welfare. Thus, in addition to mourning the loss of their lands and sandy beaches at the seashores, they grapple with a spectrum of emotional challenges. This is related to Indigenous Peoples' understanding of Mother Nature and their deep sense of connection or unity. For instance, a participant from Nepal expressed that temperature and rainfall patterns changes impacted traditional housing and farming: "We feel a profound loss, not just of our natural surroundings, but of our cultural identity. It is heartbreaking to see our traditions eroding along with the environment." Another participant stated that "the destruction of our land is like a wound to our souls. We mourn the loss of the forests, the rivers, and the animals that were once abundant."

For some specific changes and impacts identified by participants, **climate change and natural disasters** were considered significant drivers. Those changes were connected by participants to some anthropogenic causes such as fossil fuel consumption, industrialization, port infrastructure development by both private parties and governments, deforestation, global warming, ozone depletion, and mining activities.

Loss of biodiversity emerged as a key change experienced by Indigenous Peoples. Participants highlighted that biodiversity loss is currently threatening traditional ecosystems, local traditions, such as Indigenous Peoples' food systems and medicinal practices. For instance, a participant shared that "vegetation changes are affecting the availability of some native species of medicinal herbs," highlighting the erosion of biocultural heritage due to biodiversity loss. Participants also noted that **forest fires** and negative adaptation practices contribute to the spread of **invasive species** impacting biodiversity and traditional knowledge systems connected with the diversity of species, spaces and seeds. Participants such as June Rubis from the Jagoi Bidayuh people specified that, often, those "invasive" species are introduced by government policies (e.g. tilapia - the fish that is going to 'feed the world') and, in some cases, communities have embraced some of those 'invasive' species, seeing the potential not just for community economic opportunities, but also even spiritually (see rubber trees in Borneo). **Harbor dredging and artificial land reclamation** at the coastal waters or intertidal zones destroy

seabed ecosystems or rocky reef marine habitats. Also, the introduction of **chemical pesticides and monoculture** further exacerbates biodiversity loss, posing risks to human health and increasing pollution. **Urbanization and pollution**, including plastic pollution and water contamination, further degrade ecosystems and threaten Indigenous Peoples' ways of life.

Government policies intended for biodiversity protection were discussed with participants highlighting concerns regarding their efficacy due to a lack of reconciliation between Indigenous knowledge systems and Western science in research, policies and practices. This assertion broadened the perspective on efficiency of inadequate government policies, questioning what enforcement for biodiversity protection means for Indigenous Peoples. Government policies aimed at biodiversity protection lack effectiveness in the sense that they further marginalise Indigenous Peoples from their territories and criminalize traditional activities.

Climate change impacts on agriculture, fisheries and pastoralism disrupt traditional farming practices and pastoralist livelihoods. Changes in precipitation patterns, ocean warming and deforestation lead to habitat loss and migration of animals, affecting hunters and youth access to game and diminishing food security. Additionally, delayed dry seasons and unpredictable weather patterns challenge agricultural planning, sustainable fisheries and create economic instability in affected regions.

"Local fishing methods are no longer feasible due to sea level rises. We set traps but they do not work anymore."

- Reflection by a participant from the morning session



Image 4.6. Mukkuvar people, seagoing tribe, South India. Photo shared by Johnson Jament.

Land use changes driven by housing developments as well as extractive and infrastructure projects, such as the construction of mega-dams and industries, including polluting and extractive industries related to traditional mining and energy production, as well as green economy and renewable resources mega-projects, have **displaced Indigenous Peoples** from their ancestral lands and territories. Policies that neglect the socio-cultural and spiritual needs and practices of Indigenous Peoples exacerbate these challenges, ultimately resulting in the loss of traditional territories and their associated knowledge. Participants aimed for a fundamental approach that seeks a different type of economic system, thereby mitigating the necessity for mega-dams and extractive, polluting industries. Additionally, displacement of Indigenous Peoples from their lands is often related to practices where **lands are taken for conservation purposes**

without proper consultation or respect for Indigenous Peoples' rights, further marginalizing these communities. Participants mentioned that some of these practices are criminalized in said lands, such as the arming of conservation guards who engage in violence resulting in the shooting and killing of Indigenous Peoples in Africa. Also, the **breakdown of social fabric** due to migration towards tourist developments, increased drug trafficking, and consumption by younger generations, as well as changes in diet and cultural values, has further compounded the challenges.

"In the Amazon basin, when the small-scale agricultural plot (known as "conuco" or "chakra" in local Language) is burnt or flooded, crops are lost without state support. Consequently, individuals seek alternative employment options, such as selling timber and deforestation, coca cultivation, or employment in illegal mining, leading to issues like drug addiction and alcoholism."

- Reflection note from afternoon session

Aggressive Development. Some participants also highlighted that colonialism, globalization, capitalism, and the idea of development that is dominantly imposed as the only form of progress, without considering the knowledge, practices and ways of life of Indigenous Peoples, negatively affect their communities, leading to cultural erosion and economic inequality. Participants from the Arctic emphasized that the encroachment of ice

crusts impacts the traditional occupations and way of life for reindeer herders, while permafrost risks destroying houses, threatening the very foundation of communities. For Indigenous Peoples it is also very important to highlight that development is not the only option for some communities. They pointed out very strong critics to what is called development.

Lack of full and effective participation with Free, Prior and Informed Consent (FPIC) or adequate consultation of Indigenous Peoples in policy formulation exacerbate these impacts, as participants stressed the need for meaningful engagement and recognition of Indigenous Peoples' rights that should be implemented properly and monitored

by International Organizations. During the Dialogue, Indigenous Knowledge Holders mentioned that governments do not effectively adopt the Convention on Indigenous and Tribal Peoples, 1989 of the International Labour Organization (ILO 169) to recognize Indigenous Peoples' right to self-determination within nation-states; hence, it should be mandatory, notwithstanding the fact that there are many laws drafted to ensure Indigenous Peoples' laws and knowledge. However, this must be converted into actions. The lack of effective and meaningful FPIC in development plans is a problem, along with inadequate funding reaching Indigenous Peoples' territories and social programs lacking cultural relevance and community input. A related point to consider is the experience from Indigenous Peoples. In the Dialogue participants mentioned that even FPIC is misused to grab or displace or harm. In certain cases, it appears to be merely a perfunctory measure employed to validate the intentions of certain authorities.

The participants conveyed a deep respect and recognition for the elders and the **importance of preserving their ancestral wisdom**. They mention that learning from elders who have led these struggles is crucial. They highlighted the idea that the loss of language and traditions of the elders implies the loss of knowledge that has allowed caring for the territory for generations. Furthermore, they lament the lack of listening to the elders and the loss of connection with their teachings. In summary, Indigenous knowledge holders emphasized the value of the wisdom and experience of the elders for facing current challenges, especially regarding climate change and environmental preservation.

The impact of colonization on Indigenous Peoples was also an issue mentioned by participants, highlighting how colonial structures and caste hierarchies continue to affect them negatively through the extractivism of their knowledge and resources, and other practices such as the nationalization, homogenization or sanctioned discrimination, which continue to play a current role in further marginalizing Indigenous Peoples in the Global South. They talked about the **colonial legacy, including laws that were created to control Indigenous Peoples and continue to have repercussions today in the territories, livelihoods, self-determination, among others**. Participants also discussed how colonization has led to the erosion of social ties, kinship, and traditional connections to the land and the sea, contributing to the breakdown of Indigenous Peoples. Additionally, they mentioned the exploitation of natural resources by colonial powers and foreign companies and the **negative effects of globalization and capitalism on Indigenous Peoples' territories**.

"Colonialism vis-à-vis Indigenous Peoples in other continents have been similar to the oppression of the domestic population. The governments and richer enterprises have always taken the opportunity to exploit natural resources of all kinds."

- Reflection by a participant from the morning session

Overall, the sharing about these impacts underscores the ongoing challenges and injustices faced by Indigenous Peoples as a result of colonization and its lasting effects.

Participants advocated for the **revitalization of customary governance systems and the integration of Indigenous Peoples' perspectives** into conservation efforts. One of the participants asserted: “We need to reclaim our rights and our lands. Only then can we truly protect our environment and preserve our way of life.”

4.4. Key messages for GEO-7

In the second day's Dialogue, Indigenous knowledge holders unveiled a comprehensive understanding of the causes behind environmental changes and impacts, as observed within their respective communities. These causes are multifaceted, encompassing both human-induced activities and overarching systemic changes that have resulted in significant social and environmental impacts. Here are some key messages reflections derived from the dialogue on social-environmental changes and impacts, and their associated causes:

Participants were asked: What causes these changes and impacts? Why are they happening? They highlighted various anthropogenic causes, such as fossil fuel usage, industrialization, deforestation, extractive activities, and global warming, which are leading to ozone depletion and mine extraction, housing developments and other kinds of extractive and infrastructure projects.

The promotion of new technologies, including the use of chemical fertilizers and Genetically Modified Organisms (GMOs), has disrupted self-sustaining ecosystems. Also, these kinds of new technologies, practices and chemical components used, have further reduced soil quality, while over-extraction and imbalance created by human activities which continue to exacerbate environmental degradation, harbor dredging and reclaimed land from the sea cause exacerbation of climate change impacts at the seacoast. Despite these challenges, transformative change is lacking, with industrial agriculture encroaching on Indigenous Peoples' territories and affecting their traditional food systems.

Cultural burning or the use of controlled fire was mentioned as a traditional land management practice used by Indigenous Peoples for the health of particular plants and animals and the revitalization of the landscape, as well as for ceremonial purposes.

However, forest fires are also used in disconnection from traditional IK & LK, along with new technologies and industrial food production and other extractive and polluting industries (such as oil palm plantations). Thus, it is relevant to understand and value IK & LK related to traditional practice of planned and controlled use of fire on the landscape for cultural and land management purposes, and separate those kinds of practices and their impact from other industrial and large-scale practices of forest fires from some industrial agricultural practices.

Furthermore, there is insufficient inclusion of cultural and spiritual elements in research activities, and governments and international bodies have not prioritized eliminating commodity exports and addressing human greed. This is related to the global system of power structures that has led to the current imbalance of human and Nature. Development plans often disregard the values and the right to consultation of Indigenous Peoples, leading to unsustainable built environments and farming practices and other nature dependent livelihood practices. Participants assert that it is appropriate to address human greed as an integrating aspect of the degradation of Mother Nature, and collectively reflect on it.

Participants also identify national assimilation via education policy, and rapid cultural erosion among Indigenous Peoples as key causes of current social-environmental changes. Major geoeconomic forces, capitalism, and colonialism are also cited as contributing factors. Actions and key messages underscore the impacts on human health, Indigenous Peoples, and the trauma associated with land dispossession and environmental degradation.

“Colonization is a precursor to change. Colonization is breaking down social ties. Kinship and connection is weakened.”

- Reflection by a participant from the morning session

Climate changes and maladaptation practices are leading to vegetation changes, non-natural seasonal variations affecting the availability of usual species, native medicinal herbs and disrupting ecosystems. Participants highlight the impacts caused by invasive species introduced for economic purposes, which have now become dominant and harmful to local biodiversity. The interconnectedness of land use, climate change, and socio-economic factors emerges as a key theme.

Pollution from industries and plastic waste, oil spills, alongside invasive species in rivers, are deteriorating water quality and disrupting aquatic ecosystems. A participant shared that they needed to navigate to more remote areas, risking their lives and increasing insecurity for their families. Moreover, humans have induced coastal erosion and it

was noted that rising sea levels are displacing Indigenous Peoples from their ancestral lands/territories, impacting cultural practices and ways of life.

In sum, participants emphasized the anthropogenic causes of environmental degradation and the consequent health risks faced by communities. The discussion reflects a holistic approach, addressing not only the environmental causes but also the socio-cultural and economic dimensions of the challenges faced. The lack of effective spaces for Indigenous Peoples participation in governance processes, alongside the dominance of development paradigms driven by scientific knowledge and capitalist forces, underscores the need for inclusive and multi-dimensional solutions to address environmental issues.



Image 4.7. Batwa people at the cultural center in the Bwindi Forest demonstrating how they used to live before they were removed by the government to establish a game park for Mountain Gorillas. Batwa Landscapes, Kanungu district, Southwestern Uganda. Source: Indigenous Health Adaptation to Climate Change (www.ihacc.ca). Photo: Mathew King.

5. Desired Futures and Pathways

During this session, each participant shared their visual representations, through an object or photo, to depict both their present circumstances and their aspirations for the future (Image 5.1). Through these creative expressions, individuals not only communicated their personal visions but also offered insights into the collective desires and aspirations of their community. As each participant presented their objects and narrated the stories behind them, the group engaged in a dialogue about the meanings embedded within these depictions. This exchange provided an opportunity to reflect on the present realities of Indigenous Peoples and local communities and to envision the desired futures, while also exploring the paths and actions necessary to bring these visions to fruition. Throughout the discussion, participants delved into the questions that have guided their reflections on the futures, exploring the various possibilities and potential avenues for transformation and progress.



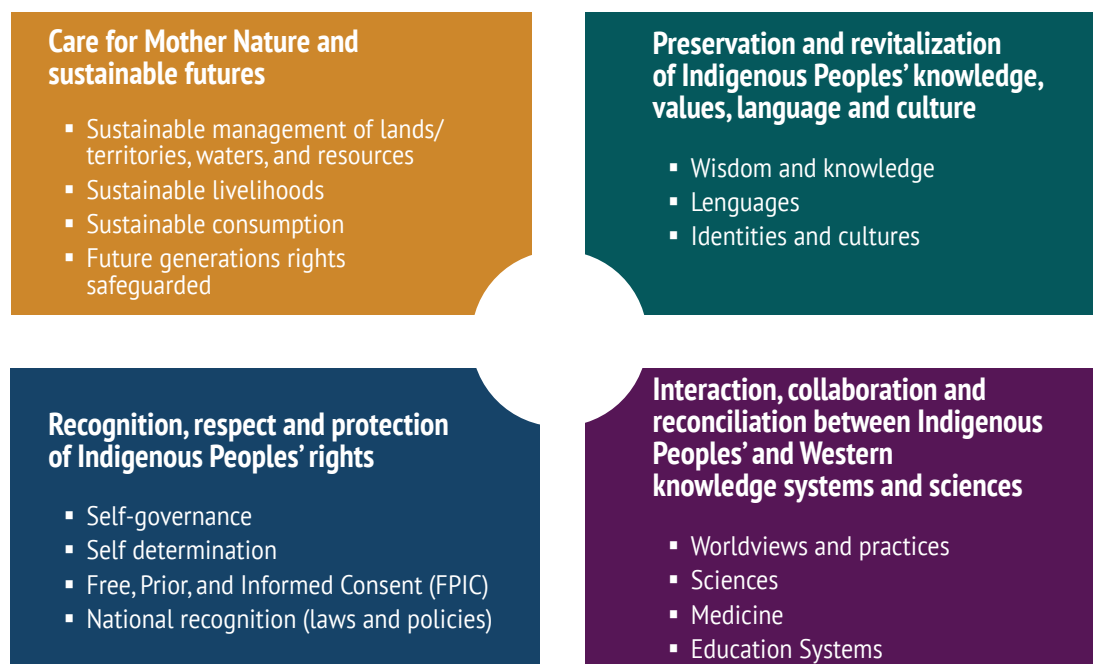
Image 5.1. Images from the visual workspace shared by participants to symbolize their present, the collective desired future as well as the pathways leading to it.

Through a collaborative process, Indigenous knowledge holders articulated their current realities and aspirations by showcasing objects and images that symbolize their present and the collective desired future as well as the pathways leading to it. As a result of this process, each individual expression was united into a collage, mapping out the main characteristics of an aspirational future and the main pathways and actions toward this shared desired future.

5.1. Desired futures

During the Dialogue, the participants highlighted many aspects related to the futures they would like to co-create. These aspects were clustered and are synthesized in: 1) Care for Mother Nature and sustainable futures; 2) Preservation and revitalization of Indigenous Peoples' knowledge, values, language, and culture; 3) Recognition, respect, and protection of Indigenous Peoples' rights; and 4) Interaction, collaboration, and reconciliation between Indigenous Peoples' and Western knowledge systems and sciences (**Figure 5.1**). In the text below, a synthesis of the discussions related to the participants' views on desired futures is outlined.

Figure 5.1. Main themes related to the desired futures shared during the 1st IK & LK Dialogue



5.1.1. Care for Mother Nature and sustainable futures

*“Our innovation, our knowledge and our practices
are a solution to these problems...”*

- Reflection by a participant from the afternoon session

- **Caring for Mother Nature is deeply connected with the recognition, preservation, revitalization, and strengthening of Indigenous Peoples’ knowledge, languages, values, and culture.** Desired futures are based on the strengthening of Indigenous knowledge and value systems, by which care, respect, and reciprocity towards Mother Nature are fostered.
- **Customary sustainable management of lands/territories, waters, and resources.** Indigenous Peoples lead efforts to sustainably manage their lands, waters and resources, balancing conservation with livelihood needs. This involves implementing traditional land management practices, fostering biodiversity, and promoting ecological resilience. It also involves financial resources and favorable government policies that encourage community-led initiatives, recognize Indigenous Peoples’ self-determination and land rights enhancing local governance structures.
- **Guarantees for future generations.** Measures are implemented to ensure the well-being and rights of future generations. This includes customary sustainable resource management practices, intergenerational knowledge transmission, and policies that safeguard the rights of all Indigenous Peoples, particularly the groups with other identities that add layers of exclusion and marginalization, such as youth, girls, women, persons with disabilities and future generations.
- **Environmental education and awareness-raising.** Efforts are made to raise awareness about environmental issues and to promote sustainable living practices. This includes environmental and culturally appropriate education programs, community workshops, and public campaigns to foster environmental stewardship and conservation ethics.

5.1.2. Preservation and revitalization of Indigenous Peoples' knowledge, values, language and culture

*“Indigenous knowledge is the knowledge of survival.
The knowledge of Nature, weather, water, plants, and animals
—that is how they survived.”*

Reflection by Dr. Myrle Ballard in the afternoon session

- **Preservation and revitalization of Indigenous Peoples' knowledge, wisdom, and values.** The envisioned future emphasizes prioritizing the preservation and revitalization of Indigenous Peoples' knowledge, wisdom, and values. This entails the transmission of ancestral knowledge to succeeding generations, rejuvenating traditional practices. Weaving, storytelling, tools and ritual ceremonies are valued and preserved in the desired future. These practices serve as expressions of cultural identity, community cohesion, and spiritual connection to the lands/territories and waters. Desired futures also incorporate Indigenous Peoples' perspectives into educational and governance frameworks, ensuring the reclamation, conservation and transmission of ancestral knowledge and identity through generations. This includes passing down traditional teachings, stories, and practices, tools, and reclaiming ancestral wisdom to tackle contemporary challenges.
- **Retention of language, culture, and territory.** Indigenous Peoples aim to preserve their languages, cultures, and territories in the desired future. Initiatives are undertaken to safeguard linguistic diversity, promote cultural revitalization endeavors, and safeguard ancestral lands or territories, and waters from encroachment and exploitation.
- **Continuous self-strengthening.** Indigenous Peoples are convinced of the need to continuously strengthen themselves through self-reflection on their values, governance structures, and relationship with their territories. This self-strengthening process enables them to adapt to changing circumstances while maintaining their cultural identity and resilience.

5.1.3. Recognition, respect and protection of Indigenous Peoples' rights

- **Recognition and respect for Indigenous Peoples' authority, rights and treaties.** Central to participants' desired future is the recognition and respect for the authority of Indigenous

Peoples over their ancestral territories, lands, waters and resources. This includes honoring treaties and agreements made with Indigenous Peoples' communities and upholding their rights to self-determination and self-governance.

- **Recognition instrument for asserting rights at national government level.** Efforts are made to explore and utilize recognition instruments, such as human rights frameworks, to assert Indigenous Peoples' rights at the national government level. This involves advocacy, negotiation, and engagement with policymakers to ensure Indigenous Peoples' voices are heard and respected in decision-making processes.
- **Free, Prior, and Informed Consent (FPIC) right integrated into all negotiations and meaningful participation of Indigenous Peoples.** In a desired future, the FPIC principle is firmly embedded in all negotiations and decision-making processes involving Indigenous Peoples. This promotes that their rights, interests, and concerns are respected and considered from the outset of any development project or policy implementation.
- **Respect for customary sustainable use and the commons.** Customary sustainable use practices and the commons are respected and upheld in the desired future. This includes recognizing Indigenous Peoples' rights to use and manage resources according to their traditional customs and ensuring equitable access for future generations.
- **Protection of Indigenous Peoples' Rights and knowledge through legislative frameworks.** Legal frameworks are established to protect Indigenous Peoples' rights, knowledge, and biocultural heritage. This includes enacting laws that recognize Indigenous Peoples' land rights, intellectual property rights, and customary legal systems.

5.1.4 Interaction, collaboration and reconciliation between Indigenous Peoples' and Western knowledge systems and sciences

- **Balance between traditional ways of life and modern development.** The envisioned future entails striking a delicate balance between traditional Indigenous Peoples' lifestyles and the inevitable forces of modern development. It emphasizes the importance of preserving biocultural heritage, Indigenous Peoples' languages, traditional knowledge and practices, while also embracing the benefits of Western societies, with their scientific and technological advancements. One participant suggested that in his desired future Indigenous Peoples' children would maintain their original language and also learn to speak English or German to take advantage of existing opportunities.

- **Recognition of Indigenous Peoples' knowledge related to Mother Nature and Indigenous Peoples' science as a methodological knowledge system that complements and enhances Western science/mainstream science.** It is relevant to acknowledge and value the diversity of understandings, IK & LK related to Nature and the valuable contribution of this knowledge for collaborating and enhancing Western knowledge (view previous sections of the Report). According to one of the participants, Indigenous science refers to the knowledge of the environment and the knowledge of the ecosystems where Indigenous Peoples live. It entails a type of knowledge that has been crucial for Indigenous Peoples' survival and should be recognized for its contributions to Western science.⁴
- **Collaboration between Indigenous Peoples' knowledge and Western/mainstream scientific communities for solutions.** Another key aspect of the desired future is the collaboration between Indigenous Peoples and Western scientific communities to address pressing issues, particularly at community and local levels. By leveraging both traditional Indigenous knowledge and modern scientific knowledge, solutions can be found for challenges such as environmental degradation, loss of biodiversity, and climate change.
- **Strengthening traditional medicine practices and respect between traditional and Western medicine.** The desired future emphasizes the strengthening of traditional medicine practices and fostering respect between traditional and Western medical systems. This includes legal recognition of traditional healers, promotion of native plants, animal and microbial knowledge, and integration of traditional healing methods into healthcare systems.
- **Sustainable economies.** Participants identified corporate and state colonization as the primary drivers responsible for environmental changes and impacts damage, including activities such as mining, polluting and extractive industries and agribusiness. The capitalist economic logic behind these practices entail the exploitation of resources such as land and water, contributing significantly to climate change. According to Indigenous knowledge holders, the main contributors to climate change are global corporations supported by powerful countries, which persist in extracting resources

⁴ To explore more on Indigenous Science, see the videos “Understanding Indigenous science” and “Clam Gardens, Ancient Indigenous technology and sustainable food source” –both at the Environment and Climate Change Canada YouTube channel. These videos explore respectively “the important role of indigenous learning and teaching and how it differs from western science” and how “clam gardens are an Indigenous science and technology used for millennia to create ideal habitats for clams to thrive and in turn create abundant sustainable food sources for Indigenous Peoples”. For further reading see: The [Indigenous Science Division \(ISD\)](#) at Environment and Climate Change Canada (ECCC).

from Indigenous Peoples' lands and territories. Thus, a shift towards more sustainable economies, starting from the transformation of the current economic system is a strong priority highlighted by participants. This perspective related to sustainable economics is complemented by some participants with suggestions regarding the adoption of sustainable consumption practices among individuals and communities globally. This shift involves embracing environmentally bio-ecological practices, advocating for ethical sourcing of products, and acknowledging and respecting Indigenous Peoples' rights and knowledge in resource management. In the context of this discussion it is important to underscore the contribution of a participant from Uppsala, Sweden, who articulated a critical perspective on the present "green transformation/green-washing", viewing it as a potential perpetuation of colonialism, particularly in rural areas where ethnicity is often marginalized. According to the participant's analysis, within the framework of this transformation, there appears to be a tendency to prioritize contributions to electrification of society over traditional, sustainable practices related to biodiversity conservation or the preservation of Indigenous Peoples' cultures.

- **Intercultural education systems.** Education systems are transformed to embrace intercultural learning and respect for diverse knowledge systems. This includes curriculum reforms, teacher training programs, and community-led initiatives to incorporate Indigenous knowledge into mainstream education as culturally appropriate.
- **Representation and meaningful participation of Indigenous Peoples in politics, science, and decision-making processes.** In the participants' desired future, Indigenous Peoples are actively represented in political institutions, scientific research endeavors, and decision-making processes. This ensures their voices are heard and their rights are respected in shaping policies and initiatives that affect their lives and territories.

5.2. Pathways and actions towards desired futures

The pathways towards the desired futures articulated by participants across the Dialogue sessions resonate with a profound commitment to preserving biocultural heritages, fostering environmental stewardship, and advocating for social justice. Central to these pathways is the recognition and empowerment of Indigenous Peoples, their knowledge systems, and the full exercise of their rights. Embracing intergenerational learning emerges as a fundamental strategy to establish customary and biocultural systems in landscape and seascape approaches where ancestral wisdom is passed down to younger generations, ensuring the continuity of traditional practices, innovations, and values.

Additionally, there is a strong call for inclusive decision-making processes, where Indigenous Peoples are active participants in shaping policies that affect their lands or territories, waters, and livelihoods. This involves advocating for the implementation of FPIC principles from the outset of any development initiatives, ensuring that Indigenous Peoples' voices are heard and respected. Furthermore, the reconciliation of Indigenous knowledge with Western knowledge and science is highlighted as a pathway towards sustainable solutions, emphasizing collaboration between Indigenous knowledge holders and the scientific community. Cultural revitalization efforts, such as reclaiming ancestral languages and promoting traditional practices like tattooing, design of traditional textiles and other practices are seen as essential for fostering a sense of identity and pride among Indigenous Peoples' youth.

Alongside these efforts, there is a strong emphasis on environmental conservation and sustainable resource management, encompassing practices such as customary ownership and effective governance of their territories and oceans. This is also related to promoting non-industrial farming methods, and reviving ancestral technologies for resilience against environmental threats. These pathways advocate for a holistic approach to well-being, where Indigenous Peoples' rights, biocultural heritage, and environmental sustainability are intrinsically linked, paving the way towards a future where Indigenous Peoples thrive in harmony with Mother Nature.

5.2.1. Pathways and actions to be taken

As previously noted, participants articulated a range of social-environmental changes, impacts and causes. From the increase in forest fires to the displacement of Indigenous Peoples' lands and territories, participants underlined the urgent need for action. Indigenous knowledge holders proposed a series of actions aimed at mitigating environmental degradation, protecting Indigenous Peoples' rights, and promoting a respectful use of lands/territories and waters. The synthesis below reflects a collective effort to address the root causes of environmental challenges while recognizing the importance of Indigenous knowledge, community empowerment, and collaborative governance.

- **Governance and policy reform.** Implementing national and international laws and agreements, including the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) and the Indigenous and Tribal Peoples Convention, 1989 (ILO 169) is deemed crucial. This involves strengthening institutional frameworks for natural

resource governance and ensuring participatory approaches involving Indigenous Peoples in decision-making processes.

- **Empowerment and recognition of Indigenous Peoples.** Recognizing and protecting Indigenous Peoples' rights, as well as empowering them in decision-making processes, are emphasized. This includes ensuring the binding mechanisms to safeguard their rights as well as recognition and protection of Indigenous knowledge, addressing socioeconomic inequalities, and incorporating traditional knowledge into adaptation strategies.
- **Socio-ecological practices.** Encouraging local and traditional practices, such as irrigation methods, and the preservation of original species through seed banks, is highlighted. Additionally, promoting the revitalization of customary governance systems and supporting community-led conservation efforts are seen as essential steps.
- **Establishment of scientific networks to exchange and reconcile Indigenous Peoples' knowledge and Western knowledge, and promote research collaboration.** Investing in research, particularly on soil assessment, ecosystem restoration, and invasive species control, is recommended. A more equitable collaboration is needed between governments, research institutions, and Indigenous Peoples. Building the bases for engaging in this collaboration, understanding power structures and historical power imbalances and inequalities among those sectors is crucial for sharing and co-producing knowledge, as well as co-designing strategies effectively.
- **Education and awareness.** Education plays a vital role in promoting awareness of Indigenous Peoples' rights, customary governance, and socioecological practices. Encouraging the transmission of their culture and knowledge, particularly to the youth, is seen as essential for building resilience and fostering climate justice. Also, participants highlighted that education should be not only considered as a process of educating Indigenous Peoples, but rather that education should be outward, starting from IK & LK and promoting that governments, academics, research institutions and companies are educated on Indigenous Peoples' rights, understandings, knowledge, customary governance, among other issues.
- **Community engagement and resource management.** Involving Indigenous Peoples and local communities in resource management decisions, providing support for waste recycling and safe infrastructure, and promoting community-led initiatives for ecosystem restoration are suggested actions. This includes addressing monoculture

practices and ensuring access to modern storage facilities during climate-related events like the *harmattan* dry season.

Overall, the proposed actions underscore the need for comprehensive and inclusive approaches that prioritize Indigenous Peoples' rights, traditional knowledge, and sustainable practices in mitigating environmental degradation and adapting to climate change. Collaboration, education, and empowerment are central to achieving meaningful progress towards environmental sustainability and social justice.

- **Urgent Actions on climate change.** Participants have observed firsthand a variety of environmental changes and impacts, including vulnerabilities stemming from climate change. Climate change is exacerbating vulnerabilities and disrupting ecosystems, impacting livelihoods and traditional practices. Immediate action is needed to mitigate its effects and adapt to changing conditions.
- **Protecting Indigenous Peoples' rights and cultures.** Policies must prioritize Indigenous Peoples' rights, consultation, and participation in decision-making processes. A concerted effort should be made to encourage more sustainable practices and policies that allow Indigenous Peoples to remain in their traditional territories and to have healthy, thriving lives.
- **Solidarity among Indigenous Peoples.** The creation of a global Indigenous Peoples' networks to support their efforts to contribute with their knowledge and systems, with the purpose of preserving their language, culture, and wisdom.
- **Responsible land use and biodiversity conservation.** Aggressive development and land use changes are generating biodiversity loss, relocations, and displacement of Indigenous Peoples. Sustainable land management practices, sustainable economic opportunities and conservation efforts are crucial to preserving ecosystems and protecting Indigenous Peoples' territories.
- **Questioning and resignifying the notion of development based on IK & LK.** According to Indigenous Peoples the concept of "development" needs to be criticized or reformulated in culturally appropriate ways to Indigenous knowledge and value systems, innovations and practices should be respected, while socio-economic programs address disparities and empower Indigenous Peoples to participate in and benefit from economic, social and other opportunities.

- **Promoting resilience and adaptation.** Building resilience to environmental changes requires holistic approaches that reconcile and promote collaboration between Indigenous knowledge and scientific expertise. Adaptation strategies should prioritize community-led initiatives and foster collaborative coproduction of knowledge and strategies between Indigenous Peoples, governments, and stakeholders.
- **Addressing historical injustices.** Acknowledging and rectifying historical injustices, including colonial legacies and violations of Indigenous Peoples' rights, is essential for fostering reconciliation, social cohesion, and sustainable development.



Image 5.2. Coral spawning on Woppaburra sea Country. Photo shared by Bob Muir, from Australian Coral Reef Resilience Initiative's (ACRRI).

5.3. Key messages for the GEO-7

Here are some key messages derived from the dialogue on desired futures, actions and pathways:

- **Preservation of biocultural heritage.** Indigenous Peoples envision a future where they preserve their cultural heritage while prioritizing environmental stewardship and sustainable practices. This involves passing down ancestral knowledge, advocating for Indigenous Peoples' rights and social justice, embracing intergenerational and intercultural education, and learning to ensure the continuity of traditional biocultural practices and community values.

- **Recognition of Indigenous Peoples, and support of their own national governments to pursue their way of life.** Essential to the pathways towards desired futures is the empowerment and recognition of Indigenous Peoples' knowledge and value systems and rights. Inclusive decision-making processes, incorporating FPIC principles, are vital to ensure Indigenous Peoples' voices and to shape policies affecting their lands, waters, and livelihoods.
- **Reconciliation and collaboration between Indigenous Peoples' knowledge and Western science knowledge systems in environmental research initiatives, policies, and practices.** Collaboration between Indigenous knowledge holders and the Western scientific community is crucial for the development of solutions' pathways that effectively address environmental degradation and climate change. Solutions emerging from these reconciliation efforts in science and research contribute to safeguarding the life of Mother Nature.
- **Cultural revitalization and identity formation.** Efforts to reclaim ancestral languages, promote traditional practices and innovations, and revive cultural traditions are essential for fostering a sense of identity and pride among Indigenous Peoples' youth. Cultural revitalization preserves diversity and strengthens community cohesion.
- **Social-ecological practices and governance.** Indigenous Peoples advocate for sustainable resource management practices, including customary land ownership and non-industrial farming methods. Reviving ancestral technologies aims to ensure social-ecological resilience and safeguard territories for future generations as well as participation of Indigenous Peoples and recognition of their struggles from the local to the international level.
- **Holistic approach to well-being.** The pathways towards desired futures emphasize a holistic approach to well-being, where Indigenous Peoples' rights, knowledge, biocultural heritage, and environmental sustainability intersect. This perspective fosters resilience and prosperity, ensuring Indigenous Peoples thrive in harmony with Mother Nature for generations to come.

