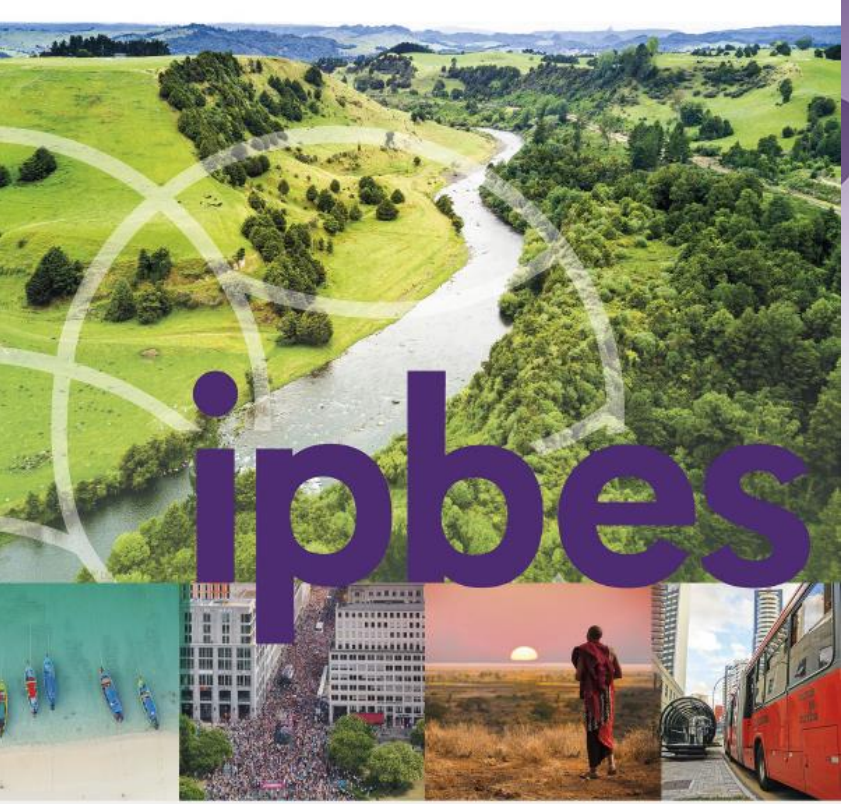


The thematic assessment report of

THE UNDERLYING CAUSES OF BIODIVERSITY LOSS AND THE DETERMINANTS OF TRANSFORMATIVE CHANGE AND OPTIONS FOR ACHIEVING THE 2050 VISION FOR BIODIVERSITY

Key Messages

of particular relevance to

Indigenous Peoples and Local Communities

from the

IPBES assessment of transformative change

Acknowledgement

Thank you to everyone who participated in the work with Indigenous and local knowledge in the assessment:

- Authors and contributing authors
- Dialogue workshop participants
- Groups and individuals who contributed materials
- Reviewers who submitted comments

The assessment was possible thanks to your knowledge, generosity, time and commitment. We particularly acknowledge the many members of Indigenous Peoples and local communities who participated.

Background to IPBES

The **Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES)** is an independent intergovernmental body, established by governments in 2012. It now has close to 150 members.

The overall **objective** of IPBES is to strengthen the science-policy interface for the conservation and sustainable use of biodiversity, long-term human well-being and sustainable development.

The current IPBES work programme (from 2019 to 2030) includes the following **6 main objectives**:

- Assessing knowledge
- Building capacity
- Strengthening knowledge foundations (including **enhancing work with Indigenous and local knowledge**)
- Supporting policy
- Communicating and engaging
- Improving the effectiveness of IPBES

Photo: Viet Nam - Western Nghe An Biosphere Reserve - UNESCO

IPBES and Indigenous and local knowledge

Since its inception, IPBES has recognised the importance of Indigenous and local knowledge (ILK) to the conservation and sustainable use of ecosystems.

Work with ILK was enshrined in the deliverables and objectives of IPBES.

The IPBES conceptual framework explicitly considers multiple knowledge systems and types of values.

IPBES has a dedicated task force on ILK and a technical support unit on ILK based at UNESCO.

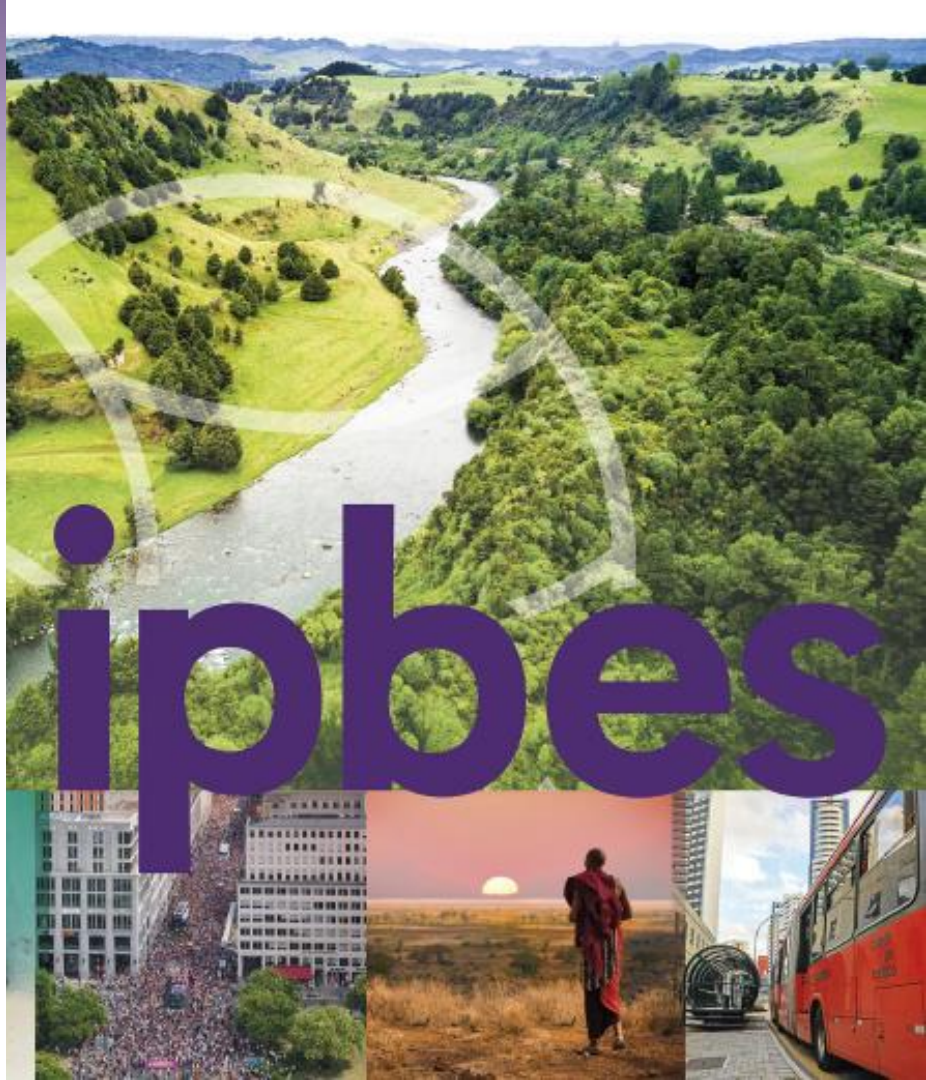
IPBES has developed an "approach to recognizing and working with ILK in IPBES", which was approved by the IPBES Plenary[1] at its fifth session in 2017. IPBES has also developed a methodological guidance to enhance implementation of this approach.

From these efforts, IPBES has produced global-scale environmental assessments that seek to explicitly and systematically work with ILK and Indigenous Peoples and local communities.

You can read more about IPBES work with ILK here and participation by Indigenous Peoples and local communities here.

[1] The Plenary is the body through which states that are members of IPBES take decisions. It usually meets around once a year.

The Assessment of Transformative Change



The Assessment

The assessment's full title is "the thematic assessment of the underlying causes of biodiversity loss and the determinants of transformative change and options for achieving the 2050 Vision for Biodiversity".

The assessment ran for three years from 2021 to 2024.

The team consisted of 3 co-chairs and 101 authors with diverse disciplinary backgrounds from across all regions of the world.

Aims

The following were assessed:

- Different **visions, scenarios and pathways** for a sustainable world, **including visions of Indigenous Peoples and local communities**;
- How transformative change can **occur**, and which **obstacles** it may face; and
- Practical **options for action** to foster, accelerate and maintain transformative change

Photo: A community visit during the second workshop for the assessment, Arara, near Leticia, Colombia

The assessment consists of:

- A **summary for policymakers (SPM)**, approved by the IPBES Plenary at its 11th session in 2024 (IPBES 11), available in six UN languages.
- **Five chapters**, accepted by the IPBES Plenary at IPBES 11, available in English:
  1. Transformative change and a sustainable world
  2. Visions of a sustainable world – for nature and people
  3. How transformative change occurs
  4. Overcoming the challenges of achieving transformative change towards a sustainable world
  5. Realizing a sustainable world for nature and people: means for transformative strategies, actions and roles for all

These documents are available on the IPBES website here.

Methods for working with ILK

Following the IPBES *approach to recognizing and working with Indigenous and local knowledge*, the assessment engaged a variety of methods for working with ILK and enhancing participation by Indigenous Peoples and local communities.

Approaches and methods included:

- A number of authors formed an “ILK liaison group”, tasked with ensuring that ILK was included in individual chapters and in narratives throughout the assessment;
- Key guiding questions for ILK were developed for each chapter;
- Extensive review of literature and other materials on ILK;
- Contributing authors (who write portions of specific text) added to the expertise on ILK;

Figure 5.6. Protect All Life. Artwork by Kisa MacIsaac-Copyright. See Artist’s statement in action 1.4 in annex 5.2. Protect All Life.

Methods for working with ILK (continued)

- Three dialogue workshops were held with Indigenous Peoples and local communities from around the world at key points in the process:
  1. Framing the assessment and key concepts (June 2022, Bonn, Germany)
  2. Reviewing the first drafts (Feb 2023, Leticia, Colombia)
  3. Reviewing the second drafts and the SPM (Dec 2023, Agadir, Morocco)

  Reports from the workshops can be found here;
- An online call for contributions gathered materials on ILK from around the world; and
- Gaps in available information were highlighted to catalyze new research.

Key messages from the summary for policymakers

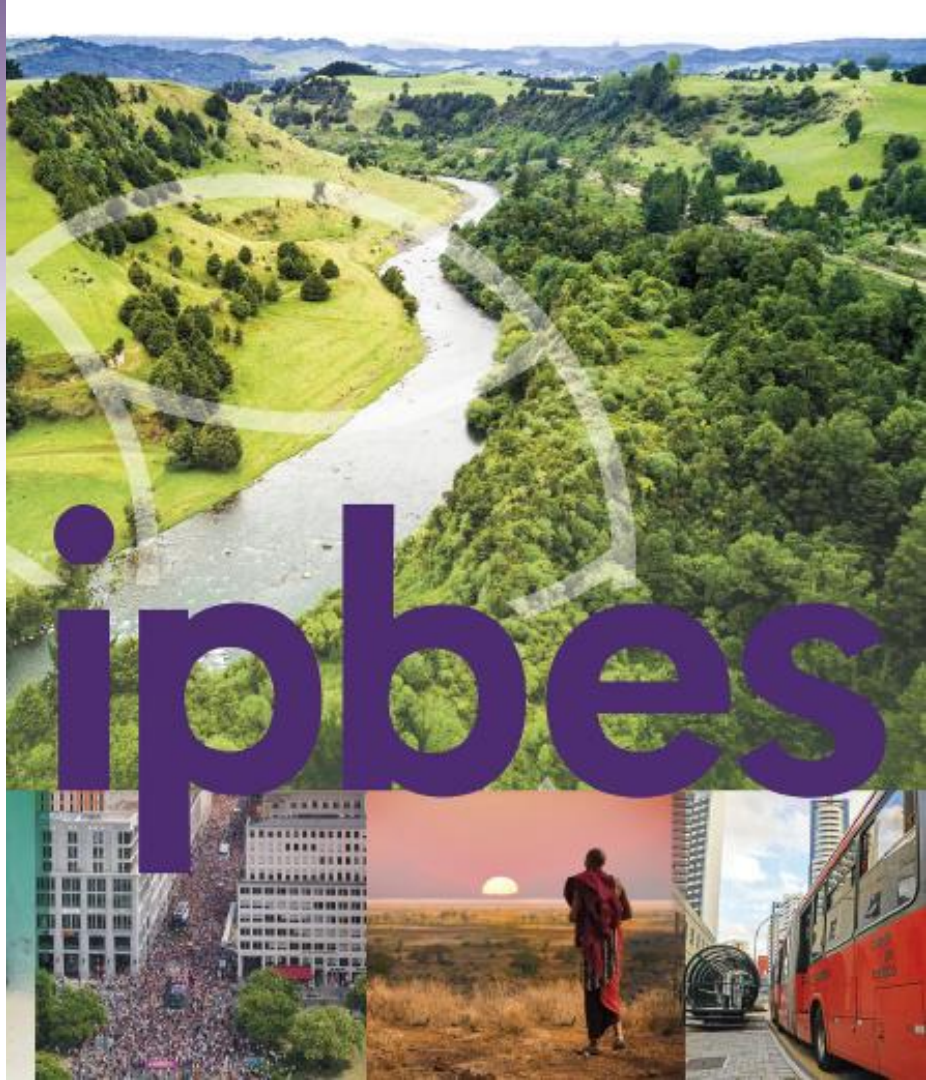


Photo: © Zsolt Molnár

Presentation of the key messages of particular relevance to Indigenous Peoples and local communities

Key messages and background information in the SPM demonstrate the importance of Indigenous and local knowledge and the crucial role of Indigenous Peoples and local communities in understanding, inspiring and managing transformative change. Challenges and ways forward are also addressed.

Following requests from Indigenous Peoples and local communities, these messages and related background information are presented in the following pages, with the aim of making this information more accessible.

The text in the following pages has been taken directly from the SPM, and has not been edited, so it reflects the text that was agreed by the IPBES member states at the eleventh IPBES plenary meeting in 2024.

The summary for policymakers

The summary for policymakers (SPM) summarizes the main findings from across the chapters of the assessment.

The SPM gives key messages, and background information that supports these messages.

It is divided into 3 sections:

A. Transformative change is urgent, necessary and challenging – but possible
B. Strategies and actions for transformative change
C. Enabling transformative change: Roles for all

You can find the SPM in all 6 UN languages here.

A. Transformative change is necessary, urgent and challenging – but possible


Photo: Peter Bates

Key message

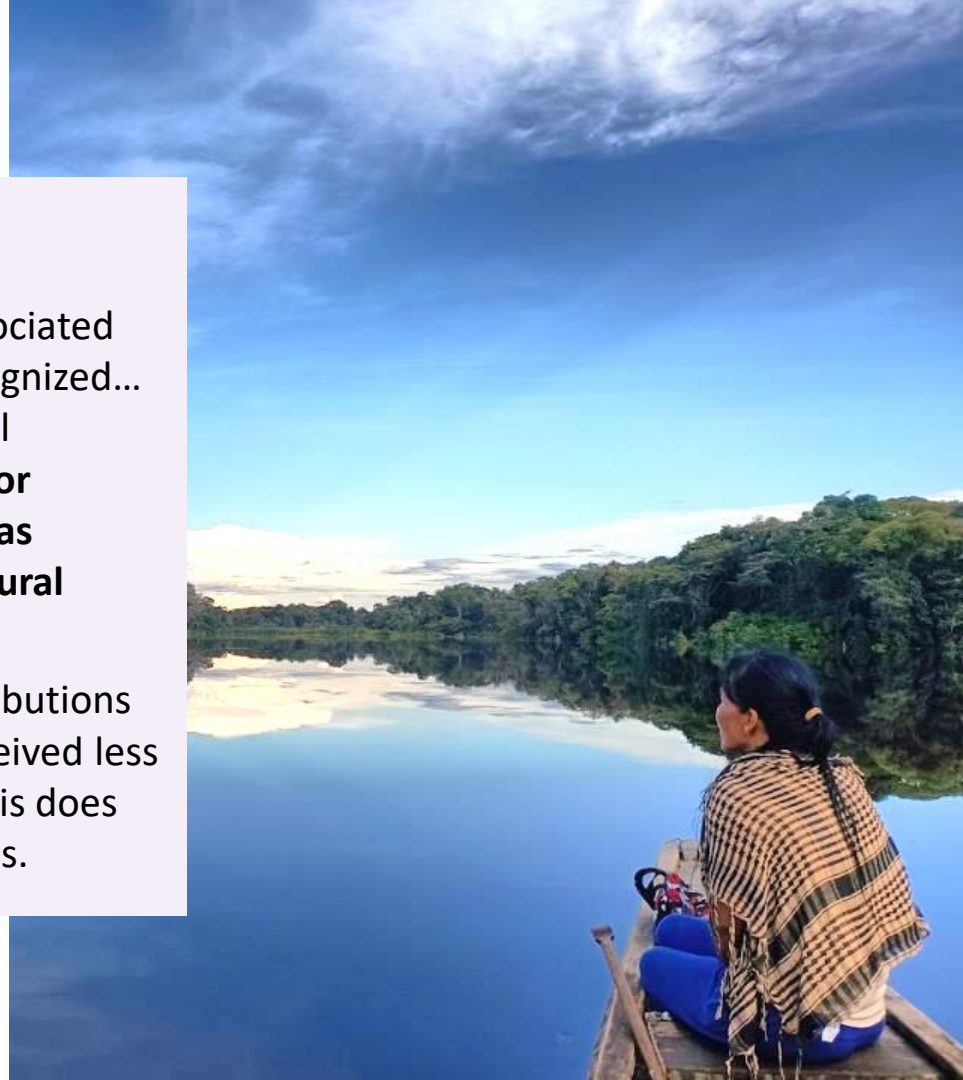
KM1. Transformative change for a just and sustainable world is urgent and necessary to address the global interconnected crises related to biodiversity loss, nature's decline and the projected collapse of key ecosystem functions.

Delaying action to achieve global sustainability is costly compared to the benefits of taking action now.

Background

BM-A2 …The high economic costs and risks associated with failure to address biodiversity loss are recognized… However, these do not account for non-material contributions of nature, such as opportunities **for inspiration, education, and recreation, as well as important contributions to sense of place, cultural diversity and religious or spiritual values.**

Quantifying the loss of such non-material contributions of nature is particularly challenging and has received less attention in the assessed literature, although this does not make their loss any less significant or serious.



Key message

KM2. Transformative change is defined as fundamental, system-wide shifts in views, structures and practices.

Deliberate transformative change for a just and sustainable world shifts views, structures and practices in ways that address the underlying causes of biodiversity loss and nature's decline.

At the same time, it remains important to recognise and strengthen views, structures and practices that are aligned with generating a just and sustainable world, such as those of many Indigenous Peoples and local communities.

Key message

KM2. (continued)

The **three key underlying causes** [of biodiversity loss and nature's decline] identified in this assessment were:

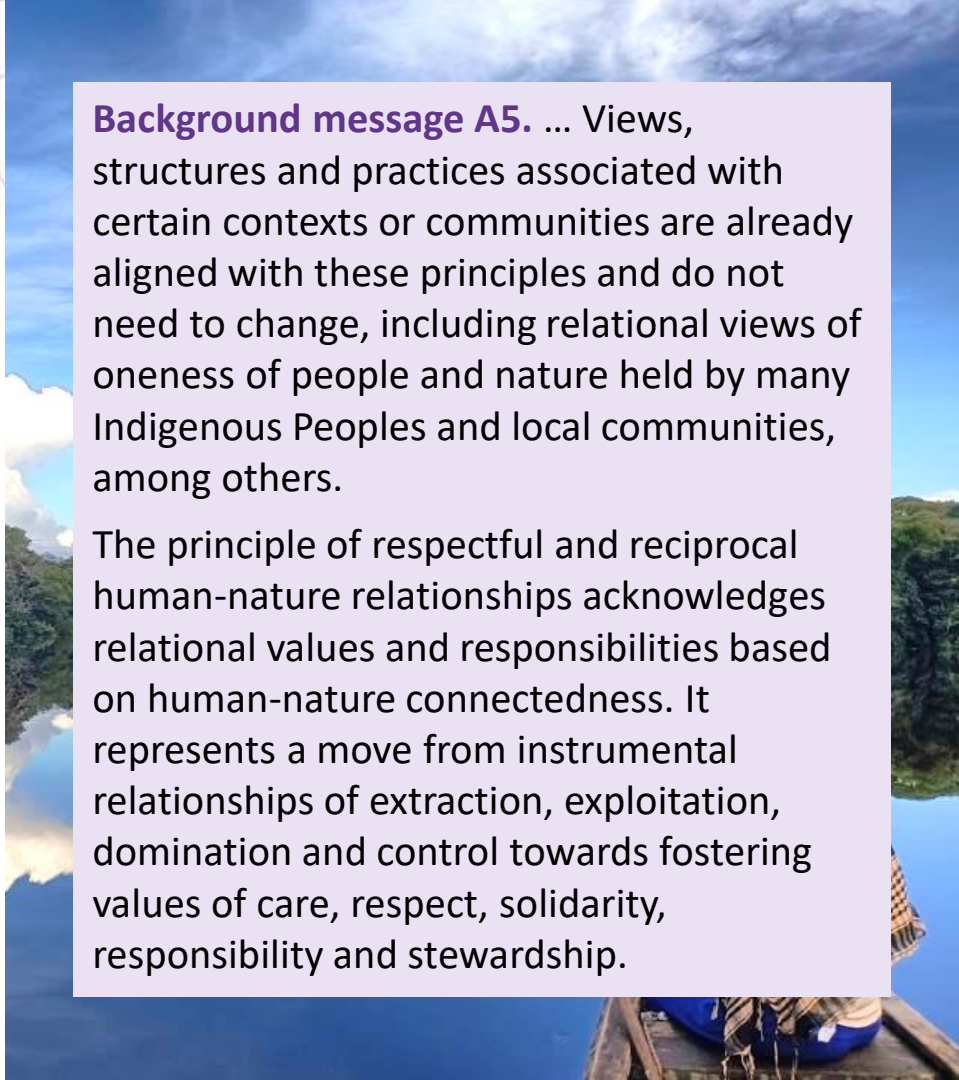
1) disconnection from and domination over nature and people;
2) concentration of power and wealth; and
3) prioritization of short-term, individual and material gains.

Key message

KM2. (continued) <u>Four key principles</u> are responsive to and address the underlying causes of biodiversity loss and nature's decline and guide the process of deliberate transformative change.