6. Recommendations from the Caucus Sessions

The caucus sessions convened on Day 3 and served as a pivotal platform for discussing critical issues surrounding the recognition, protection, and respect for IK & LK. Participants emphasized the significance of safeguarding collective knowledge within existing legal frameworks, notably referencing instruments such as the Indigenous and Tribal Peoples Convention 1989 (ILO 169), Decade of Indigenous Languages 2023/2032, and the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). However, concerns emerged regarding the inadequacy of tangible mechanisms to uphold and preserve IK & LK, prompting the proposal for the establishment of a dedicated committee to formulate protective frameworks.

- **Establishment of a Protective Committee.** The notion of forming a committee dedicated to the development of protective frameworks garnered unanimous support among participants. This committee would be entrusted with the task of addressing the pressing issues of patenting and external appropriation of Indigenous Peoples' knowledge. By fostering collaboration among Indigenous Peoples and relevant stakeholders, this initiative aims to bridge the existing gaps in legal protection and ensure the rightful ownership and stewardship of IK & LK.
- **Recognition and reconciliation of Indigenous Peoples' knowledge.** A prevailing sentiment within the caucus session was the imperative to transcend the conventional dichotomy between Western scientific paradigms and Indigenous knowledge systems. Participants advocated for the inclusion of Indigenous Peoples' perspectives into scientific assessments, such as the ones undertaken by the Intergovernmental Panel on Climate Change (IPCC) in a manner that goes beyond mere tokenistic representation. The objective is to facilitate meaningful engagement and active participation of Indigenous Peoples, moving away from passive observer roles towards genuine involvement in decision-making processes.
- **Language and identity.** Discussions delved into the nuanced intersection of language and identity, particularly concerning the terminology used to describe Indigenous

Peoples. Clarification was sought regarding the connotations of terms such as Indigenous Peoples versus “indigent,” with emphasis placed on the political and cultural significance of self-identification. By fostering a deeper understanding of linguistic nuances, participants aimed to promote more respectful and inclusive discourse surrounding Indigenous Peoples’ identity and biocultural heritage.

- **Listening to and working with youths.** The caucus session recognized the importance of engaging with Indigenous Peoples’ youths as key stakeholders in the preservation and respect of Indigenous Peoples’ knowledge. Establishing mechanisms for meaningful participation and dialogue with young voices was highlighted as essential for ensuring the continuity and relevance of traditional knowledge systems.
- **Assessing damage to nature and biodiversity.** Participants discussed the detrimental impacts inflicted upon Nature and biodiversity by various institutions, mechanisms, and market forces. There was a call for a comprehensive examination of the damage caused, aligning with the caucus’ focus on safeguarding Indigenous Peoples’ knowledge within legal frameworks to mitigate further harm.
- **International Decade for the Eradication of Colonialism.** Participants discussed the historical legacies of colonialism and their enduring effects on Indigenous Peoples. This dialogue served as an opportunity to reflect on how colonial policies and practices have contributed to the marginalization and erasure of Indigenous knowledge systems.
- **Addressing social and environmental impacts from diverse perspectives.** Discussions within the caucus highlighted the importance of incorporating multiple perspectives. Emphasizing the holistic Nature of Indigenous Peoples, participants underscored the significance of social and natural sciences collaborating and working together alongside scientific assessments to address climate change effectively.
- **Addressing and ensuring action.** Concerns regarding the effectiveness of reports and the need to translate them into tangible actions were acknowledged within the caucus session. Participants emphasized the importance of ensuring that outcomes from discussions lead to actionable steps, aligning with the caucus’ emphasis on transparency, inclusivity, and active participation in decision-making processes.
- **Valuing Indigenous Peoples’ contributions and outcomes.** The caucus session stressed the significance of valuing Indigenous Peoples’ contributions throughout the process, from knowledge sharing to the eventual dissemination of outcomes. This aligns with the caucus’ recommendation for transparent documentation and circulation of reports

among participants to uphold the integrity and ownership of Indigenous Peoples' knowledge. Participants acknowledged the potential for differing opinions between scientific assessments and Indigenous Peoples' knowledge within the caucus session. The importance of reconciling these perspectives through transparent dialogue and collaboration was emphasized, aligning with the caucus' focus on bridging gaps between Western scientific paradigms and Indigenous knowledge systems.

In summary, the caucus sessions underscored the pressing need for concerted efforts to protect and respect IK & LK in a rapidly evolving global landscape. By championing initiatives such as the establishment of protective committees, fostering integration and recognition of Indigenous Peoples' perspectives, and promoting transparency in decision-making processes, stakeholders can collectively work towards a future where Indigenous knowledge and local knowledge are valued, preserved, and celebrated for generations to come.

7. Reflections on the 1st Dialogue

Overall, the 1st IK & LK Dialogue provided the necessary conditions for a respectful and meaningful collective exchange and learning among representatives of Indigenous Peoples' and local communities. The principles for fostering a caring and safe dialogue were followed and the Dialogue's objectives achieved. Most participants who responded to the evaluation survey indicated that their expectations were met, and that they were satisfied with the communication and guidance provided by the GEO team, as well as with the work of facilitators and notetakers.

Participants also expressed that the strengths of the Dialogue included the diversity of participants, equal opportunities to share their knowledge, inclusivity, interactive activities, ability to learn from others. Nevertheless, the taskforce and facilitation team noted that there were various difficulties related to effective understanding across **different languages and worldviews**, which were accentuated by the barriers generated by the Dialogue's virtual format.

Virtuality also implied significant **technological limitations** to many participants, especially to those with unstable internet connections. Connectivity problems, disruptions in screen sharing, and other technological obstacles hindered the flow of some discussions and impacted the ability to fully engage with each other. Despite these challenges, the **value of utilizing visual aids** such as images and objects as communicative tools was highlighted. It is necessary to consider both the security features and the **efficiency and functionality of virtual platforms** to support the fluidity of dialogue and collaboration.

Another challenge noted refers to the **constraint of time**. Participants expressed a desire for more opportunities to delve deeper into topics, suggesting that the online setting, while convenient, may have limited the depth of discussions compared to in-person interactions. Specifically, related to the management of time within breakout groups,

participants noted a sense of rushed engagement and unmet expectations, highlighting the need for clearer time management strategies and role assignments.

As suggestions for future Dialogues, the participants indicate the importance of holding in person meetings, building further on the experience of the participants, providing more time for breakout sessions, incorporating more interactive activities, considering a small circle of Indigenous Peoples' advisors to assist in leading the Dialogue, including their methodologies, and more involvement from Indigenous Peoples' and local communities' participants.

8. Final Recommendations for GEO-7

Based on the reflections and contributions of the Indigenous knowledge and local knowledge who participated in the First IK & LK Dialogue, key recommendations for GEO-7 would encompass:

- It is crucial to emphasize that the **major geoeconomic forces such as capitalism and colonialism play significant roles in exacerbating environmental issues**. This fundamental observation transcends the discussion about solutions and/or proposals, as it highlights the urgent need to address the profound impacts of the capitalist economic system on Indigenous Peoples' lands and territories, as well as the deep-seated trauma stemming from land dispossession and environmental degradation.
- **Acknowledging and rectifying historical injustices, including colonial legacies and violations of Indigenous Peoples' rights**, is vital for fostering reconciliation, social cohesion, and sustainable development. In the Dialogue, it was mentioned that a global decolonisation process is needed.
- **Indigenous Peoples possess accurate and invaluable knowledge, as well as unique conceptualizations and practices related to Mother Nature** that should be acknowledged and adopted by the GEO-7 to reconcile scientific and Indigenous knowledge and foster collaboration towards a more just and sustainable future. IK is deeply embedded in Indigenous Peoples' languages, cultural practices, and spiritual beliefs, emphasizing a holistic and respectful approach to Mother Nature. **Valuing Indigenous knowledge and its constant evolution, adaptation and resilience, is therefore, key for global sustainability.**
- Indigenous science refers to the knowledge of Indigenous Peoples' local environments and their ecosystems, Nature, water, oceans, soil, weather, and how plants and animals have survived up to now. The 1st IK & LK Dialogue (GEO-7) highlights the

recognition of Indigenous Peoples' Science as a knowledge system that complements and enhances Western science and highlights the importance of reconciliation between Indigenous knowledge and Western knowledge. Collaboration with the scientific research community, and with local and global environmental policymakers contributes to strengthening conservation efforts. Recognizing and respecting traditional land management practices, such as the sustainable use of resources and Indigenous Peoples' farming and fishing methods, enhance biodiversity conservation and environmental sustainability.

- A recurring theme across the discussions is the **necessity of obtaining the FPIC from Indigenous Peoples before initiating any development projects on their lands and territories.** This principle is crucial for protecting Indigenous Peoples' rights and ensuring that their voices are heard and respected in decisions that affect their lands, territories, waters, resources, and well-being. The documents underscore the need for governments, corporations, and international bodies to adhere strictly to FPIC, ensuring that Indigenous Peoples are active participants in decision-making processes, rather than being sidelined or ignored.
- **Indigenous Peoples are disproportionately affected by climate change, environmental degradation, and social injustices, including land/ocean grabbing (green and blue washing), extraction activities, deforestation, and pollution.** These challenges threaten their livelihoods, biocultural heritage, and physical and spiritual well-being. The dialogues call for urgent action to address these challenges, emphasizing the need for accountable governments, the protection of Indigenous lands, territories, oceans and resources, and the decriminalization of Indigenous Peoples' knowledge, innovations, and practices. There is a strong call for environmental justice, recognizing the contributions of Indigenous Peoples to environmental stewardship and the need to support their efforts to protect and manage their territories.
- **Indigenous Peoples envision a future in which their rights are fully recognized and protected, their knowledge and practices are valued and included in broader societal and environmental frameworks, and they can live in harmony with Mother Nature, maintaining their traditional ways of life, traditional occupations, customary and biocultural systems.** This future also includes intercultural education, active participation of Indigenous Peoples' youth, the revitalization of Indigenous Peoples' languages, medicine, farming, fisheries, biocultural systems, and the establishment

of partnerships between Indigenous Peoples, governments, scientists, and other stakeholders to co-create solutions for sustainable development and environmental conservation.

- In the envisioned futures, **to establish a mechanism for partnership, reconciliation and collaboration between Indigenous Peoples and the scientific community emerges as a pivotal element in addressing pressing issues.** Through the synergy of traditional knowledge and modern scientific knowledge, solutions can be developed to tackle challenges such as environmental degradation, pollution, loss of biodiversity, and climate change.
- It is important to link civil society to connection processes with Mother Nature, the care of Mother Nature and consider spirituality, respect, and reciprocity as experiences and values that are not exclusive to Indigenous Peoples. **The entire global society is called to urgently change its practices and connect spiritually to identify the experience of reciprocity with Mother Nature.**
- In summary, this 1st Dialogue's key messages for GEO-7 revolve around the **collective envisioning of a sustainable and just future that respects and upholds Indigenous Peoples' rights and values, the reconciliation and collaboration between Indigenous knowledge and Western knowledge systems in research and practices, as well as equal participation in formulating and implementing environmental policies and conservation efforts.**



Image 1.1. Pixquiac River. Coatepec, Veracruz, Mexico, 2023. Photo: Karo Carvajal.



PART II.

Second Indigenous Knowledge and Local Knowledge Dialogue

Global Environment Outlook (GEO-7)

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Manifesto

Everything lives. It is imperative to coexist on Earth with the wisdom of biodiversity and love to take care of life, the Earth and the generations of tomorrow.

Oaxaca, Mexico, June 2024

*With respect, affection, gratitude, love, and spirituality of the Indigenous Peoples.
In the face of the process of extermination against Indigenous Peoples and biodiversity.
In the face of the irreparable loss of indigenous languages and knowledge.
In the face of a homogenizing vision of life that dispossesses us and is becoming more violent every day. In the face of the pain inflicted on the Earth by pollution, deforestation and mineral extractivism. In the face of the planetary crisis of climate, water, air and coexistence.*

We, Indigenous Peoples coming from different parts of the same Earth, participants of the “Second Dialogue on Indigenous Knowledge and Local Knowledge” for the co-creation of pathways towards sustainability, held in Oaxaca (Mexico) between June 11 to 14, 2024, an event organized by the United Nations Environment Programme, the National Autonomous University of Mexico, Universidad Veracruzana and the organization Territorios Diversos para la Vida, declare that:

1. Based on the spirit of reciprocity, collectivity and solidarity that has allowed us to survive centuries of colonization, marginalization and extractivism, we want our indigenous brothers and sisters to hear our voices in the following workshops and events related to GEO-7 and other processes. In the spirit of defending life, justice and the rights and survival of Indigenous Peoples and humanity, we want you to join them.
2. We appreciate the interest in considering “Indigenous Peoples’ knowledge in developing solutions” for the future of life on Earth in this GEO-7 report. However, we also recognize that there is much to be done to truly consider Indigenous Peoples as allies in building collective solutions for the defense of life, sustainability, biodiversity, and the planet.

3. Indigenous Peoples, communities and individuals have much to contribute to the so-called climate crisis. We are authorities and environmental custodians and, as such, our voices must be reflected as well, with respect for our intellectual property and our ways of life. Our diversity and respect for all forms of life and our territories is what has made us the champions of adaptation, allowing us to live in territories that many would consider hostile, from the cold lands of Siberia, the humid lands of the Amazon, the deserts of the Masai communities, to the high mountains of the Andes. Our diversity of knowledge and voices is treasured in the more than 4000 thousand languages we speak of the 7000 that exist in the world, in our ability to adapt to inhabit more than 90 countries around the world in the seven socio-cultural regions of the world, in our own existence despite the colony and constant oppression and marginalization to which we have been subjected to this day.
4. It is imperative to recognize that although we represent 6% of the world's population, we are the most important custodians of biodiversity and life on this planet since our territories safeguard 80% of the world's biodiversity. Although our rights have been guaranteed in less than 20% of all the territories that are our home, our constant care for the land and nature, points to our territories as the richest and most biodiverse spaces, but which are also sadly in the sights of extractivist plundering.
5. Aware of the importance of the interrelationship between biodiversity and humanity based on pluriverse visions and multiple intelligences where everything is alive, we reaffirm that, as historically excluded human beings, we demand that our basic rights be respected and guaranteed, that we reverse the dominant narratives on progress and even the false green or environmental solutions that continue to promote a green colonialism and perpetuate the dynamics of discrimination and marginalization that we have been dragging along since colonial times.
6. The so-called climate crisis is nothing more than the result of the disruption of nature, "human activity has altered 75% of the terrestrial environment and 66% of the marine environment, while a million species of animals and plants are in danger of extinction". Reversing the destruction of life cannot be solved by creating funds resulting from the extractivism responsible for this disaster; a change in the economic system and in the way of living the relationship with the Earth and with all the beings of Nature is urgently needed.
7. Even though the world begins to recognize our role as Indigenous Peoples for the sustainability of life and the planet, last year at least 300 defenders of the territory were murdered, a large percentage of them Indigenous brothers and sisters. If murder and criminalization against us continues as we struggle to defend life, biodiversity will also

continue to be killed, the water we drink and the air we breathe will be polluted, and the Earth that sustains us will also die.

8. It is imperative that Indigenous Peoples, the States and other actors, see us Indigenous Peoples as subjects of rights and bearers of knowledge, and that our sovereignty is respected, as well as our rights to territory, rivers, waters and oceans, to our self-determination and Free, Prior and Informed Consultation within the framework of the United Nations Declaration of the Rights of Indigenous Peoples. We have the right to decide over our territories, to take care of them collectively and to continue defending the life that inhabits them.
9. We call on States, governments and the international community to guarantee life, prevent and avoid selective assassinations, massacres, confinements and forced displacements. We have the opportunity to make biocultural peace, peace with nature, peace to coexist with less pain and suffering, with more inspiration and kindness. We call on States, governments and communities around the world to ratify and adhere to international conventions that recognize our rights as Indigenous Peoples, as indigenous women, as indigenous youth and children.
10. We demand that there be more spaces to learn to unlearn from the hegemonic forms that simplify the good living, communality or the *Yeknemillis* or *Sumak Kawsay*. We invite all, to learn with us, the Indigenous and Native Peoples, the love that our ancestors instilled in us to take care of our neighbors and nature, to defend life and to transcend generationally with the struggle of our grandfathers and grandmothers. We live and inhabit in a world where we are taught by the neoliberal model under a voracious capitalist system, that there are several worlds, divided into social classes and economic status where the fashion is just to have more, to accumulate purchasing power at the expense of profit from our natural resources, looking at our resources as commodities and commercial objects. They teach us that we have limits and differences. The society that has been built points at you and discriminates against you for the fact of being an Indigenous person, because you have color or because you do not have wealth. A society where individualistic education only invites you to promote anti-values, individualism, hatred, resentment and envy. It is time to re-florish, it is time for collectivity, it is time for reciprocity, it is time to learn, deconstruct and build another future with the Indigenous Peoples.
11. We also demand to learn from initiatives where rights are guaranteed not only to Indigenous Peoples, but also to our rivers, to our forests, to life itself because biodiversity is wise and they are actors that must be heard and considered in decision making; just as we have our language, nature has its dream, it has its spirituality, and guaranteeing respect for its existence must be a principle.

12. Under the current system, of the 100% of the funds that are allocated to the development of solutions to address the climate crisis, Indigenous Peoples should have direct access to those budgets, since we are the ones who are directly in the front line of the defense of life. According to studies, less than 1% of the resources destined for the climate crisis and Indigenous Peoples reach our hands, because the rest is lost in intermediaries, and worse, in many solutions that are not in line with our ways of life, violating our basic rights and promoting a green colonialism.
13. The States and the international community must guarantee that the administration of these resources is carried out by the Indigenous Peoples themselves under their own, autonomous and duly supervised instances to avoid, prevent and confront corruption.
14. The States, the international community and stakeholders must also guarantee our basic rights, such as our intellectual property, as key actors on equal terms to contribute to the so-called climate crisis.
15. While we celebrate the initiative of GEO-7 in holding these Dialogues, we also invite the experts to deconstruct their assumptions, to explore different forms of collaboration, to not consider this Dialogue and our inputs as one more input where we continue to be seen as passive actors “contributing” to an expert, but rather to consider ourselves as experts of our territories. Otherwise it would be again the dominant discourse where “the experts speak on behalf of us”. Never again something about us without us, we want to stop being talked about, the Indigenous, without us, we want to raise our own voices. We invite you to build an epistemic justice, to recognize our voices and knowledge, consider and respect us, not as individuals but as collective subjects who come to this meeting with the good will to build a collective dialogue.
16. We invite similar initiatives to consider ourselves allies to build collective solutions that continue to conserve biodiversity, defend life and promote the sustainability of the planet, to articulate among different processes and institutions, for example, the COPs of biodiversity, Climate Change, the Decade of Indigenous Languages, the International Water Decade, among others. We inhabit the same planet, therefore, it is necessary to stop working in isolation and find points of convergence.

Brothers and sisters, indigenous and non-indigenous, it is time to change our ways of life, it is time to walk together, it is time to build a different future for the next generations.

A fraternal embrace from all latitudes with love,
Participants of the 2nd IK & LK Dialogue

Summary of Learnings and Recommendations

- **It is important to make visible, respect and safeguard the plurality of Indigenous Peoples' worldviews and conceptualizations of Nature.** Each Indigenous People has its own conceptualization of Nature and the relationships between Nature and human beings. For some, there is no uniform notion of Nature, but rather diverse concepts that refer to ways of caring for and relating to Nature and other living beings.
- **Indigenous Peoples' conceptualizations of Nature refer to a holistic vision of belonging, interconnection and reciprocity that relates human beings with Mother Earth or Mother Nature, creation, the universal, the earth, water, air, and other living beings.** In a web of complementarity, necessity and belonging, Nature is not seen as something separate or external to the human. This interconnectedness is both material and spiritual, thus also encompassing interrelationships with ancestors, the sacred and the cosmic plane.
- **Indigenous Peoples' holistic vision encompasses traditional medicine, narratives, languages, songs, crops and livelihood practices understood as teachings from Mother Nature.** This knowledge, rooted in daily practices, observations and experimentation, enables the care of the territories. Its intergenerational transmission is therefore a vital issue.
- **It is necessary to care for and protect the common home, Mother Nature, the big house, instead of controlling and exploiting it.** Territories need to be safe spaces to live in harmony, based on the loving care and protection of physical and spiritual beings.
- **Given the urgency to stop exploiting the environment and to focus on the relationship with what is necessary to live, it is important to consider good living ("buen vivir") –or good life– as a collective pathway.** The "buen vivir" pathway

reinforces community learnings based on respect, love, spirituality, and joy between human and non-human beings.

- **The abusive exploitation of Nature and resources extractivism are closely linked to dominant narratives and worldviews that separate human beings from the environment.** Disconnection with Mother Nature or Mother Earth is perceived as a rupture from spirituality and the sense of interconnectedness, coexistence and reciprocity present in Indigenous Peoples' worldviews. This disconnection serves to legitimize and sustain the exploitation of Nature and dispossession of territories.
- **Capitalism, characterized by consumerism and the commodification of nature, is the main driver of socio-environmental changes.** Many of these changes are caused by the extraction and exploitation of natural resources in the territories of the Indigenous Peoples and generate serious social and environmental effects.
- **Destructive extraction for capitalist accumulation is exacerbated by the lack of government recognition, regulation, safeguarding and enforcement of the rights of Indigenous Peoples.** Governmental acquiescence and lack of regulation for exploitation in the territories of Indigenous Peoples are often linked to corruption and impunity. The lack of respect and violation of their rights also results in land use changes, land and water grabbing, privatization of resources or imposition of development projects by governments and companies on their territories.
- **The dominant energy model generates negative impacts on Indigenous Peoples' territories.** This includes "clean" energies, such as hydroelectric or wind power, which have multiple negative impacts on their territories. For example, the diversion of riverbeds and dams generate water shortages in certain communities by favoring urbanization; and the resulting floods lead to the displacement of populations. In several territories, wind energy leads to privatization, leaving aside Indigenous Peoples' self-determination and causing the loss of their territories.
- **In the face of the current climate crisis, it is necessary to change the dominant trends marked by consumerism, extractivism, clean energy and the false solutions of green colonialism.** To do so, it is key to become aware of the interdependence between human beings and Mother Nature and to move towards socio-environmental justice, respect and care for life.

- **Consumerism generates changes in the ways of life, food systems and mentalities of Indigenous Peoples.** It also implies the loss and displacement of the identities, values, languages, customs, plant and animal species, traditional medicine and knowledge of Indigenous Peoples, as well as local communities, closely linked to spirituality, reciprocity, care and respect for life in the territories.
- **Extractivism, contamination, and land and water grabbing result in the loss of the subsistence and health conditions of Indigenous Peoples in their own territories.** Colonialism, marginalization and historical assimilation of the ways of life of Indigenous Peoples exacerbates the social and economic impacts of socio-environmental problems such as migration, poverty, unemployment, disease and displacement.
- **Mining and industrial activities pollute Indigenous Peoples' territories and affect their livelihoods.** Pollution of freshwater, oceans, land and air is closely related to industrial activities, mining and raw material extraction, both on land and in the oceans, as well as poor waste treatment or the transport of waste and toxic waste from certain countries to others (waste colonialism).
- **Changes in climate, with prolonged droughts, torrential rains, floods and snow loss impact the agricultural cycle and lead to crop failures.** In addition, these changes force people to migrate and/or to seek alternative production or income by renting their land. On the other hand, these changes also contribute to the generation of new IK & LK in the face of the need to change their practices.
- **Desertification, deforestation, disappearance of springs and loss of vegetation cover are associated with immoderate logging, arson and changes in land use for agro-industry and extensive livestock farming with monocultures and transgenic crops that are highly dependent on agrochemicals.** The use of agrochemicals and changes in land use for agribusiness causes the loss of refuges, death and migration of animals, as well as the disappearance of pollinators, other animals and plant species.
- **The loss of traditional seeds and crops is directly associated with the introduction of Genetically Modified Organisms (GMOs) and agroindustrial monocultures in the territories.** The industrialization of agriculture has displaced polycultures and traditional planting practices, leading to the loss of food sovereignty.

- **There has been an increase in illnesses in Indigenous Peoples.** This is due to air pollution, mining and petrochemical activities, as well as the replacement of healthy and natural foods with industrialized, ultra-processed foods, high in sugars, preservatives and agrochemical residues. The change in diet and the excess of sugars, also linked to the high consumption of energy drinks and sweeteners, has led to an increase in cases of diabetes among Indigenous Peoples.
- **In various territories there is contamination and scarcity of fresh water due to private exploitation.** This is often led by mining and agro-industrial companies, with government backing. The contamination of water bodies and rivers is also associated with tourism projects and the lack of waste treatment.
- **The diversion of rivers to build dams for hydroelectric dams or to supply water to privileged areas has led to flooding and privatization of water, compromising the life of the Indigenous Peoples in their territories.** These changes have also led to displacement of communities and disruption of water-related natural dynamics.
- **Deep sea mining, desalination plants, industrial fishing and the use of agrochemicals lead to the pollution of oceans, reefs and marine life.** Toxic waste from deep sea mining, desalination plants and agrochemicals that flow into the sea from groundwater basins, combined with overfishing, industrial fishing and lack of regulation, cause pollution and loss of marine life and the livelihoods of fishing communities.
- **Indigenous Peoples have inherited and revitalized their knowledge systems and horizons of good living in a close bond with Mother Nature.** This is done through an ancestral legacy of spiritual coexistence with their sacred sites, waters, mountains, lands, subsoils, air, seeds, plants and animals. This legacy has been transmitted intergenerationally through languages, traditional agricultural, fishing and gathering practices, music and songs, textiles and gastronomy, as well as through their own forms of community organization, collective work and care of the territories.
- **The safeguarding and transmission of Indigenous Peoples' knowledge and local knowledge are closely associated with the care of their territories of life and vice-versa.** For this care to occur, it is fundamental to respect the Indigenous Peoples' rights to territory, self-determination and Free, Prior and Informed Consent (FPIC), which must also be culturally appropriate and relevant.

- **There is an urgent need to curb extractive and polluting activities in the territories of Indigenous Peoples and globally.** To this end, it is necessary that the management and care of Indigenous Peoples' territories remain in their own hands, and that projects based on the principles of social and solidarity economy, energy sovereignty projects, reforestation and agro-ecological models based on IK & LK are strengthened.
- **To move towards desired futures, it is necessary to agree on laws and international binding instruments aimed at the regulation and prohibition of land and marine mining, GMOs, the sale and import of food with traces of toxic substances, and the protection of pollinators.** It is also fundamental that Indigenous Peoples declare their territories free of these extractive activities.
- **To realize these courses of action, the effective participation and representation of Indigenous Peoples in decision-making spaces, the formulation of public policies, international regulatory mechanisms and rights based on respect and care for life is fundamental.** A transition towards socio-environmental justice and sustainability includes the recognition of Indigenous Peoples' knowledge systems and rights, as well as the sum of worldviews and actions in the search for global solutions.

1. Introduction

The following document summarizes the results of the Second Dialogue on Indigenous Knowledge and Local Knowledge (IK & LK), conducted as part of the Seventh Global Environment Outlook Report (GEO-7). This second Dialogue took place on June 11th, 12th and 13th, 2024, in the city of Oaxaca, Mexico, at the facilities of the University Extension Unit of the National Autonomous University of Mexico (UNAM), and with the support of the Scientific Research Coordination and the Institute of Geography of that house of studies.¹ The Dialogue brought together 19 people from Indigenous Peoples and local communities from the sociocultural regions of Africa, Asia, Central, South and North America.

This Second Dialogue was carried out in order to listen, understand and learn about Indigenous Peoples' knowledge and local knowledge around some transversal axes of the GEO-7 report, and thus be able to strengthen the presence of IK & LK in the report. This process of dialogue, recognition and exchange of knowledge and points of view of Indigenous Peoples will help strengthen the GEO-7 report, in addition to promoting the opening of spaces for exchange, effective participation and recognition of Indigenous Peoples and local communities in the search for global solutions to address the planetary crisis of climate change, biodiversity loss, pollution and land degradation.

This document begins with a description of the 2nd IK & LK Dialogue's objectives and methodology, as well as the background and experience of its participants. The following sections recover the conversations held during the different moments of the Dialogue, where the participants shared their conceptions, knowledge, wisdom and experiences about: 1) Indigenous Peoples' conceptualizations of Nature;² 2) socio-environmental changes and their causes; and 3) desired futures and pathways, and actions to ensure these futures, its scales and engaging actors.

¹ Special acknowledgment is given to Maria Soledad Funes Argüello (Scientific Research Coordination), María Teresa Sánchez Salazar (Institute of Geography), Gian Carlo Delgado-Ramos (Institute of Geography), and Quetzal Orozco Ramírez (Institute of Geography/University Extension Unit-Oaxaca).

² Conceptions of Nature are also explored as Mother Nature, Mother Earth and other associated concepts of Nature and human-Nature relationships (see section 3).

The contents of this report derive from the conversations held during the Second Dialogue and the materials generated during it. To guarantee transparency and accountability, the document includes references and annexes with complementary information such as the agenda, and the Free, Prior and Informed Consent (FPIC) document ([Annex 1.1](#)). Throughout this report, some quotes from Dialogue participants are included as references to common ideas that emerged in the Dialogue. This document was reviewed by participants before its publication.



Image 1.2. Collective offering, 2nd IK & LK Dialogue (GEO-7), June 11-13th, 2024, Oaxaca, México.
Photo: Facilitation team.

2. Objectives and Methodology

2.1. Dialogue Objectives

By creating a safe and meaningful space for interaction among participants, within a framework of respect and mutual listening, the 2nd IK & LK Dialogue had as its general objective:

To learn about the experiences and visions of the participants around the main topics addressed in GEO-7 and thus strengthen the presence of Indigenous Peoples' knowledge and local knowledge in this report.

Specific objectives

- Introduce GEO-7 to the participants so they are familiar with the process, its main contents, and the mandate to which it responds
- Promote dialogue and participation for the exchange and reflection of Indigenous knowledge and local knowledge holders about:
 1. Conceptualizations of Nature
 2. Socio-environmental changes and their causes
 3. Desired futures, pathways of transformation, and actions to achieve them
 4. Actions, scales and actors by field of action

2.2. Participants

The dialogue included the participation of 19 people –8 women and 11 men– from Indigenous Peoples across different sociocultural regions.³ The Africa region was represented

³ The seven sociocultural regions of Indigenous Peoples are: i) Africa; ii) the Arctic; iii) Asia; iv) Central and South America and the Caribbean; v) Eastern Europe, the Russian Federation, Central Asia and Transcaucasia; vi) North America; and vii) the Pacific. See more on IP's sociocultural regions on footnote 3, Part I.

by participants of the Batwa people from the Great Lakes region of Burundi, of the Edo/Bini people, from Nigeria, and of the Malagache people, from Madagascar. From Asia, there was the participation of a member of the Sherpa Indigenous Nation, from Taplejung, Nepal. From North America, there was representation of the Anishinaabe people from the Lake Saint Martin First Nation, in Canada, and of the Tongva/Borrado/Chumash peoples, from the United States of America. The representation of Indigenous Peoples from Central and South America was broad due to the geographical location of the Dialogue's venue. Participants of the Quechua people from Pasco, Peru; Mapuche people, from Argentina; Inga people, from Colombia; and Tuxá people, from Bahia, Brazil, participated. From Mexico, participants of the following Indigenous Peoples and communities participated: Afromexican people, from Santiago Llano Grande, Oaxaca; Maseual people, from Cuetzalan del Progreso, Puebla; Nayari people from Nayarit; Ayuuk people from San Juan Guichicovi, Ēyuujk people of Tamazulapam del Espíritu Santo (Tu'uknēm), and Zapotec Valley people, all three from Oaxaca; Rarámuri people, from Chihuahua's highlands; and Maya people, from Hopelchen, Campeche.

The participants have diverse fields of specialization such as socio-environmental education and outreach, cultural and artistic management and preservation, rights advocacy and socio-environmental justice, feminism, Indigenous education, Indigenous languages revitalization, as well as university teaching and research in Indigenous Peoples' science, agri-food and water systems (Table 2.1).