These principles are:

- equity and justice;
- pluralism and inclusion;
- respectful and reciprocal human-nature relationships; and
- adaptive learning and action.



Background message A5. … Views, structures and practices associated with certain contexts or communities are already aligned with these principles and do not need to change, including relational views of oneness of people and nature held by many Indigenous Peoples and local communities, among others.

The principle of respectful and reciprocal human-nature relationships acknowledges relational values and responsibilities based on human-nature connectedness. It represents a move from instrumental relationships of extraction, exploitation, domination and control towards fostering values of care, respect, solidarity, responsibility and stewardship.

Key message

KM4. Challenges to transformative change influence all aspects of the relationships between humans and nature.

Five overarching challenges were identified:

1) relations of domination over nature and people, especially those that emerged and were propagated in colonial eras and that persist over time;
2) economic and political inequalities;
3) inadequate policies and unfit institutions;
4) unsustainable consumption and production patterns including individual habits and practices; and
5) limited access to clean technologies and uncoordinated knowledge and innovation systems.

Background message

A4. Disconnection from and domination over nature and people … is inconsistent with the worldviews and values of many Indigenous Peoples and local communities.

Background:

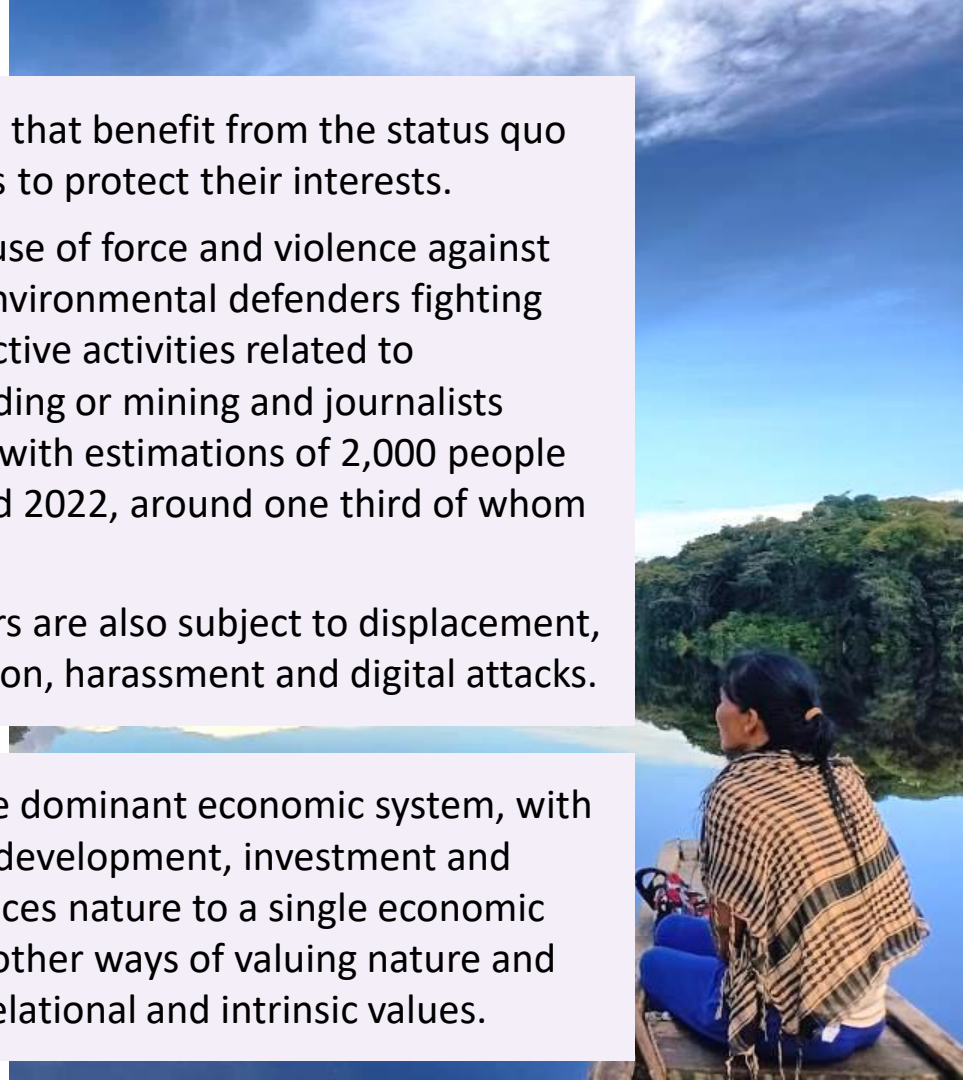
BM-A6. There have also been instances where poorly designed and/or governed offset schemes led to dispossession and violations of the respective rights of Indigenous Peoples and local communities, among other challenges.

BM-A7. Powerful actors that benefit from the status quo are mobilizing resources to protect their interests.

Indicative of this is the use of force and violence against civilians, activists and environmental defenders fighting environmentally destructive activities related to deforestation, dam building or mining and journalists covering such conflicts, with estimations of 2,000 people killed between 2012 and 2022, around one third of whom are Indigenous Peoples.

Environmental defenders are also subject to displacement, repression, criminalization, harassment and digital attacks.

BM-A7. (continued) The dominant economic system, with its focus on market-led development, investment and export-led growth, reduces nature to a single economic value and marginalizes other ways of valuing nature and biodiversity, including relational and intrinsic values.



Key message

KM5. Weaving together insights from diverse approaches and knowledge systems, including Indigenous and local knowledge, enhances strategies and actions for transformative change.

Indigenous and local knowledge contributes to all approaches, offering philosophies, ethics of care and reciprocity, values and practices to shape transformative change, including through the recognition, by some, of the rights of nature and rights of Mother Earth.

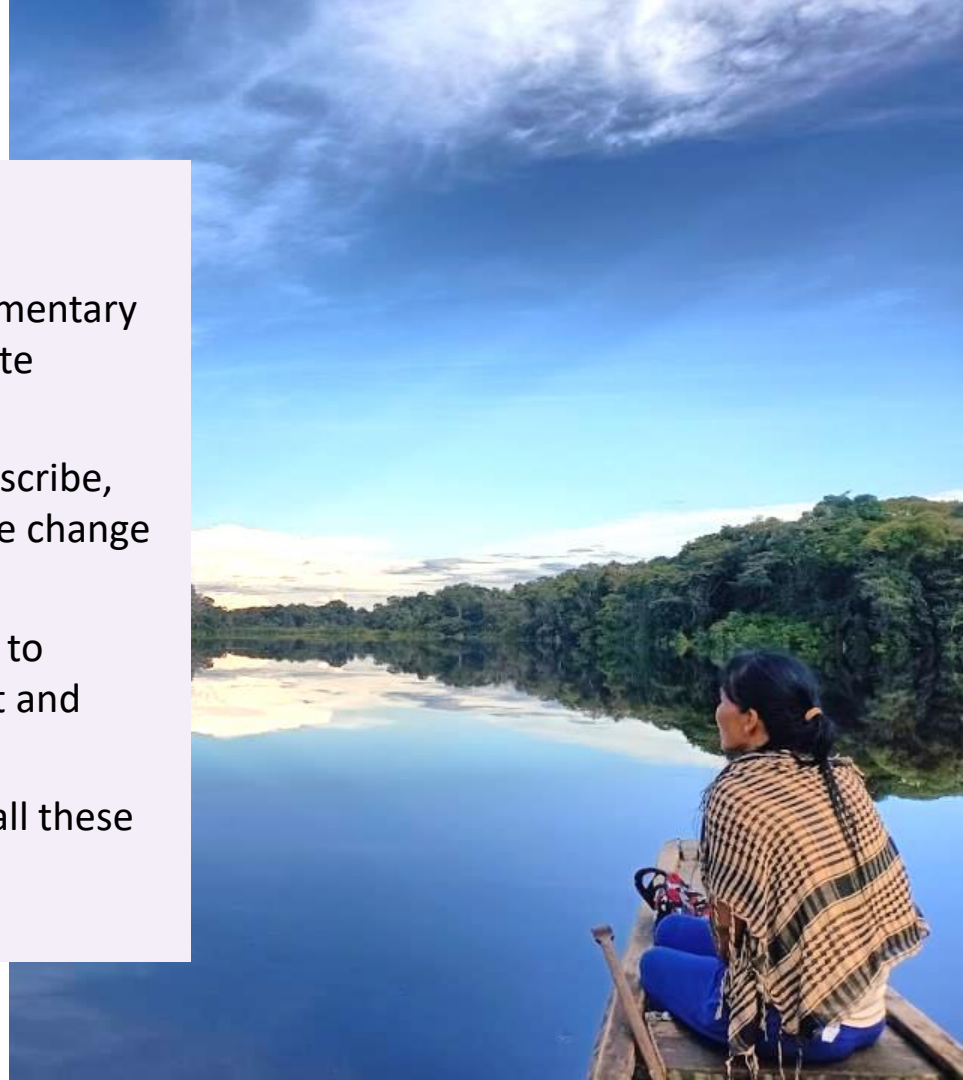
Background

BM-A9. **Six broad approaches** highlight complementary insights for promoting and accelerating deliberate transformative change.

Each provides unique insights to understand, describe, analyze, trigger and navigate how transformative change occurs.

Weaving together multiple approaches can lead to synergies that reinforce pathways towards a just and sustainable world.

Indigenous and local knowledges contribute to all these approaches (table SPM.1 – see next page).

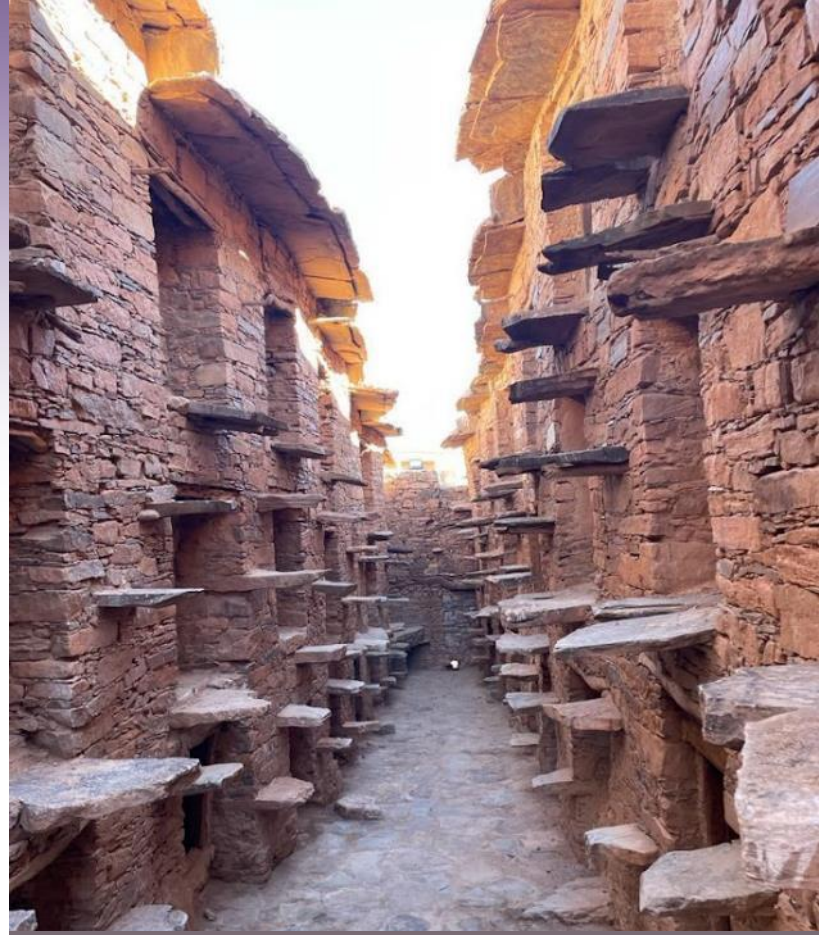


Background

Table SPM.1. The main actions and interventions associated with six broad approaches to transformative change, and the role of Indigenous and local knowledge in each approach.

APPROACHES	MAIN ACTIONS AND INTERVENTIONS ASSOCIATED WITH THE APPROACH	ROLE OF INDIGENOUS AND LOCAL KNOWLEDGE
System 	Interventions that alter the relationships and feedbacks that block or can help accelerate systemic change, including changes to the structure, rules and networks in a system, and the overall goals or underlying intent of the system.	Sharing and providing encompassing and interconnected views of human-nature relationships and complex relations among beings (material and non-material).
Structural 	Altering economic, social, political and cultural rules, either through governance interventions or through communities reforming predominant rules.	Challenging colonial structures and institutionalizing local governance for promoting and enhancing sustainable practices associated with Indigenous and local knowledge.
Inner transformation 	Relational activities that nurture human-other-than-human relationships; intra- and inter-generational relationships; self-other relationships and relationships with oneself leading to shifting inner beliefs, views and practices.	Highlighting spiritual, emotional, cultural, social and historical dimensions of self-other relationships to trigger and leverage inner potentials for transformative change.
Empowerment 	Fostering social movements and building grassroots networks, envisioning alternative pathways using critical tools, self-reflection and historically denied agency to gain recognition, representation, and rights in legal structures and other key arenas of power.	Asserting agency, power and rights of Indigenous Peoples and local communities to their Indigenous and local knowledge and overcoming historical legacies and marginalized situations.
Knowledge co-creation 	Collaborative research-action interventions that build individual and collective capacities to promote desirable futures through visioning, dialogues, reflection and feedback sessions, including sharing knowledge in accessible ways.	Collaboratively generating knowledge and co-designing new products, practices and solutions through an interactive process of weaving knowledge systems.
Science & Technology 	Use of new technologies and innovations, in conjunction with inclusive innovation processes; increased funding for research, education, outreach and science-policy interface.	Source of knowledge for science, technology and innovation, which often draws on traditional knowledge, associated practices and biological resources that have been preserved and maintained through Indigenous and local knowledge.

B. Strategies and actions for transformative change



An *Agadir,* a traditional communal grain store, that embodies values of sharing and community, visited during the third ILK dialogue workshop for the assessment, near Agadir, Morocco.
Photo: Center for Amazigh Historical and Environmental Studies

Key message

KM7. <u>Five key strategies</u> and associated actions have complementary and synergistic effects and substantial potential to advance deliberate transformative change...

1) conserving and regenerating places of value to nature and people.
2) driving systemic change in the sectors most responsible for biodiversity loss and nature's decline.
3) transforming economic systems for nature and equity.
4) transforming governance systems to be integrated, inclusive, accountable and adaptive.
5) shifting societal views and values to recognize and prioritize fundamental interconnections between humans and nature.

Knowledge co-creation and collaboration can be woven through these strategies to ensure effective knowledge exchange and a commitment to the principle of plurality and inclusion.

Key message

KM8. Conservation that involves sustainable stewardship, notably by Indigenous Peoples and local communities, contributes to transformative change when it is inclusive, well-resourced, focused on places of high value to nature and people and when the rights of Indigenous Peoples are recognized (strategy 1).

A cost-effective strategy for transformative change is to focus efforts on places where nature is already being conserved, restored, valued and wisely stewarded by Indigenous Peoples and local communities, who manage or have tenure rights to about 40% of protected areas and ecologically intact landscapes across 87 countries.

Key message

KM8 (continued). Indigenous and local knowledges often support biocultural approaches (integrating biodiversity conservation with cultural values) that have demonstrated long-term sustainability in place-based conservation measures.

Supporting and strengthening conservation led by Indigenous Peoples and local communities may involve adjusting national legislation and other governance processes to reflect and protect applicable relevant rights, and knowledge and biocultural governance systems, including those of Indigenous Peoples, and local communities consistent with international instruments.

Background

BM-B1. A key strategy for transformative change for global sustainability is to conserve, restore and regenerate places of value to nature and people that exemplify biocultural diversity (Strategy 1).

Strategy 1 represents a transformative biocultural conservation approach with actions to conserve and sustain the places where people and nature are still flourishing with relational worldviews, governance structures and practices, while envisioning new legal protections for peoples and places through rights-based approaches, respecting the rights of nature and rights of Mother Earth as recognized by some, and place-based conservation based on diverse values of nature.

Background

BM-B1 (continued). Deliberately connecting biological conservation with cultural values, referred to as biocultural approaches, has been demonstrated as an actionable way to enhance place-based actions for long-term sustainability.

Regenerative strategies that protect and promote both biological and cultural (biocultural) diversity simultaneously provide multiple co-benefits over time.

Restoration activities are one way for humans to initiate that revival process. While restoration typically suggests humans doing things to nature, regeneration refers to humans co-evolving with and participating as nature.

Regenerative strategies can support cultural values, sustainable production and biodiversity conservation.

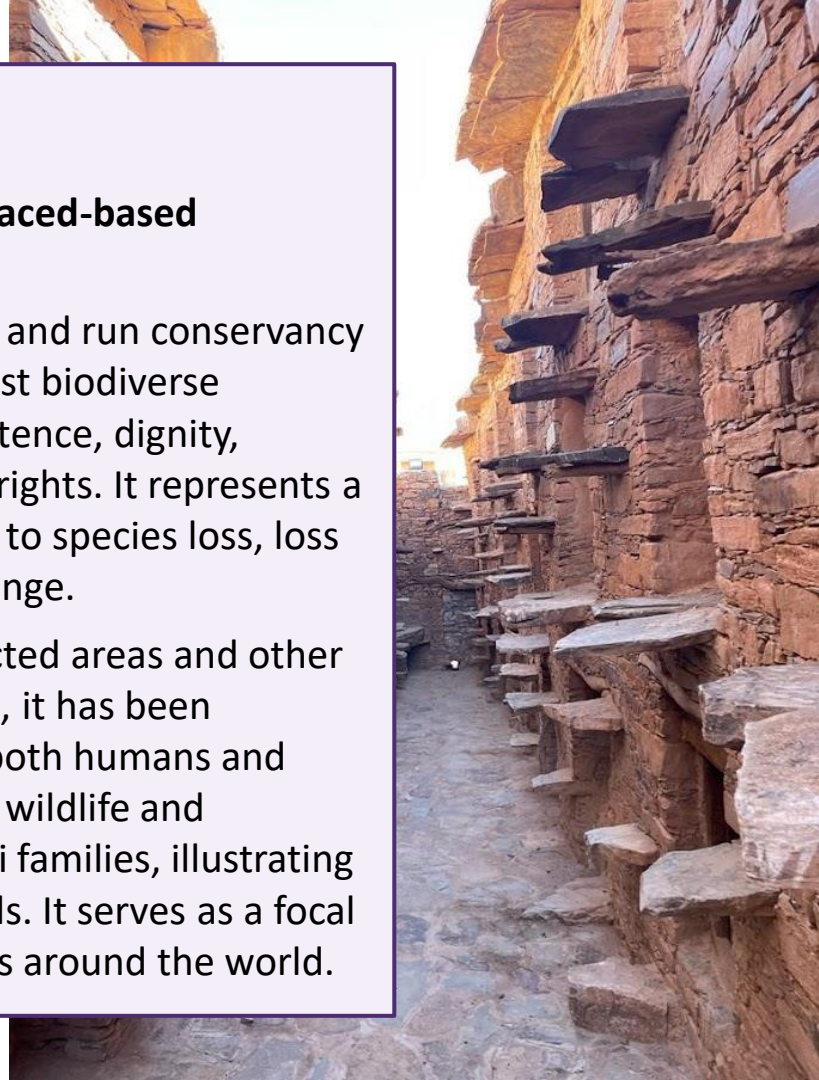
For example, the Community Forestry Programme in Nepal integrates decentralized forest policy into local communities' needs, views and practices to restore and manage degraded forests.

Background

Box SPM.3. The transformative potential of values and placed-based conservation.

The Nashulai Maasai Conservancy is an Indigenous-owned and run conservancy located in the Maasai Mara (Kenya), one of the world's most biodiverse ecosystems. The initiative is based on the values of co-existence, dignity, inclusivity, self-determination, empowerment and human rights. It represents a new model for conservation that simultaneously responds to species loss, loss of cultural knowledge, livelihood struggles and climate change.

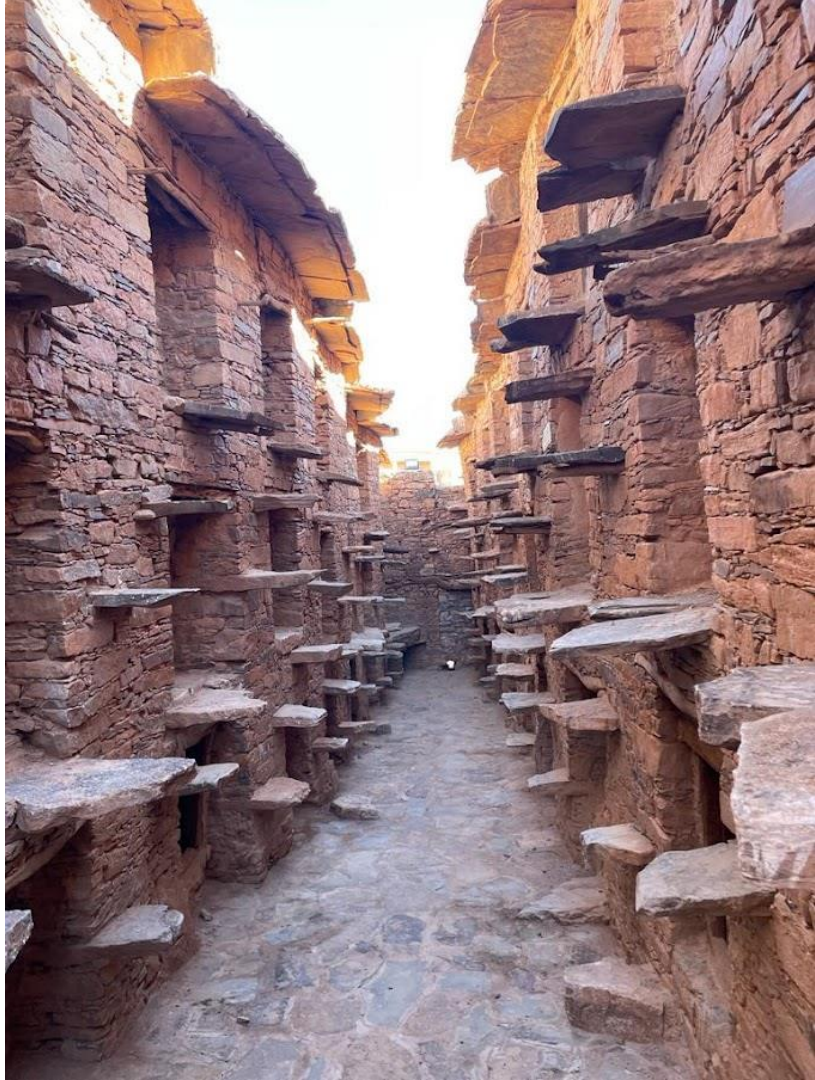
Through the establishment of community-managed protected areas and other initiatives, such as tree planting and river cleaning projects, it has been successful in creating mixed-use community areas where both humans and wildlife thrive. The conservancy is promoting the return of wildlife and generating livelihood and cultural opportunities for Maasai families, illustrating how Indigenous biocultural practices support multiple goals. It serves as a focal point for inspiring and scaling change in other communities around the world.



Background

BM-B7. Inclusive governance systems that engage diverse actors ensure the representation of a plurality of worldviews, practices and knowledge systems.

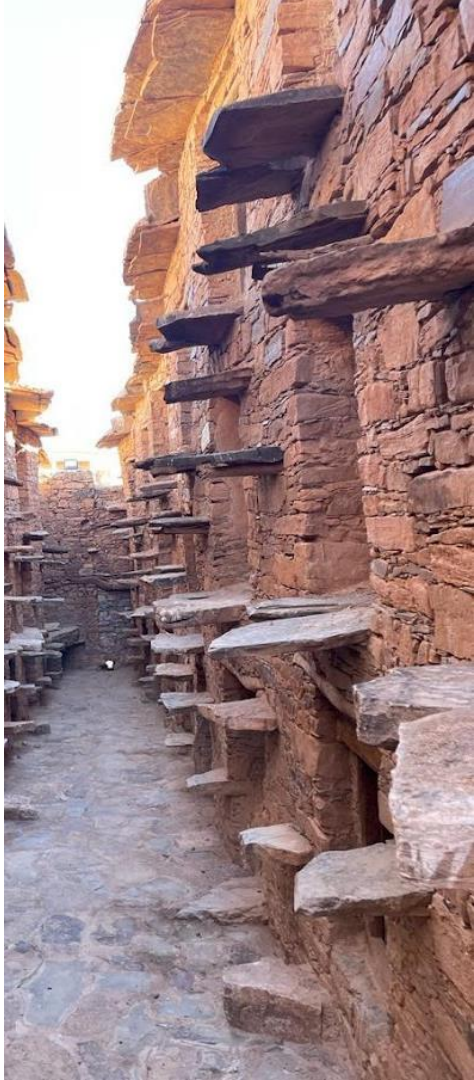
Consistent participation and collaborative structures strengthen perceived responsibilities among actors and provide opportunities to shift decisions towards just and equitable transformations.



Key message

KM12. Shifting dominant societal views and values to recognize and prioritize human-nature interconnectedness is a powerful strategy for transformative change.

These shifts can be facilitated through cultural narratives and by changing dominant social norms, facilitating transformative learning processes, co-creating new knowledge and weaving different knowledge systems, worldviews and values that recognize human-nature interdependencies and ethics of care.



Key message

KM12 (continued). Transformative change involves questioning the individual and collective paradigms and cultural narratives that perpetuate the underlying causes of biodiversity loss and nature's decline.

This can be done by recognising and promoting worldviews and values that emphasize care, reciprocity and harmony with nature, including Mother Earth. These worldviews and values include those associated with Indigenous and local knowledge systems.

For example, educational curricula, from primary to higher education, can include content on biodiversity… and Mother Earth-centric actions to strengthen this connection.

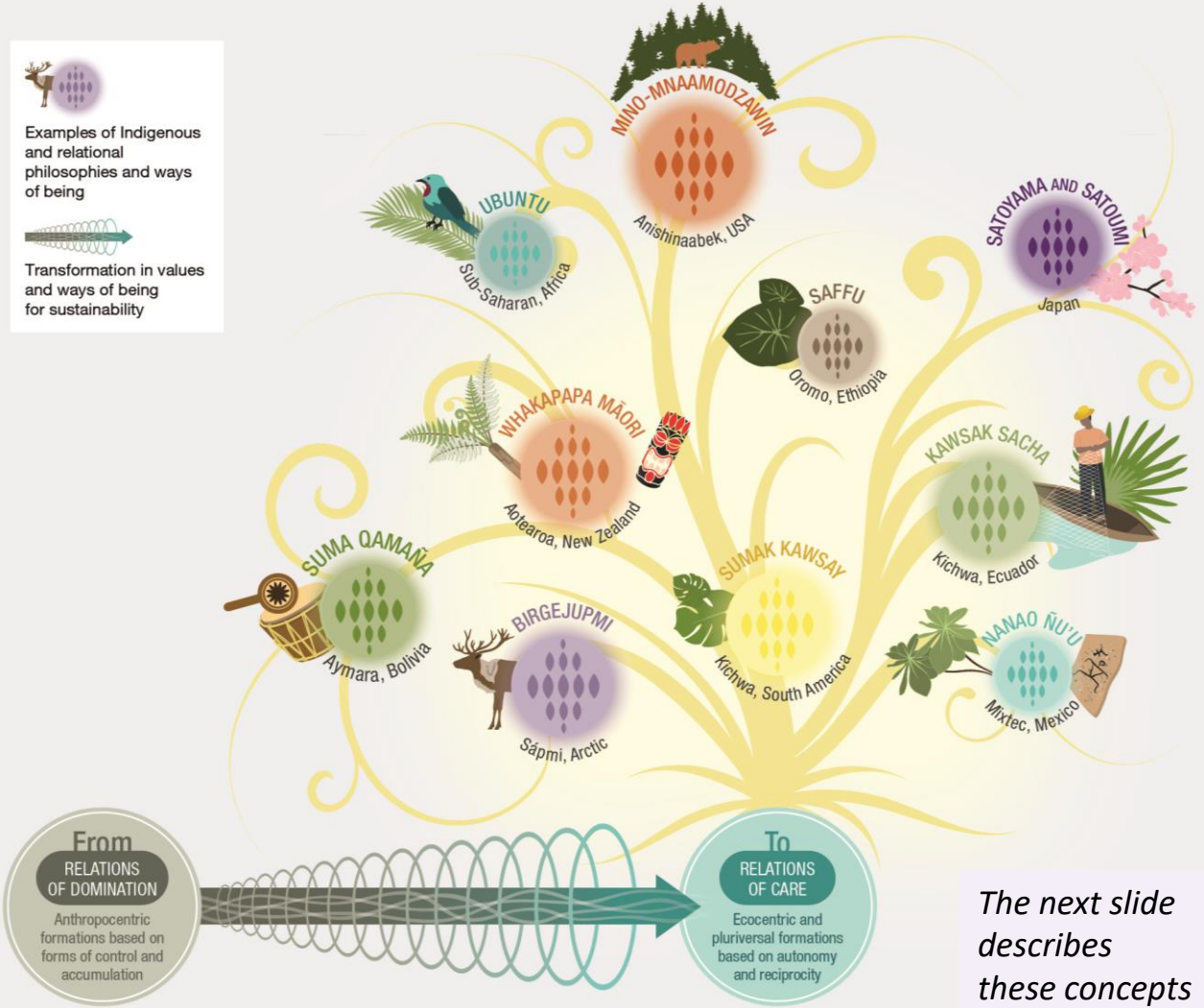
Background

Figure SPM.8. Examples of Indigenous and relational philosophies and ways of being.

Many Indigenous philosophies are expressed through relational languages, concepts and practices based upon an ethics of care that acknowledges the importance of respect and reciprocity between humans and nature.

Revitalization and support for such cultures, languages and philosophies present opportunities to move from anthropocentric relations of domination towards ecocentric relations of care for all.

The figure represents a small sample of concepts/practices that are aesthetically placed to illustrate the diversity of Indigenous and other relational philosophies.



The next slide describes these concepts

Figure SPM.8. (Continued) Examples of Indigenous and relational philosophies and ways of being.

Birgejupmi Sápmi, Arctic	Living in a modest way with interactions between humans and non-humans based on care and respect.
Kawsak Sacha Kichwa, Ecuador	'The living forest,' a conscious living being who is the subject of rights and is inhabited by beings that protect ecosystems, animal and plant species.
Mino-mnaamodzawin Anishinaabek, USA	The value of respect for the spirit in all things.
Nanao ñu'u Mixtec, Mexico	To rediscover human-nature bonds and reconnect with values of equity, respect and care with nanao ñu'u (our mother).
Saffu Oromo, Ethiopia	A principle impelling people to respect and do justice to their ayyaana (spirit) and that of other beings.
Satoyama and Satoumi Japan	The harmonious interaction between humans and nature in rural landscapes and seascapes.
Suma Qamaña Aymara, Bolivia	Living well together with harmonious relationships of all forms of life in the totality of Mother Earth as a living being.
Sumak Kawsay Kichwa, South America	Broad values that guide human-human and human-nature interconnections based on valuing and appreciating the distinctiveness of others as well as spirituality or lifestyle.
Ubuntu Sub-Saharan, Africa	Values system that focuses on reciprocity, dialogue and collective humanity.
Whakapapa Aotearoa, New Zealand	A cultural connectedness that encompasses both ancestry and nature and determines the relationships and obligations.

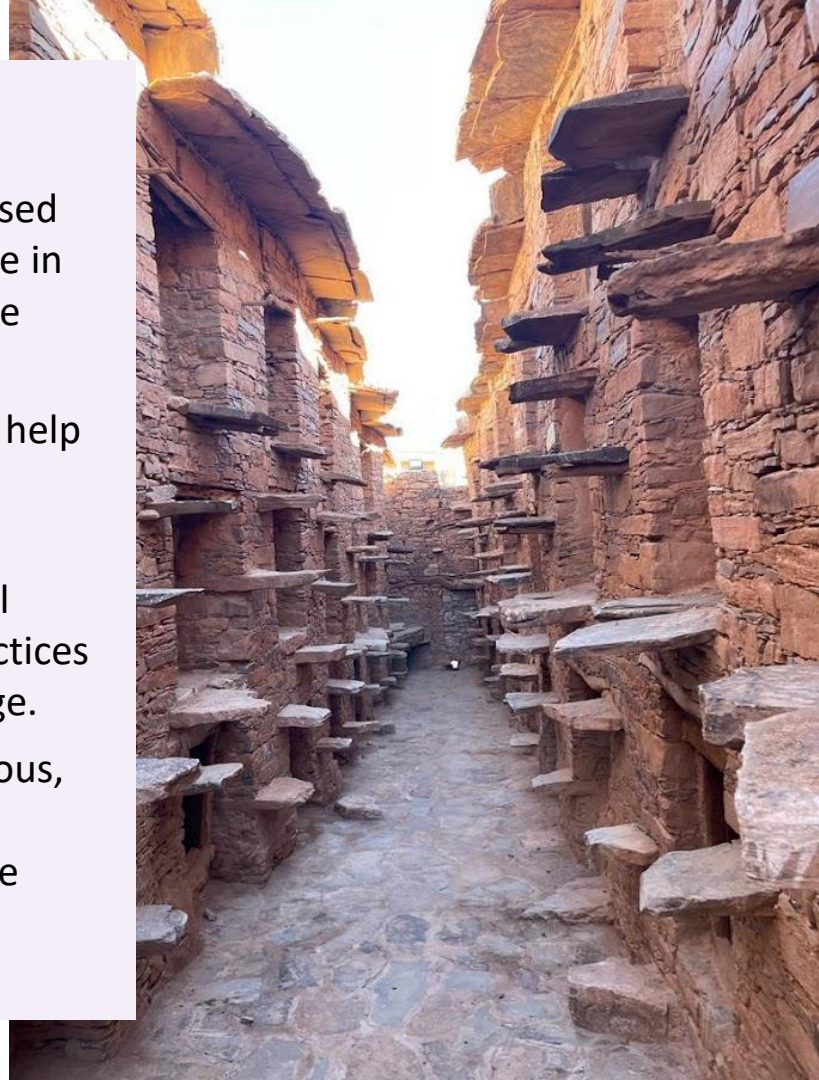
Background

BM-B10. Formal and informal education, including that based on Indigenous and local knowledge, plays an important role in supporting transformative change for a just and sustainable world.

Collaboration across different educational approaches can help foster transformative change.

For example, complementing scientific ways of producing knowledge with approaches based on Indigenous and local knowledge has potential to shift views, structures and practices in ways that expand the potential for transformative change.

Recognizing diverse knowledge systems, including Indigenous, local and scientific knowledges, supports transformative learning by helping people better understand and value the interdependencies of humans and nature in complex and dynamic webs of life.



Key message

KM12 (continued). Knowledge co-creation and recognition of plural forms of knowledge, worldviews and values are crucial for developing actionable and inclusive biodiversity and sustainability strategies.

Examples include the consideration of ancestral, embodied and experiential knowledge and non-human perceptions and perspectives in conservation decision making.

Background

BM-B11. Embracing Indigenous and local knowledge and processes of knowledge co-creation fosters transformative change for a just and sustainable world.

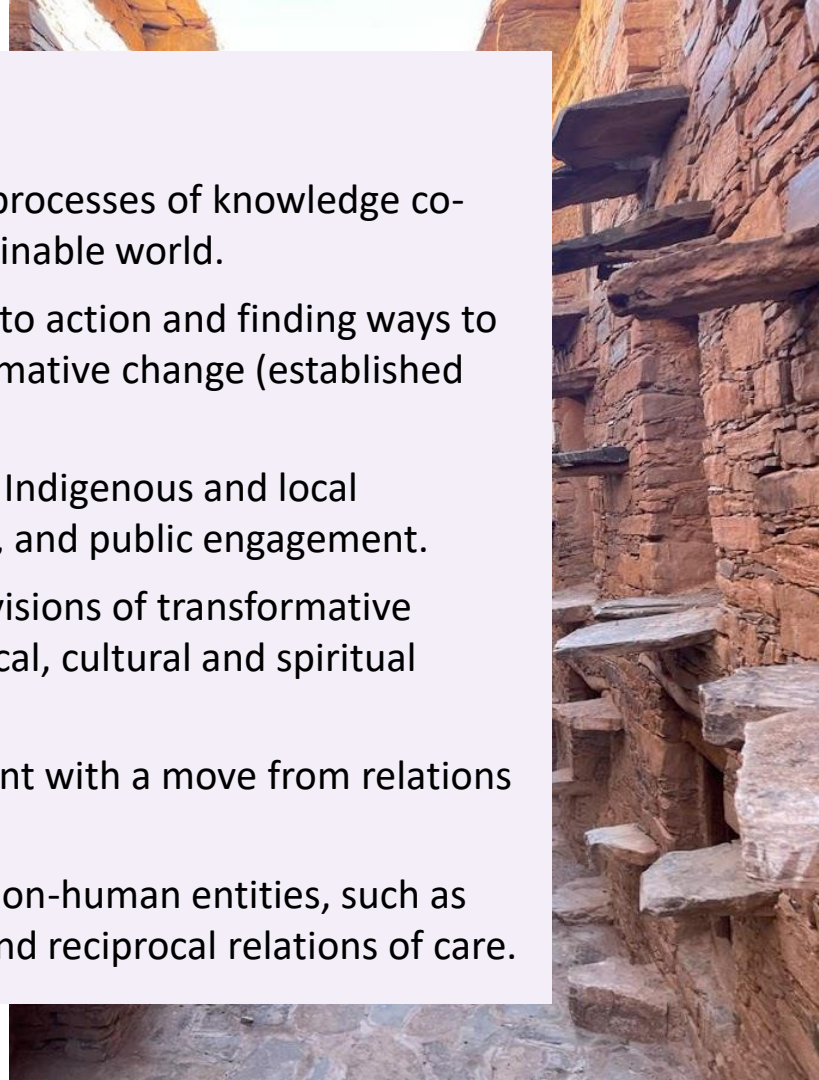
Recognizing different ways of knowing, linking knowledge to action and finding ways to transcend the limits of imagination are crucial for transformative change (established but incomplete).

This involves decolonising academia and making space for Indigenous and local knowledge, as well as social sciences, arts and humanities, and public engagement.

Indigenous Peoples and local communities provide many visions of transformative change related to their diverse histories and socio-ecological, cultural and spiritual contexts.

Acknowledging and embracing such knowledge is consistent with a move from relations of domination to relations of care.

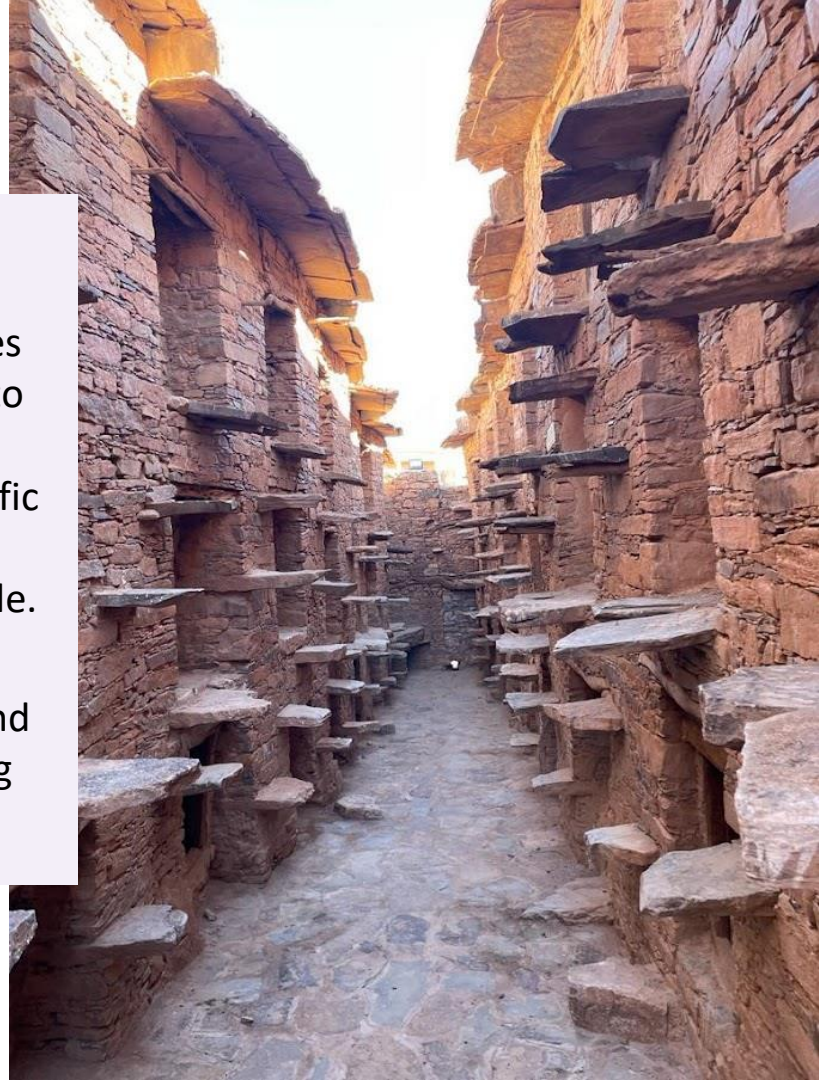
An ethics of care recognizes the agency and sentience of non-human entities, such as plants, animals and rivers, affording them value, respect and reciprocal relations of care.



Background

BM-B11 (continued). Knowledge co-creation enhances biodiversity management and nature's contributions to people by combining different knowledge systems, including Indigenous and local knowledge, and scientific knowledge, ensuring strategies are culturally appropriate, scientifically robust and ecologically viable.

Co-creation principles such as equity, respect, recognition and collaboration emphasize inclusivity and prioritize the needs of marginalized groups, facilitating transformative interventions.



Background

BM-B11 (continued). A review of empirical studies shows that knowledge co-creation improves processes (e.g., power redistribution, reflexivity) and is associated with both short-term (e.g., expand knowledge base, increase capacities) and long-term outcomes (e.g., well-being and product improvement, changes in knowledge systems).

Examples of this include increased adaptive capacity in Arctic communities, disaster preparedness of communities in Nepal and the establishment of adaptive management of climate change monitoring in a rural community in Tanzania.

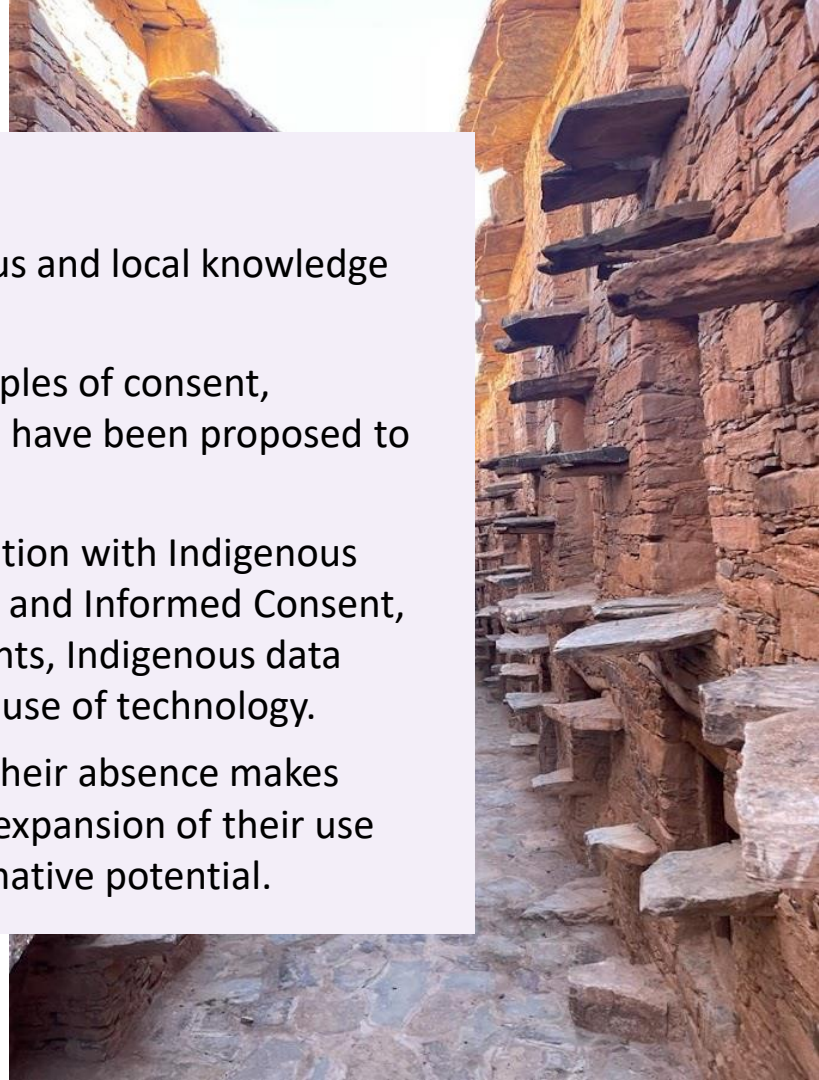
Background

BM-B11 (continued). The marginalization of Indigenous and local knowledge hinders transformative change.