Table 2.1. Participants of the Second Indigenous Knowledge and Local Knowledge Dialogue (GEO-7)

Sociocultural region	Name	Indigenous People or local community, land, country	Short biography
Africa	Vatsoa Rakotondrazafy	Malagasy, Madagascar	Advocates for small-scale fisheries and has expertise in education, outreach and storytelling for grassroots communities. Chairman of the board of the Locally Managed Marine Areas Network of Madagascar MIHARI. Winner of the Whitley Award in 2019. Intersessional Programme Learning and Communication Champion, and Regional Coastal and Ocean Governance Manager for International Union for Conservation of Nature (IUCN). Founder of BEOLOBE, Madagascar's first locally-driven trust fund to support grassroots communities' wellbeing and development.

Sociocultural region	Name	Indigenous People or local community, land, country	Short biography
Africa	Vital Bambanze	Batwa, Great Lakes Region, Burundi	Executive Director of the Indigenous organization Unite for the Promotion of Batwa (UNIPROBA). Expert Member of the United Nations Permanent Forum on Indigenous Issues (UNFPII). He has represented the Indigenous Peoples of Africa Coordinating Committee (IPACC) which brings together Indigenous Peoples' organizations on the African continent.
	Philemon O. Ogieriakhi ⁴	Edo/Bini, Edo State, Nigeria	Farmer and researcher. He works on agricultural development, Indigenous knowledge and advocacy. Environment Program Officer, West Africa Coalition for Indigenous Peoples' Rights (WACIPR), and Secretary of Board of the Foundation for the Comfort of Senior Citizens in Nigeria (FOCOSCIN).
Asia	Saraswati Sherpa	Sherpa Indigenous Nation, Taplejung, Nepal	Indigenous feminist activist from the Sherpa Indigenous Nation. She is a member of the National Indigenous Women Forum (NIWF), which provides support and raises awareness for Indigenous women's and children's rights, and implements programs focused on advocacy, training, studies, and research.
Central and South America	Alberto Feliciano Severiano	Nahuatl, Cuetzalan del Progreso, Puebla, Mexico	Member of the Tosepan Titataniske Union of Cooperatives. Indigenous primary education teacher in rural communities. Promoter of environmental care and defense of the territory. Active member of the cooperative movement among Indigenous Peoples.
	Benito Calixto Guzmán	Quechua, Pasco Region, Peru	Current General Coordinator of the Andean Coordination of Indigenous Organizations (CAOI). Board of Director Member of the Abya Yala Indigenous Forum (FIAY). He was General Secretary of the Regional Federation of Peasant and Native Communities of Pasco (FRCCNP) and International Relations leader of the National Confederation of Communities of Peru Affected by Mining (CONACAMI).
	Enrique Hernández García	Nayari, Jazmin del Coquito, Nayarit, Mexico	Belongs to the permanent assembly of Jazmin del Coquito and is dedicated to the defense of his territory against megaprojects.

⁴ Philemon Ogieriakhi was unable to attend due to visa and logistical issues. However, his contributions were received in a document and integrated into the report. He also participated in the First and Third Dialogue.

Sociocultural region	Name	Indigenous People or local community, land, country	Short biography
Central and South America	Estela Robles Yturbe	Ayuuk, San Juan Guichicovi, Oaxaca, Mexico	Rights defender and teacher in Indigenous education. She coordinates the Oaxaca University Communal Center (UACO) in Matías Romero. She is a member of the Yojxön Xëë organization and the Ayuuk Women's Meeting.
	Felipe Tuxá (Sotto Maior Cruz)	Tuxá de Rodelas, Aldeia Mãe, Bahia, Brazil	Indigenous researcher, activist and professor at the Federal University of Bahia in the Department of Anthropology and Ethnology. Member of the Indigenous Affairs committee of the Brazilian Anthropology Association, and a member of the National Association for Indigenous Action (ANAÍ). Member of the Articulation of Indigenous Peoples and Organizations from Northeast, Minas Gerais and Saint Esprit (APOINME).
	Haydée Morales Flores	Zapoteca from the Valley, Oaxaca, Mexico	Anthropologist and photographer. She has conducted research and provided advice to social organizations and Indigenous Peoples in Oaxaca, Mexico. She works on topics related to territory, common goods and power, socio-environmental conflicts, communal food systems, and visual anthropology with a focus on photography.
	Hernando Chindoy Chindoy	Inga, Colombia	Represents various Indigenous Peoples in Colombia (Wuasikamas territories, and Coifán, Siona, Eperara, Siapidaara and Inga). Focuses on IP's rights, nature, and cultural preservation.
	Jaime Armando Palma Aguirre	Rarámuri, Kwechi, Chihuahua, Mexico	Works in the civil association SINÉ- COMUNARR, and is dedicated to digital and traditional communication. He preserves the culture, traditions and wisdom of his people, taking advantage of the internet and digital communication as a means of dissemination. Communication projects are community-led and based on Indigenous Peoples' needs.
	Juan Antonio Arebalo Sgro Namuncurá	Mapuche, Argentina	For more than 15 years he has worked as a <i>werken</i> (ambassador in Mapuche) in the sociocultural sphere of his community. Cultural manager, film and music producer. President of the Arebalo Namuncura Foundation. Director of the Institute of Indigenous Culture of Argentina and the Open Chair of Canadian Studies, Native Peoples, with the support of the Canadian Embassy in Argentina.

Sociocultural region	Name	Indigenous People or local community, land, country	Short biography
Central and South America	Jorge Oziel Pech Pech	Maya, Ich-Ek, Hopelchen, Campeche, Mexico	Beekeeper's and meliponiculturist's son. Activist, bee defender, and advocates for IP's rights and cultural identity. Member of the Maya Communities collective of the Chenes and the Muuch Kambal organization. Expert in Indigenous Peoples and international cooperation by the Carlos III University of Madrid, Spain. Collaborator of the Mexican Center for Environmental Law (CEMDA) until 2023, promoting legal strategies for the defense of the territory. Current promoter of the Network of Young Mayan Communicators.
	Lucila Cristal Laredo Domínguez	Afromexican, Santiago Llano Grande, Costa Chica of Oaxaca, Mexico	Defender of Community Intellectuality, black history and ancestral knowledge and territory. Promotes the visibility and recognition of the Afro-Mexican peoples' contributions, history, and rights. Committed to human rights and black women's collectives, promotes sexual education in Afro-Mexican areas. Founder of Almas Libertas, Memorias de la Negritud. Collaborator of México Negro A.C. and of the Ñaa Tundá Collective.
	Paulina Garrido Bonilla	Maseual, San Miguel Tzinacapan, Cuetzalan del Progreso, Puebla, Mexico	Member of the Tosepan Union of Cooperatives. Maseual woman at heart, warrior as she has learned from Elders. She firmly believes that building a good living through community organization contributes to unity, solidarity and mutual help. Weaving another world is possible.
	Tania Eulalia Martínez Cruz	Ėyuujk, Tamazulapam del Espiritu Santo (Tu'uknēm), Oaxaca, Mexico	Mexican Indigenous advocate researcher from the Ėyuujk community. Expert on Indigenous Peoples' food and water systems. Works on language revitalisation. Director of food sovereignty and agroecology at Land is Life. Does advocacy work and has fundraising experience to support Indigenous Women.
North America	Frankie Orona	Tongva Borrado/Chumash, United States of America	Protector "activist" who advocates for Native American Indian rights, environmental and social justice. Co-Founder & Executive Director of the Society of Native Nations, an Intertribal Native American Indian Nonprofit Organization. Environmental liaison for his Red Blood Tribal Chief - Anthony Morales of the Gabrielino Tongva San Gabriel Band of Mission Indians. Member of the American Indian Movement Grand Governing Council.

Sociocultural region	Name	Indigenous People or local community, land, country	Short biography
North America	Myrle Ballard	Anishinaabe, Lake St. Martin First Nation, Canada	Senior Indigenous Science Advisor and Associate Professor. Expert on Indigenous science and reconciliation of Indigenous and Western sciences in water and climate research. Signatory of Lake St. Martin First Nation 2nd Treaty.

For the purposes of continuity of the Dialogue process, some of the people who participated in the First Dialogue were invited to also participate in the Second Dialogue. The above, with the objective that they can have the background of the discussions held in the first Dialogue space, share it with the participants in the Second Dialogue, and hence contribute to follow up on the discussions and agreements reached throughout the process. Participants from the Sherpa Indigenous Nation (Nepal), the Inga people (Colombia), the Edo/Bini people (Nigeria), and from the Ēyuuk people (Mexico) were able to participate in the Second Dialogue again.



Image 2.1. Participants of the Second Indigenous Knowledge and Local Knowledge Dialogue (GEO-7), 11th-13th of June, Oaxaca, Mexico. Photo: Marjory González Vivanco.

2.3. Methodology

The Second Indigenous Knowledge and Local Knowledge Dialogue (GEO-7) was held over three days of work and had Spanish as the main language. It was carried out from a perspective that encourages active participation and attentive listening, as well as respectful and meaningful exchange between people. With the intention of pollinating and enhancing forms of exchange and dialogue, several participatory dynamics of dialogue and collective reflection were worked together, as well as artistic co-creation and social cohesion activities. General activities are addressed in [Annex 3](#).



- **Opening table.** The Dialogue began with an opening table led by representatives of the GEO-7 Secretariat, the University Extension Unit-Oaxaca, the Scientific Research Coordination and the Institute of Geography of the National Autonomous University of Mexico, as well as the hosting institutions at Oaxaca: UNEP Oaxaca, Secretary of Environment, Energy, Biodiversity and Sustainability, and Secretary of Tourism of the State of Oaxaca.



- **Collective offering and closing ceremony.** During the collective offering ceremony each participant briefly introduced themselves and offered an object or word that represented something significant about their territory and their intentions for the dialogue. To close the dialogue, on the third day, the group gathered again around the offering. Each participant took an offering and shared what they carry with them from the dialogue.



- **Introducing the GEO-7 to the participants.** In the first plenary, a general presentation of the GEO-7 was made in order to share and reflect with the participants on the scope, value, and challenges of the Dialogue process, and to reinforce the importance and challenges to be overcome in order to strengthen the presence of Indigenous knowledge and local knowledge in GEO-7. This moment was important to ground the expectations of the process.

Image 2.2. Collective offering ceremony, opening table and presentation during the 2nd IK & LK Dialogue (GEO-7).

- **FPIC, care and agreements for the Dialogue and the follow-up process.** To reinforce the principles of FPIC ([Annex 1](#)) a general framework of challenges and care for the dialogue was established at the opening plenary (See 2.4 on this section). These were taken into account throughout the dialogue, and brought into consideration during the evaluation dynamics of the Dialogue on the first day, and in the closing plenary session after the Caucus session when follow-up agreements were taken.
- **Dialogue groups and plenaries.** During the three days, activities were organized in plenaries and working groups in order to board the general axes and topics of the Dialogue: 1) Indigenous Peoples' conceptualizations of Nature; 2) socio-environmental changes and their causes; and, 3) desired futures, pathways and actions to achieve them, its scales and engaging actors. The last two of these topics were introduced with a video presenting a summary of the content at each part of the GEO-7 assessment. Videos were recorded by the Chair of the GEO-7 in English and included Spanish subtitles. After the presentation of the video, each topic was worked on in the dialogue groups (4 to 5 participants), based on guiding questions generated by the facilitating team in coordination with members of the IK & LK Taskforce.⁵

The groups of participants were organized following the criteria of diversity of Indigenous Peoples and local communities, regions, gender and age. After each dialogue in groups, a plenary session was held with all the participants so the key messages of each group were shared to all participants.

There was also the presence of 3 people from the GEO-7 Multidisciplinary Expert Scientific Advisory Group (MESAG), who helped to organize the Dialogue and attended as observers. Likewise, during the plenary sessions, MESAG members listened virtually, one per plenary.



Image 2.3. Dialogue working groups and presentations during the 2nd IK & LK Dialogue (GEO-7).

⁵ The guiding questions were presented to participants before the dialogue groups. These aimed to motivate discussion around the key topics related to the planetary crises in order to inform the five parts of the GEO-7.

- **Translation.** The translation between Spanish and English speakers during the Dialogue was supported by 5 translators. For the purposes of working in small groups, on the first day, 4 mixed groups with persons who spoke different languages were organized. On the second day, given the majority of Spanish speakers, and in accordance with the recommendations and requests of the participants, different groups were organized: 3 where they communicated mainly in Spanish, and one with English speakers.
- **Analysis and organization of the results.** The contributions and information shared by participants during the dialogue groups and plenary sessions are presented in the chapters of this report. The information has been organized to account for cross-cutting and common aspects, as well as the particularities of the territory of each Indigenous People and local community. At the beginning of this report, the key messages derived from the dialogue as a whole are presented.
- **Complementary activities.** As part of the recreation activities, the Secretary of Environment, Energy, Biodiversity and Sustainability and the Secretary of Tourism of the State of Oaxaca arranged a presentation of the Folkloric Ballet on Wednesday afternoon with a sample of various traditional dances from the people of Oaxaca. On the last day, at the end of the dialogue, a field trip to the community of Santa Catarina Minas, Oaxaca, was organized by UNEP, Pro Natura and Tierra de Agave. The field trip consisted in a visit to a center of production of mezcal to learn about the traditional cultivation techniques of agave and the process of making ancestral mezcal.



Image 2.4. Folkloric Ballet presenting traditional dances from the peoples of Oaxaca, 2nd IK & LK Dialogue (GEO-7). Photo: Marjory González Vivanco.



Image 2.5. Field trip to an ancestral mezcal production center, community of Santa Catarina Minas, Oaxaca. Photo: Marjory González Vivanco.

2.4. Challenges and Care for the Dialogue

Participants were invited at the first plenary to share reflections on the importance of dialogue and their presence in it, as well as the challenges for sustaining the dialogue and the care needed for its development. The guiding questions were: Why is it important for you to be here? Why is a meeting like this important? What are the challenges of this dialogue? What do we need to have a careful and respectful dialogue? Key messages of this reflection are summarized below:

- It is important that the participants' proposals are heard, and that spaces to exchange and participate in the preparation of these reports are opened and gained.
- These spaces are key to exchange learnings and experiences, make visible the realities of the territories of Indigenous Peoples and local communities, and weave collective processes to understand and address common and particular problems. These meetings and workshops can be held in indigenous territories, based on the ways of knowing and living in connection with the territories.
- The report of this Dialogue has to reflect the cultural diversity, and the richness that this diversity brings to the different social-environmental fields. This implies making visible the holistic thinking of Indigenous Peoples, and considering their perspectives as solutions.
- It is necessary to account for the validity and ancestrality of IK & LK, especially the ancestral technology of Indigenous Peoples in the management of their territories.
- It is essential that the document recovers not only the voice of humans, but also the voice of other living beings that are subjects and victims of our actions.
- Indigenous Peoples must be respected as rights holders, and considered as effective partners who can join efforts to protect the environment and the planet.
- To reinforce the respect of the FPIC's principles, it is necessary to build a safe space for all people to express themselves, respecting what each person freely wants to express and share. This, in order to take care of collective security, IK & LK safeguard and protection from misuse.
- Attentive listening is needed to know each other's reality and to be open to diversity and confluence, in a framework of respect that also considers the diversity of languages and translation as something fundamental.

3. Indigenous Peoples' Conceptualizations of Nature

The purpose of this section is to account for the richness and complexity of the visions about Nature and human-Nature relationships that emanate from the linguistic and sociocultural diversity of Indigenous Peoples.

During the Dialogue, participants were encouraged to share conceptions and reflections on the notion of Nature or human-Nature relations from their respective languages and knowledge. Some questions to guide this dialogue were: “Is there any word or words in your language or worldview that evoke or refer to the concepts of ‘Nature’ or ‘human-Nature relations’? What would this word be? And if there was no word as such, would there be any concept close to it?”. Verses or phrases were also shared in relation to these concepts and words, and a collective poem was put together by each group.



Image 3.1. Sharing conceptions of Nature and collective poems. 2nd IK & LK Dialogue (GEO-7), June 2024, Oaxaca, México. Photo: Marjory González Vivanco.

3.1. Indigenous Peoples' conceptualizations of Nature and their meanings

*"My Mother Earth taught us from her knowledge,
to protect generational roots."*

- Verse co-created by participants

Different meanings and approaches to the concept of Nature were shared, as well as ways of understanding the links and relationships between all living beings, including unseeing and spiritual beings. **Table 3.1** presents a list of these conceptions, their origin and a synthetic explanation of their meanings. This section and the table of conceptions give account of some general aspects shared by the participants about their worldviews and conceptions. The depth and characterization in detail goes beyond the objective of this report.

Table 3.1. Participants' conceptualizations of Nature and synthetic explanations

Sociocultural region	Indigenous People or local community, land, country	Conceptions of Nature	Meanings
Africa	Malagasy, Madagascar	Kobaby	Protection
Asia	Indigenous Sherpa Nation, Taplejung, Nepal	Jenggyup	Interconnection with the universe, way of life / Mountains are spiritual guardians
Central and South America	Ayuuk, San Juan Guichicovi, Oaxaca, Mexico	Tsēnayēm / Wajēn Kajēn	The people, the woods, the river, the water, all that we do daily within our territory / A cycle that links us as human-people in an interconnection that brings together knowledge and learning from birth to death
	Ėyuujk, Tamazulapam del Espiritu Santo (Tük'nem), Oaxaca, Mexico	Et-näaxwiiny / 'sajp / Näaxwiiny / Näax	The cosmos "world" and interconnection between the different planes / Sky, what is above / Where we all live, the face of the earth, our coexistence / Earth, what is underneath
	Inga, Colombia	Atawa Alpa / Atun Wasi	Material space and of spirituality, the breadth we inhabit. Nature is not only material, it is also unseen beings, what is not in sight / The big house

Sociocultural region	Indigenous People or local community, land, country	Conceptions of Nature	Meanings
Central and South America	Mapuche, Argentina	Wallmapu or Wajmapu / Mapu	Everything that is universal, earth and human beings that belongs to Mother Nature / Earth
	Maseual, Cuetzalan del Progreso, Puebla, Mexico	Talmanik / Taltipak / Taselot /	The intangible / The face of the earth / What flourishes and gathers, interconnected on different planes
		Yeknemillis	The good living. It helps us not to exploit the environment and enjoy it, love ourselves from spirituality, rediscover ourselves as human beings in order to not forget what is necessary for life
	Maya, Hopelchen, Campeche, Mexico	Kaax / Yaax che'	A living space that protects us and hosts everything: water, trees, animals, spirits, towns, bees, medicines, stories, cornfields, paths, deities. It is a space in balance, in harmony. If one is missing everything becomes unbalanced / Sacred Ceiba, giver of life that connects the 13 skies and 9 undergrounds, Kin (sun), Ha and Tata fire
	Quechua /Aymara, Peru	Pachamama / Sumak Kawsay Suma Qamaña	Mother Earth. Coexistence with our brothers and sisters (water, air, earth, wind, etc.) / Good living
	Tuxá, Bahia, Brazil	Opará	It is about being one and the same with the river. It is the water that gives life to Tuxá people, and from which they are crafted. It is the water we need for living. There is only Tuxá because there is the river
North America	Anishinaabe, Lake St. Martin First Nation, Canada	Kiwaydinnoong / Wabunnoong / Zhawanoog / Ninggabeuhnoon	North / East / South / West. Words that represent directions in relation to the environment, the seasons, the end and beginning of the day, cycles and also the migration patterns of birds. They represent the role of the ecosystem from a holistic approach, referring to the interrelationship of all the species that live on this Mother Earth /
		Mino Pimatisiwiin	Good life living
	Tongva, United States of America	Tovaangar	World, Creation. We are part of All Creation. We are the Land, the Water, the Air. We are part of All Life

The interconnection between human beings and other living beings stands out in the conceptions shared during the Dialogue. From the Mapuche vision, Juan Antonio Arebalo shared that in the *Wallmapu* or *Wajmapu* (universe nature; *mapu* is earth), earth and human beings belong to Mother Nature. In a related sense of interdependence and belonging, Felipe of the Tuxá people shared the concept of *Opará*, which means being one and the same with the river, from which they are crafted and what makes Tuxá people exist. *Opará* is home and when there is a river and there is a house there is a good living.

Hernando Chindoy explained the holistic conception of the *Atawa Alpa* as the breadth that we inhabit, which is not only material but spiritual, where unseen beings also live, and with whom the big house is also being woven (*Atun Wasi luiai* - Weaving the big house).

The interrelationship between all living species on Mother Earth is referred to by various words that represent the role of ecosystems from a holistic vision, as in the case of the relationship of Mother Earth and the four directions from the worldview of the Anishinaabe people.

Jorge Oziel Pech explained that in his Maya language “Nature” does not exist: there is *Kaax*, a living space of coexistence, that shelters and protects everything (water, trees, winds, animals, spirits, bees, medicines, stories, cornfields, paths, deities, etc.). This sacred space of coexistence for all brothers and sisters (water, air, earth, wind, etc.) integrates the cosmic level, the earthly level and the sky level, like the Sacred Ceiba *Yaax che’*, giver of life.

Nested in the Quechua thought, Benito Calixto referred to *Pachamama*, Mother Earth, in which we coexist with our human and non-human brothers and sisters: water, air, etc. He raises the need for Indigenous Peoples’ thought to be understood, as well as the urgency of resuming the relationship with life and the path of complementarity, mysticism and good living (*Sumak Kawsay*, *Suma Qamaña*). Good living is a way of sharing and a way for humanity to relearn how to be a community: *Shuk shunkulla*, *shuk yuyaylla*: one thought and one heart.

Alberto Feliciano talked about *Yeknemillis*, the good living from the worldview of the Nahuatl maseual people of the Northeastern Highlands of Puebla. *Yeknemillis* is a notion that appeals not to exploit the environment and coexist in a respectful and healthy

*“Mino Pimatisiwiin,
Yeknemillis:
live the good living,
loving each other
from spirituality,
meeting again as humans.*

*Loving care
‘Mary of all sorrows’
Safe place or not...
Amalaya me’.*

*In the River
we need a friend
that gives us water.
We are Opará,
one and the same
with the river.”*

- Fragment of the poem
co-created by participants

way. He raises the need to love each other from spirituality and to rediscover ourselves as human beings because we are in a moment in history where we have lost ourselves and have forgotten what is necessary for life.

In a similar vein, Frankie Orona shares a vision of interrelation and coexistence from the Tongva concept of *Tovaangar* (creation, world), where we are all part of “The Creation of All Life, where we are Earth, Water and Air.” For Frankie, it is important to have mutual love and respect for each other’s lands and territories, to care how we reach each other’s lands and territories with respect and love in each other’s homes and welcoming each other.

From various conceptions, Nature is not something external, that is outside or separate, but rather it houses a vital complementarity, which is also a spiritual relationship. Haydée Morales referred to it as a common house, from the importance of bonding with living beings, of bonding with Mother Nature, instead of controlling her. In this common house living and spiritual beings coexist. The spiritual plane, of the cosmos, is the plane of the ancestors and sacred beings.

The sense of home also resonated for Lucila Laredo who, from her African descent and territory, evokes the teachings of her grandfather and grandmother. Her grandfather told her that nature is home and we have to take care of it; that is why he grew diverse crops and did not harvest more than necessary, leaving palms and plants so that they could continue

growing. Her grandmother called the earth ‘Mary of all sorrows’, because we always step on it and kill her children, her animals and her plants. With her evocations she shares the need to take care of ourselves and provide loving care, share and care for others so that the house, nature, is a safe place for good living.

*“We have our medicine,
it’s an extension of who we are.
We are part of the Creation,
of the World.
We are Earth, Water, Air.
Communities at the center
Kobaby, protection.*

*We see the world like an orange
where we live, humans, animals
underneath, above,
everything is interconnected.*

*Cosmologies do not overlap
in the transformation of worlds
in creating a world
where we can all live.”*

- Fragment of the poem
co-created by participants

With nostalgia for what has been and can be lost, Saraswati Sherpa of the Sherpa people writes a thought in her language: My mother loves the water / But I love the river / but soon everything will disappear (written with the Nepali alphabet: मेरी आमालाई पानी मन पर्छ / तर नदीलाई माया गर्छ / तर चाँडै यो सबै गायब हुनेछ). She comes from a mountainous region where the majority of the community’s work and daily livelihood is supported by agriculture and animal husbandry, which has been affected by climate change, particularly by melting glaciers.



For Enrique Hernández of the Nayari people, there is a connection between nature and music, because in his culture there are many songs for life and for nature, such as the chants for asking for rain, many of which are already lost. He shared the following words: “Protecting the planet is also protecting the music, music that the pine trees give us when the wind runs through the mountain and the chant of those who live there (*¡te chüe guatechain kuinari pe’ pajta chai i Juku ti’i’ kuina ti’ta gua eka maj ta i chüikari*).”

Vatosoa Rakotondrazafy, from the Malagasy people in Madagascar, referred to the sense of protection (*Kobaby*) to account for a concept of nature also associated with the territory and the protected and conservation areas of local communities. For her, it is important that local communities feel safe and protected in their territories, and that they can have effective ownership and possession of their protected areas and be at the center of conservation.

Jaime Palma, from the Rarámuri people, explains that for them there is no such thing as a concept of nature, rather different words to refer to each living being and its connections. He shares a thought from his people that refers to this belonging to the earth: “We are part of the earth, we are connected with our feet to it, our feet are roots that walk and give strength. We are the roots of what we build

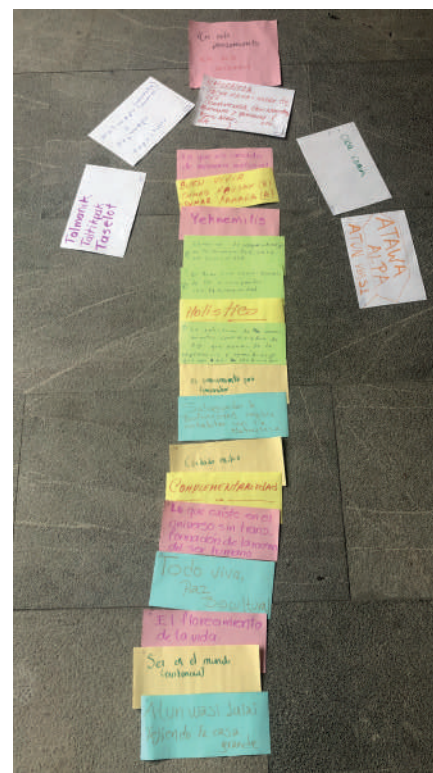


Image 3.2. Collective poems and conceptions of Nature shared by participants during the 2nd IK & LK Dialogue (GEO-7).

*“One thought, one heart,
created naturally.
Pathway for relearning
to be a community.
It is knowledge to transcend
from experience and learning
that Wallmapu gave us.
Coinhabit with nature
from mutual care
and complementarity.
Everything lives,
biocultural peace
flourishing of life,
being in the world
weaving the big house.”*

- Fragment of the poem
co-created by participants

as a community, intertwining these roots. For the small roots that are growing, it is very important to transmit the wisdom that is interwoven with the older roots. The moment a part of the root disappears, there will be a new root to fill that void.” This thought also emphasizes the importance of transmitting to the growing roots, the youngest ones, the wisdom that is interwoven with the oldest roots, which are the grandparents, fathers and mothers, so that this root, which is also the belonging to Mother Earth and the forest, does not die.

Estela Robles shares that there is no concept of Nature as such from the worldview of Ayuuk people. For them there is the *Jë Kapt Tsënyëm*, which is the human-people: it is their own nature, the forest, the river, the water, what they do daily within their own territory. The *Jë Kapt Tsënyëm* connects, as a spiral, with something cyclical where human beings and territory are interconnected and compelled to carry the *Wäjen Kajën*: “the *wäjen* is knowledge and the *kajën* is something that becomes awakened and placed, as learnings, from the womb until death.”

Through this interconnection, belonging and complementarity, knowledge is transmitted and learning takes place. As Juan Antonio Arebalo of the Mapuche people said, it is about learning, knowing and sharing what Mother Nature has given us, because everything is learned from her: “a knowledge to transcend, a knowledge of life”.

4. Social-environmental Changes and their Causes

This section describes the socio-environmental changes and causes identified by the participants, in connection with the parts of GEO-7. First, the cross-cutting aspects regarding the common causes and changes that impact the territories of the different Indigenous Peoples are presented. Afterwards, the specific changes and their causes are arranged according to some axes addressed in GEO-7 in order to facilitate the process of building bridges and strengthening the presence of IK & LK within the framework of the assessment.

4.1. Social-environmental changes and their causes: crosscutting aspects

During the Dialogue, various reflections were raised regarding socio-environmental changes and their causes, appealing to the complex interrelation between environmental problems with economic, value and knowledge systems.

- **Climate Crisis.** It is important to refer to the climate crisis, rather than climate change, to take into account the urgency and the problems that affect and surpass the territories. There is an awareness of the climate crisis as something that has surpassed all globally, and threatens Indigenous Peoples' daily livelihood and territories beyond their adaptation and resilience processes. Climate change has caused the migration of animals, including small game animals that represent an important source of livelihood in some communities.
- **Questioning the narratives and practices that separate us as human beings from the environment.** It is necessary to reflect about the crises and the different elements (water, air, soils and lands, coasts and oceans) from the holistic visions of the Indigenous Peoples, where beings are perceived as a whole and within their interrelationships. These perspectives rely on responsibility, care and defense of life, territory, communities, bees,

“We have stopped looking at things with reciprocity, which is what our ancestors have left us: interhuman, intercommunity and international reciprocity.”

- Juan Antonio Arebalo,
Mapuche people

seeds, water, where it is not only about human beings but about the ways in which all is connected.

- **The belief that we are separate as human beings from our environment justifies abuse and extractivism.** Hence the importance of protecting the knowledge of Indigenous Peoples, and contributing to maintain the connection with the environment and with future generations. To restore balance and get closer to sustainability, it is necessary to recover a perspective of circularity and exchange, of giving and receiving, of taking and giving back: as the first learning of circularity that is obtained at birth, when crying-breathing-exhaling, or as in the case of clay instruments and utensils that can return to the Earth.
- **Capitalist system and consumerism.** One of the root causes of this abuse and extractivism is related to the capitalist system, consumerism and the excessive ambition of big companies to generate more capital from a logic where natural goods are converted into commodities. Producing capital and commodities is an inherent logic of big companies, which avoid their responsibility for the impacts they cause, as the pollution and damage to the environment and communities. Trying to get them to change is like “asking a lion to eat vegetables, it is impossible.”
- **Lack of regulation and government corruption.** Capitalist extractivism is associated with the lack of government regulation and corruption, which allows the development of extractive activities by large companies and private agents in Indigenous Peoples’ territories, despite the existence of multiple environmental regulations, as well as rights treaties that protect them.
- **Continuous cycle of raw material extraction, commodity production and false reuse and recycling solutions such as waste colonialism⁶ in the Global South.** The current economic system allows certain countries in Europe, or the United States of America (USA), to send their waste and toxic waste to other countries, and apply incorrect solutions for recycling and reusing products. Coupled with extractive and industrial practices in communities, these recycling solutions (through chemicals, burning

“Statist societies have become very successful in separating human beings from the environment, so that they can justify extractivism and the continued cycle of this abuse, instead of recognizing that we are one and the same with our environment.”

- Frankie Orona,
Tongva people

⁶ The term waste colonialism was coined in 1989 in the Basel Convention working group of the United Nations Environment Programme. It describes the domination of one group in their homeland by another group through waste and pollution.

plastics and incinerators) release toxic substances into the air, land, and water, and threaten the life and health of the communities nearby, perpetuating the poverty of the Indigenous Peoples in a perennial cycle that expands this logic to more and more territories. In this continuous cycle of extractivism, the resources extracted from their territories return as waste and goods that are harmful, pollute, create garbage, cause diseases and, in addition, have to be purchased by the communities themselves.

- **Extraction of hydrocarbons and raw materials for the petrochemical industry.** The continuity of the economic and extractive model depends on the production and export of liquid natural gas, fossil fuels and plastics, with high socio-environmental impacts and high percentages of pollutants emissions. Big companies are not willing to stop extraction and commodification, despite living on an earth with limited resources; it seems that they do not recognize that there is only one earth, only one planet, blinded by their attempts to search other planets to perpetuate extraction and accumulation.
- **Consumerism is also perceived as a socio-environmental problem associated with disconnection from territories and the commodification of life.** Exacerbated consumerism and the commodification of life increase garbage and plastics issues, while imposing changes in people's mentality. This threatens the territories of life, and all the elements that allow us material, ceremonial, philosophical and spiritual life.
- **Loss and displacement of the identity, values, languages, customs and knowledge of Indigenous Peoples and local communities linked to spirituality, reciprocity, care and respect for life, co-responsibility and coexistence within the territories.** There has been a loss of awareness about the importance of working and cultivating the land, conserving nature and territories, as well as maintaining languages, clothing, traditional foods, and non-commercial exchange practices such as bartering or collective work (e.g. *tequio*, *minga*, mutual aid).
- **Linguistic and cultural assimilation, Westernization of education and discrimination of Indigenous and traditional knowledge and practices.** The intangible losses related to biocultural diversity come from the historical and permanent discrimination, dispossession, displacement, and violence towards Indigenous Peoples, related to historical colonialism and, more recently, to green colonialism and modern state's

"This world in which we live is like a fishbowl. We share the same water that those before us shared and our children will share, the same air, the same lands. Our elders tell us, if you are going to live in this fishbowl, how dirty do you want your fishbowl to be and how are you going to leave it? So it is our responsibility to keep that fishbowl as clean as possible with all creation."