Several specific policy instruments based on the principles of consent, intellectual and cultural autonomy and justice exist, or have been proposed to support and provide accountability.

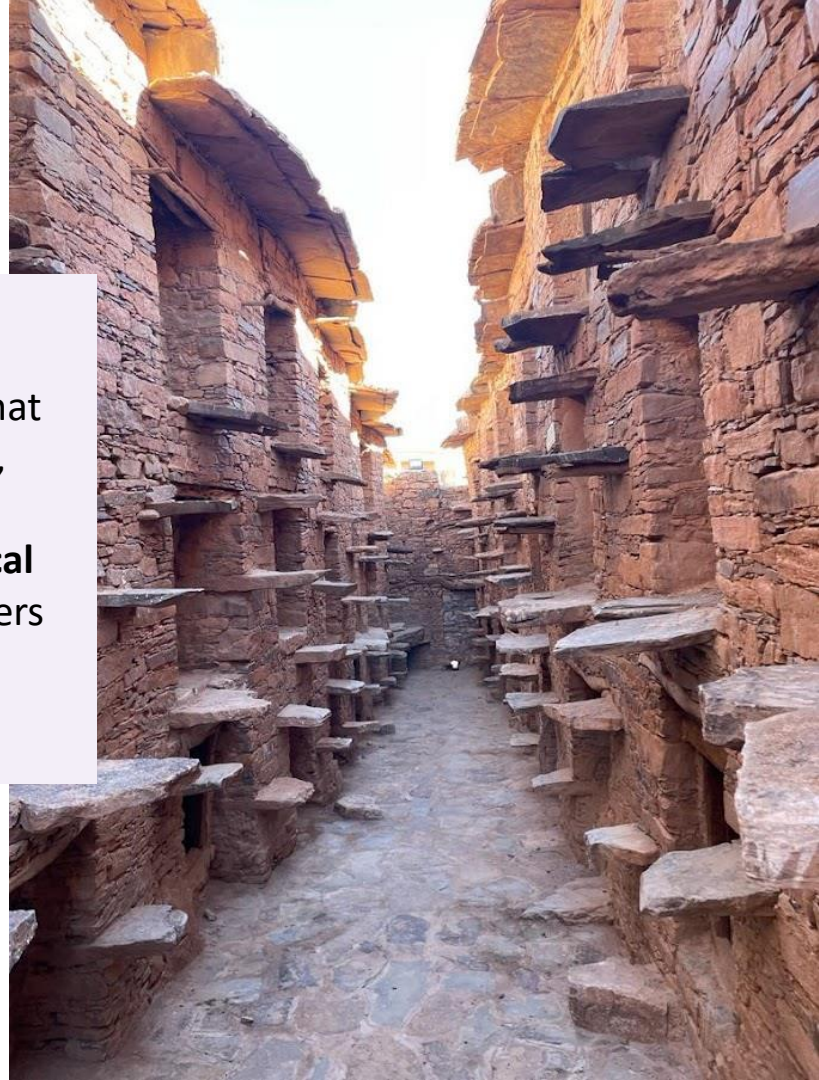
These instruments mostly focus on knowledge co-creation with Indigenous Peoples and local communities and include Free, Prior and Informed Consent, recognition of customary law, intellectual property rights, Indigenous data governance, sovereignty and capacity-building for the use of technology.

While these instruments cannot address all barriers, their absence makes knowledge co-creation unlikely if not impossible. The expansion of their use and their full implementation have powerful transformative potential.



Background

BM-B12. An assessment of the literature shows that media plays an important role in communications, but that many other actors, including youth, civil society organizations, **Indigenous Peoples and local communities**, social media activists, political leaders and artists are also important in communicating messages about transformative change.



C. Enabling transformative change: Roles for all

Key messages

KM13. *Visions*, which include narratives and stories, are desirable future states of people and nature, including Mother Earth, shaped by values and worldviews, and often include defined goals and intentional efforts to attain such future states.

Visions that recognize and combine intrinsic, relational and instrumental values are the most promising for transformative change.

Additionally, visions that promote Indigenous and local knowledge are associated with positive social, economic and environmental outcomes.

Key messages

KM13. (continued) Five core themes emerged from an assessment of 881 visions with transformative aspirations for desirable futures for humans and nature:

1) regenerative and circular economies,
2) community rights and empowerment,
3) biodiversity and ecosystem health,
4) spiritual reconnection (between humans and nature) and behavioural change, and
5) innovative business and technology.

Key messages

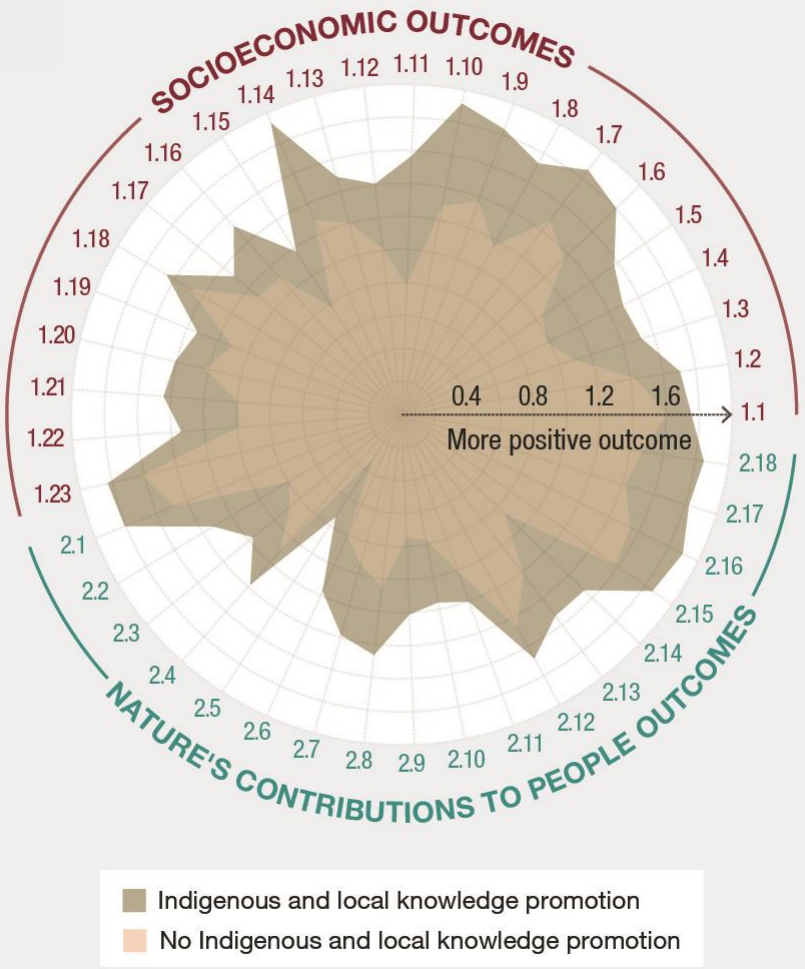
KM13 (continued). Many cultures and groups have spiritual relationships to nature that respect non-human species and entities.

…we need stronger imaginative efforts including those that attend to Indigenous and local knowledge to envision positive futures for a just and sustainable world.

Background

Figure SPM.9. Realizing transformative changes through visions.

Transformative cases where Indigenous and local knowledge is promoted are associated with more positive socio-economic and nature's contribution to people outcomes.



Key message

KM14. Transformative change is system-wide. Therefore, to achieve it requires a whole-of-society and whole-of-government approach that engages all actors and sectors in visioning and contributing collaboratively to transformative change.

Individual citizens, Indigenous Peoples and local communities, local governments, educators and the scientific community collaborate on place-based conservation actions.

Individual citizens, Indigenous Peoples and local communities, businesses, national governments, media, educators and the scientific community overlap with actions oriented to shifting views, values and paradigms.

Key message

KM14. (continued) Examples of such collaborative approaches are reflected across many community-based initiatives.

Noteworthy are community-based initiatives that bring together multiple actors with different but complementary skills and capacities, such as agroecology initiatives (box SPM.8 – see later pages)

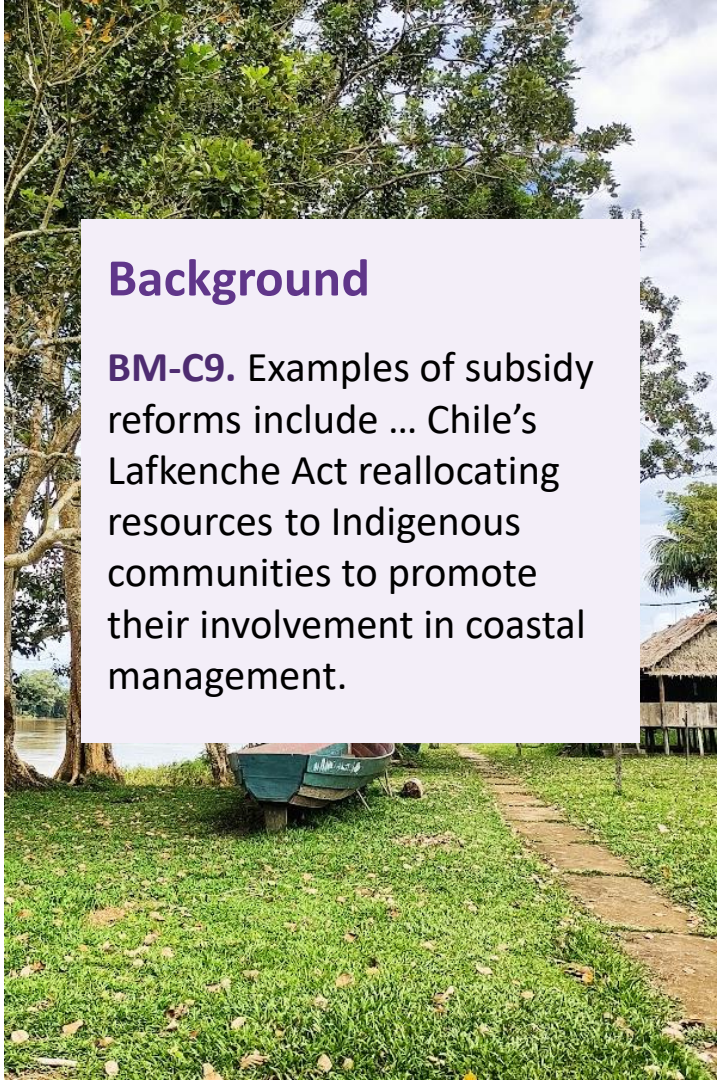
Background

BM-C7. …in many parts of the world, community-based agroecological initiatives exemplify the principles of equity and justice. These projects involve local communities in decision-making processes, respecting their traditional knowledge and fostering a sense of ownership over agricultural practices.

Community-supported agriculture models, where consumers directly support local farmers, exemplify how agroecology can create relational values and responsibilities between producers.

Key message

KM15. Governments are powerful enablers of transformative change when they foster policy coherence, enact and enforce stronger regulations to benefit nature and nature's contributions to people in policies and plans (regulations, taxes, fees, tradable permits) across different sectors, deploy innovative economic (including financial) and fiscal tools, eliminate, phase out or reform environmentally harmful subsidies, and promote international cooperation.



Background

BM-C9. Examples of subsidy reforms include … Chile's Lafkenche Act reallocating resources to Indigenous communities to promote their involvement in coastal management.

Key message

KM16. Civil society initiatives and environmental defenders have faced violence and rights violations. Protecting them supports transformative change.

Inclusive governance processes and protection of environmental defenders from violence and rights violations alleviate the vulnerability associated with civil society action.

Governmental efforts to create corporate due diligence policies and trade agreements that incorporate support for the United Nations Declaration on the Rights of Indigenous Peoples and human rights law and divestment campaigns targeting corporations involved in rights violations have the potential to amplify the impact of civil society initiatives for transformative change towards a just and sustainable world.

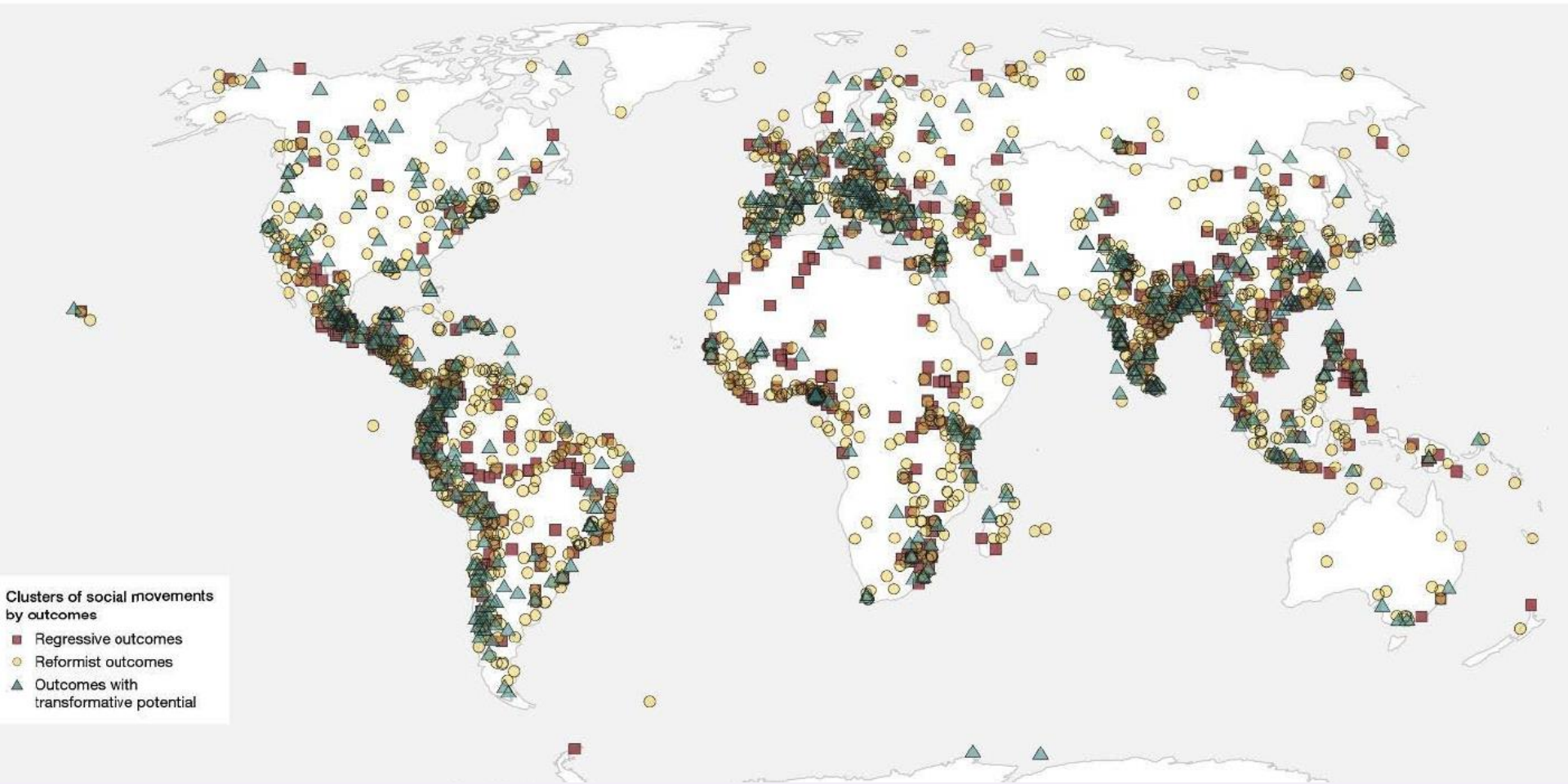


Figure SPM.11. Map illustrating that social movements play a crucial role in challenging drivers of biodiversity loss and fostering transformative change.

Key message

KM17. Private sector and international financial institutions have played a role in debt-for-nature-swaps creating additional financial opportunities to conserve nature.

But, among other weaknesses, they also pose risks for conflicts, **have the potential to undermine the respective rights and interests of Indigenous Peoples and local communities and marginalize small producers.**

Therefore, more intentional design and implementation are key to mitigate such risks. Elements of such design vary by sectors but include … commitments for engagement with Indigenous Peoples and local communities and small producers.

Background

Box SPM.8. Agroecological transitions as examples of transformative change.

Agroecological transitions offer a potent example of transformative change in food systems, redirecting unsustainable agricultural practices towards biodiverse and equitable solutions.

Recognizing the pivotal role of small-scale farmers, these transitions address food security, poverty, biodiversity restoration, climate change adaptation and disaster risk reduction.

Aligned with transformative change principles, agroecology emphasizes equity, pluralism and relational responsibilities. It champions sustainable agrifood systems, challenging dominant discourses on industrial agriculture while promoting distributive justice and biodiversity restoration.

Agroecology embodies holistic values encompassing ecological diversity, synergies, resilience and social values such as equity and dignity. Knowledge co-creation and empowerment, central to agroecology, enable grassroots movements to drive change.

Community-based initiatives exemplify relational values, fostering local economies and social cohesion.

Box SPM.8. Agroecological transitions as examples of transformative change. (continued).

Some examples of agroecological transitions are listed below (more details of each of these examples can be found in the case study database).

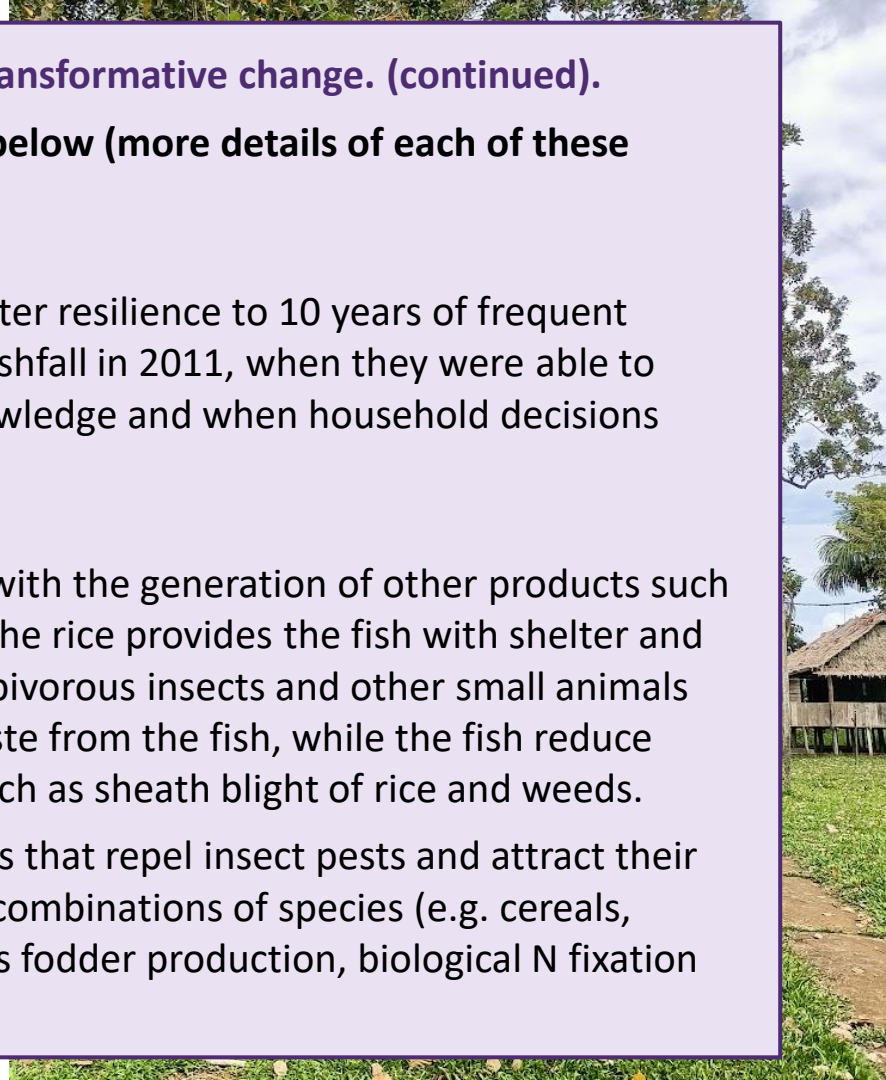
Climate resilience:

Pastoralist households of North Patagonia exhibited greater resilience to 10 years of frequent droughts and a faster recovery from a massive volcanic ashfall in 2011, when they were able to diversify, relying on local and adapted landraces and knowledge and when household decisions were shared between male and female pastoralists.

Recycling and pest regulation:

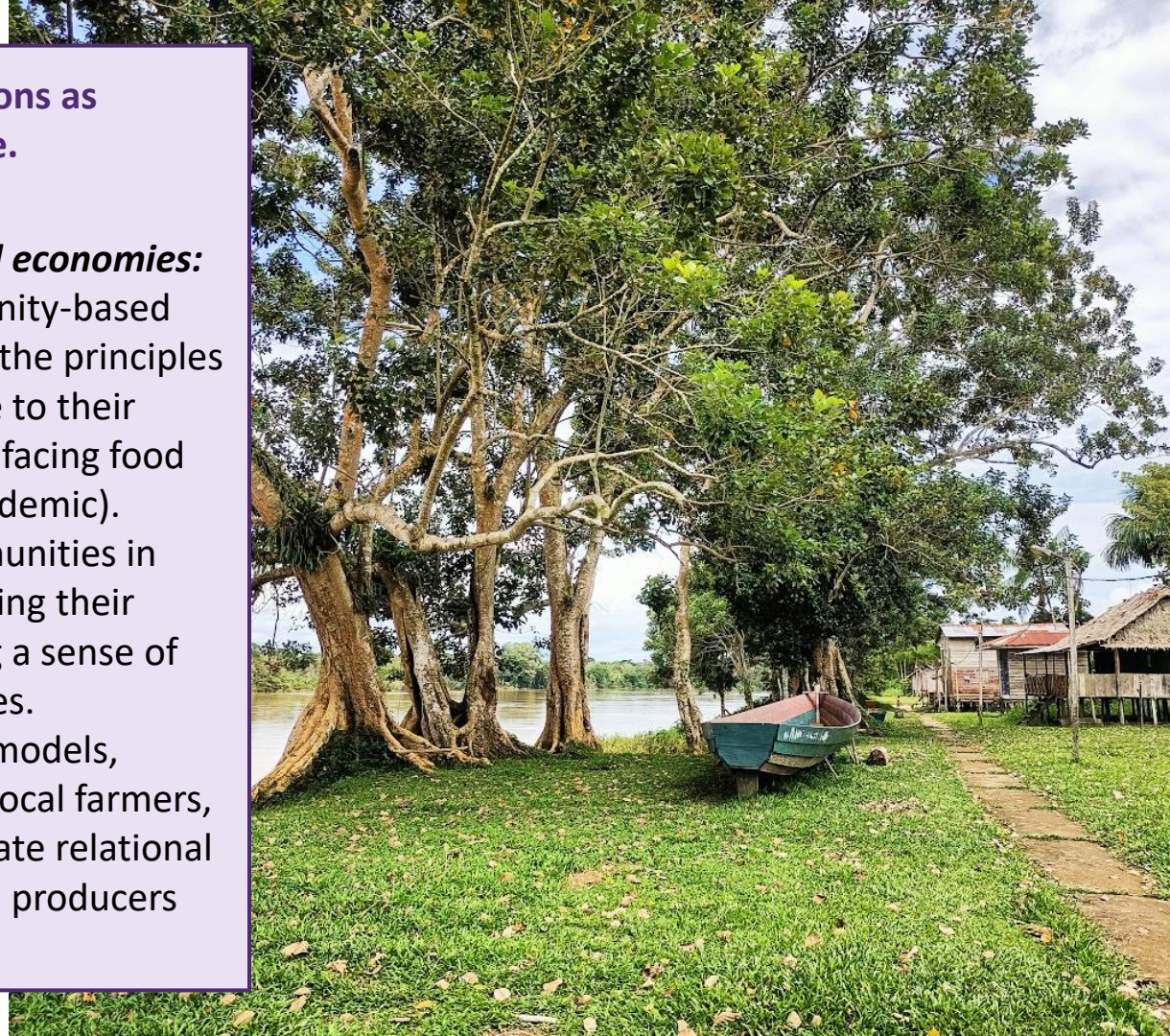
In Asia, integrated rice systems combine rice cultivation with the generation of other products such as fish, ducks and trees. Rice and fish form a symbiosis: The rice provides the fish with shelter and shade and a reduced water temperature, along with herbivorous insects and other small animals that feed on the rice. Rice benefits from nitrogenous waste from the fish, while the fish reduce insect pests such as brown planthoppers and diseases such as sheath blight of rice and weeds.

Push-pull cropping systems in East Africa combine species that repel insect pests and attract their natural enemies through volatile semio-chemicals; such combinations of species (e.g. cereals, legumes and grasses) may provide other services, such as fodder production, biological N fixation and erosion control.



Box SPM.8. Agroecological transitions as examples of transformative change. (continued).

Promoting human values and local economies: In many parts of the world, community-based agroecological initiatives exemplify the principles of equity and justice and contribute to their social resilience (for example when facing food shortages during the COVID-19 pandemic). These initiatives involve local communities in decision-making processes, respecting their traditional knowledge and fostering a sense of ownership over agricultural practices. Community-supported agriculture models, where consumers directly support local farmers, exemplify how agroecology can create relational values and responsibilities between producers and consumers.



Gaps in knowledge of particular relevance for Indigenous and local knowledge (from Box SPM.9.)

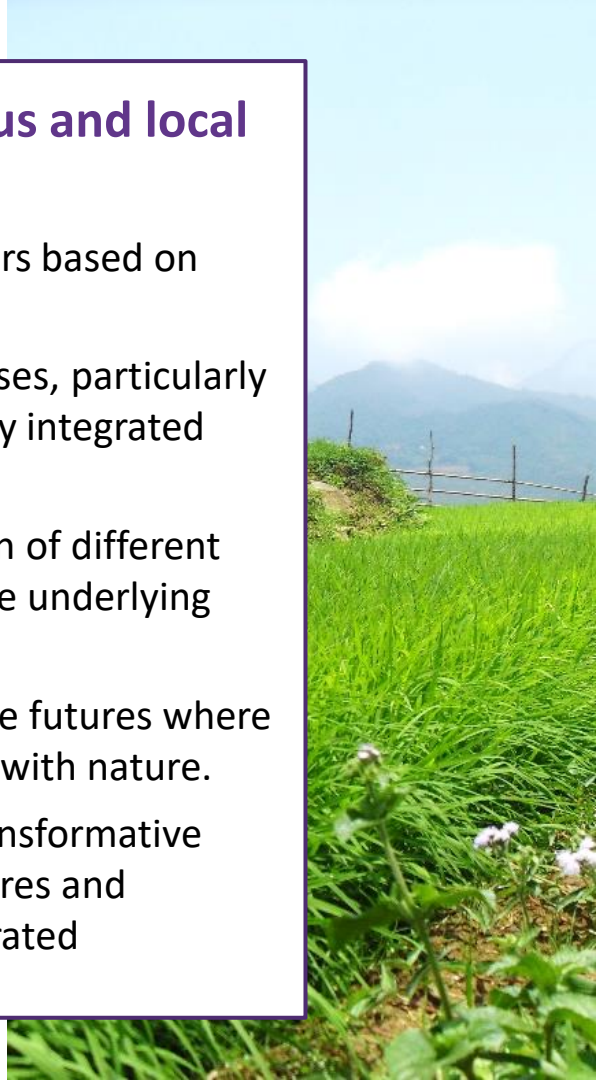
Metrics and indicators: … An additional challenge is to include indicators based on different knowledge systems, worldviews and values.

Vision development and participatory processes: Participatory processes, particularly involving Indigenous Peoples and local communities, are not sufficiently integrated into the development and evaluation of these visions.

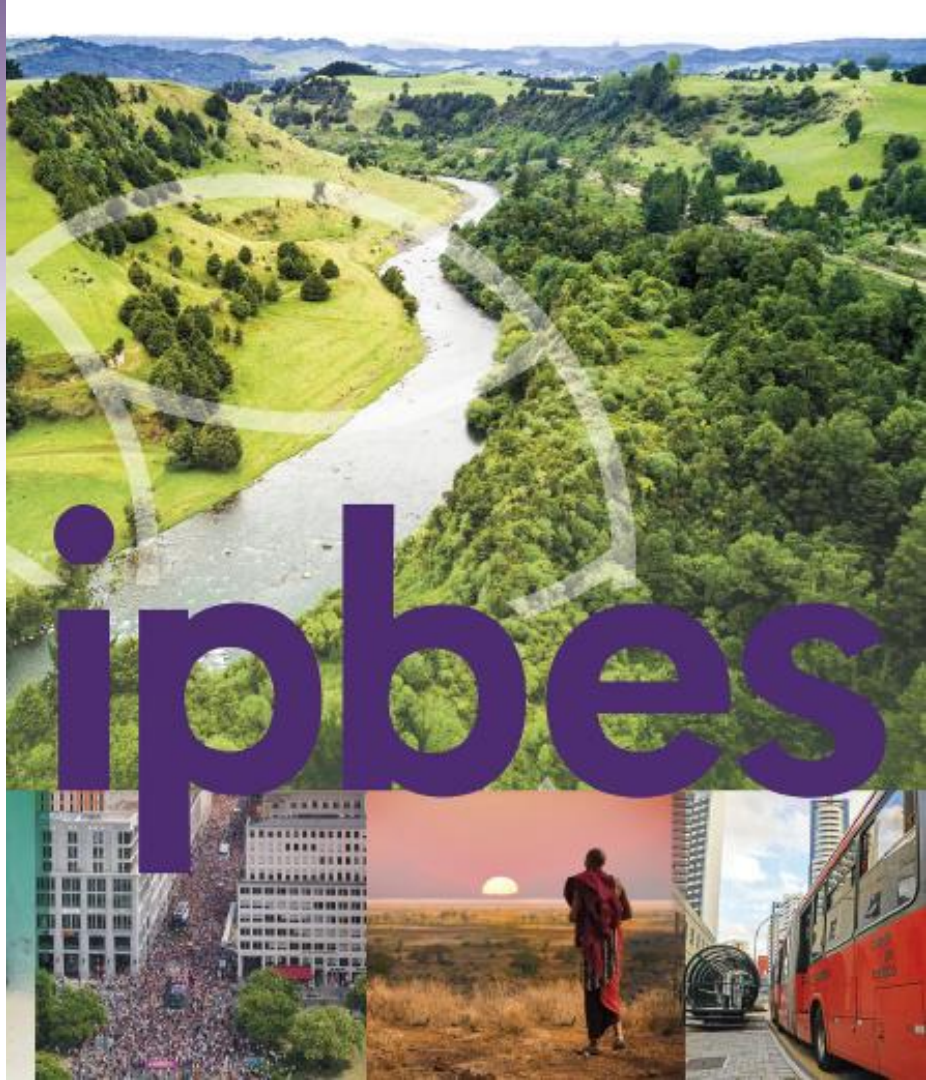
Science-policy relations: Science-policy relations, and the incorporation of different knowledge systems in transdisciplinary learning processes as well as the underlying power structures need to be better understood.

Imagination gap: Addressing the imagination gap in envisioning positive futures where humans are seen as an integrated part of nature and living in harmony with nature.

Cultural insights and social dimensions: The cultural dimensions of transformative change remain underexplored, especially regarding how different cultures and societies envision positive futures where humans and nature are integrated harmoniously…



Further information from the chapters of the assessment

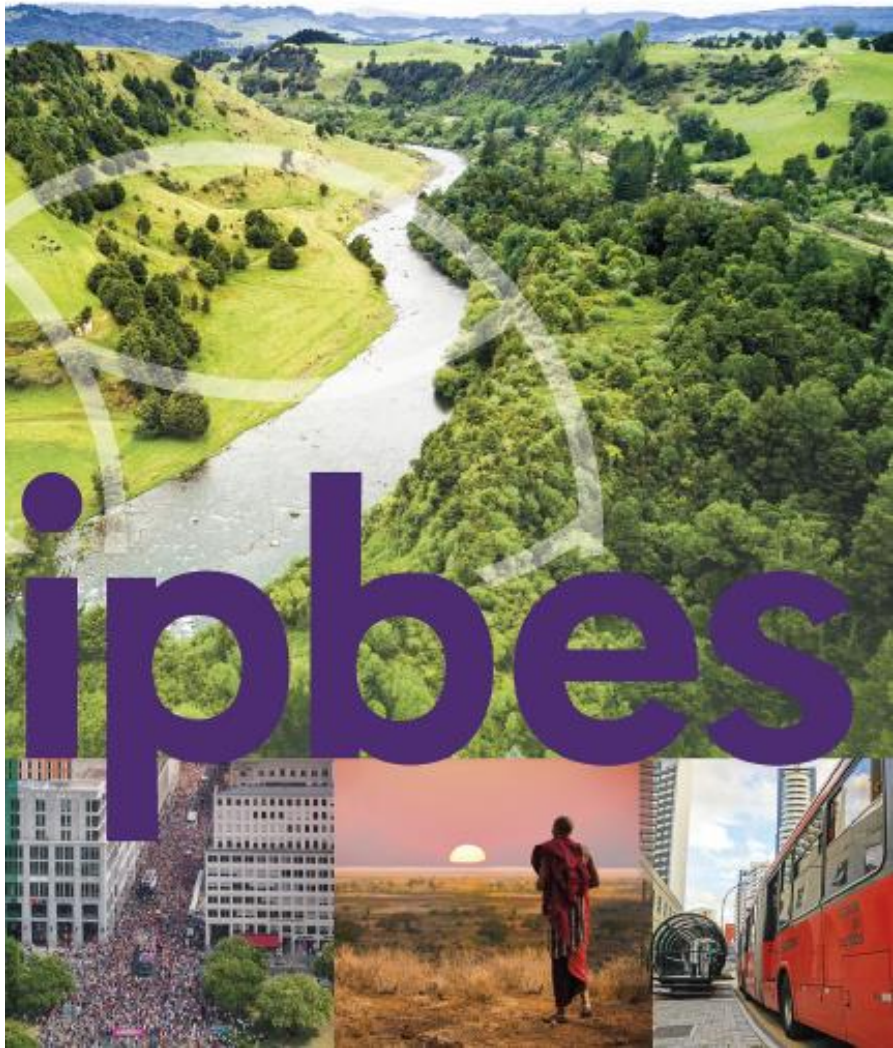


As requested by Indigenous Peoples and local communities, the following pages provide some additional information of particular relevance to Indigenous Peoples and local communities from the chapters of the assessment, including text, figures, case studies and boxes.

This represents only a small proportion of relevant the text in the chapters themselves.

The full chapters are available at: https://www.ipbes.net/transformative-change-assessment

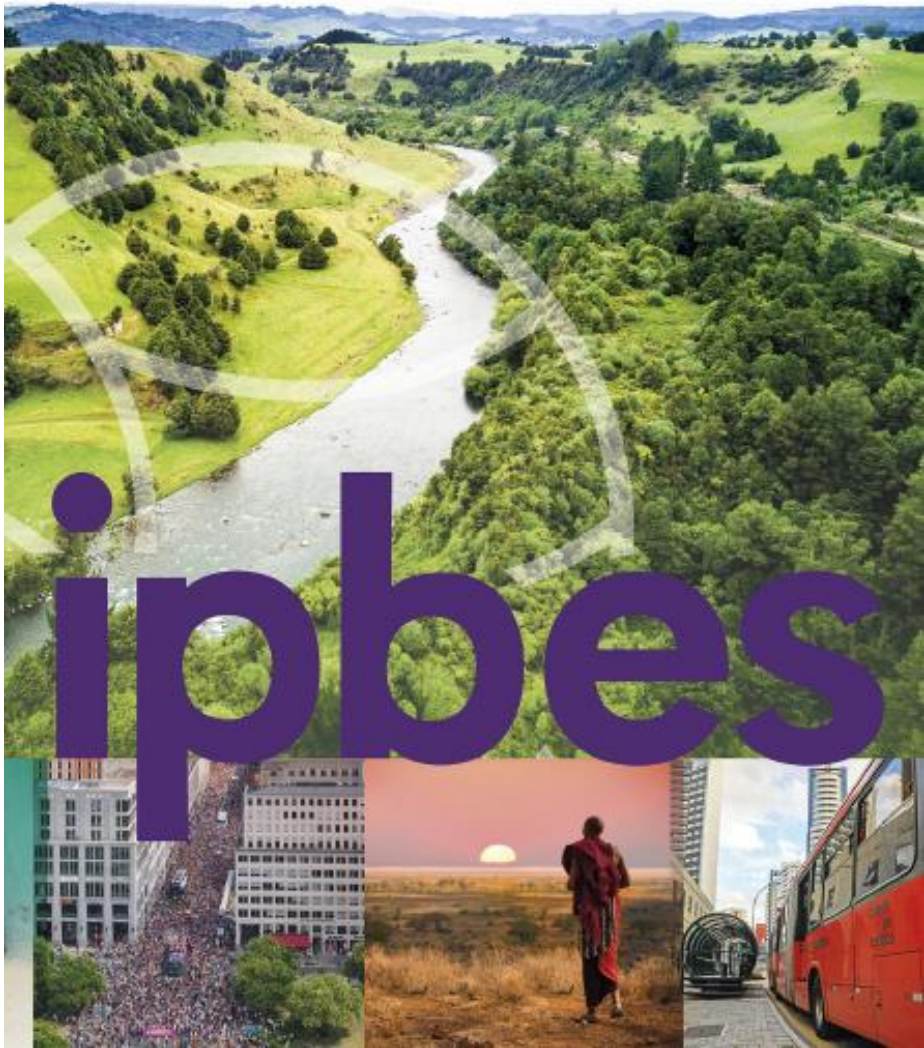
The chapter references enclosed in curly brackets, e.g. {2.3.1}, refer to sections of the chapters of the assessment.



Excerpts from

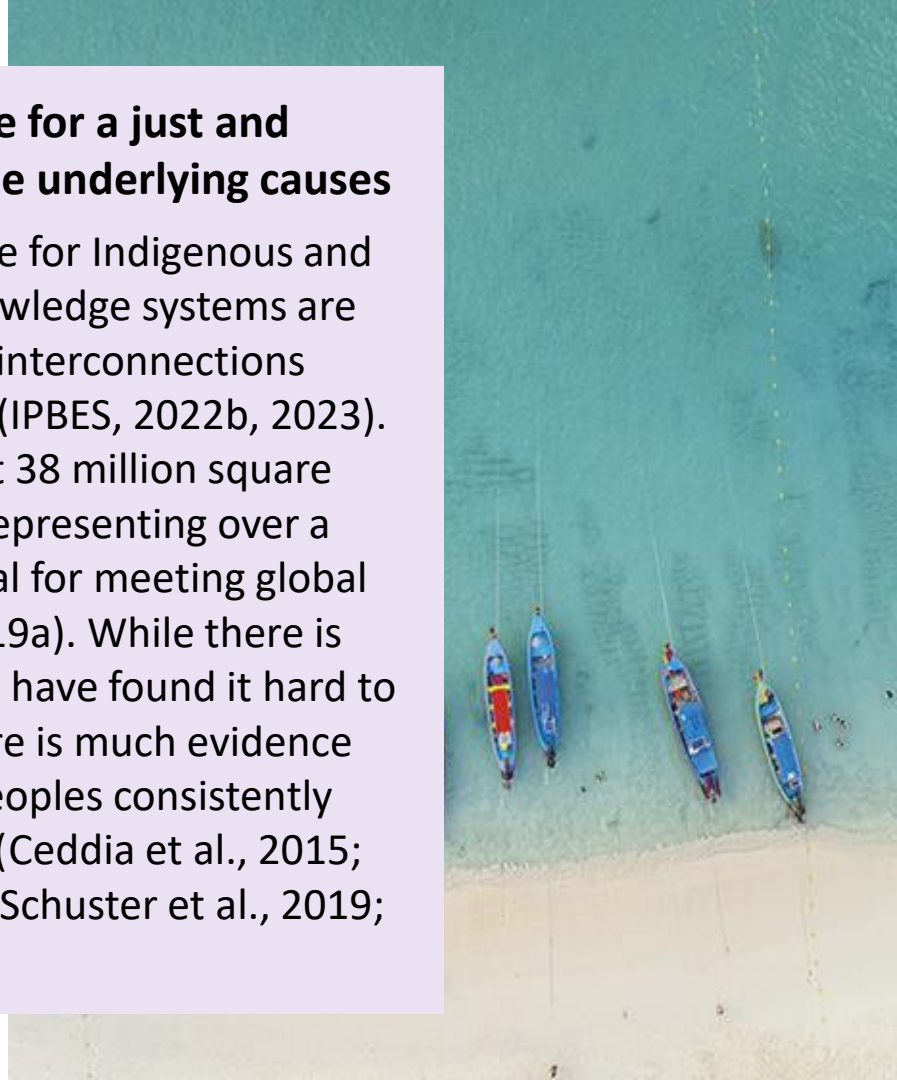
Chapter 1

Introduction: Transformative change and a sustainable world



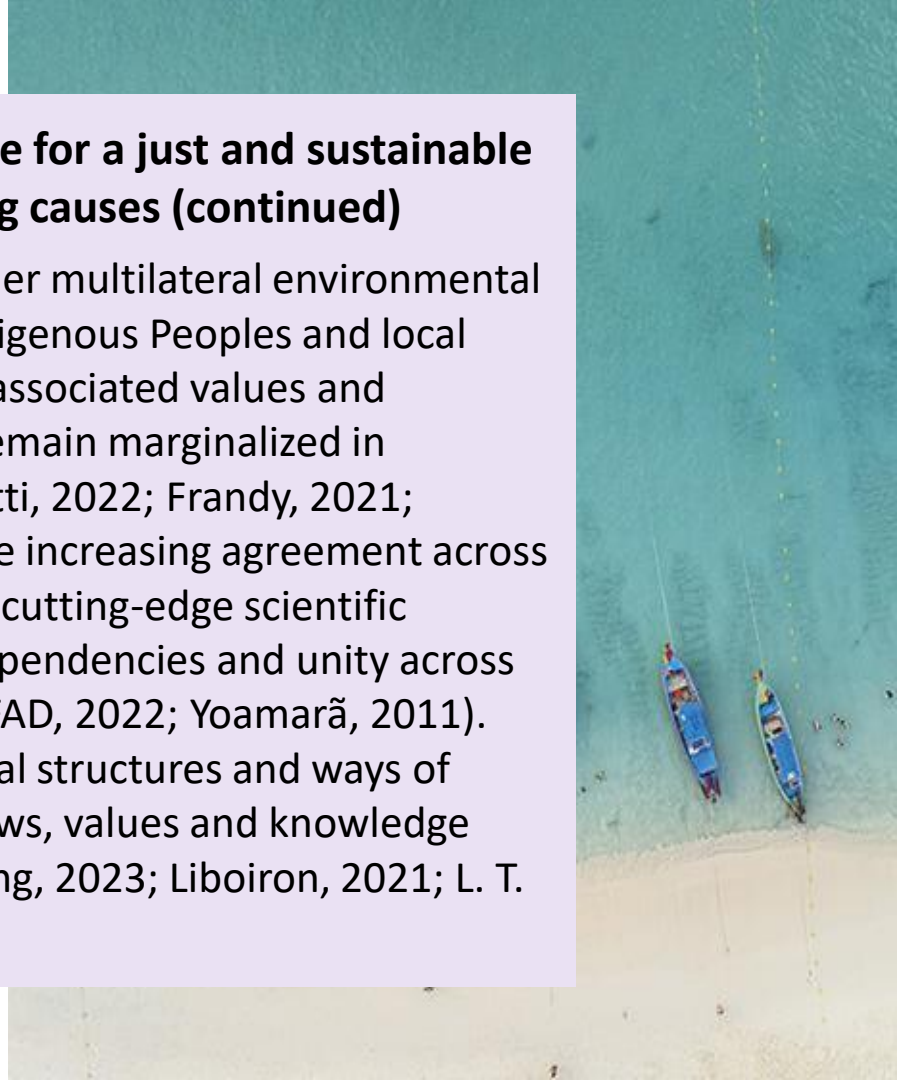
Chapter 1: Section 1.3.2. Transformative change for a just and sustainable world: four principles to address the underlying causes

Pluralism and inclusion are of particular importance for Indigenous and local knowledge systems. Indigenous and local knowledge systems are often based on holistic perspectives with dynamic interconnections between people, biodiversity, land and spirituality (IPBES, 2022b, 2023). Indigenous Peoples have tenure rights over at least 38 million square kilometres in 87 countries across all continents – representing over a quarter of the land's surface and are thereby crucial for meeting global conservation goals (Garnett et al., 2018; IPBES, 2019a). While there is some evidence to suggest that traditional societies have found it hard to manage resources sustainably (Fennell, 2008), there is much evidence showing that territories managed by Indigenous Peoples consistently show high biodiversity and slower rates of decline (Ceddia et al., 2015; Grantham, 2022; IPBES, 2019a; Peres, 1994, 2000; Schuster et al., 2019; Waller & Reo, 2018).