- Frankie Orona,
Tongva people

development agendas which perpetuate land dispossession and displacement due to the imposition of projects and supposed clean energies in their territories.

“There is a detachment from the land and an increase in poverty due to the migration of generations of young people who no longer grew up in healthy territories, but rather were born normalizing desert landscapes and agricultural monocultures. So for them it is better to go than staying to defend something they were not born with.”

- Jorge Oziel Pech,
Maya people

- **Migration, loss of identity, detachment from the territory and precariousness.** Migration is another cause associated with oblivion and loss of traditional practices, the loss of intergenerational transmission and detachment from the territory. The identity of Indigenous Peoples is closely related to their land, so with migration, especially of young people, identity and practices are lost, and the intergenerational transmission of knowledge is considerably reduced. Besides, the increase of migration from their ancestral territories is associated with the loss of land, territories and their resources, food shortages and changes in agriculture, which worsens impoverishment, marginalization and unemployment. Participants questioned the idea that migration represents access to a better way of life, which also comes from the devaluation and discrimination of their productive and cultural practices. Migration is also promoted by globalized and market-oriented pro-migration policies, which have a strong impact on communities and affect the lives of Indigenous Peoples. One participant mentioned that migration can sometimes be a positive change, as it allows for the restoration of Nature and provides better living conditions for those who stay in the territory.
- **Imposition of development and extractive projects by governments and big companies in Indigenous Peoples' territories.** The imposition of development and extractive projects leads to privatization of resources, land grabbing and dispossession, and hence to increasing socio-environmental conflicts and violations of rights. Impositions derive from the lack of respect of Indigenous Peoples' authorities, forms of government and decision-making processes, violating their land, self-determination, and FPIC rights. In fact, it is usual that governments and companies validate the imposition of extractive projects with fraudulent consultation mechanisms, in a dirty game that overrides their right to Free, Prior, Informed and culturally appropriate Consent.
- **Violation, lack of recognition, compliance and safeguarding of the collective rights Indigenous Peoples by governments.** In many countries there is a lack of recognition of Indigenous Peoples and their rights, or there is a lack of a legal framework that guarantees their exercise and respect at different government levels, especially at the local level. There are failures of governments to implement international mechanisms aimed at protecting and promoting Indigenous Peoples' rights, even in countries that

are signatories to international rights instruments or have recognized Indigenous Peoples as collective subjects of rights, including their own authorities and decision-making processes. Ignorance and disinformation of their rights also prevail, and, therefore, a lack of enforceability.

- **Lack of voice, representation, and meaningful participation of Indigenous Peoples in policy formulation and decision-making, including those decisions that directly affect their territories.**

Representatives of Indigenous Peoples are not in positions that guarantee meaningful participation, and there is no inclusion in public policy advice or formulation. Likewise, the policies are not based on a rights-based approach, and they also reproduce limited visions of development. This is the case of the Sustainable Development Goals, which lack of a rights perspective, although these address key issues such as food and water self-sufficiency, or gender perspective.

In relation to Indigenous Peoples' rights, there have been positive changes regarding the recognition and defense. In Africa and various Latin American countries, Indigenous Peoples have fought for the recognition of their rights to territory and natural resources, strengthening important organizations and alliances from the conviction that rights are defended collectively. Important processes of education, self-recognition and struggles have contributed to the negotiations and spaces needed to establish these rights and mechanisms (see **boxes 5.1** and **5.2** for rights, mechanisms and organizations of Indigenous Peoples).

"We are fighting for the same cause: the recognition of rights by the Indigenous Peoples and local communities themselves, education in rights, organizations and alliances, the exchange of experiences and international solidarity with their struggles for their rights and territories."

- Vital Bambanze,
Batwa people

4.2. Social-environmental changes in Indigenous Peoples' territories

Below are the contributions of the participants regarding the socio-environmental changes and their causes, as experienced in their territories. The contributions have been organized into sections related to the elements addressed by the GEO-7 report (Air, Land and Soils, Coasts and Oceans, Freshwater). The relationship of these changes with planetary crisis (Climate Change, Loss of biodiversity, Land Degradation, Pollution) and systems (Agri-Food, Economy and Finance, Energy, Waste and Materials), as analyzed in GEO-7, are also addressed. The contributions of the IK & LK holders are arranged in this way to facilitate the process of generating bridges with the GEO-7 report.

4.2.1. Air

“Due to air pollution from large industries, the wind no longer arrives with Samay, which is the spirit of life. The wind no longer has samay, only dust and pollution. That is what the elders say in the territory.”

- Hernando Chindoy,
Inga people

- **Air pollution is caused by industrial emissions, indiscriminate carbon dioxide, burning of fossil fuels, smog and fumigation of agrochemicals.** For the Indigenous Peoples the wind is a very important agent in the spiritual dimension and its pollution warns of the great problems of Mother Nature (Pollution).
- **Pollution, privatization and loss of Indigenous Peoples' territories due to wind energy projects.** Wind farms have been imposed on Indigenous Peoples' territories with the endorsement of governments and public policies, above their rights to FPIC and self-determination. Wind farms impact negatively on Indigenous Peoples' territories and communities, as it has been witnessed in the Isthmus of Tehuantepec and on the coast of Oaxaca, Mexico, as well in Indigenous settlements in Brazil (Pollution / Energy - Economy and Finance).

4.2.2. Lands and soils

- **Desertification and deforestation associated with agroindustrial activities.** Desertification, loss of vegetation cover and the decrease in soil moisture retention due to deforestation impacts the rise in temperatures, the increase of forest fires and loss of biodiversity. Deforestation and soil erosion, in turn, are directly associated with

arson fires and changes in land use for agroindustry and extensive livestock farming, with monocultures and transgenic crops highly dependent on agrochemicals. The use of agrochemicals and changes in land use for agriculture cause the loss of shelters, death and migration of animals, as well as the disappearance of pollinators, insects and plant species. Associated with agroindustrial activities, in the Yucatan Peninsula, Mexico, the presence of poultry and pig farms increases, contaminating lands and waters (Climate change, Soil degradation, Loss of biodiversity / Agri-food system).

- **Changes in the agricultural cycle, decreased harvests and uncertainties about the planting season.** Likewise, the participants highlighted that in various territories, prolonged droughts throughout the year and the change in rainfall cycles have caused changes in the agricultural cycle. It was commented that in various communities it is no longer possible to calculate the weather as before, not even with calendars or by observing the stars. Crops are no longer able to germinate because it stops raining, or new shoots die or seeds rot due to torrential rains. This increases the presence of insects that are not beneficial to crops. Likewise, there are crops that can no longer be planted at the same height due to increased temperatures, such as high-altitude coffee. Another cause associated with rainfall changes is anti-hail pumps and agroindustrial geoeengineering technologies. In Nigeria there have been impacts on the harvest and storage of seasonal crops (e.g. banana, cassava, yam) due to the changes in the wet and dry seasons, particularly the delay in the *harmattan*⁷ (Climate Change / Agri-Food System).
- **Loss of traditional crops and seeds due to introduction of Genetically Modified Organisms (GMOs), agroindustrial monocultures, and changes in temperatures.** Loss of traditional crops and seeds due to Genetically Modified Organisms (GMOs) and agroindustrial monocultures, as well as changes in temperatures. Monoculture, transgenic and commercial seeds displace and contaminate native seeds and traditional crops. This displacement is directly associated with the increase in monocultures (e.g. potatoes, soybeans, forages) both for human consumption and to supply extensive livestock, poultry and pig farms. To the extent that these crops are highly dependent on biotechnological and agrochemical packages (seeds, pesticides, herbicides, chemical fertilizers, etc.), they contribute to soil erosion and contamination, and to the loss of plant species and pollinators. Also, changes in rainfall and temperatures make it difficult to sow traditional seeds cultivated for generations and to apply traditional knowledge and methods of food production. Large varieties of seeds that were cultivated for generations have been lost and are now only kept in germplasm banks because it is very difficult to grow them (Loss of biodiversity - Climate change / Agri-food system).

⁷ The *harmattan* is a dry, cold and dusty northeastern trade wind that sweeps across the lower part of West Africa during the first months of the year.

“Livestock farmers started sowing grass seeds and now it is a pest. There is grass everywhere, whether you are a rancher or not, and there is not enough harvest. In my community there were plants that nourished the land and even herbs that we consumed like quelites and purslane. And now, there’s no way we’re eating grass.”

- Enrique Hernández,
Nayari people

- **The introduction of monocultures dependent on biotechnological packages has displaced polycultures and traditional planting practices, as well as IK & LK and worldviews associated with these practices.** This substitution has been promoted both by private agribusiness and by government policies and programs, which has generated dependence on seeds and biotechnological packages in the communities. In various territories, native plants and trees have also been displaced by forest monocultures, which affects the community’s own ecosystem. This is the case of the neem tree, introduced into forests and jungles of different countries (e.g. Mexico and Brazil) for the extraction of its oil and the production of organic insecticides that can also be harmful to bees (Loss of biodiversity / Agri-food system).
- **Dependence and displacement of seeds and food.** The dependence on seeds, products and ultra-processed foods that come from outside the territories is displacing Indigenous and local knowledge related to

Box 4.1. Expansion of monocultures and extensive livestock farming in jungles and mountains of Brazil and Mexico

In Brazil, a focus of alert is cattle raising. Throughout the country, including the Amazon rainforest, fires are set and land use is changed for extensive livestock farming, using large areas of land for grazing and planting monocultures (soy, pastures, cereals, forage) to feed the livestock. Since 2022, there have been more livestock animals than people in Brazil.

In the Mayan jungle, the loss of animals and plants has mainly occurred due to changes in land use for development projects, as well as the increase in temperatures and desertification due to high deforestation associated with the planting of transgenic monocultures. The Mayan jungle, the second largest jungle after the Amazon, begins in southeastern Mexico, in Campeche, and encompasses Belize, Guatemala and part of El Salvador.

In the Sierra of The Nayar, in northern Mexico, tree felling and fires caused by extensive livestock farming are also intensifying. Likewise, soils are worn out by the use of agrochemicals and the extensive planting of monocultures of grasses and forage for livestock, which decreases the growth of other plants that help nourish the land or that are edible for human beings, as in the case of the quelites and the purslanes, which no longer resist agrochemicals or are hoarded by the pastures.

food. Such dependency and displacement of external seeds and foods, also promoted by public policies, became visible with COVID. Awareness in the communities has led them to recover native seeds and traditional planting practices (Agri-food System).

- **Loss of food sovereignty, changes in diet and diseases.** Changes in land use, loss of biodiversity, soil erosion, and lack of water affect food sovereignty and the possibility of sustaining crops. In some communities in Oaxaca, Mexico, corn or other native plants are planted for ritual purposes, but self-sufficiency is no longer at the center. Agroindustrial practices, the displacement of crops, the hoarding and pollution of territories and waters, as well as the displacement of Indigenous Peoples' traditional foods have contributed significantly to the loss of food sovereignty, changes in diets and diseases. In many communities, farming has curbed due to migration, and has even become a privilege. Traditional agriculture and planting practices, food preparation, and traditional medicines are being lost, impacting Indigenous Peoples' ability to feed themselves and thrive as native peoples in their own territories with their own foods (Agri-food System).

- **Deterioration of health due to poor diet.** There has been an increase in diseases, and a decrease in quality and length of life, due to the replacement of healthy and natural foods with ultra-processed, non-nutritious, high in sugars and preservatives foods, many of them with traces of toxic substances used in agroindustry. The change in diet and excess of sugar, also linked to the high consumption of energy drinks and sweeteners, has caused an increase in high percentages of diabetes cases in Indigenous Peoples. The adoption of other eating habits due to the importation of agroindustrial foods has led Indigenous Peoples to ignore their own diet and forget their own medicines (Agri-food System).

- **Loss or displacement of knowledge of medicines and health practices.** The displacement of Indigenous Peoples' own health

"Our kids eat candy, sugar and plastic. It is the excess of sugar and milk that the State gives us. It is known that Indigenous genetics with sugar is equal to diabetes. All these diseases are changes and impacts in our body, but also in our own territories. Also, what contaminates the soil makes us sick, the people and the territory."

- Collective reflection

"The medicine is leaving. The masters, spirits, gods, no longer want to come because we don't listen to them. The grandparents say that the medicine is already leaving. Knowledge is being lost."

- Hernando Chindoy,
Inga people

practices is related to detachment or loss of connection with the elders, as well as the ancestors, with whom they communicated to develop food and natural medicine bonded to the territories and the good of the communities.

- **Pollution and diseases.** Younger generations are more exposed to some diseases due to industrialization, mining and the greater presence of agrochemicals and toxic waste in the territories. The consequences include an increase of cases of cancer, congenital disorders, birth defects, and spontaneous abortions, caused by chemicals used for petrochemical inspection and incinerators, such as benzene, which has been shown to be carcinogenic (Pollution / Energy).

*“What contaminates
the soil makes us
sick again,
to the people
and the territory.”*

- Collective
reflection

- **Change in land use, pollution and increase in diseases due to mining and petrochemical extractivism.** There is a strong presence and threat of extractive mining companies that have imposed themselves in multiple territories above the rights of Indigenous Peoples (e.g. Andes Region in Peru; Sierra del Nayar, in Nayarit, in Mexico; Putumayo in Colombia), as well as excessive extraction of gravel and soil, and petrochemical extraction. Mining and petrochemical extractivism contaminates lands, rivers and aquifers, causing diseases, loss of biodiversity and soil erosion (Pollution / Agri-Food System - Energy - Economy and Finance).
- **Change in land use and land grabbing by companies and governments.** Indigenous Peoples have lost social ownership and management of land due to the hoarding and privatization of companies and government, which is protected by policies and laws that promote the dispossession and privatization of territories for mining, extensive agriculture and livestock, poultry and pig farms, and real estate, as well as various megaprojects (e.g. hydroelectric and wind energy). This includes government development projects such as the Mayan train in the Yucatan Peninsula, or government protection of conservation areas that restrict communities from using and enjoying their ancestral territories (Agri-Food System - Economy and Finance).
- **Lack of respect and insufficient understanding of Indigenous Peoples' rights to land and territory.** The imposition of extractive projects on Indigenous Peoples' territories derives from a lack of respect of their rights and from the insufficient understanding of their connection to land and territory. Governments and companies apply land rights as a title, possession of land, property, or something that can be monopolized and restricted, as when governments claim that the water, soils, forests or protected areas belong to the state and are property of the nation. For Indigenous Peoples, land rights do not imply possession nor extraction, but a relationship and sense of belonging,

coexistence and a permission to live as part of the territory, which encompasses subsoil, land, air, waters and all the beings that coexist in it.

Box 4.2. Governmental natural park restricts the right to the territory of the Majhi people in Nepal

The ancestral territory of the Majhi people, in Nepal, was declared as “Royal Chitwan National Park” for conservation and ecotourism purposes under government protection, restricting their rights to land and territory. The government has restricted the right of the Bankanya, Chepong and Tharu communities to carry out their rituals, their traditions, practice their culture, and has limited the harvesting and use of the forest, as well as fishing in the rivers, which even has affected the fish population. By losing access to the resources on which their daily livelihood activities depend, many members of these communities have migrated and further impoverished. Women have been particularly affected, as they carry out most of the work linked to the land, and have to spend work hours searching for and collecting a few liters of water due to water scarcity and deforestation.

4.2.3. Oceans and coasts

- **Negative impacts on mangroves and marine life due to contamination of underground basins by agrotoxins.** In the Yucatan Peninsula, Mexico, the underground basins are contaminated by the use and filtration of agrochemicals for agroindustrial farming. There are areas where this polluted groundwater flows into the sea, carrying with it all the chemicals and affecting the marine fauna and flora, as well as mangroves that usually prevent damage to communities caused by hurricanes and other hydrometeorological phenomena (Pollution - Loss of Biodiversity / Agri-Food).
- **Ocean pollution and loss of marine life due to overfishing, the use of inadequate fishing nets and lack of regulation.** In the coastal communities of Madagascar, due to the high cost of fishing nets, preventive mosquito nets against malaria are used for fishing, which are distributed free of charge in the

“The groundwater basin in the Yucatan Peninsula is contaminated by agrochemicals used in industrial farming. There are areas where groundwater flows into to sea, and all these dangerous chemicals are destroying the mangroves that cope with hurricanes.”

- Jorge Oziel Pech,
Maya people

communities. The use of these mosquito nets, which contain insecticides, pollutes the oceans and causes the death of marine animals. The lack of regulation for overfishing and industrial fishing also affects marine life and the livelihood activities of fishing communities. This generates conflicts between fishing communities and people who come from outside and promote industrial fishing, tourism and private sectors, worsening internal conflicts in the communities, corruption, lack of law enforcement, envy and leadership issues (Pollution - Loss of Biodiversity / Economy and Finance - Agri-food).

- **Ocean pollution from toxic waste, waste and microplastics.** Marine life is directly affected by ocean pollution, which also threatens the livelihood of fishery communities (Pollution - Loss of Biodiversity / Agri-Food - Waste).

“With deep sea mining and desalination we have already lost almost forty-seven percent of wildlife and ocean life. If we continue with those approaches, we are going to kill the other forty percent.”

- Frankie Orona,
Tongva people

- **Pollution of oceans and effects on marine life due to desalination plants and deep mining.** On the coasts of the Pacific Ocean, in California, United States of America, deep-sea mining for the extraction of lithium, cobalt and magnesium, as well as desalination, are causing pollution of the oceans and impacts on reefs and marine life. The desalination of seawater for human consumption is inadvertently and directly impacting coral reefs, marine life, and ocean microorganisms. For example, for every fifty million gallons per day of usable water, desalination plants return between fifty and sixty million gallons per day of toxic brine and chemicals into oceans, killing marine life and underestimating the long-term impacts. Desalination is another way to commodify water, and determine who has control and access to it, and at what cost. Faced with the water scarcity that communities suffer from extractive industries and the loss of territory, desalination companies use the fear of water scarcity to induce communities to accept the construction of plants that are absorbing and polluting the oceans (Pollution - Loss of Biodiversity / Waste - Economy and Finance).

- **Sea level rise.** In Nigeria, the activities of fishing communities have been affected by rising sea levels, which has greatly limited the predictability of fish movements and accelerated the migration of most marine species that were normally fished by local communities. This has caused economic losses to the livelihoods and dislodged several communities from their ancestral traditional abode. Fishing methods based on traditional knowledge, such as homemade fishing traps, are no longer viable due to the devastating effect of climate change. The rise in sea level has also prevented the holding of social festivals (Climate Change - Loss of Biodiversity).

Finally, it was commented that positive changes are also noted in the local communities, such as the awareness of the importance of nature and the benefits of taking care of resources and managing the territories and what belongs to them, which has had an impact, for example, in the protection of mangroves and respect for official closed seasons in Madagascar (Economy and Finance - Agri-food).

4.2.4. Freshwater

- **Prolonged droughts, torrential rains, floods and changes in rainfall and snow seasons.** Participants from various territories, continents and regions specifically warned about environmental disasters and hydrometeorological phenomena related to the drastic change and increase in temperatures, such as: changes in rainfall and snow cycles, melting glaciers, torrential rains, hurricanes and prolonged droughts. These natural disasters also influence the desertification of soils and lands, and the disappearance of bodies of water, glaciers, wetlands and moors (Climate change).

"The earth has a fever, something hurts."
- Hernando Chindoy, Inga people
- **Tropical diseases.** In the Yucatan Peninsula, Mexico, the increase in hydrometeorological phenomena impacts the augmentation in tropical diseases, such as dengue hemorrhagic fever, increasingly resistant to fumigations of insecticides that are harmful to pollinators such as bees or butterflies (Loss of biodiversity).

"A world where boys and girls can still know fireflies."
- Lucila Cristal Laredo, Afromexican
- **Decrease in volume or disappearance of water bodies due to deforestation and hoarding.** Water loss and scarcity is also related to deforestation, soil desertification and fires. In the mountains of Chihuahua, Mexico, springs are drying up and there is no longer moisture retention due to tree cutting and roots rotting, which has also led to the diversion of the natural course of the basin waters. In the community of Llano Grande, Oaxaca, Mexico, three lagoons dried up due to hoarding; as Lucila Laredo shared "they poured sand and dried the lagoon to build there. Then they made counter-wells and left the communities without water" (Land Degradation / Economy-Finance).
- **Introduction of invasive species into lakes and rivers.** The introduction of invasive species for commercial fish farming affects ecosystem changes and loss of biodiversity (Loss of Biodiversity / Agri-Food).

Box 4.3. Climate changes, melting glaciers, storms and snow loss

Close to the great mountains of the Himalayas, in Nepal, the Sherpa territory is directly affected by the melting of glaciers, impacting the daily livelihood activities of various Indigenous communities.

In Manitoba, Canada, severe snow storms raged in 2019, causing hydropoles from hydroelectric plants to collapse and communities to be evacuated for weeks.

In Rarámuri territory, in the Chihuahua mountains, Mexico, snow cycles have also changed. Snows occur late, even at the end of the Spring, which causes the buds of new plants to freeze when they are born. And, in turn, less snow falls, which is necessary to contain pests such as worms that directly affect crops.

In Nigeria, Africa, knowledge about changes in the environment is generated through the observation of changing weather patterns that have affected the agricultural and fishing activities of communities: changes in planting and harvesting seasons, the size and weight of the harvest, the mating season of some animals, reduction in the effectiveness of local fishing techniques due to the rise in sea level, changes and effects on the flowering of some plants. Furthermore, knowledge about these changes is being generated through the scarcity of some Indigenous medicinal plants and herbs, as well as practical reports from hunters about migrations and the continuous movement of forest animals from their original habitat area. These experiences and observations are often discussed among community members.

- **Pollution and scarcity of freshwater due to exploitation of aquifers by mining, brewing, cement, soft drinks, hydroelectric, and agroindustrial companies with the backing of governments.** Pollution of aquifers and lack of water in communities is related to concessions and permissions for the exploitation of aquifers that governments grant to national and transnational brewing, cement, soft drinks, mining, hydroelectric, and agroindustry companies. All of these companies leave communities without water, and the little that remains is contaminated by toxic waste, pesticides or herbicides, animal waste or methane. The aquifers and bodies of water are also polluted by the filtration of agrochemicals and mining extractivism. In Peru, the Andes region –a territory characterized by an abundance of water and snow harbored in the clouds, glaciers, lagoons, wetlands, moors and grasslands– glaciers and bodies of water are disappearing due to mining, which threatens the lives of animals and compromises the recharge of the aquifers and tributaries that flow into the Amazon (Pollution - Loss of Biodiversity / Waste - Agri-Food - Economy and Finance).

- **Pollution of water and rivers associated with tourist infrastructure and lack of water treatment.** One of the participants said that tourism companies pay and obtain grants to dump their wastewater into the rivers, which flow into the lower parts where the communities are located. “There are tourist projects and hotels that are near the rivers. They choose the most beautiful places, but they choose them to contaminate them” (Pollution / Waste).

Box 4.4. Lack of water treatment and radioactive contamination

Lake Nahuel Huapi, the largest lake in Patagonia, is completely contaminated with human feces due to poor treatment of water from urban centers that flow into the lakes and tributaries of historically sacred and ancestral waters, which also causes new diseases.

In Nigeria, the presence of pathogens has been detected in water bodies due to pollution from industrial waste landfills. This has limited the use of water for human activities. Indigenous peoples can no longer engage in recreational activities such as swimming in these waters.

A particular reference was made to the water contamination caused by a radioactive accident at a nuclear power plant in Cordoba, Argentina in 1983. All the tributaries carried the radioactivity to Lake Embalse, in Cordoba, and to the province of Buenos Aires. There are people dying of diseases throughout the region, especially cancer. The plant keeps contaminating with radiation, but no one says anything.

- **Provoked floods, pollution and diversion of rivers due to the construction of dams for hydroelectric plants or water supply in privileged areas.** Hydroelectric plants are development projects based on the construction of dams to control a river flow and produce energy, and which regularly require several reservoirs that affect the flow of rivers and pollute the water. In several Indigenous Peoples' territories, hydroelectric plants are modifying river beds, which causes the loss or decrease of water, affects natural dynamics and processes, and also has a negative impact on communities that are deprived of access to quality water (Pollution / Energy - Economy and Finance).

Box 4.5. Socio-environmental impacts of hydroelectric plants and diversion of rivers

“You can’t divert a river just like that. They don’t listen to people’s experience and wisdom. When one thinks of provoked floods or diversion of a river, there is a cause behind it: is the idea that people can solve everything with money and have an attitude of playing ‘God.’”

- Felipe Tuxá,
Tuxá people

In the northeastern mountains of Puebla, in Mexico, hydroelectric companies are taking water away from communities. Despite the rules and regulations that compel companies to guarantee a constant flow of water, when there is a shortage and water decreases, companies monopolize and curb the flowing into low areas, worsening the scarcity of water and leading to animals and plants death. Water scarcity is currently experienced to the point that they have to buy water pipes in the communities.

In Manitoba, Canada there are numerous hydroelectric plants for power generation. Cross dams have been built that reverse waterfalls and the natural flow of water, causing a lot of damage, affecting fish, water, and communities.

On the Sun Koshi River, Nepal, on which many communities depend, dams have been built and planned for hydroelectric energy that could potentially affect Indigenous Peoples’ ancestral territories, and lead to the dispossession of their lands and their displacement.

In Winnipeg, Canada, there are floods due to the diversion of rivers into the lower parts of the basin, caused on purpose to decrease water levels at the crest of the river and prevent affections in the recreational or agricultural areas, where people with a lot of money live. Due to the floods, a community was relocated with the intervention of insurance companies, since it was cheaper to redirect the water, displace and relocate the communities, than to affect the life and activities of the areas where the wealthy people live and the productive activities are concentrated. On Manitoba’s largest lake in Canada, Lake Winnipeg, they built a massive highway to connect the mainland with a Provincial Park located on one of the lake’s islands, affecting the southern base of Lake Winnipeg, and attracting entrepreneurs and projects to that area.

In Brazil there was also a case where they changed the course of the river, under the pretext of helping impoverished people in an arid region, when actually benefited farmers and owners of large areas of land. The diversion of rivers, transfers and the alteration of river flows is carried out despite the fact that the advisors and wise people of the communities warn of the consequences.

5. Desired Futures, Pathways and Actions

This section reports on the results of the group work aimed at visualizing the desired futures and the routes of action needed to achieve them. At first, a collective artistic collage of the desired futures was made and concrete actions were outlined. This collaborative, tactile and visual experience allowed the creative expression of the participants, sensitizing their imagination.



Image 5.1. Plenary for presentation of desired futures collages worked in dialogue groups. 2nd IK & LK Dialogue (GEO-7), June 11-13th, 2024, Oaxaca, México. Photo: Facilitation team.

5.1. Desired futures

The following are the common horizons and cross-cutting pathways needed to achieve the desired futures embodied in the collages:

*“I dream of good living,
of Yeknemilis. That we
have rain, sun, water,
forests, rivers, and
sustainable housing.
That we achieve food
sovereignty and self-
sufficiency under
organic production.
That there is community
participation in
cultural issues,
strengthening our
language, traditions
and our autonomy as
Indigenous Peoples.
That we be all
respected in
our ways.”*

- Paulina Garrido,
Masehual people

- **Spiritual reconnection and respect for the values and horizons of good living.** To move towards the desired futures and the care of life, it is necessary to recognize and respect Indigenous People’s spirituality, rooted in and connected to the territories and respect for sacred sites. It is necessary to put life and nature at the center of decisions, and act in harmony with values such as honesty, responsibility, solidarity, reciprocity, mutual help and respect. This respectful reconnection with Nature is based on the principles and values of good living of Indigenous Peoples which are nurtured within autonomies and the care of the territories (e.g. Sumak Kawsay and *Suma Qamaña* of the Quechua and Aymara peoples; *Yeknemillis*, of the Masehual people).⁸
- **Establishment and recognition of the rights of Nature.** Efforts are needed to establish legal frameworks at the international level, and in different countries, to establish the rights of Nature and environment, and hence give a voice to animals, plants, waters, sacred sites and other living beings. To achieve this transition towards socio-environmental justice, the strengthening and transmission of IK & LK is central.
- **Respect, safeguarding and intergenerational transmission of Indigenous Peoples’ knowledge and languages, as well as local knowledge.** It is necessary to guarantee the appropriate use, safeguard and intergenerational transmission of Indigenous Peoples’ knowledge systems and local knowledge, which are interwoven with their traditions, languages, arts, music and songs, traditional medicines, and with their own ways of being in the world in connection with the territories, and with other living

⁸ The terms “good living and living in harmony” have been adopted in the *Convention on Biological Diversity (CBD)-Kunming-Montreal Global Biodiversity Framework* to realize the convention’s vision of living in harmony with nature by 2050. Considerations for the implementation of the Framework take into account different value systems and conceptions of Nature: “Nature represents the different concepts of different people [...] its contributions to people are essential for human existence and quality of life, including human well-being, for living in harmony with nature and for good living and in harmony with Mother Earth. The Framework recognizes and takes into account these diverse value systems and concepts, in particular those of those countries that recognize them, the rights of nature and the rights of Mother Earth” (See *Convention on Biological Diversity (CBD)-Kunming-Montreal Global Biodiversity Framework*).

and non-human beings. To achieve this, it is key to weave fellowship between peoples and communities, as well as to build trust and protocols that respect knowledge, to weave bridges of collaboration and transmission that are safe, as a process of healing, dialogue and restoration that allows the protection of IK & LK, avoid abuse, extraction and inappropriate use of them. From a rights-based approach, this safeguarding and revitalization of IK & LK includes the revitalization of languages from a linguistic justice approach, as well as the respect and strengthening of Indigenous Peoples' forms of education and transmission, languages, knowledge, calendars, and needs.

- **Gender perspective and women's rights.** It is key to respect the rights of women and girls of Indigenous Peoples, and crosscut the gender perspective in productive activities and spaces for participation and decision-making, both in the territories and in the communities, as well as in more broad spaces for policy making. It is necessary to build a gender perspective from a rights approach and also from Indigenous Peoples' worldviews, where men and women complement each other and have the same responsibilities and the same value. On this point, the need to integrate a gender perspective and narrative in accordance with IK & LK, and in an autonomous way that prevents colonial imposition, was highlighted.
- **Care and management of the territories by Indigenous Peoples in their own ways.** To inhabit and live together safely and freely, it is necessary that territories of life are cared for and managed by the Indigenous Peoples and local communities themselves, and from their own forms of organization, knowledge and spirituality. To achieve this, it is necessary to respect Indigenous Peoples' rights to use and enjoy their territories, from a comprehensive vision that encompasses soils, subsoils, waters, air, seeds, biodiversity, as well as the associated knowledge, traditions and practices. This implies strengthening their right to Free, Prior, Informed and culturally appropriate Consent, so that Indigenous Peoples are the ones who decide on the future of their territories
- **Territories free from mining, hydroelectrics and GMOs.** A key action is the statement of mining free territories and free of hydroelectric plants and GMOs to stop the impacts of extractivism, pollution, diseases, dispossession and assert Indigenous Peoples' right to the territory. Likewise, laws and regulatory frameworks are required at national and international levels for the regulation and prohibition of Genetically Modified Organisms (GMOs), agrochemicals, and foods

"We dream of finally declaring ourselves free of mining, not only in my community, but in the entire region and having a closer connection with the mountains and the coast, the coastal zone, the marshes, because we have always said 'what happens above affects below and what happens below affects above.'"

- Enrique Hernández,
Nayari People

with traces of toxic substances, as well as the prohibition of deep sea mining, whose impacts are barely calculable.

- **Strengthening food sovereignty based on the revitalization of traditional agriculture and fishing and the promotion of agroecological practices.** For achieving desired futures it is key to safeguard the biocultural heritage associated with seeds, crops, medicinal plants, practices, and foods associated with traditional Indigenous Peoples' agriculture, grazing, hunting, and fishing. This protection must be carried out from Indigenous Peoples themselves, while regulatory mechanisms and frameworks are required at the international level. Food sovereignty as a life horizon requires the strengthening of agricultural, forestry, grazing, hunting, and fishing activities in communities, the revitalization of traditional practices and the adoption of agroecological practices.
- **Sustainable, social and solidarity economy.** A sustainable, social and solidarity economy model is needed, based on respect and care for life, and not on the exploitation and commodification of natural resources. This is, an economy with a gender perspective and centered in peoples, that allows to create alternative systems rooted in the territories of life, based on life and biodiversity care, and that no longer respond to extractivist economies that take resources to other places, leaving impoverished communities, with less access to credit and financing.
- **Financing and accountability.** Likewise, it is necessary to generate financing and accountability mechanisms where the rules and ways of receiving and managing funds are determined by the Indigenous Peoples themselves, from their autonomy and their own ethics. It is also important to guarantee accountability for the real cost chains of the extractive economy and polluting energies, that is, the direct and indirect, tangible and intangible costs of land degradation, pollution, diseases, and other consequences in the territories.
- **Debate on the energy model and "clean" energies.** It is necessary to open a debate on the energy model and the way in which energy is consumed globally, including "green" energies, and the impacts that wind farms, hydroelectric and thermoelectric plants, solar parks, or lithium extraction have on Indigenous Peoples' territories, in addition to petrochemical and hydrocarbon extraction activities.
- **Ensure respect and strengthening of autonomy and self-determination of Indigenous Peoples.** It is crucial to strengthen and respect Indigenous Peoples' own forms of government and self-determination, the specific ways in which they establish their authorities, representatives and decision-making processes, as well as

their territory management and community care programmes (e.g. territorial defense assemblies, Indigenous demarcations, autonomous declared territories, or local territory management programmes).