Chapter 1: Section 1.3.2. Transformative change for a just and sustainable world: four principles to address the underlying causes (continued)

However, while there is increasing recognition under multilateral environmental agreements of the value of knowledge held by Indigenous Peoples and local communities, the type of holistic worldviews and associated values and knowledge systems of many Indigenous Peoples remain marginalized in conservation science, policy and practice (Bussoletti, 2022; Frandy, 2021; Gordon, 2022; IPBES, 2019c, 2022b). This is despite increasing agreement across Indigenous worldviews, faith-based traditions and cutting-edge scientific research on the importance of recognizing interdependencies and unity across diversity to achieve sustainable and just futures (IFAD, 2022; Yoamarã, 2011). Approaches that dismantle colonial and neocolonial structures and ways of thinking to actively make space for other worldviews, values and knowledge systems are vital for transformation (Arora & Stirling, 2023; Liboiron, 2021; L. T. Smith, 1999; Todd, 2016; Tuck & Yang, 2012).



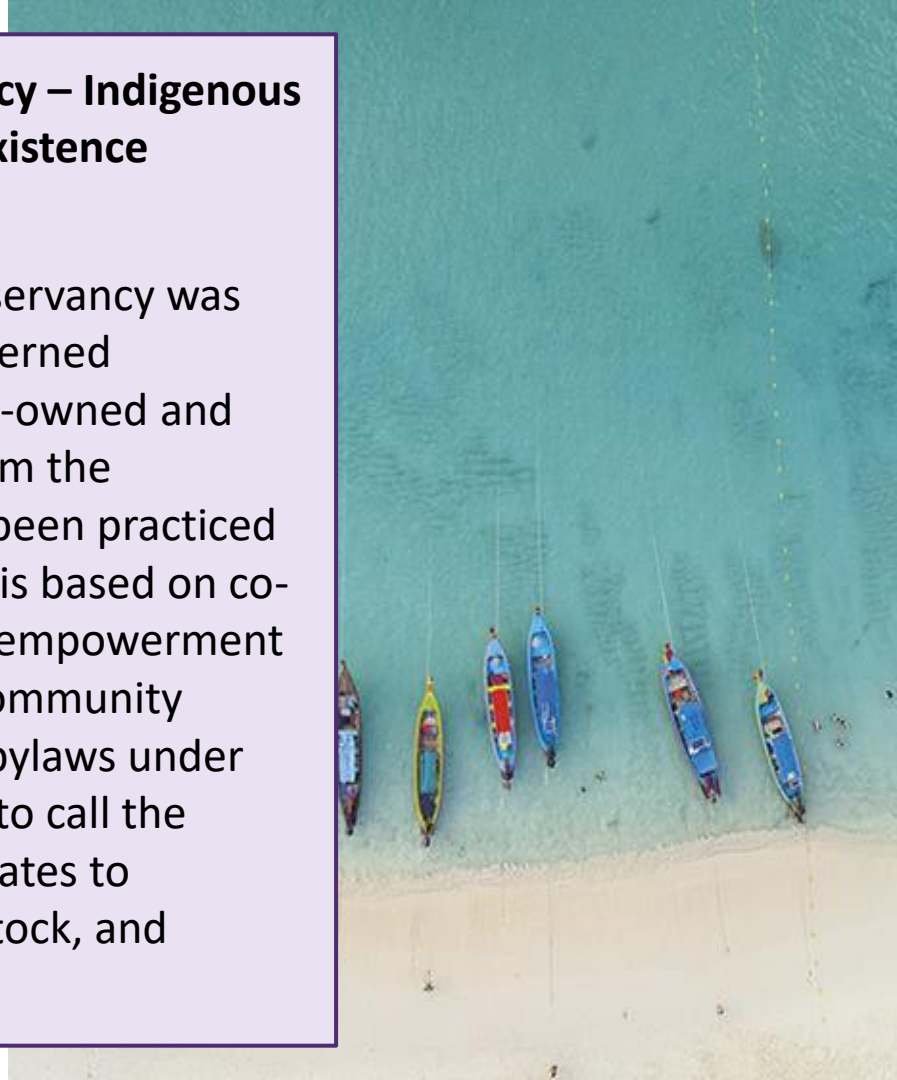
Chapter 1: Section 1.3.2. Transformative change for a just and sustainable world: four principles to address the underlying causes (continued)

The essence of [the] principle [of respectful and reciprocal human-nature relations] can be found in a wide range of concepts in Indigenous languages (see Table 5.3). This includes for example, “suma qamaña” (a term from the Aymara people of Bolivia meaning living well together with harmonious relationships between people and nature) (Albó, 2018; Artaraz & Calestani, 2015); “kciye” (a Penawahpskek word translated as meaning harmony with the natural world entailing both recognition of interconnectedness and adopting attitudes, beliefs and actions that enact this in practice) (S. Mitchell, 2018); “ukama” (a term stemming from the Shona people of Africa that acknowledges human interrelatedness in a network of mutuality with everything in the cosmos and an ethic of care for the wellbeing of all) (Ikeke, 2015; Murove, 2004); “birgejupmi” (a North-Sámi concept that means to have a good life according to what one has access to, living in a modest way with interactions between humans and non-humans based on care and respect) (Rybråten et al., 2024) and “yindyamarra” (a vital term for the Wiradjuri people of Australia that is often translated as respect and informs a way of life grounded in mutual respect and caring for all, including self, community, ancestors, land, animals etc.) (B. Sullivan et al., 2016). The essence of the principle of respectful and reciprocal human-nature relations is expressed in all these different terms (and many others) and the expression and enactment of this occurs in various ways across different contexts, reflecting the diversity of cultures and practices across Indigenous Peoples and local communities.

Box 1.4. Case Study: Nashulai Maasai Conservancy – Indigenous and local knowledge informing new ways of coexistence

Location: Kenya

On 28 November 2016, the Nashulai Maasai Conservancy was officially launched as the first Maasai-led and governed conservancy in the Maasai Mara. This community-owned and governed conservancy is an example of a shift from the dominant 'fortress conservation' model that has been practiced for more than a century in Kenya to a model that is based on co-existence, dignity, inclusivity, self-determination, empowerment and human rights [views]. To achieve this, local community members came together and developed a set of bylaws under the leadership of the council of elders and chose to call the conservancy 'Nashulai', a Maasai word that translates to 'coexistence' – hence a place where people, livestock, and wildlife can live together [structures, views].



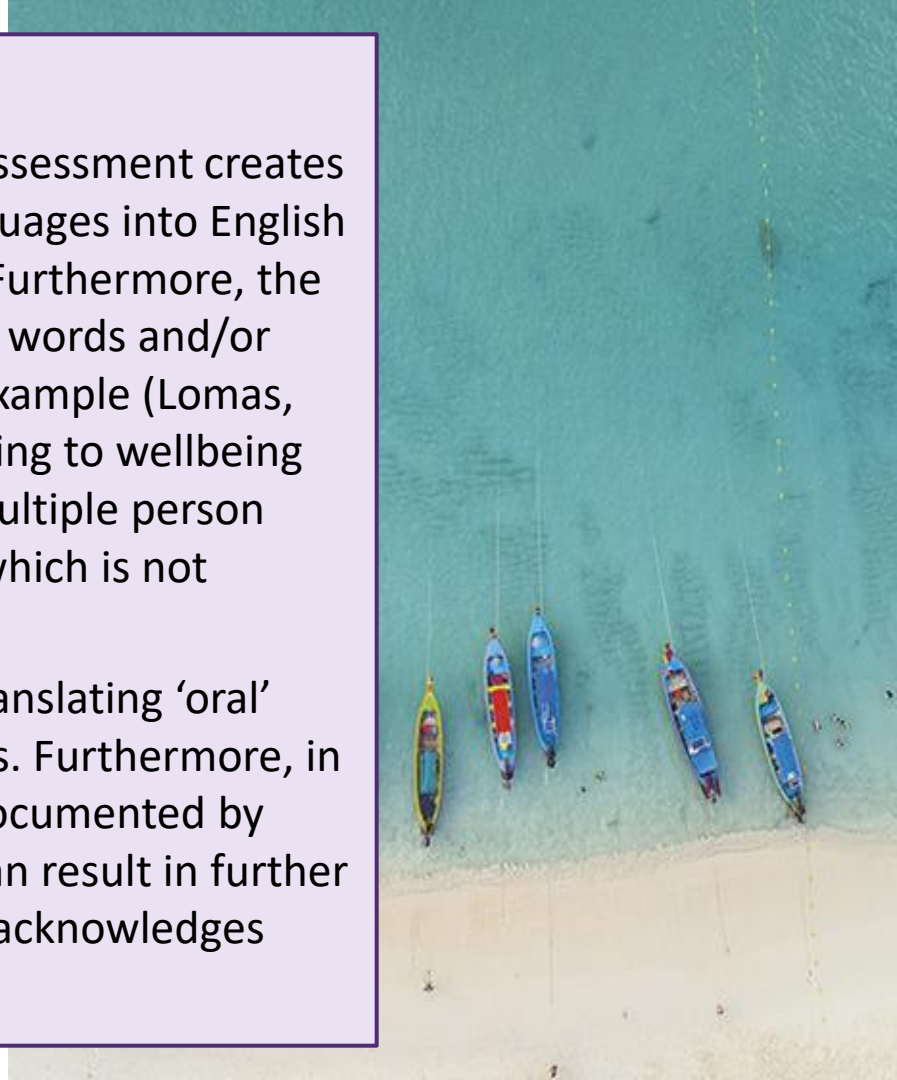
Box 1.4. Case Study: Nashulai Maasai Conservancy (continued)

Community members removed about 20 kilometres of individual property fences and pooled their land together to form the approximately 6,000-acre Nashulai Maasai Conservancy [practices]. Funding for establishing the Conservancy came from individual citizens through crowd sourcing and media engagement [practices]. Today, the Nashulai Maasai Conservancy is an officially registered community-based organization (CBO) with the Government of Kenya and regularly contributes to making policy [structures] (Nashulai Maasai Conservancy, n.d.). The Nashulai Maasai Conservancy has seen a reversal of nature's decline with impalas, wild elephants, giraffes, lions, and other wildlife returning to the land. Local communities continue to be engaged in governance processes [equity and justice]. Women, who in the past faced gender-based violence, now are actively engaged in economic and decision-making processes [pluralism and inclusion]. Community members have revived the knowledge of their ancestors and deepened their historical and cultural connections to nature [respectful and reciprocal human-nature relationships]. The Nashulai Maasai Conservancy model has been scaled out to at least two other communities, in the region and serves as a focal point for inspiring and scaling change in other communities around the world (UNDP, 2021).

Box 1.5. Lost in translation

Using English as the operating language for this assessment creates some limitations. Translating text from other languages into English is likely to result in a loss of its original meaning. Furthermore, the English language often lacks equivalent concepts, words and/or terms that are available in other languages. For example (Lomas, 2019) identified 216 “untranslatable” words relating to wellbeing and many Indigenous languages have a dual or multiple person pronoun that can be used for humanity/nature, which is not available in English (Yunkaporta, 2023).

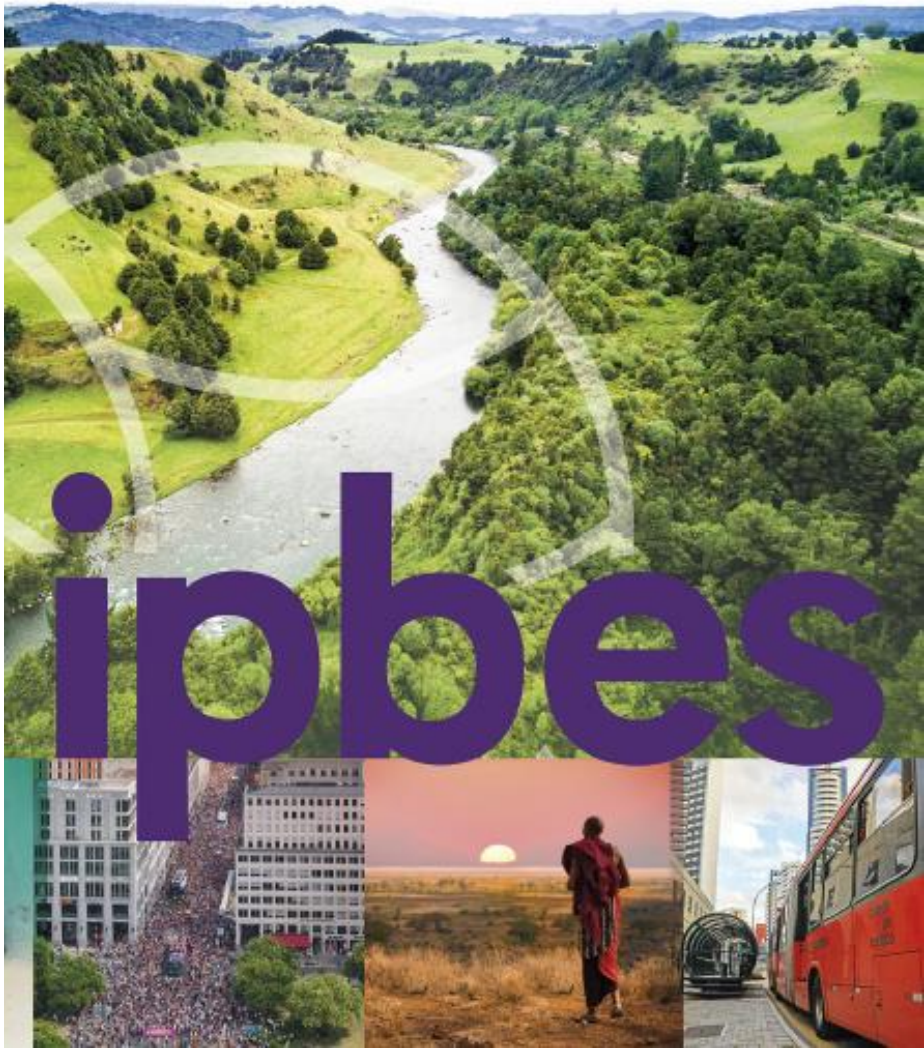
In the case of Indigenous and local knowledge, translating ‘oral’ knowledge into written forms also results in a loss. Furthermore, in many cases, Indigenous and local knowledge is documented by non-native, non-indigenous researchers, which can result in further loss of meaning. This assessment recognizes and acknowledges these limitations.



Excerpts from

Chapter 2

Visions of a sustainable world - for nature and people

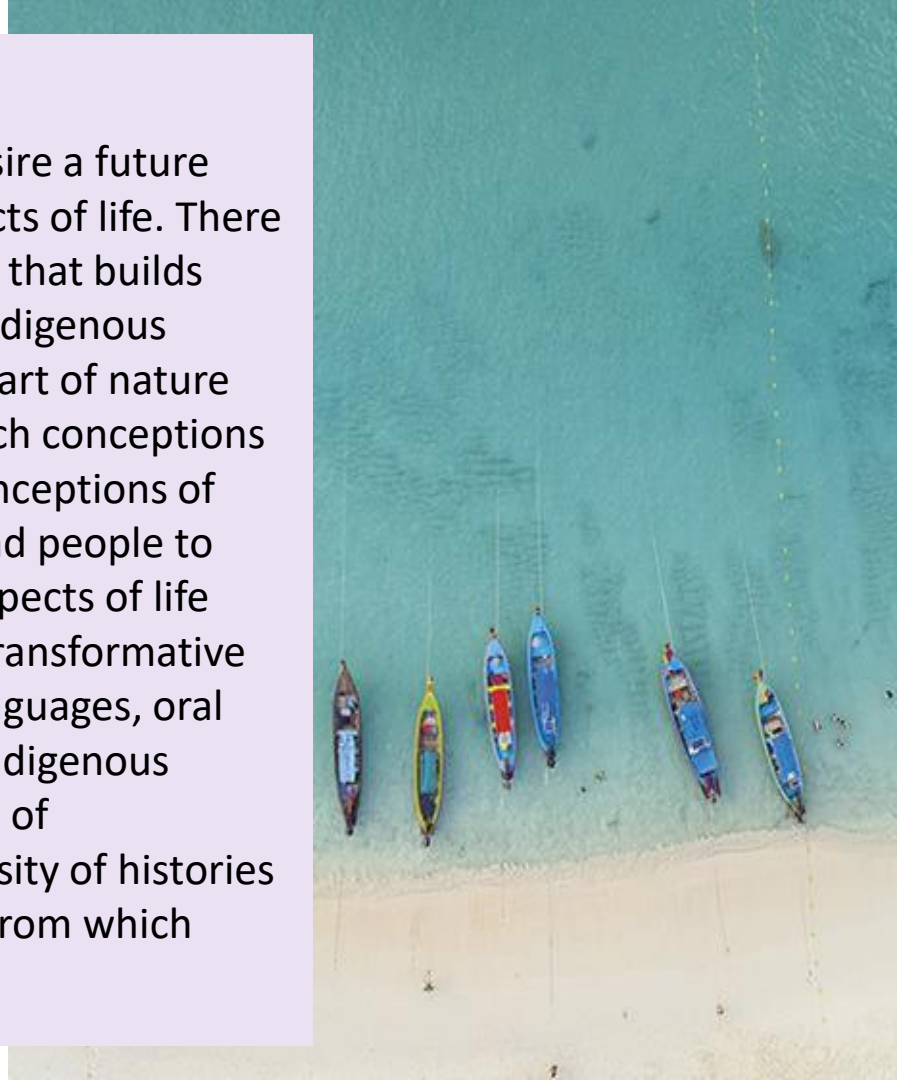


Chapter 2: Executive summary, paragraph 4

Visioning processes by Indigenous Peoples and local communities connect to fundamental rights for a desirable good life, both now and in the future. For many Indigenous Peoples and local communities, the right to self-determination – i.e., the right to make decisions about changes affecting their futures – is core to their ways of living. Food security and sovereignty, guardianship, holistic approaches, resource rights, retention and revitalization of cultural identity and respect for Indigenous ways of knowing are recurrent themes in their visioning processes and visions. Protection against external threats to Indigenous Peoples and local communities is partly addressed through striving towards these goals (established but incomplete) (Box 2.3) {2.3.4}. Many Indigenous Peoples and local communities express the importance of being able to retain the aspects of being and living that constitute a good life. This does not mean their visions do not change. Adaptation to change is fundamental to Indigenous Peoples and local communities and their visions regularly reflect a desire preserve sacred concepts, ways of living and ways of being that are core to communities. This often means finding ways to defend against the many challenges these communities face, frequently from external forces. Many Indigenous Peoples and local communities do not have linear conceptions of time and deterministic visions of the future often do not resonate {2.5}.

Chapter 2: Executive summary, paragraph 5

Many Indigenous Peoples and local communities desire a future that responds to their interrelatedness with all aspects of life. There is diversity in their ways of being, living and knowing that builds upon oneness and interdependence {2.3.4}. Many Indigenous Peoples and local communities conceive people as part of nature rather than people having dominion over nature. Such conceptions imply a lesser focus on control and determinism. Conceptions of interconnection and oneness span beyond nature and people to include also the physical, spiritual and intellectual aspects of life {2.5}. Indigenous and local community concepts of transformative change are not easy to translate from Indigenous languages, oral expressions and artistic modes of communication. Indigenous Peoples and local communities provide many visions of transformative change that are related to their diversity of histories and socio-ecological, cultural and spiritual contexts from which their ideas about the future emerge {2.3.4}.



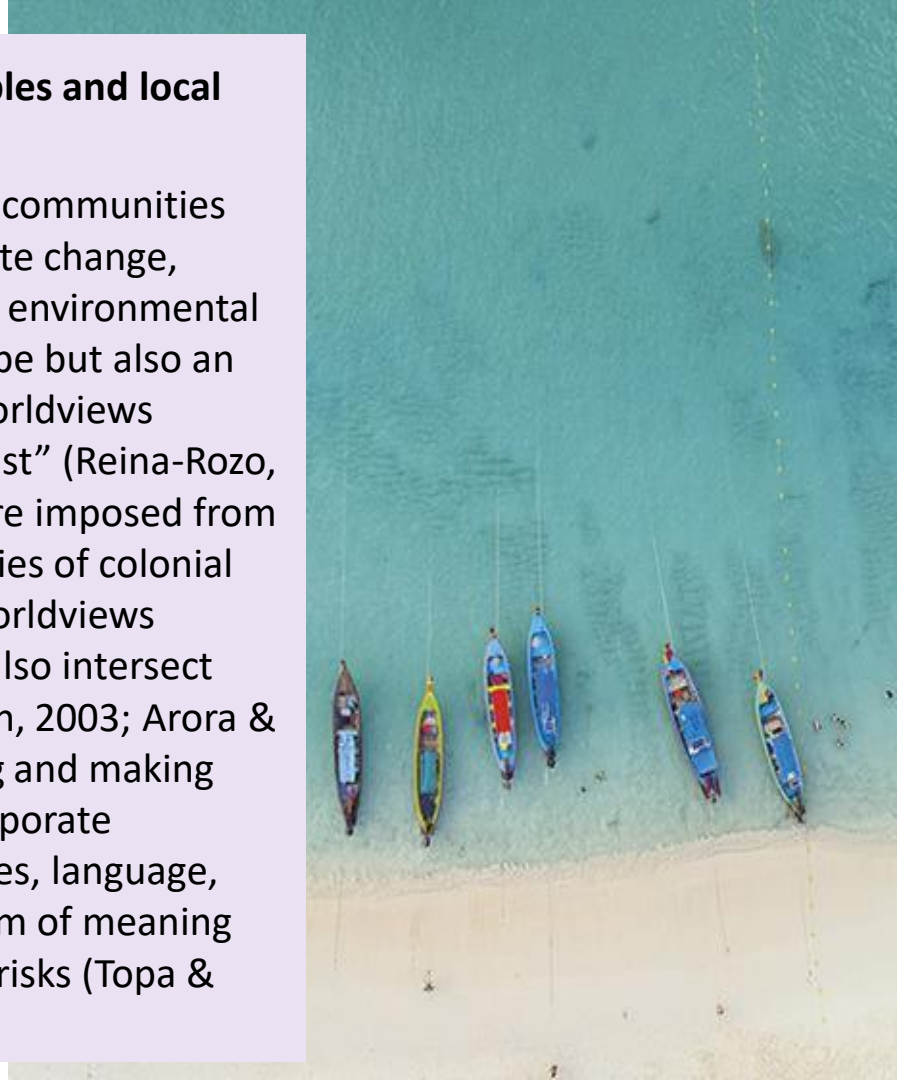
Chapter 2: Section 2.3.4. Visions from Indigenous Peoples and local communities

When identifying visions of positive futures for nature and people, the knowledge of Indigenous Peoples and local communities is key both from a perspective of justice, equity and inclusion and due to the value of their knowledge both inside and outside their own communities (Leal Filho et al., 2022; Thaman et al., 2013). Indigenous and local knowledge continues to be marginalized in many decision-making processes (Department of Conservation Te Papa Atawbai & New Zealand Government, 2020; Harmsworth & Awatere, 2013; Loch & Riechers, 2021; Ruru et al., 2017). Acknowledging and addressing this reality when tackling transformative change and visions of the future, can translate to more equitable approaches to transformative change. The knowledge, values and worldviews of Indigenous Peoples and local communities can support new ways of thinking and understanding in other knowledge communities (Berkes, 2009) and drawing from Indigenous and local knowledge can support positive transformations globally (Vijayan et al., 2022).

With the support from contributing authors from across the world, who were either members of Indigenous Peoples and local communities or scholars of Indigenous and local knowledge, comprehensive but non exhaustive evidence was compiled to respond to the following questions: 1) Why are visions important? 2) What are some visions of desirable futures? 3) How well does the concept of “visions of a desirable future for biodiversity and people” resonate with Indigenous Peoples and local communities?

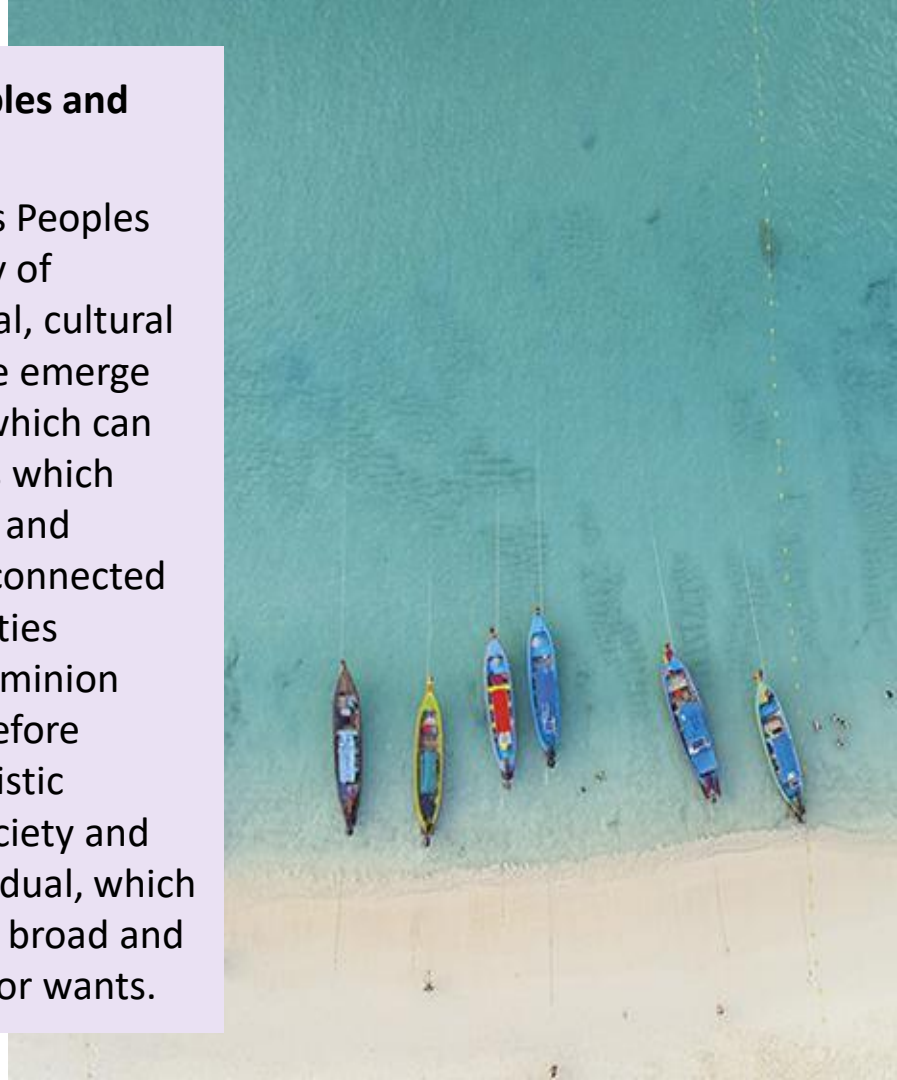
Chapter 2: Section 2.3.4. Visions from Indigenous Peoples and local communities (continued)

Examples highlighted that Indigenous Peoples and local communities are facing extreme and interlinked pressures from climate change, social change, biodiversity loss and nature's decline and environmental crises. Many visions are not only about how life should be but also an avoidance of the negative aspects of some dominant worldviews described as “developmentalist” and “techno-determinist” (Reina-Rozo, 2022), both when they emerge locally and when they are imposed from external and dominant and populist societies. The legacies of colonial rule in many regions and current spread of dominant worldviews impact Indigenous Peoples and local communities and also intersect with many of the threats faced today (Adams & Mulligan, 2003; Arora & Stirling, 2023; Pictou, 2023; Quijano, 2007). Maintaining and making space for visions from Indigenous worldviews that incorporate Indigenous and local cultural aspirations and perspectives, language, practice, ceremony, values and ethics into a wider system of meaning including nature may be an important counter to these risks (Topa & Narvaez, 2022).



Chapter 2: Section 2.3.4. Visions from Indigenous Peoples and local communities (continued)

There is no singular vision of the future from Indigenous Peoples and local communities, because there is a wide diversity of communities with different histories and socio-ecological, cultural and spiritual contexts from which ideas about the future emerge (Gil, 2021). The idea of a singular deterministic future, which can be imagined, may be antithetical to the multiple futures which emerge from living with the constant pressures, change and adaptation that occurs in communities that are closely connected to nature. Many Indigenous Peoples and local communities conceive people as part of nature rather than having dominion over it, which implies a lesser focus on control and therefore determinism. It is perhaps this lesser focus on deterministic futures and a more holistic worldview across nature, society and spirituality and a focus on the communal over the individual, which leads to ideas about the future often being described in broad and overarching terms rather than individual specific needs or wants.



Chapter 2: Section 2.3.4. Visions from Indigenous Peoples and local communities (continued)

Some consistent themes emerged from the analysis of contributions on visions of Indigenous Peoples and local communities (Box 2.2, Box 2.3). These themes are all deeply interlinked and many are associated with the concept of “biocultural innovations” (Reina-Rozo, 2022) which are envisioned as the diverse forms of innovation that emerge from communities and their knowledge and practices to meet the social and environmental challenges (Falardeau et al., 2019; Roskruge, 2007).

Box 2.2. Resonance of the concept of “visions of transformative change for nature”.

The premise of transformative visions of sustainable futures itself could result in a poor match with some Indigenous and local ways of knowing and conceptions of change and adaptation to change. Visions of the future may be inconsistent with some Indigenous and local conceptions of time, which are not always linear or deterministic (IPBES, 2022b), or may be linear but conceived in different ways such as seeing the future as unknowable, giving greater scrutiny to the past, which is knowable (Gill, 2023). Māori in New Zealand have a particular saying (whakataukī): ‘Kia whakatōmuri te haere ki whakamua’, to walk into the future our eyes must be fixed on the past.

For communities under extreme pressure, the capacity to address long-term visions may be limited by the need to address current and near-term crises. Communities at the frontline of environmental and social crises and catastrophe (Oakes et al., 2015) may have the least capacity and opportunity to participate and be included in developing visions for the future and may be most at risk of imposition of visions from sources external to their communities. Finding ways to reduce the pressures on these communities such that there is capacity to consider long-term futures is important to facilitate transitions to greater equity in participation for these communities.

Box 2.3. Themes of visions of desirable futures from Indigenous Peoples and local communities

Self-determination and guardianship

Transitions to and support for the conditions that allow people and communities to be cultural and environmental guardians are a key component…

Holistic approaches

Visions consistently emphasize the need to address nature as an interconnected yet inseparable part of life that comprises nature and livelihoods as well as the physical, spiritual and intellectual components of life…

Resource and land rights

Retaining and revitalizing connection to land has been a common theme across many desired visions of Indigenous Peoples and local communities…

Food security and sovereignty and local livelihoods

[The] food systems of Indigenous Peoples and local communities, supported by their values, culture, practice, Indigenous and local knowledge and land rights, are part of a vision of resilience in food systems…

Retention and revitalization of language, culture and Indigenous ways of knowing

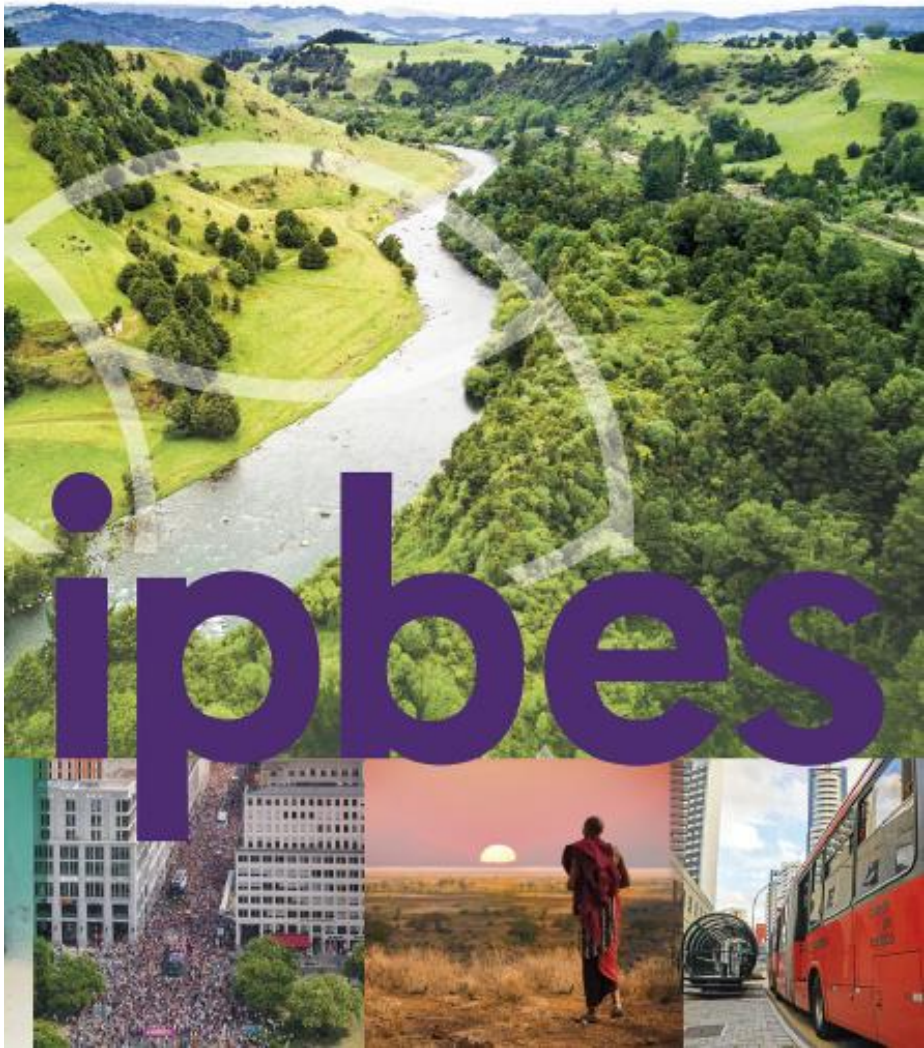
Re-Indigenization involves embracing Indigenous worldviews, learning from Indigenous values, customs, languages and concepts, learning from relational views of life and supporting decolonisation and reconciliation processes (M'sɨt No'kmaq et al., 2021)…

To read more, see chapter 2 of the assessment: https://www.ipbes.net/transformative-change-assessment

Excerpts from

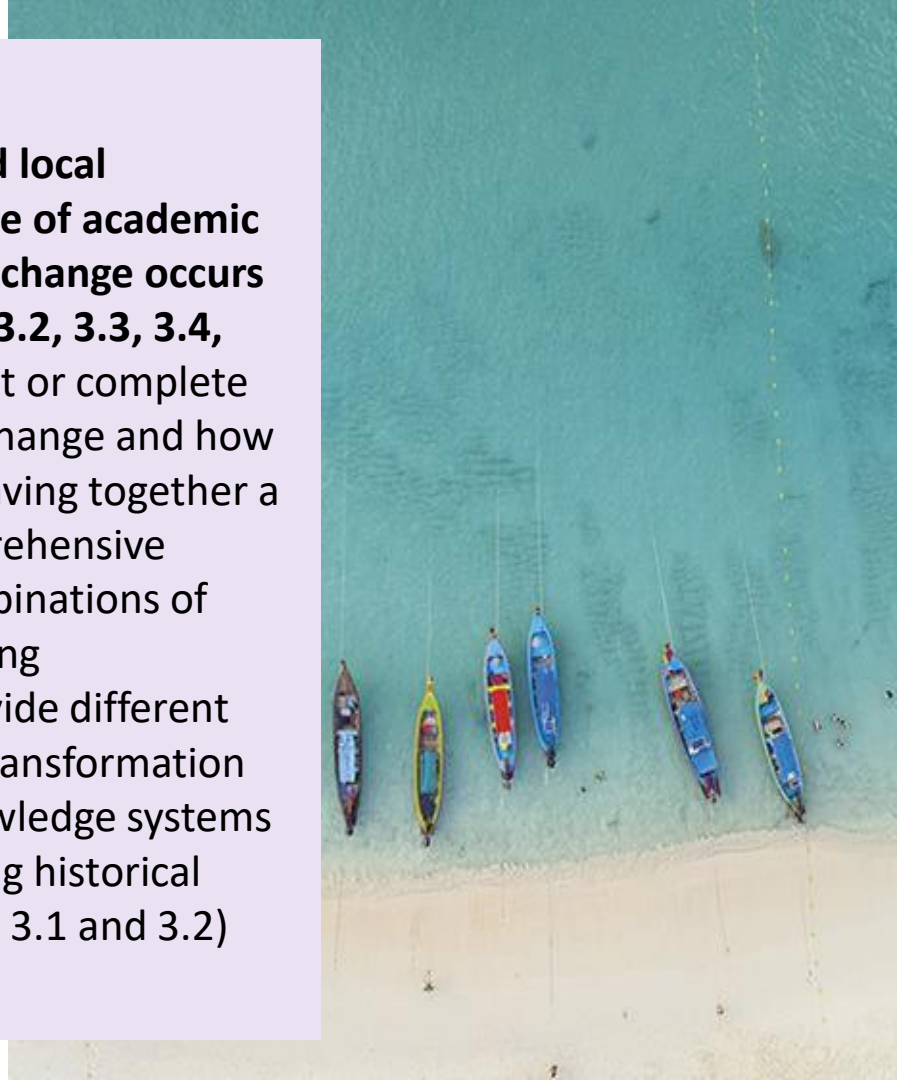
Chapter 3

How transformative change occurs



Chapter 3: Executive summary, paragraph 3

Many knowledge systems, including Indigenous and local knowledge and expert knowledge from a wide range of academic disciplines, provide insights on how transformative change occurs and how it can be promoted or how to navigate it {3.2, 3.3, 3.4, 3.5}. No single theory or approach provides sufficient or complete understanding of the complexity of transformative change and how to achieve it across different contexts {3.3, 3.5}. Weaving together a variety of knowledge systems leads to a more comprehensive understanding of the potential approaches and combinations of approaches that are useful for initiating and navigating transformative change, as different knowledges provide different perspectives and highlight different approaches to transformation {3.2, 3.3, 3.5, 3.5.1, 3.5.2}. Indigenous and local knowledge systems have particularly rich insights to offer, given their long historical foundations and deep relationships with nature (Box 3.1 and 3.2) {3.2, 3.5.2, 3.5.3}.



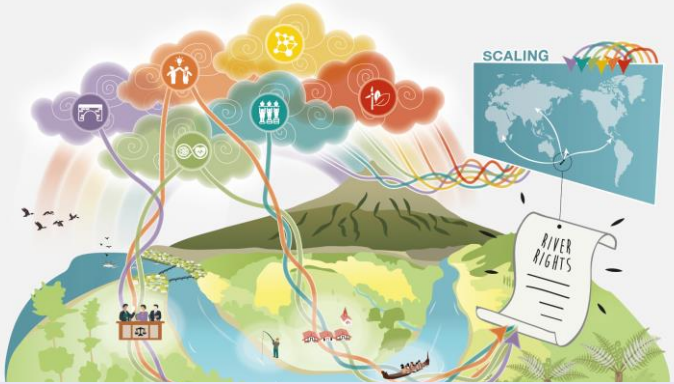


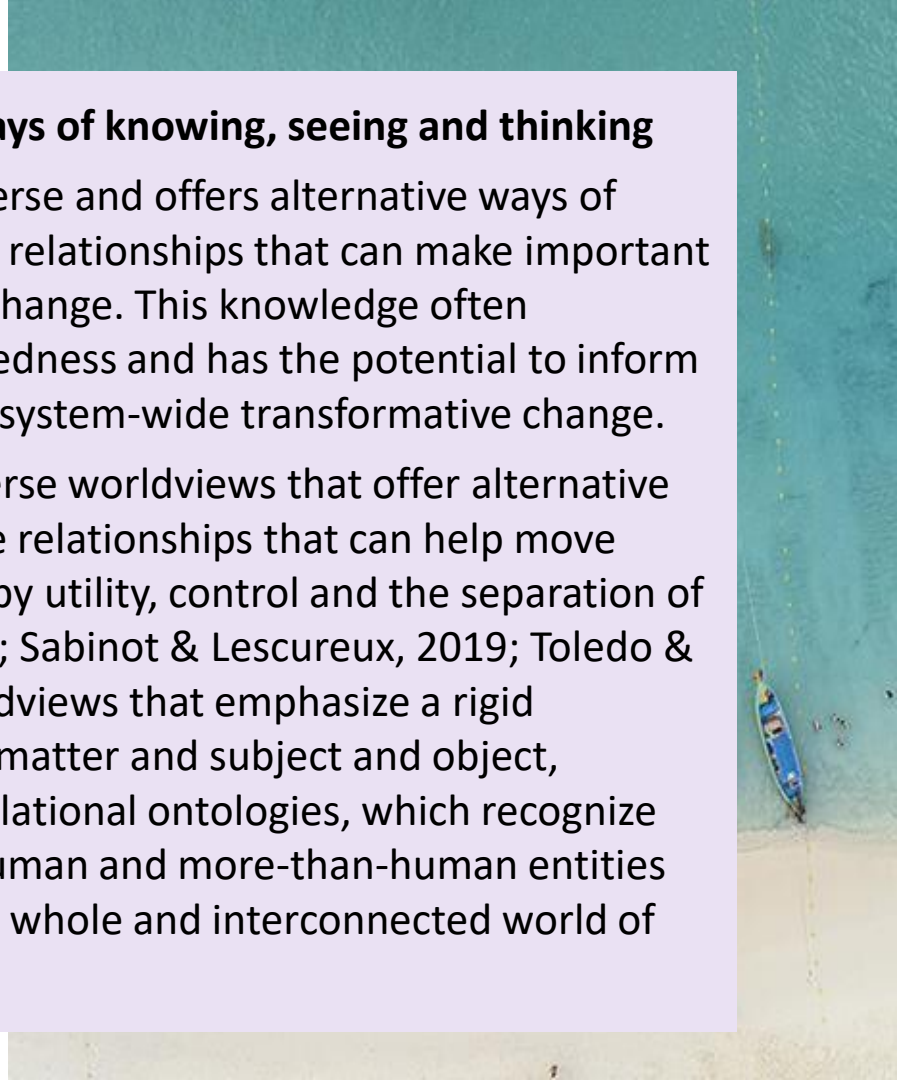
Figure 3.3. Te Awa Tupua - Navigating transformative change: river rights as an example of multi-approach integration with ripple effects worldwide. The concept of the rights of nature is an innovative concept that affords landscapes, animals and plants a legal status analogous to that of human beings. Rooted in the worldview of Indigenous Peoples, this concept necessitates the involvement of a diverse array of stakeholders and draws upon a multitude of identified approaches to navigate transformative change. Approach names are also shown in Māori Indigenous terminologies. For more details on the Te Awa Tupua case, see Charpleix (2018) and Global Atlas for Environmental Justice (Global Atlas of Environmental Justice, n.d.)

APPROACHES	ACTORS	ACTIONS	SCALING
System Pūnaha	Indigenous Peoples, natural entities, local communities, scientists, local governments, civil society	• Whanganui Māori-led resistance has birthed Te Pā Auroa, a novel framework legally acknowledging Te Awa Tupua as an entity comprising the river from the mountains to the sea, its tributaries, and all physical and metaphysical elements, as an indivisible and living whole	• Changes in socio-ecological system feedbacks lead to environmental improvements, including restoration and reduced biodiversity loss, which scale across the landscape
Structural Hanganga	Constitutional, institutional, lawyers, Indigenous Peoples, local communities	• Change in laws and regulations to integrate river and resource rights into New Zealand policies • Aligning traditional and contemporary processes with resource outcomes prioritised	• Ripple effect across the world for the recognition of legal rights to natural entities like forests, rivers, and wildlife • Global uptake and integration of nature's rights principles into policy frameworks
Inner transformation Whakaahuatia	Indigenous Peoples, local communities, local and national governments, civil society, lawyers	• Embracing culturally holistic Indigenous views of rivers and nature • Fostering reciprocal human-nature relationships	• Globally recognition of Indigenous views of nature and inspiring relational values around nature • IPLC grassroots initiatives advocating for relational aspects and nature's rights
Empowerment Rangatiratanga	Natural entities Indigenous Peoples, local communities, environmental activists, grassroots initiatives	• Strengthening the power of IPLCs in decision-making and movement to grant a form of legal "personhood" to rivers • Self-determination for the identity and future of the river	• Indigenous-led campaigns and grassroots initiatives to enforce legal recognition of natural entities globally • Acknowledging and promoting equity of indigenous contributions
Knowledge co-creation Mātauranga	Indigenous Peoples, local communities, local and national governments, civil society, lawyers	• Recognition of IPLC systems drawing from various inputs including spiritual, social, intellectual, and physical • Sharing relationships, knowledge, and views, creating novel legal rights to rivers and aligned resources	• Co-creation of knowledge on nature's rights (landscapes and natural entities) and promoting transferability across resources • Acknowledging and embracing multiple knowledge systems, particularly ILK as key environmental management tools
Science & Technology Pūtaiao me hangarau	IPLCs experts & organisations, scientists, Science-policy panels, technolo-gists, government agents	• Recognition of holistic Indigenous perspectives and knowledge of nature in research development, supported by evidence of natural entities' rights and their role in biodiversity conservation	• Epistemic communities (e.g., IPBES, UNEP) advise on ILK integration into conservation governance • Supporting ILK practitioners and recognizing ILK as a foundation for developing new technologies and engineering methodologies

Chapter 3: Section 3.5.2. Insight 2: Diversifying ways of knowing, seeing and thinking

…Indigenous and local knowledge is extremely diverse and offers alternative ways of knowing, seeing and thinking about human-nature relationships that can make important contributions to all approaches to transformative change. This knowledge often emphasizes responsibility, reciprocity and connectedness and has the potential to inform and inspire strategies and actions to fundamental, system-wide transformative change.