- **Creation and strengthening of organizations, networks and alliances between Indigenous Peoples.** It is important to consolidate and strengthen the organizations and articulations between Indigenous Peoples at the national, regional and international level to join efforts and promote dialogue. International solidarity is key to address common problems and strengthen their effective participation and representation in decision-making and policymaking, as well as to scale processes that require mechanisms and regulations in the framework of international organizations.
- **Recognition, respect and compliance with Indigenous Peoples' rights.** As the participants mentioned, in the desired futures, Indigenous Peoples are seen, recognized and respected in their own ways of being. This implies a crosscutting recognition, respect and fulfillment of their rights, as well as the enforcement of the instruments, regulatory frameworks and agreements aimed at protecting Indigenous Peoples and strengthening the bridges of collaboration for the regeneration of their territories and socio-environmental care.



Image 5.2. Collages of desired futures made by the participants of the 2nd IK & LK Dialogue (GEO-7).

5.2. Pathways and actions towards the desired futures

The following are the results of the activity aimed at deepening the actions necessary to realize the desired futures described above.

The actions proposed by the participants during the collage activity were grouped by affinity, and the following general fields of action were created –inductively– for the working groups: 1) Economies and energies; 2) Care for life and territory; 3) Knowledge and education; and, 4) Political organization and rights. For each field of action, a matrix was used to establish the scales of implementation of the particular actions (local, national, international) and to identify the actors involved in carrying them out (communities, governments, civil society and non-governmental organizations, academia, private sector and/or companies, international organizations).

The following sections present the cross-cutting reflections and a table with actions, actors and scales by field of action.



Image 5.3. Pollinating dynamic after dialogue groups on fields of actions. 2nd IK & LK Dialogue (GEO-7), June 11-13th, 2024, Oaxaca, México. Photo: Marjory González Vivanco.

5.2.1. Territory and life care

In the working group on Territory and life care, actions and proposals were addressed in relation to the strengthening of traditional agriculture and agroecological practices for food sovereignty, comprehensive health models, and processes of management and regeneration of territories. These actions are described in a general way below and their scales and actors are shown specifically in **Table 5.2.1.**

- **Strengthening traditional agriculture and agroecology for food sovereignty.** To safeguard food sovereignty and the biocultural heritage of Indigenous Peoples associated with agriculture and fishing, it is necessary to take actions to strengthen and value ancestral food systems, polycultures (e.g. traditional cornfields, *milpa*), traditional planting and fishing practices, native seeds and traditional cuisines. Therefore, it is important to adopt agroecological practices and establish public policies that strengthen traditional practices. It is also necessary to protect seeds, native crops, cuisines through public policies and regulatory frameworks that guarantee respect and return to communities, as well as the prohibition of GMOs and regulation of foods with traces of toxic substances harmful to health. Concrete actions were proposed to protect pollinators as a basis for safeguarding food systems.
- **Broad health models from the vision, medicines and health practices of Indigenous Peoples.** It is necessary to recover Indigenous Peoples' and traditional medicines (e.g. herbal medicine), as well as their own health practices. In addition, it is necessary to establish mixed hospitals and health services where traditional and conventional medicine are practiced. It is also crosscutting to create global regulations and agreements for the recognition of the ancestral health IK & LK.
- **Management and regeneration of Indigenous Peoples' territories.** Various actions were proposed regarding the regeneration of the territory and the establishment of reforestation and ecological management programs, as well as areas locally managed by Indigenous Peoples. It is necessary to engage in reforestation, protection of pollinators, seeds and biodiversity actions, as well as establishing national reforestation programs with native plants. Participants also referred to the establishment of territories free of mining, and regulatory mechanisms at the international level to ban deep sea mining. It is also required to undertake actions and regulatory frameworks for the protection of sacred sites.

Table 5.2.1. Territory and life care. Actions, scales and actors

Scales	Actions	Actors
Strengthening traditional agriculture and agroecology for food sovereignty		
Local	Guarantee Indigenous Peoples' food sovereignty from food production based on traditional agriculture and the adoption of agroecological practices that guarantee the care and protection of the environment	Communities
	Revalue the abundance and richness of ancestral territories and food systems, polycultures (e.g. traditional <i>milpa</i>), planting practices, native seeds and traditional cuisines of the Indigenous Peoples	
	Generate strategies for the safeguarding of native seeds and crops as part of the biocultural heritage (e.g. seed banks)	
Local / National	Generate databases and disseminate information on the levels of toxicity, harm and damage to health and the environment of agrochemicals, and their traceability in food	Communities, Government
National	Establish public programs and policies based on ancestral traditional agricultural knowledge and agroecological practices	Communities, Government
	Guide fishery communities to regulate industrial fishing and overfishing	
	Promote educational programs that strengthen the adaptation and mitigation capacities of Indigenous Peoples and local communities to climate change in agricultural and fisheries issues	Government
	Establish laws and mechanisms to regulate and prohibit the use of agrochemicals, import and sale of foods with traces of toxic and harmful substances to health, in accordance with international conventions	
National / International	Establish laws and regulatory frameworks for the prohibition of GMOs seeds and crops	Government
	Establish protection strategies for pollinators (e.g. bees) which are relevant reforestation and to ensure food systems	Communities, Government
International	Establish global agreements and regulatory frameworks for the rescue and return of seeds that have been extracted from the Indigenous Peoples' territories by companies and global seed banks	Communities, International organisms
	Establish agreements, guarantees and regulatory mechanisms to protect traditional cuisines	

Broad health models from the vision, medicines and health practices of the Indigenous Peoples		
Local	Recover Indigenous Peoples' traditional medicines (e.g. herbal medicine)	Communities
	Guarantee that people who provide health services in the communities, such as doctors, dentists, nutritionists, are from the Indigenous Peoples	Communities, Government
Local / National	Creation of mixed hospitals where traditional and conventional medicine are practiced	Communities, Government
International	Create global regulations and agreements for the recognition of the ancestral Indigenous health knowledge	Communities, International Organisms
Management and regeneration of the Indigenous Peoples' and local communities' territories		
Local	Reduce the logging of native flora and undertake reforestation projects of degraded areas to regenerate and heal forests and ecosystems with native trees and species, based in practices and logics of the Indigenous Peoples	Communities
	Declare Indigenous Peoples' territories free of mining	
	Establish Locally Managed Marine Areas (LMMA), with exchange and training processes for fishers communities	
	Identify sacred places with the support of elders and generate strategies to protect them	
	Recover the architecture of Indigenous Peoples through collective work (e.g. <i>tequio</i>) to have houses in balance with nature	
	Undertake community actions to collect garbage in the territories	
Local / National	Establish ecological territorial management programs based on Indigenous Peoples' own organizational forms and decision-making processes, respecting their traditional systems (e.g. Integral Local Ecological Management Program of Cuetzalan del Progreso, of the Maseual people in Puebla, Mexico)	Communities, Government
	Recover and protect the glaciers, wetlands and Andean moors	
	Promote research about pollution control technologies and the recycling of materials necessary to regulate environmental pollution from industries	Communities, Government, Academy
National	Modify national legislation to establish sacred sites and areas recognized by Indigenous Peoples as priority and untouchable	Communities, Government

National	Establish monitoring and attention programs managed by Indigenous Peoples from their own ways and agendas, specially for critical areas that have been affected by climate crisis	Communities, Government
	Establish government policies and national forest protection and reforestation programs that are managed by communities	
National / International	Generate legal mechanisms against biopiracy	Government, International Organisms
	Real implementation and respect of the Escazú agreement (Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean)	
	Ban deep sea mining	Communities, NGO
	Reorient the indicators that evaluate reforestation processes so that they adapt to the knowledge, practices, processes and spirituality of Indigenous Peoples and local communities	

5.2.2. Sustainable, social and solidarity economy

During the dialogue, actions and proposals were addressed in relation to sustainable, social and solidarity economy models, direct access by Indigenous Peoples to financing. These actions are described in a general way below and their scales and actors are shown specifically in **Table 5.2.2**.

- **Productive projects and own financing systems.** Undertake productive projects and cooperatives, as well as own financial systems (savings banks and credits) that allow the self-financing and sustenance of Indigenous Peoples without depending solely on external funds. At the national level, it is necessary to establish national networks that allow the socialization of economic experiences between Indigenous Peoples, promote non-market forms of exchange (e.g. barter), and establish mechanisms to consolidate regional economies, scale local production and guarantee fair trade.
- **Mechanisms that guarantee direct access to funds for conservation programs and community management of the territory, education, health, and adaptation to socio-environmental impacts.** This involves both the Indigenous Peoples and local communities, their organizations and funding bodies, as well as the government agencies involved, to ensure that the funds reach whoever they should reach in a right and timely manner. One of the challenges mentioned was the difficulty of being

accountable to governments regarding the receipt of these funds, in the required terms and formats; as well as the lack of government funds for productive projects and the lack of knowledge or difficulty in accessing funds.

Table 5.2.2. Sustainable, social and solidarity economy. Actions, scales and actors

Scales	Actions	Actors
Productive projects and own financing systems		
Local	Undertake self-financed community-led projects and strengthen in order of not depending on financing	Communities
	Establish financial savings and credit funds that allow the consolidation of the autonomy and financial sovereignty of Indigenous Peoples. Adequate regulation is required so that these financial systems can be created and strengthened	Communities, Civil Society Organizations, Government
	Undertake cooperatives and community businesses supported and managed by the assemblies and forms of organization of Indigenous Peoples and local communities (e.g. beekeeping projects, community ecotourism enterprises)	Communities
National	Promote an Indigenous Peoples' economy based on barter and non-market forms of exchange	Civil Society Organizations, Communities, Government
	Create economic administration centers for Indigenous Peoples, and national networks and coordinations between them to scale local production and guarantee fair trade (e.g. national coordinations of coffee organizations)	Civil Society Organizations, Communities, International Organisms
Financing and accountability		
Local / National	Promote Indigenous Peoples' self-management of carbon zones. Articulate strategies with the communities that have preserved carbon reserves, make the generation of resources and their fair distribution more efficient	Civil Society Organizations, Communities, Government
	Create transparency and accountability mechanisms for companies and foundations, including participation in intellectual property royalties	Government, Private, Sector, Communities
National	Establish government financing programs appropriate to Indigenous Peoples' worldviews and needs	Communities, Government
National / International	Generate fiscal stimuli for productive projects for territories' and the environment care and regeneration	Communities, Government, NGO

International	Ensure direct access and redirect global funds to effectively reach Indigenous Peoples and local communities	Communities, Civil Society Organizations, NGO, International Organisms
	Increase funding of relevant non-governmental organizations (NGOs) to assist affected Indigenous Peoples and local communities	
	Expand financing for the diversity of ecosystems and territories (not only for jungles)	Communities, Civil Society Organizations, NGO
	Reorient global funds for protection and regeneration so that they actually reach Indigenous Peoples directly, and not through states	Communities, NGO

5.2.3. Energy model change

Throughout the dialogue, the need of questioning the prevailing energy model was emphasized. The actions aimed at this desired future are described below, and their scales and actors are shown specifically in **Table 5.2.3**.

- **Energy sovereignty and living energies.** As concrete actions, the participants referred to the declaration of territories free of hydroelectric plants, and to stop the imposition of false green colonialism solutions ensuring the effective respect of Indigenous Peoples' rights to the territory, self-determination and a culturally adequate FPIC. The need to strengthen own energy sovereignty processes was raised, as well as implementation of government projects and funds allocated for renewable energies and community eco-techniques. It is also important to foster sustainable energy systems and guarantee an efficient distribution of resources, respecting Indigenous Peoples' self-determination and perspectives of territory care.

Table 5.2.3. Energy model change. Actions, scales and actors

Scales	Actions	Actors
Local	Declare territories free of hydroelectric plants	Communities
Local / National	Respect and make effective Indigenous Peoples' rights to Free, Prior and Informed Consent and self-determination, as established in international instruments (ILO 169 / UNDRIP), to stop the imposition of energy projects in their territories	Communities, Government, Private Sector

Local / National	Strengthen energy sovereignty processes in communities and create networks for exchanging experiences between Indigenous Peoples and local communities	Communities
National	Establish government projects to implement eco-techniques in communities such as wood-saving stoves, water heaters and renewable energy sources	Communities, Government
International	Make green energy production systems more efficient through the distribution of resources to generate local community-based economies based in territory care	Communities, Civil Society Organizations, NGO

5.2.4. Knowledge and education

In the Knowledge and Education working group, actions and proposals were addressed in relation to the intergenerational transmission of IK & LK, the revitalization of languages and Indigenous Peoples' own education models. These actions are described in a general way below and their scales and actors are shown specifically in **Table 5.2.4.**

- **Intergenerational transmission and transfer of Indigenous Peoples' knowledge and local knowledge.** Various actions aimed at strengthening the recognition, safeguarding, intergenerational transmission, and safe and respectful transfer of IK & LK were raised. Crosscutting, it is key to strengthen intercommunity and intergenerational knowledge transmission processes, and generate spaces for meeting and dialogue within and between communities, engaging IK & LK holders and elders. Likewise, participants raised the need to establish Indigenous Peoples' own mechanisms and protocols to decide what knowledge to share, and under what rules and principles, and be able to engage in safe dialogues with external people and in broader spaces of collaboration, avoiding extractivism and wrong use of their knowledge. The recognition of the IK & LK beyond the universities, and the need for processes of exchange and dialogue where Indigenous Peoples' knowledge holders are recognized as peers, was also pointed out.

"That knowledge continues to be safeguarded as part of the Indigenous Peoples' identity in medicine, art, language, biodiversity. Gratitude and spirituality are very important to weave fellowship, to give pluriverse and non-homogenizing responses, and to be outward to dialogue, from those other languages that are no longer ours: the languages of water, of the earth; to be able to understand that this earth sustains us all."

- Hernando Chindoy,
Inga people

- **Revitalization of languages, education and research.** As part of IK & LK systems, it is key to revitalize languages, cultures and traditions through processes of intergenerational transmission and teaching. It is necessary to establish own models of community education, whose contents and forms of implementation are decided by Indigenous Peoples themselves, putting the IK & LK at the center, and strengthening the teaching of their own languages, cultures and traditions as dance, music, and textiles. Likewise, it is necessary to implement government educational programs at all educational levels, based on the communities needs, and ensuring the respect and integration of Indigenous Peoples' knowledge, spirituality and identity. It is also necessary to create and strengthen Indigenous universities, and to finance students and researchers from Indigenous Peoples. Crosscutting, it is key to create, strengthen and generate mechanisms for the fulfillment of rights aimed at protecting Indigenous Peoples' languages and education systems.

Table 5.2.4. Knowledge and education. Actions, scales and actors

Scales	Actions	Actors
Intergenerational transmission and transfer of IK & LK		
Local	Strengthen the roots and self-recognition of the IK & LK in the communities	Communities
	Strengthen the intergenerational transfer of Indigenous Peoples' knowledge, worldviews and languages in the family nucleus	
	Hold meetings and dialogue spaces with elders and guardians of IK & LK to share and transfer knowledge intergenerationally and between communities	
	Establish protocols that guarantee the secure transfer of IK & LK and rebuild the trust necessary for that transfer	
	Strengthen and recover the worldviews of Afro-descendant peoples	
National	Incorporate IK & LK in public policy formulation, as well as in scientific research, to obtain beneficial results for the communities and the environment	Communities, Governments, Academy
National / International	Respect the right to FPIC in relation to the transfer, dissemination and use of IK & LK	Communities, Governments, International Organisms, Academy

National / International	Agree on mechanisms and protocols where the steps, rules and basic principles of trust are established for the transfer of IK & LK, as well as for the establishment of dialogues with people outside the communities, in order to avoid inappropriate use and abuse (e.g. the Coalition of Ontario Against Poverty, OCAP, in Canada, which sets out the terms of ownership, control, access, and possession of First Nations Indigenous Peoples' knowledge). ⁹	Communities, Governments, International Organisms, Academy
Revitalization of Indigenous Peoples' languages, education and research		
Local	Revitalize Indigenous Peoples' languages and strengthen their writing systems	Communities
	Strengthen the cultures and traditions of Indigenous Peoples and local communities from dance, language, music, and textiles	
	Implement models where teaching is done by elders (e.g. Canada, New Zealand)	
	Establish own models of community education, where the communities decide the contents and forms of implementation, and the IK & LK are placed at the center.	
National	Establish Indigenous Peoples' languages as official in government education systems	Government
	Promote educational models at all educational levels, based on the communities needs, ensuring the respect and integration of Indigenous Peoples' knowledge, spirituality and identity	Communities, Government
	Create Indigenous Peoples' universities whose teaching, learning and transmission processes are based on their own ways and knowledge	
	Create, strengthen and generate mechanisms for the fulfillment of rights aimed at protecting Indigenous Peoples language and education	
National / International	Spread and raise awareness about the importance of the International Decade of Indigenous Languages (2022-2032)	Communities, Government, Civil Society Organizations, NGO

⁹ “The First Nations principles of ownership, control, access, and possession –more commonly known as OCAP®– establish how First Nations’ data and information will be collected, protected, used, or shared. Standing for ownership, control, access and possession, OCAP® is a tool to support strong information governance on the path to First Nations data sovereignty. Given the diversity within and across Nations, the principles will be expressed and asserted in line with a Nation’s respective world view, traditional knowledge, and protocols” (See Official website of [The First Nations Principles of OCAP®](#)).

National/ International	Guarantee sufficient funding for Indigenous Peoples' and local communities' researchers on socio-environmental issues	Civil Society Organizations, ONG, Academy, Private Sector
	Create scholarships for Indigenous Peoples in academic communities, and incorporate them not only in training spaces regarding the dominant scientific knowledge, but also generate exchange spaces and bridges of understanding and collaboration where IK & LK can be valued and shared in equity	Civil Society Organizations, ONG, Academy, Private Sector

5.2.5. Political organization and rights of Indigenous Peoples

In the Political Organization working group, proposals and actions mentioned by the participants aimed at fulfilling Indigenous Peoples' rights, effective representation and participation in decision-making, and strengthening the own forms of organization, alliances and networks. These actions are described in a general way below and their scales and actors are shown specifically in **Table 5.2.5**.

"We are fighting for the same cause: the recognition of rights by Indigenous Peoples and local communities themselves. For education in rights, organizations and alliances; for the exchange of experiences and international solidarity with the struggles of Indigenous Peoples and local communities for their rights and territories."

-Vital Bambanze,
Batwa people

- **Strengthening Indigenous Peoples' own forms of organization, alliances, and networks.** It is necessary to strengthen Indigenous Peoples' own forms of organization for decision-making, collective work and community security, as well as respecting their authorities and representatives as something fundamental to guarantee their right to self-determination and autonomy. Likewise, the creation of strategic alliances and networks is necessary to enforce rights and ensure international solidarity. Strengthening the organization and articulation at the local, national, and international level is key for avoiding the usurpation and impersonation of the authorities and representatives of Indigenous Peoples. It is important to promote women's networks and organizations to strengthen their economic empowerment and participation, as the National Indigenous Women Forum (NIWF) in Nepal. (See Indigenous Peoples' Organizations in **Box 5.1**).
- **Respect for Indigenous Peoples' rights, participation and effective representation in decision-making spaces and public policy formulation.** It is crucial to respect for the inherent and collective Indigenous Peoples' rights inscribed in international instruments, such as ILO Convention 169 and UNDRIP, as well as the reinforcement of rights' advocacy spaces

and mechanisms (**Box 5.2**). It is important that Indigenous Peoples know their rights and that education and rights advocacy processes are promoted, also aimed at parties involved in making decisions that affect their territories, such as government actors, managers, members of academia and organizations. Likewise, it is necessary for these rights and treaties to be recognized and signed by the different countries, as well as to establish regulatory frameworks and binding instruments for their compliance and demand at the national level. The establishment of own consultation protocols was highlighted as an action that ensures a fulfillment of the Indigenous Peoples' right to self-determination and culturally appropriate FPIC. Specific actions were also proposed regarding strengthening the effective participation and representation of Indigenous Peoples in decision-making spaces at the national and international level.

Table 5.2.5. Political organization and rights of Indigenous Peoples. Actions, scales and actors

Scales	Actions	Actors
Strengthening Indigenous Peoples' own forms of organization, alliances, and networks		
Local	Strengthen and recover Indigenous Peoples' own forms of organization for decision-making (e.g. assemblies, councils, position systems), collective work (e.g. <i>tequio</i>), security and protection of the territories (e.g. councils surveillance, <i>wuasikamas</i> – guardians of the Earth, caretakers of the territory –, guardians of nature, community police, peasant patrols)	Communities
	Strengthen and respect the systems of community positions, councils, assemblies and Indigenous Peoples' own forms of government and representation	
	Stop the impersonation, usurpation and imposition of authorities and representatives of Indigenous Peoples through the strengthening of the community fabric	
	Strengthen the councils of elders and forms of organization of the people who have safeguarded the IK & LK	
	Create organizations and collectives of Indigenous Peoples and local communities	
	Establish autonomous consultation protocols based on Indigenous Peoples' own forms, languages, knowledge and needs	
	Promote the organization of women, their economic empowerment, participation in decision-making, and their equitable work in the communities	
Local / National	Promote and strengthen the processes of territorial demarcation, sovereignty and autonomy of Indigenous Peoples	

Local / National	Carry out diagnoses to identify community needs	Communities
National / International	Promote the creation and strengthening of national and regional Indigenous Peoples' and local communities' organizations	
	Create alliances and strategic networks at the national, regional and international level for linkage and dialogue	
	Create and strengthen networks of indigenous women	
Respect for the rights of Indigenous Peoples, participation and effective representation in decision-making spaces and public policy formulation		
Local / National	Respect Indigenous Peoples' right to self-assignment and their respective self-identification processes	Communities, Government
	Guarantee mechanisms to ensure and respect Indigenous Peoples' right to self-determination and autonomy	
	Establish bilateral consultation tables between States and Indigenous Peoples and local communities (e.g. International Center for Integrated Mountain Development, ICIMOD)	
National	Recognize the existence and rights of Indigenous Peoples and local communities in countries where they are not recognized	Government
	Establish mechanisms and public policies from an intersectional perspective, focused on Indigenous Peoples' and women's rights	
	Ensure compliance by governments with General Recommendation No. 39 (2022) on the rights of Indigenous women and girls	
	Guarantee the meaningful participation and representation of Indigenous Peoples and local communities, as well as Afro-descendant communities, in decision-making, formulation and implementation of public policies	
	Guarantee and strengthen the effective representation and participation of Indigenous Peoples and local communities in government bodies, both in representative positions and in public positions	
National / International	Ratify international conventions, and enforce consequences to governments that do not ratify them	Communities, Government, International Organisms

National / International	Establish binding laws and effective actions for the respect and exercise of Indigenous Peoples' rights	Communities, Government, International Organisms
	Ensure compliance with the horizons established in the Rio Declaration (Earth Summit), in which stakeholders agreed to reforest and recover wildlife and mitigate the impact of climate change	
International	Implement participation and collaboration mechanisms in UN actions that ensure respect for the rights of Indigenous Peoples	Communities, International Organisms
	Strengthen the representation and effective participation of Indigenous Peoples and local communities in decision-making spaces through organization and networking	
	Implement mechanisms from the UN for the demilitarization and disarmament of Indigenous Peoples' territories, and strengthen the work of the special commissioners of rights in relation to attacks on Indigenous environmental defenders	
	Avoid the usurpation and impersonation of representatives of the Indigenous Peoples in international spaces	

Box 5.1. National and regional Indigenous Peoples' Organizations

Participants highlighted the importance of creating alliances and networks between Indigenous Peoples at the national and regional level, as well as strengthening existing ones. Below are some of these organizations:

NATIONAL

- **Brazil:** the Articulation of the Indigenous Peoples of Brazil (APIB), which brings together the Coordination of Indigenous Organizations of the Brazilian Amazon (COIAB); the Articulation of the Indigenous Peoples of the Northeast, Minas Gerais and Espírito Santo (APOINME); the Great Assembly of the Guaraní People (ATY GUASU); the Guaraní Yvyrupa Commission (CGY); the Terena Town Council; and the Articulations of Indigenous Peoples of the Southeast (ARPIN SUDESTE) and the Southern Region (ARPIN SUL)
- **Ecuador:** the Confederation of Indigenous Nationalities of Ecuador (CONAIE) and the Confederation of the Peoples of the Kichwa Nationality of Ecuador (ECUARUNARI)
- **Peru:** the Andean Indigenous Council of Peru (CIAP), the Interethnic Association for the Development of the Peruvian Jungle (AIDESEP), the National Organization of Andean and Amazonian Indigenous Women of Peru (ONAMIAP), the National Agrarian Confederation (CNA) and the Confederation Peasant Woman of Peru (CCP)
- **Bolivia:** National Council of Ayllus and Markas of Qullasuyu (CONAMAQ)
- **Colombia:** National Indigenous Peoples Organization of Colombia (ONIC), Indigenous Organization of Antioquia (OIA), Organization of Indigenous Peoples of the Colombian Amazon (OPIAC), Traditional Indigenous Authorities of Colombia (Mayor Government), Indigenous Territorial Entity of the Inga People of Colombia Atun Wasi Iuiai (AWAI)
- **Burundi:** Unissons-nous pour la Promotion des Batwa (UNIPROBA)

REGIONAL

- The Andean Coordinator of Indigenous Organizations (CAOI) and the Coordinating Body of Indigenous Organizations of the Amazon Basin (COICA)
- The Indigenous Peoples of Africa Coordinating Committee (IPACC) and the Network of Indigenous and Local Populations for the Sustainable Management of Forest Ecosystems in Central Africa (REPALEAC)

Box 5.2. International and regional mechanisms and spaces for Indigenous Peoples' and local communities' rights

Throughout the Dialogue, the participants made reference to various instruments, mechanisms and spaces that establish and promote the rights of Indigenous Peoples and local communities. Below are the most notable ones:

INTERNATIONAL

- The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP)
- International Labor Organization Convention No. 169 on Indigenous and Tribal Peoples in Independent Countries (ILO 169)
- The Convention on Biological Diversity (CBD)
- The UN Permanent Forum on Indigenous Issues (UNPFII)
- The Expert Mechanism on the Rights of Indigenous Peoples (EMRIP), subsidiary body of the UN Human Rights Council
- UN procedures such as the work of special rapporteurs on human rights
- The United Nations Framework Convention on Climate Change (UNFCCC)
- The International Convention to Combat Desertification in Countries Affected by Severe Drought or Desertification (UNCCD)
- The United Nations Environment Program (UNEP)

REGIONAL

- Central African Forest Commission (COMIFAC)
- African Court of Human and Persons Rights (AFCHPR)
- American Convention on Human Rights (ACHR)
- Inter-American Court of Human Rights (IACHR)
- Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean (Escazú Agreement).

6. Recommendations from the Caucus Session

The Caucus session held on the 3rd day of the Dialogue represented a key space that allowed participants to reflect on important aspects to take care of and take into account during the process of strengthening IK & LK within the GEO-7 and their participation in it. There were outlined necessary aspects for drafting the report, strengthening the participation of Indigenous Peoples and safeguarding IK & LK in the process, in accordance with their rights and respect for a culturally appropriate FPIC.

Following are the messages derived from the Caucus session, which were presented by the participants to the organizing and facilitating team in the final plenary.

- **Representativeness and diversity of participants in the Dialogues.** It is important to ensure representativeness and transparency of the rules for selecting participants' selection rules, in order to ensure the representation of Indigenous Peoples from all regions in the Dialogues and to broaden the diversity of perspectives. It was suggested to explore forms of participation that complement attendance at the in-person Dialogues (e.g. supporting the selection of participants and the design of the Dialogues, and holding virtual sessions prior to and/or during the following Dialogues).
- **Integration and authorship of the report of the Second Dialogue on IK & LK (GEO-7).** The report of the Second Dialogue on IK & LK must be a document that adheres to the ideas and feelings shared by the participants, where their contributions are faithfully recovered and the information is not diluted. A prior review of the document was requested and agreed upon, with sufficient time for its reading and analysis. Likewise, the importance of respecting the authorship of the people participating in it was emphasized. It was suggested to complement the FPIC with a document where the IK & LK holders establish their own terms of use and management of the information.

- **Manifesto of participants.** The participants agreed to draft a manifesto to set out their positions, reflections and observations on the Dialogue and the GEO-7 process. This manifesto is presented at the beginning of this report.
- **About the GEO-7, its members, perspectives, and approaches.** There is a need for greater transparency and better explanation of what the GEO-7 process is and entails, and of the IK & LK Dialogues within it. It is also important to reinforce the participation and presentation of the GEO-7 team, and clarify the terms of participation of those who connect virtually to listen to and attend the plenary sessions of the in-person dialogues.
- **Articulation with other international organisms, spaces, and mechanisms that build bridges with IK & LK engaging Indigenous Peoples participation.** It is important that UNEP joins efforts to establish and strengthen coordination with other organizations (e.g. IPBES, IPCC) that work on environmental issues with Indigenous Peoples, as well as local communities, and promote the exchange of learnings to improve these processes.
- **Importance of the Caucus and other spaces to get to know each other and dialogue.** Caucus sessions within these processes are crucial, and it would be desirable to hold more than one Caucus session in the course of the Dialogues. It was suggested to hold virtual Caucus meetings prior to following Dialogues.

The caucus session consisted of a key space to share and express the concerns of the participants, and to establish proposals to improve GEO-7 process in its desire to build bridges with Indigenous Peoples and strengthen the presence of IK & LK in socio-environmental assessment at a global level.



Image 6.1. Final plenary after Caucus session, during the 2nd IK & LK Dialogue (GEO-7), Oaxaca, Mexico. Photo: Marjory González Vivanco.

7. Participants' Evaluations and Reflections

During the dialogue, moments to receive feedback from participants and to establish agreements to improve the holding of activities and the follow-up of the process of the IK & LK Dialogues within the framework of GEO-7 were held.

An evaluation was carried out at the end of the first day of dialogue to recognize the positive aspects and the areas for improvement to achieve the activities. Also, at the final plenary of the Dialogue, participants shared their general observations on the holding of the Dialogue, some derived from the Caucus session.

Below are the key messages from these moments of feedback, which are fundamental to build diverse, safe, and careful spaces for dialogue and exchange:

- **Recognition of diversity and commonality.** The 2nd Dialogue on IK & LK within the framework of GEO-7 allowed participants to recognize the diversity of territories and Indigenous Peoples, as well as the common problems and concerns. It also contributed to build bridges between people from different organizations and collective processes, recognize the vitality and strength of Indigenous Peoples in different territories and regions, as well as recognize the diversity of conceptions of Nature.
- **Work dynamics.** The work dynamics in groups and plenary sessions were positively evaluated, as well as the initial presentation of the axes and topics to be addressed. The work in small groups favored the exchange and interaction between participants, and allowed a deeper reflection. The plenary sessions, in turn, contributed to share the diversity of views and to establish general messages.
- **Exchange between participants.** The rotation of the working groups through the various dynamics and work axes strengthened the exchange from the diversity of participants. It was suggested to promote free spaces for exchange, such as the collective sharing of meals, recreational dynamics and spaces to get to know each other and talk.

- **Taking care of time and the agenda.** It is important to improve the management of individual participation times and having more time to listen to everyone. The times for reflections were very short and fast, so it was suggested to take into account the own rhythms and ways of Indigenous Peoples to dialogue and share the word, the food, and also the ceremonial spaces.
- **Translation and dialogue between languages.** The work of the translation team between Spanish and English speakers was acknowledged and appreciated, while general aspects were raised to improve the work and dynamics of translation. The need for translators, as well as organizers and facilitators, to know the terminology of Human Rights, and Indigenous Peoples' rights in particular, as well as the defense of the territory, was highlighted.
- **Support.** It is important to improve the support of participants in matters of accommodation, travel routes, itineraries, and food management, as well as to provide more information on medical insurance, hospital care, and access to medications. It was suggested to have a contact for emergencies and close support from the organizing team.
- **Travel expenses and financing.** It is necessary to communicate more clearly and in different languages the ways in which travel expenses are provided and the available budget for each participant (Daily Subsistence Allowance-DSA). A more equitable allocation of travel expenses can be made taking into account the differences in distances and organizational conditions of each participant. Likewise, if invitations are issued in advance, participants can seek complementary financing.
- **Venue for Dialogues.** For subsequent Dialogues, it would be optimal to carry out the activities, lodging, and food sharing in the same place to facilitate logistical aspects and build community. It is recommended that the Dialogues are held in the Indigenous Peoples' territories to reinforce trust, and connect with the energy and experience of the communities, as well as visiting sacred sites. It is also important that a local organization participates directly in the organization of the dialogues.



Image 1.1. Visit to Karen Indigenous women, Huay Ee Khang village, Thailand, 3rd IK & LK Dialogue (GEO-7), January 2025.



PART III.

Third Indigenous Knowledge and Local Knowledge Dialogue

Global Environment Outlook (GEO-7)

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Image 1.2. Participants and organizers of the 3rd Indigenous Knowledge and Local Knowledge Dialogue, Global Environment Outlook (GEO-7), 12th to 15th of January, 2025, Chiang Mai, Thailand

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Table 2.1. Participants of the Third Indigenous Knowledge and Local Knowledge Dialogue (GEO-7)

Statement of Indigenous Peoples (2025)

Preamble

From January 12th-15th, 2025, a group of Indigenous Peoples and Indigenous Peoples Organization representatives gathered in Chiang Mai, Thailand to review, provide feedback, critique, and suggest amendments to the United Nations Environment Programme (UNEP)'s seventh edition of Global Environmental Outlook (GEO-7) report. This caucus was hosted by Asian Indigenous Peoples Pact (AIPP) and organized by a UNEP team.

Inspired by a powerful day trip to *Huay Ee Khang* village to learn about their *Karen* women's forest stewardship project, we worked together to review and provide input to the first GEO report. Here, we considered Indigenous Peoples' Knowledge, and Local Knowledge in environmental care, which sought to undertake inputs from the 1st and 2nd Workshops of the *Indigenous Knowledge and Local Knowledge Dialogue*. We hereby affirm our international legal rights established in the *United Nations Declaration of the Rights of Indigenous Peoples* (UNDRIP) (2007), and the International Labour Organisation (ILO) *Convention 169*. We acknowledge the momentum for various Indigenous Peoples' calls to justice in statements like the *Uluru Statement from the Heart* (2017), the statement from the United Nations Environment Programme (UNEP) 2nd Dialogue (*Carta Manifesto*) (2024), the *E-Sak Ka Ou Declaration* (2023), and others. Therefore, we make this *Statement of Indigenous Peoples* (2025).

As humanity confronts the climate emergency, the decolonisation of all philosophies, sciences, and laws through deep listening and dialogue shapes our international agenda. Grateful for the opportunity provided by UNEP and mindful of the need to increase these kinds of efforts –and improve upon them—we issue the following statement. We are Indigenous Peoples, we are closely linked to our lands, waters and territories. We represent valuable, ancient and continuing knowledge of various natural and genetic resources. Through our tangible and intangible biocultural heritage, our societies have developed and founded our knowledge, skills, attitudes, lifestyles, cultures, values and identities through respect, and we affirm the following articles as universal:

Article 1

We honour and acknowledge the Eldership, wisdom, and continuity of our ancestors through the stewardship of our traditional knowledge-holders. We live our Indigenous land-based sovereignties daily, and demand the right to self-determination and Free, Prior and Informed Consent (FPIC) in all decisions that affect our peoples, across our sovereign territories. As we cooperate to address environmental crises, we uphold the right to intellectual property as Indigenous Peoples and knowledge holders. Further, we have a right to *own* our data through the scientific methodology of *data sovereignty*. We emphasise that our knowledge, sciences, and technologies are the fruit of our holistic relationship with our lands, territories and natural resources, and that they only have meaning when understood in this way, not used outside their context through the will of those who seek to exploit them.

Article 2

As we assert Indigenous Peoples self-determination and self-governance, we affirm and adopt a decolonised dialogue, which determines our individual and collective values as Indigenous Peoples among other cultures, languages, and creeds. We refuse any kind of forced assimilation approach of the supremacist, though it has stridently prevailed over the last four centuries. We require the right to reach our own solutions and decisions, through established consultation and FPIC while respecting the principles of recognition, enhancement and protection. No dialogue with Indigenous Peoples can take place without a process fostering recognition of the crimes of which they were all victims. We call for reparations, for the spiritual and temporal harms suffered by Indigenous Peoples worldwide. We seek effective and not performative reconciliation to break with intergenerational trauma and build a better tomorrow for all. With trust and accountability established, it is possible to share reflection, and honesty between Indigenous and non-Indigenous Peoples.

Article 3

Respecting the diversity and richness of traditions, beliefs and concepts of life, we respect a diversity of Indigenous Peoples' languages, values, traditions and worldviews. We cannot tolerate a one-sided vision of the world based on discrimination, dispossession, impoverishment and a mercantile approach, which has been destructive and harmful to life, humans and the Earth. Any solutions to the current climate crisis and the global ecological disaster can only be found through the recognition, respect and maintenance of Indigenous Peoples on their lands and territories. We are its first responders, guardians and protectors; we are its keepers, as it keeps us. We respect a diversity of Indigenous languages, values, traditions, and worldviews. Though we share experiences and legacies of colonial wrongdoing, it is in our shared affinities to *Lands, Peoples, and Cultures*, to which we are united. Though we seek partnerships of truth and justice, we are reminded—daily—of the historic and current injustices against Indigenous Peoples of the world, including the

disruption and dispossession of our peoples from their lands and cultures. Acts of genocide, slavery, and socio-economic unfairness continue to be committed against various Indigenous Peoples globally.

Article 4

The supreme right of self-determination (art. 3 UNDRIP) is not only a right of self-identification, but a right of self-management and self-governance by Institutes specific to Indigenous Peoples. Indigenous Peoples and their Institutes must be given a voice in all decision-making. Defenders of the principle of self-determination and the Rights of Indigenous Peoples must no longer be subject to incrimination, imprisonment, demonisation, and other such abuses, simply because they are the voice of their Peoples and communities. Our land defenders often work without acknowledgement or support, and our Lands, Peoples, and Cultures are critically at risk because of the legacy of colonialism and its successive powers. We maintain the right to reject propositions that do not come from our traditional knowledge-holders, and demand consultation and formalised consent for any equal partnerships. No decisions should be made *for us, without us*. We therefore assert the right to set our own agendas, negotiate our own positions, and lead our own research, writing, and analyses.

Article 5

As a major player in the preservation, development, and transmission of ancestral knowledge, the rights of women and girls are essential for Indigenous Peoples in accordance *with GR 39 of the Convention on the Elimination of All Forms of Discrimination against Women* (1979). Desecrated, raped, mutilated and sterilised during dark periods; as were their lands and territories; today's women are yesterday's girls, and today's girls will be tomorrow's women. Intergenerational trauma must not be allowed to continue.

Article 6

The facilitation of Indigenous Peoples' participation and leadership in transformation towards sustainability means fostering just and equitable relations between Indigenous knowledge holders, governments, scientific institutions, and other organisations. These relationships must comply with the debates taking place at the highest level of the United Nations, to ensure the participation of Indigenous Peoples in decision-making on all issues affecting them, starting with the *Human Rights Council*. We acknowledge and appreciate that UNEP has worked well to organise different dialogues to integrate Indigenous Peoples voices and knowledge systems within the GEO 7 report.

Article 7

We invite UNEP to integrate a participatory, inclusive, and continuous approach, including the involvement of Indigenous Peoples in the elaboration of future GEO reports—*before, during and after*—to ensure an implementation of the objectives that reflect the visions of Indigenous Peoples’ participants. Based on our diverse cultural principles, such as *Two-Eyed Seeing*, *Makarrata*, *Aloha ‘Āina*, and others, we encourage future GEO reports and similar processes to adopt an equitable approach to Indigenous Peoples’ participation and inclusion, which should be discussed with and agreed upon by the appropriate Indigenous organs, prior to implementation.

Article 8

Our rights are further recognised by UNDRIP, the UN Permanent Forum on Indigenous Issues’ *six areas of action; economic and social development, culture, environment, education, health and human rights*; and the *Indigenous and Tribal Peoples Convention, 1989* (No. 169). These rights must be recognised, respected, implemented and protected to ensure fair and sustainable justice transition. Such a forum on justice details our socio-economic aspirations toward independent political economies within our national communities. As Indigenous Peoples, any engagement with us must depend on the recognition of our industrial rights, and we are entitled to all rights established within this convention.

Article 9

We affirm and receive the decision adopted by the Conference of the Parties to the Convention on Biological Diversity known as the *Kunming-Montreal Global Biodiversity Framework* (2022). Its recognition of the central role of Indigenous knowledge for sustainability must be respected and implemented by the United Nations Member States.

From many Indigenous Territories of Life,

Co-Chairs

Jesse J. Fleay & Amina Amharech

With Delegates of the UN 3rd IK & LK Dialogue for the GEO-7

1. Introduction

The following document summarizes the key messages of the Third Dialogue on Indigenous Knowledge and Local Knowledge (IK & LK), conducted as part of the Seventh Global Environment Outlook Assessment (GEO-7). This Dialogue was composed of two virtual meetings (the first one in November 2024 and the second in December 2024) and an in-person gathering in the city of Chiang Mai, Thailand, from January 12th to 15th, 2025. The Dialogue brought together 22 participants from diverse Indigenous Peoples of the sociocultural regions of Africa, the Arctic, Asia, Central and South America, North America and the Pacific. The in-person Dialogue was co-organized with the support of local members of the Asia Indigenous Peoples Pact (AIPP).

This 3rd Dialogue had as its main purpose to gather Indigenous knowledge holders from diverse regions to review and provide feedback on the GEO-7 Second Order Draft (SOD), and the First Order Draft of the Summary for Policymakers (SPM). This, in order to strengthen the perspectives of IK & LK in the GEO-7 process, in addition to promoting spaces for participation, exchange and recognition of Indigenous Peoples' rights in the search for global solutions to address the planetary crisis.

This document begins with the Statement co-created by the participants. The subsequent sections recover the key messages derived from the conversations held among participants during the 3rd IK & LK Dialogue.

To guarantee transparency and accountability, the document includes references and annexes with complementary information such as the **Agenda**, and the Free, Prior and Informed Consent (FPIC) document (**Annex 1**). This document was reviewed by participants and the IK & LK Taskforce members before its publication.

2. Objectives and Methodology

2.1. Objectives

The 3rd IK & LK Dialogue focused on strengthening the perspective and recognition of IK & LK in the GEO-7 Second Order Draft (SOD), the IK & LK Chapeaux, and the First Order Draft of the Summary for Policymakers (SPM).

1st Virtual Meeting, November 4th, 2024

Present key information about the GEO-7, the Dialogue process and the review process.

2nd Virtual Meeting, December 4th, 2024

Address doubts concerning individual review processes, and conduct an initial collective exercise to provide comments on the SPM and the IK & LK Chapeaux of the GEO-7 Report.

In-person Dialogue in Chiang Mai, Thailand, January 12th to 15th, 2025

Discuss the comments and recommendations on the IK & LK Chapeaux, chapters' executive summaries and the SPM of the GEO-7 report.

2.2. Participants

The in-person Dialogue held in Chiang Mai included the participation of 22 people –9 women and 13 men– from different Indigenous Peoples' sociocultural regions.¹ From Africa, there were members of the Amazigh people from Morocco, and the Edo/Bini people from

¹ The seven sociocultural regions of Indigenous Peoples are: i) Africa; ii) the Arctic; iii) Asia; iv) Central and South America and the Caribbean; v) Eastern Europe, the Russian Federation, Central Asia and Transcaucasia; vi) North America; and vii) the Pacific. See more on IP's sociocultural regions on footnote 3, Part I.

Edo State in Nigeria. From the Arctic, there was a member of the Sámi people from Northern Norway. The representation of Indigenous Peoples from Asia and the Pacific regions was broad due to the geographical location of the 3rd Dialogue's venue. From the Pacific region, the Dialogue included participants from Honolulu, Hawai'i; of IWI Affiliation-Māori tribes from New Zealand; of the Trawlwulwuy people, from Tebrakunna country, Tasmania; as well as members of the Nadju people and the Noongar people, both from Western Australia. From Asia, there were participants of the Tharu and Sherpa peoples from Nepal; the Kankanaey and Igorot peoples from the Philippines; the Karen and Hmong peoples from Thailand; and the Dusun Tatana people from Sabah, Malaysia. From the Central and South America region there was participation of the Inga people, from Colombia, and the Ēyuujk people of Tamazulapam del Espíritu Santo (Tu'uknēm) in Oaxaca, Mexico. From North America there were participants of the Anishinaabe people from the Lake Saint Martin First Nation, in Canada, and the Tongva/Borrado/Chumash peoples, from the United States of America.

The participants came from diverse fields of specialization including: advocacy on Indigenous Peoples' rights, cultures and languages; networking among organizations; consultancy in environmental justice, management, and governance; cultural and artistic revitalization. Their expertise also spans to university teaching, and research in Indigenous Peoples' knowledge systems, science, agri-food, and water systems ([Table 2.1](#)).

Some participants who had previously participated in the First and/or Second Dialogue were invited to the Third Dialogue to ensure continuity in the process and contribute to follow up on the discussions and agreements established throughout the Dialogues.



Image 2.1. Participants and organizers of the 3rd IK & LK Dialogue (GEO-7), 12th to 15th of January, 2025, Chiang Mai, Thailand

Table 2.1. Participants of the Third Indigenous Knowledge and Local Knowledge Dialogue (GEO-7)

Sociocultural region	Name	Indigenous People or local community, land, country	Short biography
Africa	Professor Amina Amharech*	Amazigh, Morocco	Activist, teacher, artist, and poet. Advocates for Amazigh and IP's rights, focusing on land, territory and natural resources, cultural, identity, health and languages. President of the Acal El Hajej association, founding member of the Réseau Autochtone Amazigh AZUL. Member of the International Land Coalition Global Council, the Indigenous Determinants of Health Alliance (IDHA) and the Feminist Land Platform.
	Mr. Philemon O. Ogieriakhi*	Bini/Edo, Edo State, Nigeria	Farmer and researcher. Works on agricultural development, IK and advocacy. Environment Program Officer at West Africa Coalition for Indigenous Peoples' Rights (WACIPR), and Secretary of Board of the Foundation for the Comfort of Senior Citizens in Nigeria (FOCOSCIN).
Asia	Ms. Florence Daguitan*	Kankanaey and Igorot, Philippines	Collaborator at Tebtebba-Indigenous Peoples' International Centre for Policy Research and Education. Board Member of the Centers of Distinction on Indigenous and Local Knowledge (COD-ILK), the IUCN Rewilding Consultation Group, and the Biodiversity and Ecosystems Network Advisory Committee.
	Dr. Gopal Dahit	Tharu, Nepal	Patron of United Youth Community Nepal (UNYC) Nepal, and Executive director of Unique Nepal Laghubitta Bittiya Sanstha Limited. Research on Indigenous knowledge, Tharu culture and practices, and sustainability.
	Mr. Gordon John Thomas	Dusun Tatana, Kuala Penyu, Sabah, Malaysia	Graduate in Molecular Biotechnology, Universiti Malaysia Sabah. Currently Coordinator of the Natural Resource Management Program, at PACOS Trust. Advocates for customary stewardship of Sabah peoples' territories and natural resources through their good practices and traditional knowledge. Promotes community mapping and protocols, capacity building, awareness education, networking and advocacy nationally and internationally.
	Ms. Indu Chaudhary*	Tharu, Nepal	Activist and writer. Works on Indigenous rights and cultural preservation. Executive Director of National Indigenous Women's Federation, Nepal.

Sociocultural region	Name	Indigenous People or local community, land, country	Short biography
Asia	Mr. Lakpa Nuri Sherpa	Sherpa, Nepal	Defensor of Indigenous Peoples' rights in climate and biodiversity governance, policy advocacy and capacity building, empowering IPs, Indigenous women and youth to engage meaningfully at local, national, regional, and international levels. He currently leads the Environment Programme at AIPP. He served as focal point for the International IPs Forum on Climate Change (IIPFCC) (2013-2024), and as Co-Chair of the International Indigenous Forum on Biodiversity (IIFB) (2022-2024).
	Ms. Nittaya Earkanna	Hmong, Thailand	Advocates for Hmong Indigenous women's and youth rights and empowerment, and fosters policy reforms aimed at strengthening IP's rights. Executive Director of the Inter Mountain Peoples Education and Culture in Thailand Association (IMPECT) and member of the Executive Council of the Asia Indigenous Peoples Pact (AIPP). Actively contributes to the revision of Thailand's National Biodiversity Strategies and Action Plan (NBSAP). Member of the Extraordinary Committee dedicated to review the draft Law on the Promotion and Protection of Indigenous Livelihoods in Thailand. Co-founder of the Network of Indigenous Peoples in Thailand.
	Ms. Pirawan Wongnithi-sathaporn	Karen, Chiangmai, Thailand	Environment Program Officer at the The Asia Indigenous Peoples Pact (AIPP). Advocates for Indigenous Peoples' and women's rights at the national and international level. Focuses on community development and Indigenous knowledge. Engages in biodiversity and climate-related policy spaces internationally.
	Mr. Prasert Trakansu-phakorn	Karen, Thailand	Researcher and Indigenous NGO activist. Doctor in Sociology and specialist of Indigenous Study in Thailand and South East Asia. Founder and first director of Inter Mountain Education and Culture in Thailand Association (IMPECT). Founder and Regional Director of the Regional Indigenous Knowledge and Peoples in Mainland SEA (IKAP). Executive Director of Pgakenyaw (Keren) Association for Sustainable Development (PASD).

Sociocultural region	Name	Indigenous People or local community, land, country	Short biography
Asia	Mr. Prem Singh Tharu	Tharu, Nepal	Regional Environment Programme Officer of Asia Indigenous Peoples Pact (AIPP). Advocates for IP's rights, knowledge, practices, lands and forests. Co-facilitates the IPs' Caucus within the Intergovernmental Negotiating Committee to Develop an International Legally Binding Instrument on Plastic Pollution, Including in the Marine Environment.
	Dr. Ranjan Datta	Bangladesh / Canada	Canada Research Chair at Indigenous Studies, Mount Royal University, Canada. Senior Scientist for the International Science Council and the UNEP. Senior Research Fellow at the Earth System Governance, Utrecht University, The Netherlands.
Central and South America	Taita Hernando Chindoy Chindoy*	Inga, Colombia	Representative of various Indigenous Peoples in Colombia (Wuasikamas territories, and Coifán, Siona, Eperara, Siapidaara and Inga). Focuses on Indigenous Peoples' rights, nature, and cultural preservation.
	Dr. Tania Eulalia Martínez Cruz*	Ēyuujk, Tamazulapam del Espíritu Santo (Tu'uknēm), Oaxaca, Mexico	Mexican Indigenous advocate and researcher from the Ēyuujk people. Expert on Indigenous Peoples' food and water systems. Works on language revitalisation. Director of food sovereignty and agroecology at Land is Life. Does advocacy work and has fundraising experience to support Indigenous Women.
North America	Mr. Frankie Orona*	Borrado/ Tongva/ Chumash, United States of America	Protector "activist" who advocates for Native American Indian rights, environmental and social justice. Co-Founder & Executive Director of the Society of Native Nations, an Intertribal Native American Indian Nonprofit Organization. Environmental liaison for his Red Blood Tribal Chief - Anthony Morales of the Gabrielino Tongva San Gabriel Band of Mission Indians. Member of the American Indian Movement Grand Governing Council.
	Ms. Myrle Ballard*	Anishinaabe, Lake St. Martin First Nation, Canada	Senior Indigenous Science Advisor and Associate Professor. Expert on Indigenous science and reconciliation of Indigenous and western sciences in water and climate research. Signatory of Lake St. Martin First Nation 2nd Treaty.

Sociocultural region	Name	Indigenous People or local community, land, country	Short biography
The Arctic	Ms. Camilla Brattland	Coastal Sámi, Gáivuotna-Kåfjord, Troms County, Northern Norway	Associate Professor in Sami Cultural Studies, University Museum at UiT - The Arctic University of Norway. Expert on inclusion of Sámi knowledge in marine and water systems governance. Advocates on Sámi society, culture and rights. Member of the board for Climate and Environmental research, Research Council of Norway.
The Pacific	Dr. Emma Lee*	Trawlwulwuy, Tebrakunna country, Tasmania, Australia	Aboriginal and Torres Strait Islander Professorial Research Fellow, National Centre for Reconciliation, Truth, and Justice, Federation University, Australia. Advocates for Indigenous Peoples' rights and environmental management.
	Mr. Jesse John Lee Fleay	Noongar, Aveley, Western Australia	Noongar writer and research specialist across major policy areas. Co-Chair of Global Citizen. Researcher at the National Centre for Reconciliation, Truth and Justice, within Federation University's Global and Engagement portfolios. Signatory and co-Author of the Uluru Statement from the Heart in 2017, awarded as the Sydney Peace Prize in 2021.
	Mr. Kevin Chang	Honolulu, Hawai'i	Executive Director of Kua'āina Ulu 'Auamo (KUA), an organization that works with Hawai'i's rural and Native Hawaiian communities to improve their quality of life through the stewardship of their environmental heritage.
	Mr. Leslie Schultz	Ngadju, Australia	Indigenous Elder and founder of Ngadju Conservation Aboriginal Corporation. Co-founder of the Dundas Rural Bush Fire Brigade. Leads the Ngadju Ranger Programme and Indigenous Protected Area. Board Member of the Indigenous Peoples' Organisation-Australia. Co-author of several publications on Ngajdu Kala.
	Dr. Nicholas Rahiri Te Awherata Roskrige	IWI Affiliations / Māori tribes: Te Atiawa, Ngati Tama, Ngati Porou and Ngati Wakarara, New Zealand	Research Associate Wakatū and Professor in Ethnobotany Organisation, at Massey University. Chairman of Tahuri Whenua - National Māori Horticulture collective, the International Plant Protection Congress, the Te Rōpu Kaipuka - New Zealand Flora Seed Bank, and the Aotearoa Genomics Data Repository Advisory Board. Expert for the IPBES IK & LK Task Force.
* Also participated in the First and/or Second Dialogue.			

2.3. Methodology

The Third Indigenous Knowledge and Local Knowledge Dialogue (GEO-7) was held over four days, with English as the primary language. In the Dialogue coordination team there were four people from the IK & LK Taskforce, four people from the facilitation team, 2 people from the local support organization (AIPP), and 3 people from the UNEP Secretariat. Additionally, two members of the GEO-7 Multidisciplinary Expert Scientific Advisory Group (MESAG) collaborated with the coordination team throughout the 3rd Dialogue. The activities carried out during the Dialogue are briefly described in **Annex 4**.

- **Visit to the Indigenous Karen Village Huay Ee Khang.** On the first day of the Dialogue, the participants visited the Indigenous Karen Village of Huay Ee Khang, in the mountains of north of Thailand. This visit was organized by hosts from the Asia Indigenous Peoples Pact (AIPP). Upon arrival, the Karen women elders and the village chief shared their chants and food to welcome the group. Following this warm reception, an open dialogue session was held, providing an opportunity for community members to share their knowledge and experiences with the Dialogue participants. After a seed demonstration, the group also went on a guided walk through the Karen women's sacred forest, where they showed their medicinal plants and forest protection practices and knowledge. With the assistance of a translator, Karen women shared insights into their history, land management and farming practices and knowledge,



Image 2.2. Dialogue with Karen Indigenous women and seed demonstration, Huay Ee Khang village, Thailand.

as well as their community-based mapping and forest monitoring efforts. They also reflected on the challenges of being Indigenous women leaders and maintaining the well-being of their territory, even more so in the face of the climate crisis and the environmental policies of the Thai government. Local products, such as coffee, textiles, and clothes made by the community were available for purchase. At the end of the visit, some Dialogue participants offered gifts to the Karen women, as a gesture of gratitude and respect.²

- **Spirituality through chants, prayers and artistic expressions.** Over the three days, at the beginning and the end of each day, participants shared prayers, chants and artistic expressions from their land and culture. This practice was essential in providing experiences of connection Indigenous Peoples' spirituality and wisdom.
- **Collective care agreements.** Agreements on how to care for each other and create conditions for a safe and trusting Dialogue were established during the two virtual meetings and the in-person gathering. The agreements emphasized self-care, active listening and mutual respect. Additionally, there was a call for the responsible use of technology –such as phones, computers– to ensure participants remained present and engaged, particularly in the breakout groups.
- **Caucus sessions.** The three Caucus sessions held during the in-person Dialogue allowed participants to connect, and establish shared understandings of challenges, expectations, and discuss their role in the GEO-7 process. A Caucus session was also held during each virtual meeting. During these Caucus sessions, participants of the Third Dialogue collectively decided to appoint two co-Chairs to facilitate and coordinate the



Image 2.3. Community-based mapping demonstration and guided walk through the Karen women's sacred forest, Huay Ee Khang village, Thailand.



Image 2.4. In-circle collective reflection activity, 3rd IK & LK Dialogue, Chiang Mai, Thailand.

² To learn more about the Indigenous Karen Village of Huay Ee Khang, see: AIPP-IMN article “The Huay Ee Khang Model: Emerging Idea of ‘Indigenous Women’s Forest’ to Embrace both People and Wildlife”, and the book *The Classroom of Life* at the AIPP web site.

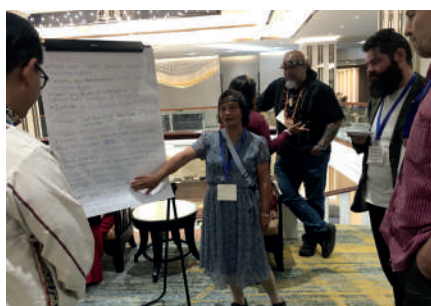


Image 2.5. Collective work display, and discussions on GEO-7 chapters, 3rd IK & LK Dialogue, Chiang Mai, Thailand.

conversation. Furthermore, the Caucus sessions led to the development of the collective Statement presented at the beginning of this report.

- **Collective Work Display.** On the afternoon of the second day, participants showcased the work of their Indigenous Peoples and organizations through various materials, including leaflets, posters, photographs, videos, objects and food. These materials were displayed on tables and participants visited each other's exhibits to learn about the work and initiatives of different Indigenous Peoples and their organizations.
- **GEO-7 Review.** On the second, third, and fourth days, participants engaged in discussions on the different parts of the GEO-7 available for review, which included: the first order draft of the GEO-7 Summary for Policy Makers and the second order draft of the main report, which includes 21 Chapters distributed in 5 parts, an Indigenous Knowledge and Local Knowledge (IK & LK) Chapeaux for each part, and the Global Environmental Crises Chapeau (See **Annex 5. Overview of the 5 parts of the GEO-7**). Throughout the Dialogue, exchanges in a series of breakout and plenary sessions provided review comments about the GEO-7 report. Particular attention was given to the IK & LK Chapeaux for each part of the report, as the participants' feedback was essential to ensure the proper recognition of Indigenous Peoples' knowledge and local knowledge.
- **Analysis and organization of review comments to inform the GEO-7 report.** The review comments shared by the participants during the 2nd virtual meeting and the in-person dialogue were documented by notetakers in a specific document, following the GEO-7 second order draft reviewer guidelines. Moreover, following the first virtual meeting, each participant received an individual document to provide comments in advance. The review comments were included in a document which was

uploaded to the GEO-7 review platform to be delivered to GEO-7 lead authors. All these comments (approximately 1300) were arranged according to the parts of the GEO-7 assessment, so that specific comments –referring to specific pages and lines of the report– could be assigned to corresponding leading authors. General comments regarding the whole report, the IK & LK Chapeaux, or the SPM, were taken into account crosswise. Authors responded to all the comments, indicating if/how observations were integrated to the final draft of the assessment.

Within the framework of the review process, this 3rd IK & LK Dialogue report retrieves the comments shared in the dialogue, as well as in the individual review documents, in order to highlight cross-cutting themes, key aspects, discussions, and examples from each Indigenous Peoples' territories. This 3rd Dialogue report, as well as the 1st and 2nd IK & LK Dialogues reports, inform the reviewing process of the GEO-7, and respond particularly to the mandate of the IK & LK Taskforce to bridge and strengthen IK & LK in the assessment. Therefore, aside from the specific comments delivered to authors, discussions and key messages highlighted in this report may inform different parts of the assessment, as well as the IK & LK Chapeaux reviewed by the IK & LK Task Force members.



Image 2.6. Breakout groups, 3rd IK & LK Dialogue, Chiang Mai, Thailand.

3. Multiple Crises Accountability: Causes, Responsibilities and Impacts

“It would be necessary to state clearly that the current colonizing, capitalist, globalizing ideological trend is unsustainable. Staying in the path we are on, from Indigenous Peoples’ perspectives, is unsustainable.”

Amina Amharech, Amazigh people

- **Multiple crises and disasters are already happening and directly affecting Indigenous Peoples’ territories and rights.** “Staying on the path we are on” is unsustainable. Impacts are already occurring and are leading to environmental, social and cultural genocide.
- **Planetary climate crises bring along global, regional and local cascading impacts and disasters.** These include rising sea levels, permafrost thaw, jungle and wild fires, severe droughts and heatwaves, biodiversity and genetic loss, as well as unpredictable earthquakes, landslides and floods. Some of the disasters and impacts of climate crises are resulting in substantial damages and increasingly irreversible losses (Intergovernmental Panel on Climate Change, 2023).³
- **Underlying causes of the interconnected crises and planetary disasters are based on human responsibilities.** These crises are consequences of the ongoing and historical processes of colonialism, dispossession, capitalism, neo-imperialism, green colonialism, homogenic globalization, and patriarchy. Policies and decisions supported by colonial governments are grounded on consumerism and in hegemonic neo-colonialist, neo-imperialist and neo-liberalism ideologies. These systems perpetuate and intensify domination, historical colonial relations and economic dependencies between countries and peoples. The legacy of colonialism and the ongoing process of a colonial thinking has delved on a dominant perspective of social and economic development that perpetuates a one-sided, supremacist and highly ideological scientific perspective

³ See: Intergovernmental Panel on Climate Change (IPCC) (2023). *Summary for Policy Makers*. In: *Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, H. Lee and J. Romero (eds.)]. Geneva, Switzerland: IPCC.

that undermines possibilities of enhancing crises from different perspectives, such as Indigenous Peoples' knowledge systems, ways of life and worldviews.

- **Disproportionate impacts and hidden costs on Indigenous Peoples.** Despite contributing the least to climate crises, Indigenous Peoples disproportionately bear the impacts due to the historical and structural inequalities imposed on their territories. It is crucial to acknowledge the hidden and true costs and impacts of climate crises, including the roles, actions and responsibilities of those who have contributed to the actions that had led to crises. True cost and impacts must account for who are suffering the consequences, in order to address systemic inequalities and environmental injustices in exacerbating pressures and impacts on Indigenous Peoples' lands, territories, livelihoods and ways of life. Additionally, Indigenous Peoples are also suffering the adverse effects of so-called "false solutions" to climate change.

- **Extractive and industrial activities, as well as false solutions to the climate crisis, are imposed on Indigenous Peoples' lands, territories and waters, delving into critical injustices and impacts, and into a systematic violation of their inherent rights.** Extractive and industrial activities –such as oil and gas extraction, unsustainable agriculture, uncontrolled lumbering, unrestricted overfishing, mining, dams, and even renewable energy projects or conservation development projects– have resulted in severe environmental injustices. These activities are pushing boundaries, exploiting resources and perpetuating cycles of extraction, pollution and disposal of waste that threatens biodiversity, lands, waters, mountains, rivers and oceans, affecting Indigenous Peoples' ways of life, wellbeing and right to physical, psychological and spiritual health.⁴ Furthermore, privatization, exploitation and pollution of oceans due to desalination and deep-sea mining, as well as water diversion for industrial production and extractive activities disrupts the freshwater cycle, degrades water quality, alters natural water flows and exacerbates water conflicts, scarcity and associated risks. Industrial and unrestricted fishing, in addition to impacts of climate change such as loss of snow cover, oceans warming, coastal erosion, changing ice conditions and thaw events, have severe impacts in Indigenous Peoples' livelihoods based on pastoralism (i.e. reindeer husbandry), hunting, gathering, and fishing, threatening their knowledge and cultural basis. Industrial and extractive activities imposed in Indigenous Peoples' lands, territories and resources without their FPIC, lead to land grabbing and dispossession,

⁴ UNDRIP, Article 24: "1. Indigenous peoples have the right to their traditional medicines and to maintain their health practices, including the conservation of their vital medicinal plants, animals and minerals. Indigenous individuals also have the right to access, without any discrimination, to all social and health services. 2. Indigenous individuals have an equal right to the enjoyment of the highest attainable standard of physical and mental health. States shall take the necessary steps with a view to achieving progressively the full realization of this right".

oppressive military operations, forced displacement, systematic rights violations, and even killing of Indigenous Peoples' environmental and human rights defenders.

- **Industrial agriculture leads to land dispossession and degradation, pollution, water scarcity and biodiversity loss, affecting directly on Indigenous Peoples' food sovereignty, traditional and customary livelihood, cultural and spiritual practices, and medicines.**

Green revolution policies and exporting industrial agriculture based on monopoly and control of seeds, chemical based fertilizers and pesticides, introduced technologies and monocrops – ie. maize and rice, plantations of biofuel or fast raising trees, and different invasive species such as oil palm trees– have led to detrimental effects, including land degradation, soil erosion and biodiversity loss. These have impacts on Indigenous Peoples' crops, diets and medicinal plants, leading to loss of food sovereignty and economic dependency. Use of pesticides is also increasing diseases and affecting the health of Indigenous Peoples and their territories.⁵ Biodiversity loss of medicinal plants and other species affects Indigenous Peoples' right to maintain their own spiritual and physical medicines, and health systems. Water scarcity, heatwaves, droughts and unpredictable weather patterns also led to biodiversity loss impacting Indigenous Peoples' food and health systems. True cost account of food, and the need for a rights-based approach, has been addressed in several reports.⁶

- **Waste colonialism and pollution directly affect Indigenous Peoples' lands, air and waters, as well as their wellbeing and health.**

Waste trade international policies and arrangements often result in waste dumping in Indigenous Peoples' lands, territories and waters. The problem of air pollution has also been moved from one country to another, directly affecting Indigenous Peoples' lands, territories and livelihoods. Critical health impacts of air pollution have been addressed by recent studies,⁷ as well as warnings on impacts of microplastics or emerging pollutants like Per-and polyfluoroalkyl substances (PFAS). All stages of plastic waste and pollution, from extraction to disposal,

5 See: 1) International Indian Treaty Council (September 28, 2023). "Pesticides and the Rights Of Indigenous Peoples". *Guidance Information for Consideration by the Joint Meeting on Pesticide Management as a Basis for Amending the International Code of Conduct on Pesticide Management*. Tucson, Arizona. 2) Lopez-Carmen, Victor A., Erickson T., Escobar, Z., Jensen, A., Cronin A., Nolen L., Moreno M. and Stewart A. (2022). United States and United Nations pesticide policies: Environmental violence against the Yaqui indigenous nation. *The Lancet Regional Health–Americas* (10): 100255.

6 See: 1) Martínez-Cruz, T.E. (2024). "True Cost Accounting and the need for a rights-based approach in food systems transformation", in TMG Thinktank. 2) FAO (2024). *The State of Food and Agriculture 2024 – Value-driven transformation of agrifood systems*. FAO: Rome. 3) Caron, P., Gitagia, M., Hamm, M., Hoffmann, U., Kimani-Murage, E., Martínez-Cruz, T.E., Merrigan, K., Mooney, P., Riemer, O., Scialabba, N.E.H., and Shah, T.M. (2023). "Blind Spots in the Debate on Agri-Food System Transformation". In *FORESEE (4C)–The Transformation of Agri-Food Systems in Times of Multiple Crises (4 Cs: Climate, Covid-19, Conflict, Cost of externalities)*. Berlin: TMG - Think Tank for Sustainability. Report 3.

7 See: World Health Organization's "Air quality database: Update 2022".

must be accountable for, in terms of the true costs of impacts and drivers' responsibilities, such as those of industries and governmental policies.

- **Unrestricted fishing and invasive species farming, in addition to rising heats and oceans' warming, thaw, loss of snow cover, changing ice, coastal erosion and increasing levels of sea lice, impacts on Indigenous Peoples' livelihoods based on fishing, reindeer herding, harvesting, hunting and gathering across the northern hemisphere.** The introduction of invasive species farms of pink salmon and king crab is threatening Indigenous Peoples small-scale coastal fishers. In the Barent Sea area, Atlantic salmon stocks decrease, while the invasive pink salmon species are booming in numbers. This impacts the Sámi people's livelihoods, knowledge and culture.⁸ Biodiversity loss, as the decrease of lichen, impacts negatively on pastoralists communities (i.e reindeer herders), and leads to the loss of IK among traditional resource harvesters, representing a significant threat to food traditions, sovereignty and security of Arctic Indigenous Peoples, which are among those most visibly and heavily impacted by climate crises.⁹

⁸ An important source of information from Indigenous Peoples' knowledge and local knowledge is the climate change event database recently produced by Snowchange and partners under the Arctic Passion project. [Snowchange Arctic Seas Portal](#) has broad information about Indigenous Peoples and Ecology of Northern Waters.

⁹ See: Reports on adaptation to climate change in the Arctic of the Arctic Council Secretariat of Indigenous Peoples, and the Saami Council statements.

4. False Solutions

“Conservation initiatives which do not protect Indigenous Peoples’ rights or foster unsustainable cultural lifeways are not an option. Climate change solutions are not solutions in the eyes of Indigenous Peoples. We do not see carbon as money. Forests are not a carbon sink. Broader values are needed.”

- Participants’ comments during the 3rd IK & LK Dialogue

The IK & LK Dialogue participants expressed **concerns upon false solutions whose implementation violates Indigenous Peoples’ rights and have negative implications** for their lands, territories, livelihoods, and ways of life.

False solutions are embedded in green colonialism, understood as a framework that encompasses proposals, projects, initiatives and policies that, in the name of sustainable development, climate change mitigation, biodiversity protection or conservation, violate Indigenous Peoples’ rights, and come along with no safeguards nor protection mechanisms to avoid negative human health and socio environmental tradeoffs. Green colonialism deepens the historical exclusion of Indigenous Peoples in climate change policy and decision-making processes, instead of strengthening their effective participation in climate governance:¹⁰

Green Colonialism refers to all of the frameworks, existing and emerging, related to climate change adaptation and mitigation that continue to perpetuate rights violations and false solutions. These include but are not limited to “green/clean energy”, development of a “green economy”, energy transition, just transition, “alternative” energy projects including, but not limited to, carbon capture projects, industrial wind farms, solar power, mega-dams, nuclear power, introduction of invasive species, and geo-thermal development, and greenwashing of emissions reduction with carbon injection, and the creation of “protected areas” (Glossary of terms. Principles and Protocols of Indigenous Peoples for a Just Transition, 2024).¹¹

¹⁰ See: International Work Group for Indigenous Affairs (IWGIA) (2022). *Recognising the contributions of Indigenous Peoples in global climate action? An analysis of the IPCC report on Impacts, Adaptation and Vulnerability*.

¹¹ See: “Principles and Protocols of Indigenous Peoples for a Just Transition”, a statement adopted by unanimous agreement at the Indigenous Peoples’ Perspectives, Knowledge, and Lived Experiences Summit on Just Transition (Geneva, Switzerland, October 8-10, 2024), with the participation of 95 Indigenous Peoples’ representatives from all 7 sociocultural regions.

False solutions, including “nature-based” and “technofix solutions”, refer to proposals, projects, initiatives and policies which:

- Undermine and threaten Indigenous Peoples ways of life and their lands, territories, waters, foods, livelihoods, customary practices and economies, violating their inherent rights and impacting on their physical, mental and spiritual health
- Are imposed on Indigenous Peoples’ lands, territories and livelihoods without their Free, Prior and Informed Consent, nor culturally and appropriate process of consultation
- Refer to extractive enterprises, without safeguards nor protection mechanisms to avoid violations of rights or negative human health and environmental tradeoffs
- Move the costs of extraction, exploitation, dispossession, land degradation, pollution, biodiversity loss, etc., from one place to another. Costs are often imposed into Indigenous Peoples’ lands and territories, as in waste trade and dumping. Costs are moved also to correct, curb or slow down impacts already driven in other places
- Are not responsible nor accountable for true social and environmental costs and consequences
- Promote unnecessary exploitation and extraction of resources, instead of reducing production and extractive activities
- Enhance the financial system and green financing, accounting for costs in terms of pricing externalities

4.1. Conservation programmes and policies

Governmental and private conservation initiatives (i.e. buffer zones, protected areas, National Parks, carbon capture, storage and offsetting projects, such as REDD+) often promote and legitimize expropriation, land grabbing and dispossession of Indigenous Peoples’ lands, territories and livelihoods, leading to forced displacement and relocation, militarization and systematic violations of Indigenous Peoples’ rights.¹² Multiple reports have pointed out

¹² An analysis of overlapping of National Protected-Area Systems and Indigenous Peoples’ and local communities’ lands in different countries, its conflicts and implications for human rights and biodiversity conservation, can be read in: Rights and Resources Initiative (2015). *Protected Areas and the Land Rights of Indigenous Peoples and Local Communities. Current Issues and Future Agenda*.

the impacts of green finance, carbon storage, climate change and conservation policies on Indigenous Peoples' lands, territories and ways of life, addressing the need of safeguards to protect their inherent rights.¹³

In the name of conservation and climate change mitigation, conservation programmes and policies represent a form of colonisation that dispossesses and exiles Indigenous Peoples from their lands and territories. This is done through oppressive military operations and policies that criminalize Indigenous Peoples and restrict their access and right to livelihoods and customary practices, water, foods, and medicinal plants. Dispossession and displacement of Indigenous Peoples from their lands, territories and livelihoods alienates them from their ways of life, leading to irreversible cultural erosion or even to genocide.

Multiple Indigenous Peoples' violations caused by protected areas in Asia have been reported by IPs' organizations, UN's special Rapporteurs on Indigenous Peoples' rights and on human rights, as well as by human rights organizations. For instance, Karen People, in Thailand, are being subjected to rights violations in the park Kaeng Krachan Forest Complex. In Cambodia, illegal logging and authorities' restrictions and repression violate the rights of the Kuy people in Prey Lang and Prey Preah Roka forests. Chitwan National Park, established in 1973 in the territories of the Tharu, Chepang, Bote and Kumal Indigenous Peoples, has been systematically violating IPs rights to land territories and resources. Its administration, as the army, have been allegedly involved in killing, torture, beating and other multiple forms of human rights violation.¹⁴

Conservation measures in response to climate and biodiversity change in the Arctic, such as government measures to conserve fisheries through vessel systems, impact small-scale coastal fishers, violating their inherent rights. Enhancement and respect of Indigenous Peoples' rights to self-determination must ensure the recognition of their lands, territories, waters and resources, and avoid further violations of their rights, livelihoods, cultural survival and relations with marine and snow-tundra ecosystems. Several organizations gathered in

13 See: 1) Human Rights Council (2023). *Green financing – a just transition to protect the rights of Indigenous Peoples*. Report of the Special Rapporteur on the rights of Indigenous Peoples, José Francisco Calí Tzay. A/HRC/54/31. 2) Human Rights Council (2017). *Report of the Special Rapporteur on the rights of indigenous peoples*. Thematic study on the impacts of climate change and climate finance on indigenous peoples' rights. A/HRC/36/46. 3) Human Rights Watch (2022). *Carbon Offsetting Casualties. Violations of Chong Indigenous People's Rights in Cambodia's Southern Cardamom REDD+ Project*.

14 See: 1) Thailand: OHCHR (23 July 2021) "Thailand: UN experts warn against heritage status for Kaeng Krachan national park". 2) Cambodia: Amnesty International (2022). *'Our traditions are being destroyed': Illegal logging, repression, and Indigenous peoples' rights violations in Cambodia's protected forests*. ASA 23/5183/2022. Amnesty International. 3) Nepal: Lawyers' Association for Human Rights of Nepalese IPs (LAHURNIP) and National Indigenous Women Federation (NIWF) (2020). *Fact Finding Mission Report. Violation of Indigenous Peoples' Human Rights in Chitwan National Park of Nepal*. Submitted to: Independent panel of experts-WWF. Nepal.

the Arctic Council have stated: climate justice should be committed with the respect and enhancement of Indigenous Peoples' rights.¹⁵

4.2. Clean energy solutions for energy transition

Global clean energy transitions often promote extractive activities of metals and minerals, as well as infrastructure –wind mills, mega-dams, solar panels– at the expense of Indigenous Peoples' lands and ways of life. Clean energy projects, as well as the extraction of metals and minerals needed for such transitions, brings along devastating consequences to Indigenous Peoples' lands and territories, causing substantial land degradation and pollution, soil erosion, biodiversity loss, water scarcity and pollution, in detriment of their rights and ways of life, livelihoods, customary practices, health and wellbeing. Furthermore, extractive activities and projects for clean energy are imposed on their territories without their FPIC and consulting, leading to land dispossession and systematic violations to their inherent rights. The true cost of energy transitions must account for Indigenous Peoples' rights violations and the impacts on their lands, territories, livelihoods, ways of life, health and wellbeing.

Minerals and metals used for energy transition continue to be extracted from Indigenous Peoples' lands and territories. A recent analysis, which mapped the global inventory of the estimated 30 energy transition minerals and metals (ETMs) that form the material base for the energy transition, reveals that:

More than half of the ETM resource base is located on or near the lands of Indigenous and peasant peoples, two groups whose rights to consultation and free prior informed consent are embedded in United Nations declarations [...] Across the sample of 5,097 ETM projects, 54% of projects are located on or nearby Indigenous peoples' lands, with 29% of these projects on or near lands over which Indigenous peoples are recognized as managing or exercising some form of control or influence over land for the purposes of conservation [...] the spatial analysis reveals that 33% of projects are located on or nearby peasant land. Combined, 69% of ETM projects are on or near land that qualifies as Indigenous peoples' or peasant land (Owen *et al.*, 2023: 203-204).¹⁶

15 See: Statement of the Arctic Peoples Conference (2023) –Inuiaat Issittormiut Ataatsimeersuarnerat 2023–. For more information see the Arctic Council website.

16 Owen, J.R., Kemp, D., Lechner, A.M., Harris, J., Zhang, R. and Lèbre, E. (2023). "Energy transition minerals and their intersection with land-connected peoples", *Nat Sustain* 6: 203–211.

4.3. Production and consumption of novel foods, such as cultivated meat and plant-based proteins

Homogenizing changes in food production and dietary patterns –as production and consumption of novel foods, such as cultivated meat and plant-based proteins– will have negative implications and interfere with diverse ways of life of Indigenous Peoples, undermining their right to food sovereignty and to protect and maintain their own food and medicinal systems, diets and customary livelihood practices.

Restrictive pathways for meat consumption will directly affect communities dependent on hunting and pastoralism, whose food systems and ways of life rely on eating animal meat due to customary practices and ecosystemic limitations that make it impossible to guarantee food sovereignty exclusively through plant-based harvesting, as in Indigenous Peoples' lands and territories in the Arctic or other parts of Canada. Likewise, promoting technofix pathways as cultivated meat in laboratories will lead to erosion of protein diversity and customary practices around food, and could increase criminalization of Indigenous Peoples' livelihoods based on pastoralism, fishing, hunting and harvesting. Veganism should not be an homogenic pathway for all peoples, instead, negative impacts of industrial food production should be accounted for.

5. Necessary Changes and the Way Forward

“It is necessary to change dominant perspectives on Indigenous Peoples: from vulnerability to leadership; from stakeholders to rights holders; from policy takers to policymakers; from IPs needing to learn from others to people needing to learn from IPs’ livelihoods, values, experiences, knowledge, science and technology.”

Lakpa Nuri Sherpa, Sherpa People

Indigenous Peoples’ leadership as rights holders,¹⁷ policy makers, and holders of valuable knowledge systems and sciences¹⁸ plays a vital role to achieve sustainable, responsible and just futures for the next seven generations. Indigenous Peoples’ leadership is fundamental to guide better pathways, options and decisions to foster just transitions¹⁹ that ensure true cost accountability, safeguards, and full recognition and respect of their inherent rights. Indigenous Peoples’ leadership is also exercised by Elders and Indigenous women as they play a crucial role in the enactment and transmission of knowledge, values, customary practices and ways of life.

17 According to the IPBES’ glossary right holder refers to: “A group of people (a community and its individual members), with a common identity and a shared set of rules, who rightfully has title over their territory and the natural resources belonging to it. Being a right holder implies that the group’s wellbeing is promoted by the right, and that the group (and its individual members) have the capacity to exercise their self-determination related to the given territory. From an Indigenous perspective, Right holder refers to the collective rights and entitlements of Indigenous peoples, a group of people, and a community including all individual members, with a shared cosmovision/worldview, identity, beliefs, values, and ethics. They have inherent collective rights over their territories and natural resources. Implicit in having a right holder status implies that the holder of it promotes the group’s well-being and can exercise their self-determination related to the given territory.”

18 Indigenous science can be understood as “a distinct, time-tested, and methodological knowledge system that can enhance and complement western science. Indigenous science is about the knowledge of the environment and knowledge of the ecosystem that Indigenous Peoples have. It is the knowledge of survival since time immemorial and includes multiple systems of knowledge(s) such as the knowledge of plants, the weather, animal behavior and patterns, birds, and water among others”. See: The Indigenous Science Division (ISD) at Environment and Climate Change Canada (ECCC).

19 Indigenous Peoples’ representatives of the seven sociocultural regions, and different organizations and networks, have established the minimum terms for a just transition in the “Principles and Protocols of Indigenous Peoples for a Just Transition”.

5.1. From stakeholders to rights holders

- **Recognition and respect of Indigenous Peoples as rights holders is a minimum common floor to foster their leadership and strengthen their effective and meaningful participation in the processes of shaping sustainable, responsible and just futures for the next seven generations.** A rights-based approach must recognise and ensure Indigenous Peoples' collective and inherent rights and uphold their ways of life, in order to ensure the fulfillment of their self-determination and safeguard their physical and mental health, integrity, liberty and security. It must also prevent any violation of their inherent rights, including the respect and protection of Indigenous Peoples' environmental and human rights defenders.
- **Recognition and respect of Indigenous Peoples as rights holders require comprehensive implementation of their inherent and collective rights, as affirmed in international instruments, such as the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) and the Convention 169 of the International Labour Organisation (ILO 169).** Inherent and collective rights are deeply interconnected and aligned to their right to self-determination, FPIC, land, territories, waters and resources. These also encompass Indigenous Peoples' rights to promote and maintain their own political, legal, economic, social and cultural institutions such as: customary law, land tenure systems, decision making institutions, culturally appropriate food, education and health systems, as well as their cultural practices, languages, knowledge, science, spirituality and values.
- **Self-determination of Indigenous Peoples, aligned with their right to FPIC –and to culturally appropriate consultation–, must be recognized and ensured to protect their ways of life, lands, territories, resources, water bodies and livelihoods from dispossession, grabbing, extractive industries and activities, commercialization and misuse.** Self-determination and FPIC implies the right of Indigenous Peoples to determine, by their own values, institutions, customary norms and law, which policies, projects and solutions ensure their ways of life, wellbeing and physical, mental and spiritual health.
- **A rights-based approach should encompass respect and fulfillment of protocols and frameworks linked to the Convention of Biological Diversity (CBD), as the Nagoya and Cartagena Protocols, and the Kunming-Montreal Global Biodiversity Framework (KM-GBF).** Article 8(j) of the CBD, and the Aichi Biodiversity Target 18,²⁰ foster the respect and

20 See: Quick guide to the Aichi Biodiversity Targets. Traditional knowledge respected.

protection of Indigenous and local knowledge, innovations, and practices that embody traditional lifestyles relevant for the conservation and sustainable use of biological diversity. The KM-GBF –adopted during the fifteenth meeting of the Conference of the Parties to the Convention on Biological Diversity (COP)– acknowledges the crucial role of Indigenous Peoples and local communities as custodians of biodiversity and as partners in its conservation, restoration and sustainable use. In its Target 3, the KM-GBF makes an emphasis on “indigenous and traditional territories” as one of the pathways of conservation “recognizing and respecting the rights of Indigenous Peoples, including over their traditional territories”.²¹ Recently, a Permanent Subsidiary Body on Article 8j (SB8j), represented by Indigenous Peoples and local communities, was established at COP 16 (Calli, Colombia, 2024), replacing the Working Group on Article 8j. The SB8j is meant to be a permanent space for Indigenous Peoples and local communities to work together with Parties and other organisations to apply and promote their traditional knowledge in the conservation and sustainable use of biodiversity.²²

- **Recognition and respect for self-identification of Indigenous Peoples, nations and tribes.**

It is crucial to acknowledge and respect the diverse ways in which Indigenous Peoples, nations and tribes self-identify within their own languages, knowledge systems, and customary laws. Given the absence of a standardized definition of Indigenous Peoples, Indigenous Nations, nor tribes, it is advisable to address Cobos’ characterisation of Indigenous communities, peoples and nations, as a guiding framework:

Indigenous communities, peoples and nations are those which, having a historical continuity with pre-invasion and pre-colonial societies that developed on their territories, consider themselves distinct from other sectors of the societies now prevailing on those territories, or parts of them. They form at present non-dominant sectors of society and are determined to preserve, develop and transmit to future generations their ancestral territories, and their ethnic identity, as the basis of their continued existence as peoples, in accordance with their own cultural patterns, social institutions and legal system [...] An indigenous person is one who belongs to these indigenous populations through self-identification as indigenous (group consciousness) and is recognized and accepted by these populations as one of its members (acceptance by the group).²³

- **Respect, recognition and compliance with the rights of nature in all jurisdictions, as well as other legal choices as the public trust doctrine.** Significant processes of rivers’ and waters’ rights recognition –such as personhood of rivers in New Zealand– have

²¹ CBD (2022). *Kunming-Montreal Global Biodiversity Framework*, CBD/COP/DEC/15/4, Section H, 13, 1. Target 3.

²² CBD (2024). *Institutional arrangements for the full and effective participation of indigenous peoples and local communities in the work undertaken under the Convention on Biological Diversity*, CBD/COP/16/L.6.

²³ See: ONU (1983). *Study of the Problem of Discrimination Against Indigenous Populations*. Final report submitted by the Special Rapporteur, Mr. José Martínez Cobo. New York: UN.

been fostered by Indigenous Peoples in connection to their guardianship, knowledge, values and customary practices and institutions. Furthermore, in some states, such as Hawai'i, Indigenous Peoples have furthered their rights and care of natural resources through the use of the Public Trust Doctrine.

- **Sustainable, responsible and accountable food systems must recognize and strengthen Indigenous Peoples' food systems, crops, seeds and medicines from a rights-based approach.** It is necessary to respect and recognize Indigenous Peoples' food systems and customary practices, such as harvesting, pastoralist, hunting and recollection customary practices, respecting Indigenous Peoples' rights to promote their own food and health systems to ensure food sovereignty, wellbeing, and physical, mental and spiritual health. Rights to water, land and territories is a must to foster sustainable food systems, as shown in the water/food nexus report from a right-perspective.²⁴ Protection of Indigenous Peoples' food grains, seeds, crops, medicinal plants, and knowledge associated with food and health are key strongholds to promote sustainable, nutritional, healthy and culturally appropriate food systems transformations.
- **Funding and research in sustainable food systems must foster the role of Indigenous Peoples' knowledge, sciences, research and engagement in food policies.**²⁵ It is important to preserve and protect the continued traditional practices within Indigenous Peoples' food systems and to avoid developing policies that will hamper traditional and sustainable practices. These include the protection and promotion of Indigenous Peoples' fishing and restoration projects, such as the West Coast Aquatic (West Coast

Vancouver Island, Canada) where IK is valued and included in equal way with science, or the Salmon Parks project (Mowachaht/Muchalaht and Nuchatlaht First Nations, Vancouver, Canada) as Indigenous Peoples-led restoration efforts which incorporates the values and IK & LK for salmon restoration and cultural survival.



Image 5.1. Karen people's seed demonstration, Village of Huay Ee Khang, Thailand.

²⁴ Report of the Special Rapporteur on the human rights to safe drinking water and sanitation, Pedro Arrojo Agudo, *The water/food nexus: a human rights perspective*.

²⁵ FAO (2021). *The White/Wiphala Paper on Indigenous Peoples' food systems*. FAO: Rome.

5.2. From imposing western science to centering Indigenous Peoples' knowledge systems and sciences

- **Indigenous Peoples' knowledge systems and sciences for the world.** Indigenous Peoples offer their valuable knowledge systems and sciences to foster sustainable, responsible and just futures for the next seven generations and beyond. Non-indigenous people can learn and be inspired by Indigenous Peoples' knowledge systems and science to change their practices, in order to engage collectively with climate crises impacts and challenges. Not all the pressure and burden can be charged on Indigenous Peoples: we all need to learn and transform our livelihoods and practices.
- **It is crucial to promote and protect Indigenous Peoples' knowledge systems and sciences to foster sustainable and responsible actions and transformational pathways to address the climate crisis.** Indigenous Peoples' knowledge systems and sciences are intrinsically linked to their values, spirituality, languages, technologies, medicines, food systems and livelihood customary practices. They have been collectively and relationally produced through experience, observation, interaction, deep listening, attention, and with respect and caring for all forms of life. Indigenous Peoples' living knowledge has been transmitted from generation to generation through oral traditions and customary collective practices, which are embedded in a deep connection to lands, responsibility, reciprocity, and awareness of Earth's limited resources.²⁶
- **It is necessary to foster equitable relations between Indigenous Peoples' knowledge systems and sciences and mainstream or western sciences.** Reparative actions and reconciliation strategies are needed to address historical power imbalances among knowledge systems, and to face the challenges of strengthening bridges with the diversity of Indigenous Peoples' knowledge systems and sciences. Equity must uphold recognition of their' leadership and foster processes based on approaches that center equitable dialogue with Indigenous Peoples' leaders and rights holders, as the two-eyed seeing approach.
- **Protection, data sovereignty, safeguard and immunity for Indigenous Peoples' knowledge systems and sciences.** Assurance and respect of Free, Prior and Informed Consent (FPIC), as well as culturally appropriate consultation processes, are necessary for the protection and safeguard of Indigenous Peoples' knowledge systems and

²⁶ To deepen in the Indigenous Peoples' approaches to lands, peoples, and cultures as universally sustainable and aware of the limited nature of resources, see: Arabena, Kerry (2008). *Indigenous Epistemology and Wellbeing: Universe Referent Citizenship*. Canberra: Australian Institute of Aboriginal and Torres Strait Islander Studies.

sciences. Protection must come along with clear accountability mechanisms and protocols to prevent piracy, misuse, instrumental and extractive research or funding, and to avoid exposing peoples to situations of physical, cultural, or emotional harm or risk. Safeguarding Indigenous Peoples' knowledge systems and sciences involves fostering and respecting self-determined mechanisms and community-led protocols for knowledge protection, respect and responsible use, such as Canada's First Nations principles of Ownership, Control, Access, and Possession (OCAP),²⁷ or the Aboriginal and Torres Strait Islander peoples' Protocols for using First Nations Cultural and Intellectual Property in the Arts.²⁸

- **Rights-based, equitable, culturally safe and appropriate participatory processes to respect Indigenous Peoples as leaders, rights holders and knowledge holders.** The promotion of culturally safe and appropriate participatory processes is crucial in centering Indigenous Peoples leadership, and avoiding paternalistic and tokenistic approaches. For this purpose, protocols and frameworks based on rights and ethical principles, such as reciprocity, kinship, trust and deep engagement, are necessary. Furthermore, participatory processes should enable Indigenous Peoples and local communities to actively engage as partners throughout all stages, including scoping, planning, consultation, reviewing, implementation and decision making. Frameworks for bridging knowledge from a rights-based perspective, as the Multiple Evidence Base (MEB) approach supported by IPBES²⁹ and CBD, can serve as guides to improve IK & LK consultation and consent processes (**Box. 5.1**).

27 "The First Nations principles of ownership, control, access, and possession –more commonly known as OCAP®– establish how First Nations' data and information will be collected, protected, used, or shared. Standing for ownership, control, access and possession, OCAP® is a tool to support strong information governance on the path to First Nations data sovereignty. Given the diversity within and across Nations, the principles will be expressed and asserted in line with a Nation's respective world view, traditional knowledge, and protocols". See official website of *The First Nations Principles of OCAP®*.

28 "First published in 2002 and revised in 2007, this protocol guide endorses the rights of First Nations peoples to their cultural heritage and supports First Nations creative practice. This protocol guide encourages self-determination and helps build a strong and diverse Indigenous arts sector [...] Over the years, the principles and protocols contained in this protocol guide have also been applied nationally and internationally –educating readers and users on Indigenous Australian cultural heritage, and encouraging meaningful collaborations with First Nations artists and creators". See *Aboriginal and Torres Strait Islander peoples' Protocols for using First Nations Cultural and Intellectual Property in the Arts*.

29 For further information "about IPBES work with Indigenous and local knowledge, participation by Indigenous Peoples and local communities and related resources produced by IPBES" see: <https://www.ipbes.net/indigenous-local-knowledge>.

Box 5.1. The Multiple Evidence Base (MEB) approach

The Multiple Evidence Base (MEB) approach “addresses the implications of going beyond integrating knowledge and engaging with diverse knowledge systems. This approach recognises the incommensurability of diverse knowledge systems and the often asymmetric power issues arising when connecting different branches of science with locally-based knowledge systems”. MEB framework “has been promoted by the IPBES and CBD as a suitable approach for working with indigenous and local knowledge in international assessments”. In order to weave “collaborations that respects the integrity of each knowledge system”, this framework has been expanded with “evidence-based guidance on how five tasks—to mobilise, translate, negotiate, synthesise and apply multiple evidence—can bridge indigenous and local knowledge systems and science to enhance governance for sustainability, by enabling engagement of actors and institutions in knowledge-sharing processes that are equitable and empowering” (Tengö *et al.*, 2017: 18).³⁰

- **Respect of the various definitions and terminologies used to refer to the knowledge systems of Indigenous Peoples and local communities.** These include Traditional Ecological Knowledge (TEK), Indigenous Knowledge Systems and Practices (IKSP),³¹ Indigenous knowledge and local knowledge (IK & LK), Indigenous Science, each applied in different frames. IPBES uses the term Indigenous and Local Knowledge (ILK), while in the CBD frame the term usually used is Traditional Knowledge.³² The terminology suggested by participants of the 3rd IK & LK Dialogue within the GEO-7 assessment is Indigenous Peoples’ knowledge and science. Additionally, there are specific designations, such as Indigenous Cultural Intellectual Property, a term used by Aboriginal and Torres Strait Islander Peoples to refer to their own traditional knowledge, cultural expressions and heritage.
- **Revitalization and preservation of Indigenous Peoples’ cultures and languages are intrinsically linked to the protection and recovery of lands and biodiversity.** In many

³⁰ Tengö, M., Hill, R., Malmer, P., Raymond, C., Spierenburg, M., Danielsen, Elmqvist, T. and Folke, C. (2017). Weaving knowledge systems in IPBES, CBD and beyond—lessons learned for sustainability. *Current opinion in environmental sustainability*, 26: 17-25. For further reading: Tengö, M., Brondizio, E. S., Elmqvist, T., Malmer, P., & Spierenburg, M. (2014). Connecting diverse knowledge systems for enhanced ecosystem governance: the multiple evidence base approach. *Ambio*, 43: 579-591. Further recommendations are addressed in: Thaman, R., Lyver, P., Mpande, R., Perez, E., Carino, J. and Takeuchi, K. (eds.) 2013. *The Contribution of Indigenous and Local Knowledge Systems to IPBES: Building Synergies with Science*. IPBES Expert Meeting Report, UNESCO/UNU. Paris: UNESCO.

³¹ The Indigenous People's Rights Act of 1997 in Philippines has adopted the term Indigenous Knowledge Systems and Practices (IKSP).

³² See: Introduction to Traditional Knowledge and the Convention on Biological Diversity. Article 8(j) - Traditional Knowledge, Innovations and Practices in <https://www.cbd.int/traditional/intro.shtml>

regions, Indigenous languages, lore, and customs have long served as foundations for sustainable resource management, predating colonization and the over-industrialization that followed. The revitalization of Indigenous Peoples' cultures and languages – which has been scorned, denigrated and forcibly assimilated by colonial ideologies – cannot be achieved without Indigenous Peoples.³³

- **The complexity and diversity of Indigenous knowledge systems are closely tied to language and linguistic diversity –including nomenclatures, taxonomies, lexicons and grammatical structures–.** Additionally, these knowledge systems and science are governed by culturally-specific rules and procedures for their use, possession and transmission. These complex social structures influence access to and use of knowledge, varying by factors such as gender, age or specific cultural roles, including those of farmers, fishers, pastoralists, hunter-gatherers, some sedentary and others nomadic.³⁴
- **Indigenous Peoples' ways of life and worldviews reflect different and profound understandings of the material and spiritual interrelationships of all life forms –animate and inanimate beings, human and non human beings–.** These ways of life depend on a deep responsibility and vital connection toward lands and territories, grounded in values of respect, balance, and holistic wellbeing and health for all life –encompassing physical, mental and spiritual health–.
- **The conventional abstract concept of “Nature”, as an external independent entity apart from human beings, or as an uniform and gendered connotation such as Mother Nature, does not reflect the diversity of Indigenous Peoples' conceptions and worldviews.** Recognizing, respecting and making visible these diverse and holistic worldviews and conceptions is essential within the GEO-7 report. This need has already been pointed out by participants in the previous IK & LK Dialogues.³⁵ To reflect this diversity and holistic conceptions, this report includes examples from the Karen, Amazigh, Teduray and North Sámi peoples, as provided by Dialogue participants (**Box 5.2** and **5.3**).

³³ See: Mariage, M. & Guèvremont, V. (2022). “La Décennie des langues autochtones (2022-2032): la Convention sur la protection et la promotion de la diversité des expressions culturelles de l'UNESCO peut contribuer à la préservation et à la revitalisation des langues autochtones.” *Minorités linguistiques et société / Linguistic Minorities and Society*, (18): 235–257.

³⁴ See: Thaman, R., Lyver, P., Mpande, R., Perez, E., Cari.o, J. and Takeuchi, K. (eds.) (2013). *The Contribution of Indigenous and Local Knowledge Systems to IPBES: Building Synergies with Science*. IPBES Expert Meeting Report, UNESCO/UNU: 20-21. Paris: UNESCO.

³⁵ Different meanings and approaches to the concept of “Nature”, as well as ways of understanding the interconnectedness of all living beings, including unseeing and spiritual beings, were shared by participants during the 1st and 2nd IK & LK Dialogues. A dedicated section of “Indigenous Conceptions of Nature” is included in the Outcome report of each dialogue.

Box 5.2. Examples of Indigenous Peoples' conceptions of respect and caring of life

The Karen people's way of living in the mountainous north of Thailand. "Karen rules regarding the correct way to live with nature are exemplified by the expression *Au ti kertaw ti, au kaw kertaw kaw*, meaning "Live with the water, care for the river ... Live with the trees, care for the forest". This rule is of central importance in directing the relationship between humans and nature. The word *kaw* in the Karen language means "land", and includes all the natural beings on it. It also means that all natural beings and humans have to live together in harmony, as they depend on each other for survival. This rule has been strictly followed by all the Karen for generations" (Trakansuphakon, 1997: 206).³⁶

Agdal pastoral, agricultural and fruit-growing systems of the Amazigh people of North Africa. Respect for life cycles and their continuity is a sacred example of the Agdal pastoral, agricultural and fruit-growing systems of the Amazigh people of North Africa. Amazigh people harvest only what is necessary, when it is necessary, respecting all forms of life, no matter how small. Harvesting is not monopolised entirely by humans: they must leave their share to animals, birds and insects, acknowledging their essential roles in preserving life cycles and the survival of everything and everyone.³⁷

Refa Lowo principle in tribal leadership of the Teduray and Lambangian peoples, Philippines. The *Késéfenangguwit Timuay*, the traditional form of leadership and governance system of the Teduray and Lambangian peoples of the Philippines, is founded on a set of collective principles. The first one, *Refa Lowo*, means "closeness and good relations with land and nature". This principle serves as the foundation for other key principles including collective leadership, communal ownership, equality, and peace. as a basis of justice and good feeling, pluralism, and voluntary work.³⁸

³⁶ Trakansuphakon, Prasert (1997). "The wisdom of the Karen in Natural Resources". In McCaskill D. and Kampe K. (eds.) *Development or domestication? Indigenous Peoples in South East Asia*. Chiang Mai: University of Washington Press.

³⁷ For more information: Auclair Laurent and Alifriqui M. (directors) (2012). *Agdal: patrimoine socio-écologique de l'Atlas marocain*. Rabat-Marseille: Institut Royal de la Culture Amazighe (IRCAM) and Institut de Recherche pour le Développement (IRD).

³⁸ Biangalen-Magata, H., Bugtong-Biano M., Kitma A., Cadalig J., Daguitan F., Dictaan-Bang-oa E. and Bangilan-Española, R. (2020). *Indigenous Knowledge Systems and Practices in the Philippines: Status and Trends*. Philippines: Tebtebba Foundation.

Box 5.3. *Árbediehtu* (traditional knowledge) and *birgejupmi* concepts among the North Sámi people.

In the North Sámi language, traditional knowledge and skills are referred to as *árbevirolaš diedut ja máhtut*. There are also variants of this term in other Sámi languages, including *aerpiemaah toe* (South Sámi), *árbbediehto* (Lule Sámi), and *árbemáhttu* or *árbediehtu* (North Sámi). This last one has gained recognition in North Sámi, Norway and Sweden, as well as internationally.

Árbediehtu means ‘inherited knowledge’ and refers to the Sámi peoples’ collective wisdom and skills used to enhance their livelihood for centuries, which have been cultivated and transmitted across generations through oral traditions, hands-on work and practical experience. The term *árbečeahppi* (‘tradition bearer’) –which could be translated as “traditional knowledge holder”– refers to “a person who is, in a profound sense, a master of traditional knowledge and skills and who is considered to have skills in his/her own field by his/her community”.

Árbediehtu is connected with the concept of *birgejupmi*, which can be understood as ‘life sustenance, maintaining a livelihood’, or “survival capacity”. *Birgejupmi* refers to a complex, adaptive and flexible process in which people –individuals and communities– sustain themselves while remaining deeply tied to the landscape and identity, in balance with the natural environment and people’s physical, mental and social health. It requires competences as know-how skills, resourcefulness and reflexivity, and the use and development of local traditional knowledge *in situ*.³⁹

5.3. From policy takers to policy makers

- **It is crucial to foster Indigenous Peoples’ leadership through effective and meaningful participation in policy making, decision taking and implementation to build sustainable, responsible and just futures for the next seven generations.** This participation and enhancement must be on equal terms with the global community and on a rights-based approach. Indigenous Peoples should inform policy, especially in their regions and in global environmental bodies, in order to assure their values and livelihoods. They must be centered in every step of the decision making processes and spaces,

³⁹ See: Porsanger, J. and Guttorm, G. (2011). “Introduction-Árbediehtu-fágasuorggi huksen”. In: Porsanger Jelena and Gunvor Guttorm (eds.) *Working with Traditional Knowledge: Communities, Institutions, Information Systems, Law and Ethics: Writings from the Arbediehtu Pilot Project on Documentation and Protection of Sami Traditional Knowledge*: 13-57. Diedut 1. Sámi allaskuvla / Sámi University College.

in order to achieve and follow up on the implementation of culturally appropriate and rights-based policies at the global, regional, national and local levels. Recognition, acknowledgment and support of Indigenous Peoples' leadership in research on self-management and governance practices is necessary to enable their equal participation in policy making and to foster community-led policies.

- **Actionable strategies are needed also to address financial and political barriers to implement these transformation policies.** Leadership in policy making should guarantee Indigenous Peoples' direct access to climate and biodiversity protection funding, and subsidies for nature restoration and enhancement of Indigenous Peoples' knowledge systems, sciences and practices, especially when actions have to be taken in their territories.
- **Sustainable Development Goals (SDGs) and Nationally Determined Contribution (NDCs) from an Indigenous Peoples' perspective and a rights-based approach.** To move on to sustainable and responsible futures, SDGs and NDCs have to be seen through a rights-based approach and in an interconnected and holistic way that considers Indigenous Peoples' analysis, perspectives, ways of life, values and conceptions of wellbeing and health. The achievement of sustainability goals must consider informed metrics, research and analysis of the SDGs and NDCs from an Indigenous Peoples' perspective, which can serve as a lever for strengthening their knowledge and sciences, and foster their systematic participation and engagement in the development, review and enhancement of SDGs and NDCs.⁴⁰

⁴⁰ A policy research in several countries of Asia has been carried out by Asia Indigenous Peoples Pact (AIPP) "to shed light on how the rights, roles and knowledge of indigenous men, women, youth, and persons with disabilities are addressed in national-level climate policies and plans, such as NDCs, REDD+ strategies, national adaptation plans, and relevant environmental laws in Asia". A regional summary, and the reports for each country –Bangladesh, Cambodia, India, Indonesia, Malaysia, Myanmar, Nepal, Philippines, Thailand, and Vietnam– are hosted in AIPP website.



Image 5.2. Interwoven roots representing bondings among Karen People's families. Karen women's sacred forest, Huay Ee Khang village, Thailand.



ANNEX

Annex 1. Free, Prior and Informed Consent Documents for IK & LK Dialogues (GEO-7)

Indigenous Knowledge and Local Knowledge Dialogues to inform the Seventh Edition of the Global Environment Outlook (GEO-7)

Background

Free, Prior and Informed Consent (FPIC) is a right that Indigenous Peoples hold. It is a process where Indigenous Peoples use their self-determination to give or withhold consent to participate in a project or a process.

GEO-7 uses FPIC as a central component in the dialogues with Indigenous Peoples and local communities. In addition, the following principles have been embraced to recognize Indigenous Peoples' and local communities' participants as contributors of GEO-7, to reduce the possibilities to affect them negatively and to maximize the benefits for the participants.

Ethical principles

These ethical principles are concepts adopted by the GEO-7 to guide the ethical approach to engage Indigenous Peoples and local communities. The concepts are rooted in values that promote a respectful mutual interaction across populations, cultures, knowledge systems and worldviews, aiming to develop a constructive relationship that will foster complementary solutions to the triple planetary crisis, together with land degradation, that human and natural systems face. The triple planetary crisis includes climate change, biodiversity loss, pollution, and is assessed with land degradation in the GEO-7. The ethical principles for the GEO-7 are meant to ensure that the *Dialogues*:

1. Do not harm;
2. Should not be 'extractive';
3. Provide recognition to participants;
4. Provide equal validity of system knowledge and information that will be provided;
5. Ensure Reciprocity: given back and provide benefit to the communities;

These principles will be presented to the participants for their information, validation and to allow the space to include new principles they consider relevant for this first dialogue. If participants feel that the above goals are not being achieved at any point during GEO-7 activities, participants are asked to bring this to the attention of the organizers of the activity, or the Secretariat at unep-ewad-geohead@un.org

Audio recording and text keeping

UNEP acknowledges that Indigenous Peoples, including local communities, may share confidential information, including spirituality and knowledge that serves their communities to adapt to current environmental changes and because this knowledge has been subject to exploitation and use without consent in the past, it is very important to clarify that the use of information and knowledge shared, recording sessions and use of notes taken during these dialogues, will be exclusively for informing the GEO-7 report.

UNEP would like to record all dialogue sessions to prepare the dialogue outcomes report that will be used to inform the GEO-7 report. The outcomes report will be provided to the participants in the six UN languages. Where appropriate, GEO-7 authors, together with the IK & LK Taskforce, will work with Indigenous Peoples present at the dialogues to ensure that their knowledge is only represented in ways that do not reveal confidential information without their permission.

With the formally documented consent of those providing the materials, these confidential materials may be documented and stored in long-term repositories with restricted access under the care of UNEP.

We hereby invite you to please read the below consent and declaration statement which contains further information.

Consent statement on FPIC and granting of copyright form

UNEP requests that you tick the appropriate box below and declare whether you consent to the use of information and knowledge shared, recording sessions and use of notes taken during these dialogues, which will be exclusively for informing the GEO-7 report:

- ☐ I hereby consent that I have no actual, potential or perceived objection to the use of information and knowledge shared, recording sessions and use of notes taken during these dialogues, which will be exclusively for informing the GEO-7 report as my contribution to the seventh edition of UNEP's Global Environment Outlook (GEO-7) assessment.

- ☐ I hereby declare that I DO NOT consent to the use of information and knowledge shared, recording sessions and use of notes taken during these Dialogues. The particulars of such matter(s) are stated below:

1. Granting of Copyright

UNEP requests that you confirm the following statement on granting copyright (tick the box if in agreement):

- ☐ I hereby grant and assign UNEP the worldwide non- exclusive, sole, and permanent right to reproduce, translate, adapt, publish, broadcast and distribute in any UN language, in printed or electronic format, of any content or parts thereof of the seventh edition of the Global Environment Outlook (GEO-7) assessment or future revisions that I contribute to and to authorize UNEP to exercise any or all of these rights. Further, I grant this permission to UNEP at no cost. Any publications in printed or electronic format, of any content or parts thereof of findings drawn from the seventh edition of the Global Environment Outlook (GEO-7) assessment or future revisions that I would wish to publish will only be disclosed after UNEA-7.

Note: please ensure all the appropriate boxes above are checked before signing.

Name:

Signature:

Date:

Indigenous Knowledge and Local Knowledge Dialogues to inform the Seventh Edition of the Global Environment Outlook (GEO-7)

Sharing knowledge and respecting FPIC

During the Dialogues, IK & LK taskforce members will work with Indigenous Peoples, including Youth, Elders, representatives of Indigenous Organizations, as well as local communities. A dialogue report will be developed to serve as a record of the discussions. The FPIC rights of the Indigenous Peoples participating in dialogue workshops or other activities will be discussed prior to the beginning of the activity, until participants feel comfortable and well informed about their rights and the process, including the eventual planned use and distribution of information.

This discussion may be revisited during the activity, and will be revisited at the end of dialogue workshops once participants have engaged in the dialogue process. To ensure that knowledge is shared in appropriate ways during dialogue workshops and that information and materials produced after these activities are used in ways that respect FPIC, we propose the following:

- Participants do not have to answer any questions that they do not want or feel comfortable answering, and do not need to participate in any part of an activity in which they do not wish to participate.
- At any point, a participant can decide that they do not want particular information to be documented or shared outside of the activity. Participants will inform the facilitators and UNEP Secretariat of this, to take note of the request of the specific participant.
- Participants can also request that the information is only recorded as a general statement attributed to a region or country, rather than to a specific community.
- Permission for photographs, videos and recordings must be agreed prior to these being taken and participants have the right not to be photographed, recorded or have videos taken of them. Facilitators and Secretariat should take note of these requests from specific participants.
- Copies of all information collected will be provided to the participants for approval. The dialogue report using information provided by participants will be shared with the participants for prior approval and consent.
- The information collected during the activity will not be used for any purposes other than those for which consent has been granted, unless permission is sought and given by participants.
- Participants can decline to consent or withdraw their knowledge or information from the process at any time, and records of that information will be deleted if requested by the participant.

Following the above, we request for your permission and consent for the recording, photography and videography during the three days of the dialogues for outreach and awareness raising content developed by the partners involved. Participants should, however, be aware that once

the dialogue reports are published they cannot be changed, and information incorporated cannot be withdrawn from the dialogue report after this point.

Consent statement on FPIC and granting of copyright form

UNEP requests that you tick the appropriate box below and declare whether you consent to the use of photography, videos and recordings taken during the dialogue sessions to be used for outreach and awareness raising content developed by the partners involved:

- ☐ I hereby consent that I have no actual, potential or perceived objection to the use of photography, videos and recordings taken during the dialogue sessions to be used for outreach and awareness raising content developed by the partners involved.
- ☐ I hereby declare that I DO NOT consent to the use of photography, videos and recordings taken during the dialogue sessions to be used for outreach and awareness raising content developed by the partners involved. The particulars of such matter(s) are stated below:

Note: please ensure all the appropriate boxes above are checked before signing.

Name:

Signature:

Date:

Annex 2. First IK & LK Dialogue General Agenda and Objectives

Day	Sesion Purpose	Main Activities
Day 1 Monday, March 25th, 2024	Introduction Learn about conceptualizations of Nature and environmental changes and impacts	<ul style="list-style-type: none"> ▪ Introductions and greetings ▪ Brief presentation of GEO ▪ Dialogue on conceptualizations of Nature, environmental changes and impacts ▪ Plenary
Day 2 Tuesday, March 26th, 2024	Learn about causes of environmental changes and actions to be taken	<ul style="list-style-type: none"> ▪ Collective recapitulation ▪ Dialogue on causes of environmental changes / impacts and actions ▪ Plenary
Day 3 Wednesday, March 27th, 2024	Learn about desired futures and pathways	<ul style="list-style-type: none"> ▪ Sharing objects that symbolize the past, present, and desired futures ▪ Dialogue on Ingidenous Peoples' present and desired futures ▪ Plenary

Annex 3. Second IK & LK Dialogue General Agenda and Objectives

Day	Session Purpose	Main Activities
Day 1 Tuesday, June 11th, 2024	Introduce the Dialogue and establish a space of trust Learn about conceptions of Nature Identify socio-environmental changes and their causes	Morning <ul style="list-style-type: none"> Opening table Collective offering Opening plenary: welcome, GEO-7 introduction and Dialogue agreements Dialogue in breakout groups: Nature conceptualizations Afternoon <ul style="list-style-type: none"> Activity to share conceptions of Nature and poems Video presentation on GEO-7 chapters Dialogue in breakout groups: socio-environmental changes and their causes Plenary First collective evaluation
Day 2 Wednesday, June 12th, 2024	Explore collectively desired futures and actions Describe and prioritize actions by fields of action, analyze their scales and actors	Morning <ul style="list-style-type: none"> Ice-breaker activities Video presentation on GEO-7 chapters Dialogue in breakout groups: collective collage of desired futures and actions Plenary Afternoon <ul style="list-style-type: none"> Social cohesion activity Video presentation on GEO-7 chapters Dialogue in breakout groups: actions, scales and actors Plenary Folkloric Ballet: traditional dances from Oaxaca
Day 3 Thursday, June 13th, 2024	Hold the Caucus session and open a space to listen to reflections and establish follow-up agreements Close the Dialogue Field trip	Morning <ul style="list-style-type: none"> Social cohesion activity Caucus session Final plenary Closing. Back to our collective offering Afternoon <ul style="list-style-type: none"> Field trip to the community of Santa Catarina Minas to learn about the traditional cultivation of agave and the process of making ancestral mezcal.

Annex 4. Third IK & LK Dialogue General Agenda and Objectives

Day	Session Purpose	Main Activities
Day 1 Sunday, January 12th, 2025	Visit to the Indigenous Karen Village Huay Ee Khang	Journey to the village <ul style="list-style-type: none"> ▪ Welcoming ceremony by the community ▪ Introduction by participants ▪ Community knowledge sharing and exchange ▪ History challenges and opportunities ▪ Natural resources management practices ▪ Indigenous women's leadership ▪ Knowledge transmission ▪ Lunch with the community ▪ Visit to the women's forest and exhibition of the handicraft ▪ Farewell remarks ▪ Departure from the village
Day 2 Monday, January 13th, 2025	Introduction to the Dialogue and care agreements First Caucus session and reflection sharing Review and discussion of Parts A and B of the GEO-7 Report Second Order Draft (SOD)	Morning <ul style="list-style-type: none"> ▪ Welcoming and opening ritual ▪ Introduction circle ▪ Opening plenary: GEO-7 introduction and dialogue care agreements ▪ 1st Caucus session and plenary ▪ Dialogue in breakout groups: Part A ▪ Plenary ▪ Lunch Afternoon <ul style="list-style-type: none"> ▪ Dialogue in breakout groups: Part B ▪ Plenary ▪ First collective evaluation
Day 3 Tuesday, January 14th, 2025	Review and discussion of Parts C and D of the GEO-7 Report SOD	Morning <ul style="list-style-type: none"> ▪ Opening chant ▪ Dialogue in breakout groups: Part C ▪ Plenary session ▪ Dialogue in breakout groups: Part D ▪ Lunch

<p>Day 3 Tuesday, January 14th, 2025</p>	<p>Second Caucus session and reflections sharing</p> <p>Presentation of IPs organizations and communities initiatives</p>	<p>Afternoon</p> <ul style="list-style-type: none"> ▪ Social cohesion activity ▪ Second Caucus session and plenary ▪ Presentation of dialogue groups reflections on Part D ▪ Collective Work Display ▪ Closing remarks for the day
<p>Day 4 Wednesday, January 15th, 2025</p>	<p>Review and discussion of Part A of the GEO-7 Report SOD, and the First Order Draft of the Summary for Policymakers (SPM)</p> <p>Third caucus session</p> <p>Reflections sharing and establishment of follow-up agreements</p> <p>Formal closing of the Dialogue</p>	<p>Morning</p> <ul style="list-style-type: none"> ▪ Opening chant ▪ Dialogue in breakout groups: Part E ▪ Plenary session ▪ Dialogue in breakout groups: SPM ▪ Lunch <p>Afternoon</p> <ul style="list-style-type: none"> ▪ Third Caucus session ▪ Final plenary: Sharing messages from the caucus session and follow-up agreements ▪ Final agreements and farewell

Annex 5. Overview of the 5 Parts of the GEO-7

Chapter	Chapter Outline
Summary for Policy Makers	
The Summary for Policy Makers focuses on the most policy relevant findings of each chapter and suggested roles for different stakeholders. The SPM will be approved by Member States.	
Global Environmental Crises Chapeau	
This text explains what planetary crises are, how they interact with each other, how they impact the environmental, social and economic systems and how the transformation of key human systems will help solve these crises.	
Part A: Overview and context	
Part A IK & LK Chapeau	<ul style="list-style-type: none"> These short texts (500 words for each part) will focus on the Indigenous conceptualizations of the concepts being discussed in GEO-7. They will look at how Indigenous Peoples conceptualize drivers of environmental change, impacts on key environmental systems, expected future trends, intentionally transforming key systems, regional impacts and implications. In addition to the chapeaux texts, Indigenous knowledge will be embedded into the individual chapters where it is appropriate.
Chapter 1. Introduction	<ul style="list-style-type: none"> Sets the scene and context of the whole GEO-7 report. Road map and the narrative of GEO-7 Summary of the key findings from other international assessments of the four inter-connected environmental issues (i.e., climate change, loss of biodiversity, pollution and waste, and land degradation) Introduces the key policy relevant questions GEO-7 will address, the concept of transformation, and the need for GEO-7 being innovative and solutions-focused Introduces the four inter-connected systems that need to be transformed if environmental sustainability is to be achieved (economic and finance, waste, energy, and food) Argues that there is a need to transform the way environmental systems (e.g., forests, grasslands, and wetlands) are managed.

<p>Chapter 2. Historical, current and projected drivers and pressures of environmental change</p>	<ul style="list-style-type: none"> Assesses the historic, current and plausible future drivers and pressures of environmental change (i.e., the causes of environmental change), and their interactions. The key drivers of change include <ul style="list-style-type: none"> demographic (especially numbers of people); economic (especially individual wealth), science and technology (i.e., changes in knowledge and advances in technology), cultural and social (e.g., people's values and preferences), political and institutions (e.g., governance structures); shocks (e.g., wars and pandemics). These collectively lead to an increase in the demand for goods and services (e.g., food, water, energy, and infrastructure), which lead to changes in the direct pressures that cause changes in the environment, i.e., changes in land- and sea-use, exploitation of fauna and flora, climate change, land, water and air pollution, and invasive alien species. The emphasis is on understanding and quantifying the interactions among and between the drivers and pressures.
<p>Part B: State and Trends of the environment</p>	
<p>Global Environmental Crises Chapeau: This text explains what the global environmental crises are, how they interact with each other, how they impact the environmental, social and economic systems and how the transformation of key human systems will help solve these crises.</p>	
<p>Part B IK & LK Chapeau</p>	<ul style="list-style-type: none"> These short texts (500 words for each part) will focus on the Indigenous conceptualizations of the concepts being discussed in GEO-7. They will look at how Indigenous Peoples conceptualize drivers of environmental change, impacts on key environmental systems, expected future trends, intentionally transforming key systems, regional impacts and implications. In addition to the chapeaux texts, Indigenous knowledge will be embedded into the individual chapters where it is appropriate.
<p>Chapter 3. Air</p>	<ul style="list-style-type: none"> Chapters 3-6 assess the observed current state and trends in the environment (atmosphere/air, land and soils, oceans and coasts, and freshwater), the underlying causes of the observed changes (i.e., the drivers and pressures discussed in part A), their interactions with each other, and their impact on human systems. The interconnections among climate change, biodiversity loss, pollution and land are also assessed. These chapters highlight that the observed changes in the environment are unprecedented at the local, regional and global scale, thus demonstrating the need for change.
<p>Chapter 4. Land and Soils</p>	
<p>Chapter 5. Oceans and coast</p>	
<p>Chapter 6. Freshwater</p>	
<p>Chapter 7. Implications of environmental change on the SDGs, and internationally agreed environmental goals</p>	<ul style="list-style-type: none"> Chapter 7 assesses the implications of environmental change on the SDGs, and internationally agreed environmental goals Implications of environmental change on the SDGs, including: poverty, food production and hunger and related cross-cutting issues, e.g. migration, water quantity and quality, human health and wellbeing, rehabilitating land and soil, affordable and clean energy, decent work and economic growth, gender equality and socioeconomic equity, peace and security, environmentally sustainable cities and communities.

<p>Chapter 8.</p> <p>Interlinkages across environmental changes, scales and geographic regions and sub-regions</p>	<ul style="list-style-type: none"> ▪ This chapter introduces the need to assess and address interlinkages of the global environmental of climate change, biodiversity loss, pollution and waste, together with land degradation ▪ The analysis will then identify 3 environmental priority issues in each of the five UN sub-regions, and discuss the relationship of these with the planetary crises. ▪ Each sub-regional section next outlines implications of the priority issues on natural and human systems ▪ Finally, the chapter describes the nature and implications of telecoupling (coupled human and natural systems across time and space)
<p>Part C: System Transformation and Outlooks</p>	
<p>The Outlooks Chapters explore the implications of a continuation of today's policies and practices, as well as two alternative transformation pathways to address the planetary crisis. Two types of scenarios are developed for GEO-7. The current trends scenario represents a continuation of current policies and practices and is used to assess the environmental and socioeconomic implications of not addressing the global environmental crises. The two transformation pathways are normative scenarios that describe alternative combinations of solutions to address the planetary crisis. They are used to explore alternative routes to a desired future, including required effort and interaction across systems, defined by internationally agreed goals. These goals include limiting global warming, halting and reversing biodiversity loss, improving air quality in cities, and achieving land degradation neutrality, alongside ending hunger and achieving universal access to modern energy services and safe water and sanitation.</p> <p>The two transformation pathways outline a technology-focused transformation and a behavior-focused transformation. The transformation pathways tell different stories about needed strategies or solutions for system transformation to address the planetary crisis. The technology-focused transformation pathway describes a highly globalized world that relies primarily on technological development and efficiency gains. The behaviour-focused transformation pathway describes a world in which society transforms its core values, beliefs and norms, moving away from human exceptionalism, materialism and consumerism.</p>	
<p>Part C</p> <p>IK & LK</p> <p>Chapeau</p>	<ul style="list-style-type: none"> ▪ These short texts (500 words for each part) will focus on the Indigenous conceptualizations of the concepts being discussed in GEO-7. They will look at how Indigenous Peoples conceptualize drivers of environmental change, impacts on key environmental systems, expected future trends, intentionally transforming key systems, regional impacts and implications. In addition to the chapeaux texts, Indigenous knowledge will be embedded into the individual chapters where it is appropriate.
<p>Chapter 9.</p> <p>Approaches, methodology and philosophy</p>	<ul style="list-style-type: none"> ▪ This chapter presents the novel approach to quantitative modelling used in GEO-7. The approach links together 6 different models to produce current trends scenarios and target seeking scenarios to solve the planetary crises. ▪ The quantitative modelling will also be disaggregated to the UN regional level to help with the regional analysis of future prospects in Chapter 20.

<p>Chapter 10.</p> <p>Staying on the path we are on – global implications</p>	<ul style="list-style-type: none"> ▪ This chapter will assess the current and future trends for the environment if we remain on the path we are on. The quantitative modelling is focused on whether the current path can achieve the internationally agreed environmental goals (e.g. Paris, GBF, UNCCD) but also WHO air quality guidelines. ▪ The analysis will also look to estimate the cost of inaction at the global scale.
<p>Chapter 11.</p> <p>Transformation Pathways – global implications</p>	<ul style="list-style-type: none"> ▪ The two target-seeking scenarios will push the quantitative models to achieve the internationally agreed environmental goals (mentioned above) but will do so in two different ways. One will achieve the goals using a primarily technology focused approach (TECH scenario) and the other will do so using primarily a behavioral approach (LIFE scenario). ▪ The intent is to estimate the solutions space, since most of the solution pathways provided later will be a combination of the TECH and LIFE scenarios.
<p>Part D: Solutions Pathways Towards Transformation</p>	
<p>It focuses on “how” to achieve internationally agreed environmental goals while also being “socially sustainable”. It assesses how to transform the economic and finance (Chapter 14), material/waste/circularity (Chapter 15), energy (Chapter 16), and food (Chapter 17) systems, and how to transform the way the environment is managed (Chapter 18). Solution pathways, which are a combination of solutions and actions, are developed for each system, assessing the implications of each solution pathways on the other systems. The goal is to manage each of these inter-connected systems together, recognizing synergies and potential trade-offs.</p>	
<p>Part D</p> <p>IK & LK</p> <p>Chapeau</p>	<ul style="list-style-type: none"> ▪ These short texts (500 words for each part) will focus on the Indigenous conceptualizations of the concepts being discussed in GEO-7. They will look at how Indigenous Peoples conceptualize drivers of environmental change, impacts on key environmental systems, expected future trends, intentionally transforming key systems, regional impacts and implications. In addition to the chapeaux texts, Indigenous knowledge will be embedded into the individual chapters where it is appropriate.
<p>Chapter 12.</p> <p>What are the elements and levers of transformative change?</p>	<ul style="list-style-type: none"> ▪ Describes the processes and dynamics of system transformation, including the principles of transformation, what levers and actions are needed to make the food, energy, and materials systems more environmentally, socially and economically sustainable.
<p>Chapter 13.</p> <p>Methodological approach to solutions-focused pathways</p>	<ul style="list-style-type: none"> ▪ Will provide a seven step method for developing solutions pathways ▪ The method will address how to move from goals you wish to achieve, to the combination of solutions to achieve those goals, including their sequencing and timing and finally, which levers can be used to achieve the solutions (e.g. governance, knowledge and innovation, economics and finance, building capabilities, etc.) ▪ The chapter is meant to complement the systems chapters which will present illustrative solutions pathways, but these would need to be adapted to the particular national context, using the methods chapter.

Chapter 14. Solution pathways for transformation of economic systems	<ul style="list-style-type: none"> ▪ Addresses transformation of the economic system and finance systems, considering the economic and financial risks associated with environmental change and policies to address them. ▪ Solution Pathways proposed: <ul style="list-style-type: none"> ▪ Internalizing the externalities (correcting pricing) ▪ Mainstreaming sustainability in economic governance ▪ Enhancing financial sector resilience and contribution to sustainability ▪ Fostering non-pricing approaches towards greening behaviours
Chapter 15. Solution pathways for transformation towards circularity	<ul style="list-style-type: none"> ▪ Solutions pathways proposed: <ul style="list-style-type: none"> ▪ Designing out waste/designing in circularity into the full lifecycle of products ▪ Changing markets and pricing structures ▪ Reform financial and accounting frameworks towards circularity of resource and capital flows ▪ Reform of internal trade systems ▪ Circular society pathway
Chapter 16. Solution pathways for transformation of energy systems	<ul style="list-style-type: none"> ▪ Solutions pathways proposed: <ul style="list-style-type: none"> ▪ Access to affordable and clean energy, primarily in Africa ▪ Increased end-use efficiency, for energy consumption ▪ Decarbonize everything, everywhere ▪ Ensuring environmentally sustainable access to critical minerals for the energy system transformation
Chapter 17. Solution pathways for transformation of food systems	<ul style="list-style-type: none"> ▪ Solutions pathways proposed: <ul style="list-style-type: none"> ▪ Shifting to healthy and environmentally sustainable diets ▪ Improved crop, livestock and aquatic food production and land use systems ▪ Reducing losses and wastes and increasing circularity ▪ Accelerating novel foods and production processes (i.e. cultured meat) ▪ Accelerating access to novel foods
Chapter 18. Solution pathways for transformation of environmental systems	<ul style="list-style-type: none"> ▪ Solutions pathways proposed: <ul style="list-style-type: none"> ▪ Protecting and restoring degraded ecosystems ▪ Applying nature-based solutions to restore provisioning services from natural systems (water, soil, air) ▪ Developing an environmentally sustainable bioeconomy

Part E: Implications for Regions and Groups of Countries and Driving the Transformation

Part E assesses the implications and types of transformations that are appropriate/prioritized for distinct types of countries and different regions based on both the scenarios and broad systems chapters. It shows how the transformations could happen and the role of different stakeholders and knowledge holders in the transformations. It shows that to 'accelerate' these transformations to help ensure the required environmental outcomes (stable climate, biodiverse (nature rich) and pollution-free world) are achieved, requires that the three lock-ins of political economy, education/habits, multi-level governance be overcome in a way that society transforms towards a nature-positive approach.

Part E IK & LK Chapeau	<ul style="list-style-type: none"> These short texts (500 words for each part) will focus on the Indigenous conceptualizations of the concepts being discussed in GEO-7. They will look at how Indigenous Peoples conceptualize drivers of environmental change, impacts on key environmental systems, expected future trends, intentionally transforming key systems, regional impacts and implications. In addition to the chapeaux texts, Indigenous knowledge will be embedded into the individual chapters where it is appropriate.
Chapter 19. Implications for different economic development context	<ul style="list-style-type: none"> This chapter will assess the impacts and implications of these environmental transformations for countries of different economic classes. World Bank definitions for high, medium and low income countries will be used.
Chapter 20. Regional similarities and differences	<ul style="list-style-type: none"> This chapter will complement Chapter 8, but assessing the impacts and implications between now and 2050 for the 5 UN regions. The chapter will use the disaggregated modelling results to determine the pathways for each region (current trends and target-seeking) and assess the socio-economic implications for each region (and sometimes subregions) of making the broader system transformations.
Chapter 21. Driving the transformations	<ul style="list-style-type: none"> This chapter will assess the remaining barriers and lock-ins for achieving the system transformations. These include political economy, vested interests, multi-level governance (stove piping), education and habit barriers. The chapter will try to explain the approaches that can be used to overcome these barriers and lock-ins to accelerate the transformations to achieve the environmental goals.