Indigenous and local knowledge is made up of diverse worldviews that offer alternative ways of knowing and thinking about human-nature relationships that can help move from dominant modern worldviews characterized by utility, control and the separation of human and nature (Artelle et al., 2018; Choy, 2018; Sabinot & Lescureux, 2019; Toledo & Barrera Bassols, 2008). In contrast to modern worldviews that emphasize a rigid dichotomy between nature and culture, mind and matter and subject and object, Indigenous and local knowledge emphasizes the relational ontologies, which recognize the mutually constitutive relationships between human and more-than-human entities (Escobar, 2016; Lescureux, 2006), often featuring a whole and interconnected world of balance and harmony.



Chapter 3: Section 3.5.2. Insight 2: Diversifying ways of knowing, seeing and thinking (continued)

For instance, Indigenous recognition of rights of nature and assertions of nature's agency have given rise to a novel legal concept of legal personhood to non-human entities (Hutchison, 2014), creating an alternative to dominant anthropocentric approaches to legal structures (Charpleix, 2018; Kauffman & Martin, 2018; Martínez & Acosta, 2017) (Box 3.1).

Indigenous and local knowledge plays critical roles in bringing about transformative change towards sustainability across the multiple different approaches discussed in this chapter (Brondízio, Aumeeruddy-Thomas, et al., 2021; Reyes-García et al., 2022; Section 3.2, Table 3.1). Because of its place-based character (Lam, Hinz, et al., 2020), Indigenous and local knowledge can contribute to more plural transformations through knowledge co-creation approaches (Burgos-Ayala et al., 2020; Caillon et al., 2017; Fernández-Llamazares & Cabeza, 2018), where multiple knowledge sources and systems are engaged in weaving creative and innovative solutions for sustainability (Section 3.2.5, Box 3.2). It also plays a prominent role in inner transformation approaches by shedding light on spiritual, emotional, cultural, social and historical dimensions of self-other relationships that can help trigger and leverage inner potentials for transformative change (Redvers et al., 2022; Wildcat, 2022) (Section 3.2.3).

Chapter 3: Section 3.5.2. Insight 2 (continued)

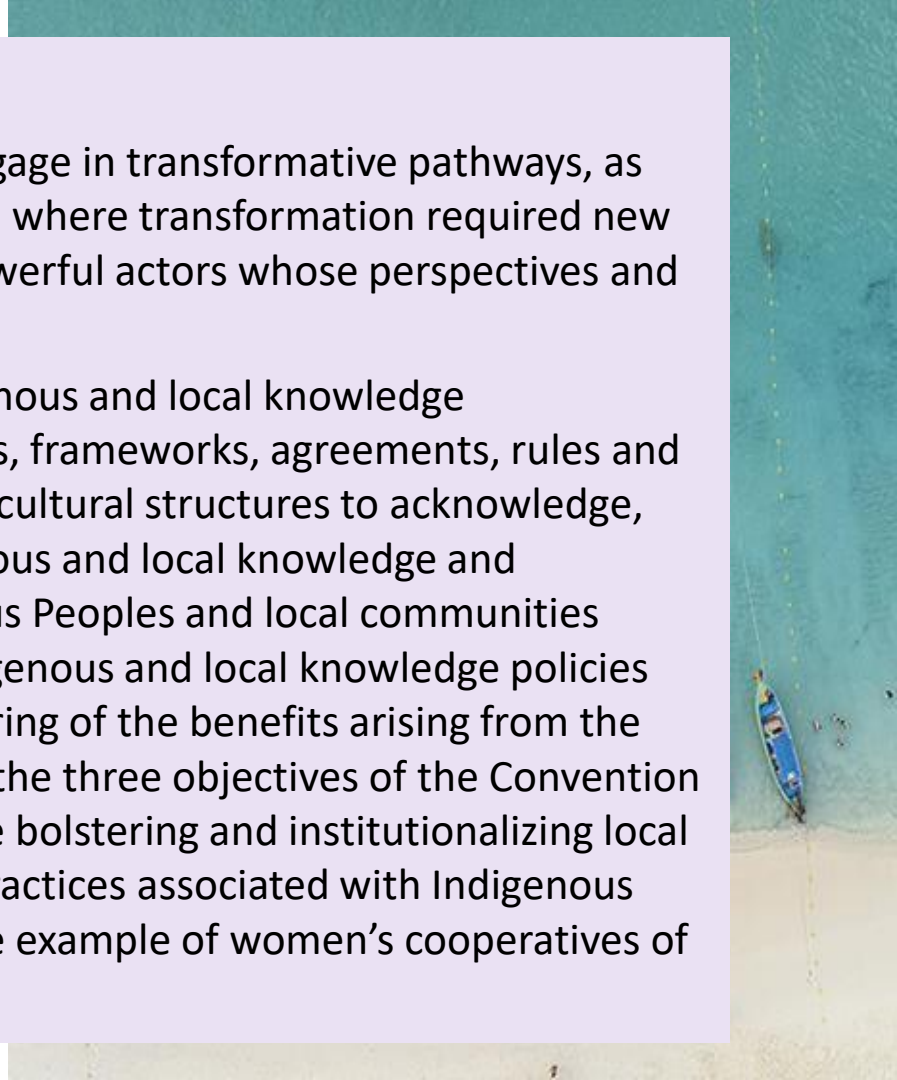
Likewise, Indigenous and local knowledge supports systems approaches through their focus on reciprocal and interconnected perspectives on human-nature relationships (Berkes, 2009, 2017; Hill et al., 2019) (Section 3.2.1), with examples of Indigenous and local knowledge providing rich real-world examples of transformative approaches (Box 3.1 and 3.2, Section 3.4). Indigenous and local knowledge also often informs scientific and technological approaches (Kamau et al., 2015; Kamau & Winter, 2013; McElwee, Fernández-Llamazares, et al., 2020; McElwee, Ngo, et al., 2020) (Section 3.2.6), when scientific and technological development is ethically and responsibly based on traditional knowledge and practices, for instance through the use of medicinal plants or Indigenous products (Fabricant & Farnsworth, 2001; Simmonds et al., 2020; Wangkheirakpam, 2018).

The role of Indigenous and local knowledge in empowerment and structural approaches highlights political and management actions that can be taken to support transformative change. Supporting the agency, power and rights of Indigenous Peoples and local communities who have been holding, practicing and transmitting Indigenous and local knowledge over generations but have often been historically marginalized, can support stewardship activities associated with livelihoods and customary practices (Reyes-García et al., 2022; Rights and Resource Initiative, 2017).

Chapter 3: Section 3.5.2. Insight 2 (continued)

This can also develop and enhance capacities to engage in transformative pathways, as shown in the example of Udege People (Annex 3.1), where transformation required new capacities in existing governance structures and powerful actors whose perspectives and routines are persistent.

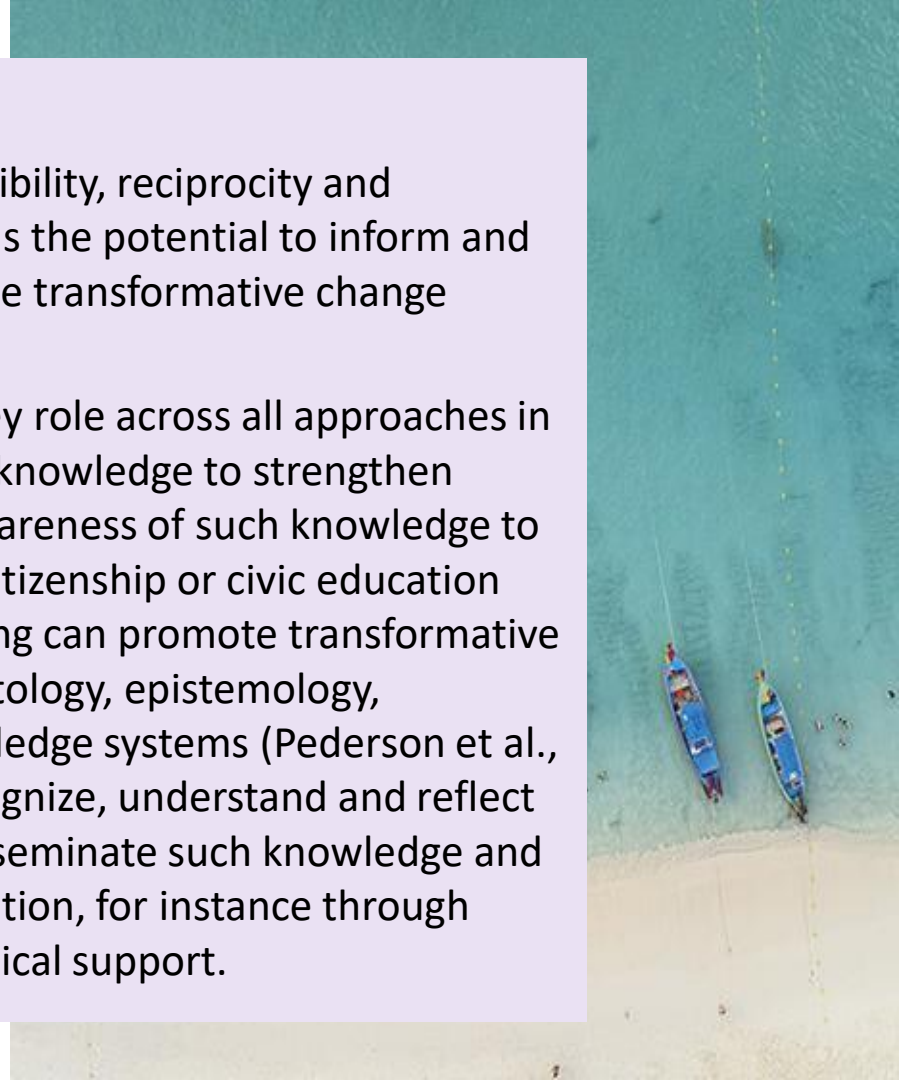
Within the context of structural approaches, Indigenous and local knowledge perspectives help to develop and improve principles, frameworks, agreements, rules and legislation as well as economic, social, political and cultural structures to acknowledge, appreciate, respect, preserve and maintain Indigenous and local knowledge and associated agency, rights and practices of Indigenous Peoples and local communities (Brondízio & Le Tourneau, 2016). For example, Indigenous and local knowledge policies inform policies regarding the fair and equitable sharing of the benefits arising from the use of genetic resources (Laird et al., 2020), one of the three objectives of the Convention on Biological Diversity (Box 3.1). It can also facilitate bolstering and institutionalizing local governance to promote and enhance sustainable practices associated with Indigenous and local knowledge (Dawson et al., 2024), as in the example of women's cooperatives of argan oil production in Morocco (Figure 3.5).



Chapter 3: Section 3.5.2. Insight 2 (continued)

In these ways and through its emphasis on responsibility, reciprocity and connectedness, Indigenous and local knowledge has the potential to inform and inspire strategies and actions to support global scale transformative change (Brondízio, Aumeeruddy-Thomas, et al., 2021).

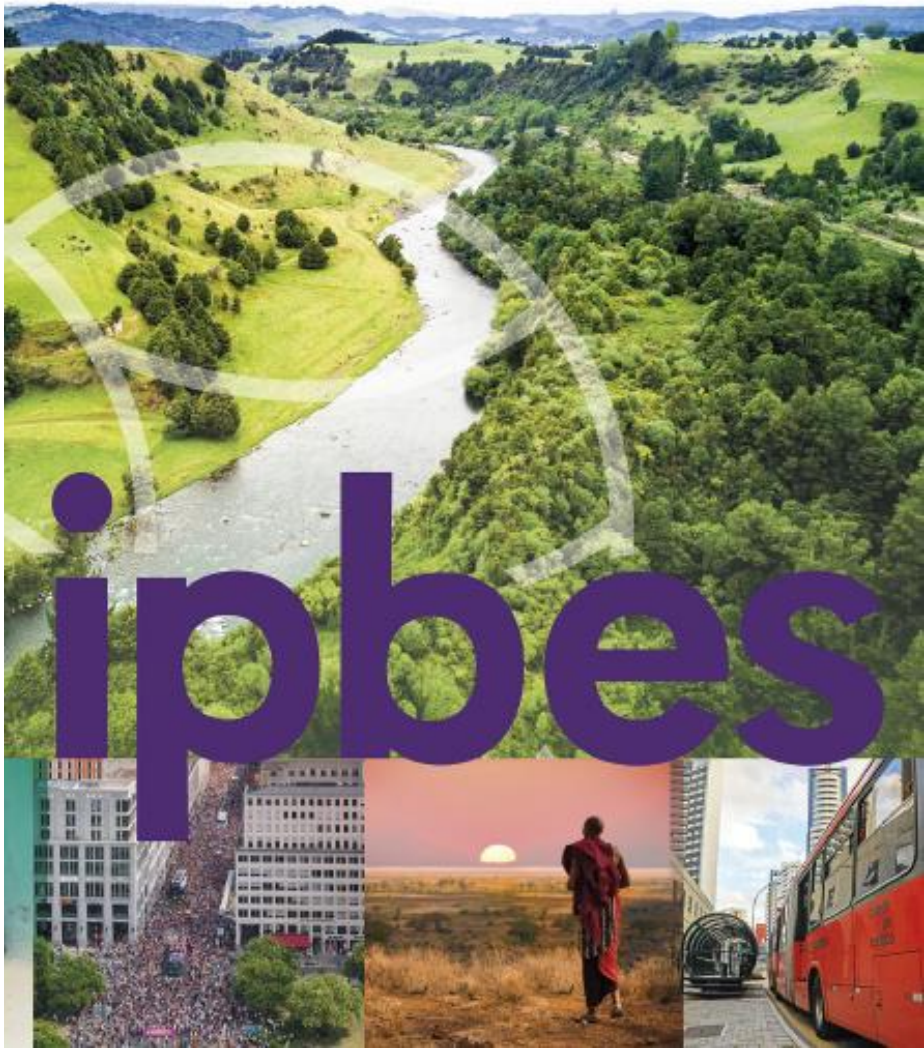
Education and awareness raising activities play a key role across all approaches in supporting the application of Indigenous and local knowledge to strengthen biodiversity strategies and action and to spread awareness of such knowledge to the wider population. In this regard, for instance, citizenship or civic education working through the concept of experiential learning can promote transformative learning outcomes such as shifts in worldviews, ontology, epistemology, behaviour and capacity by engaging multiple knowledge systems (Pederson et al., 2022; Shultz, 2021). It is important not only to recognize, understand and reflect on Indigenous and local knowledge, but also to disseminate such knowledge and visions of alternative futures to the broader population, for instance through education curricula, in order to attain broader political support.



Excerpts from

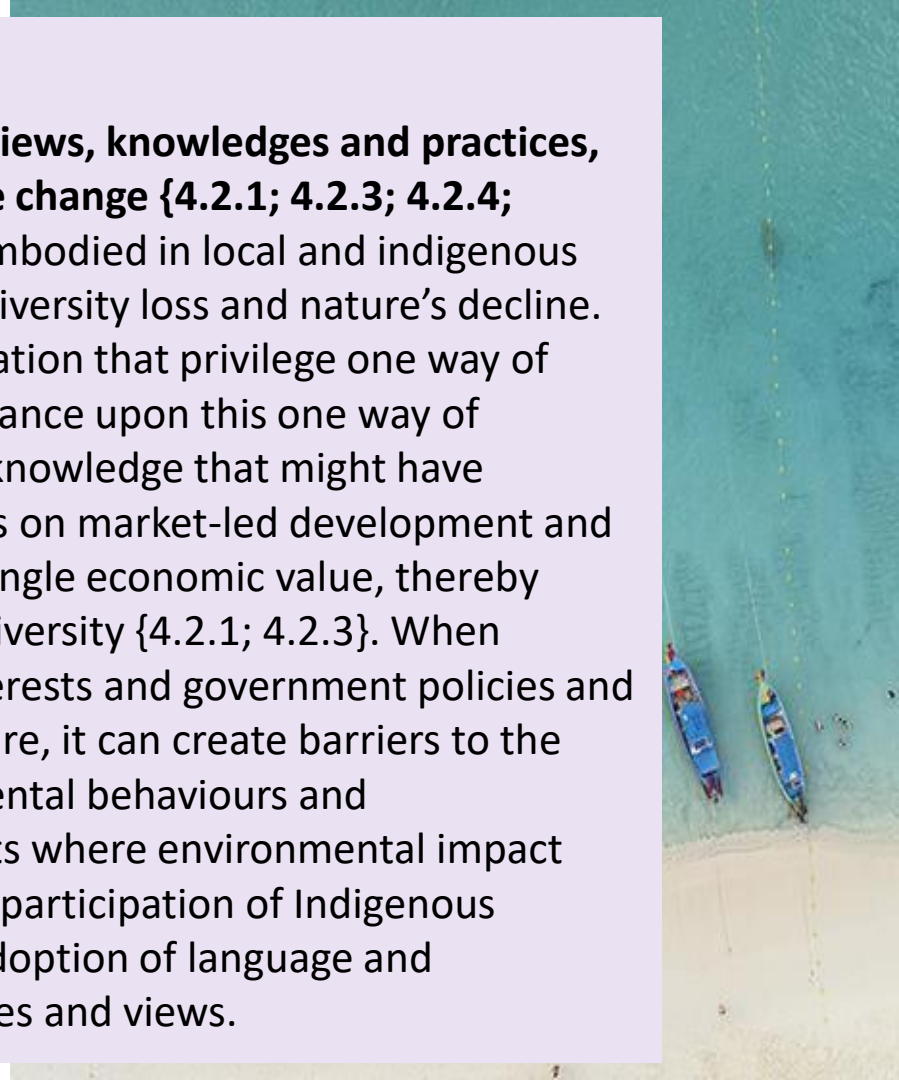
Chapter 4

Overcoming the challenges of achieving transformative change toward a sustainable world



Chapter 4: Executive summary paragraph 9

The marginalization of Indigenous and local worldviews, knowledges and practices, and their lack of recognition, hinder transformative change {4.2.1; 4.2.3; 4.2.4; 4.2.5}. The value of different types of knowledge, embodied in local and indigenous practices, is often excluded from discussions of biodiversity loss and nature's decline. Current scientific systems reflect relations of domination that privilege one way of knowing and living in the world over others. The reliance upon this one way of knowing the world dismisses alternative views and knowledge that might have transformative potential {4.2.1}. The dominant focus on market-led development and investment promotes the reduction of nature to a single economic value, thereby marginalizing other ways of valuing nature and biodiversity {4.2.1; 4.2.3}. When Indigenous views of nature clash with corporate interests and government policies and their associated ways of measuring and valuing nature, it can create barriers to the identification and implementation of pro-environmental behaviours and transformative ideas {4.2.3}. For example, in contexts where environmental impact assessments legitimize extractive development, the participation of Indigenous Peoples in these assessments often requires their adoption of language and assumptions that clash with and obscures their values and views.

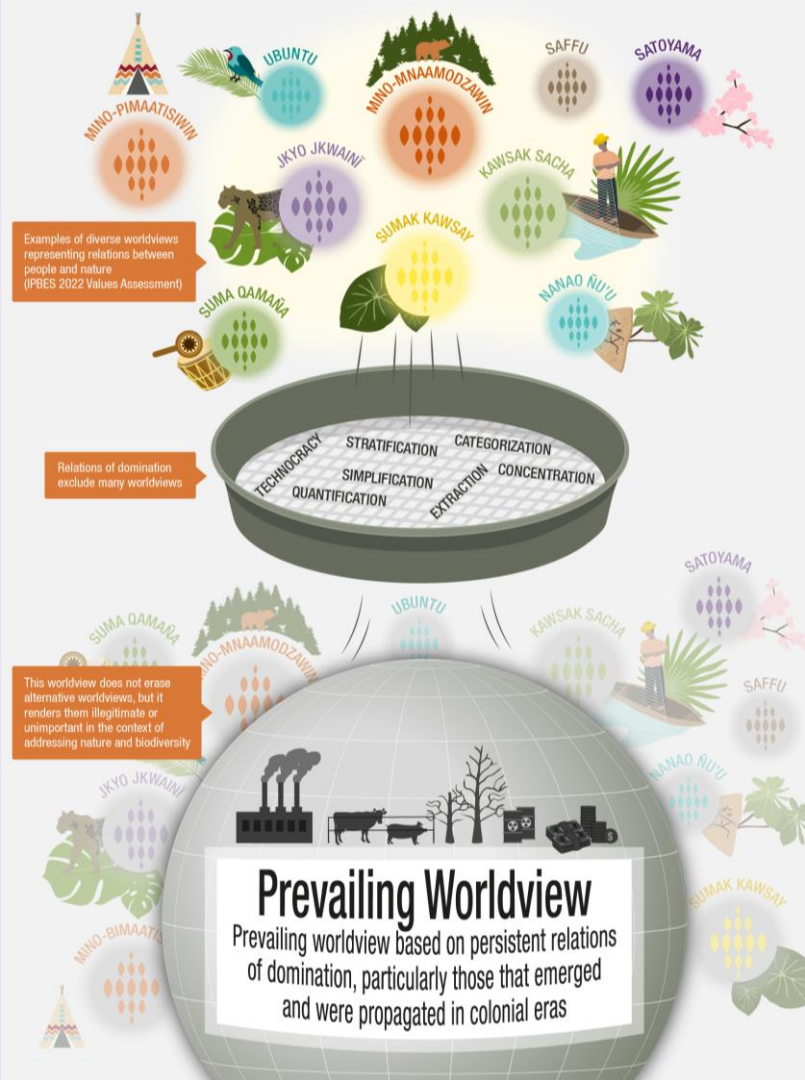


Chapter 4: Section 4.2.1. Challenge #1: persistent relations of domination, particularly those that emerged and were propagated in colonial eras

Questions of land use and value highlight how forms of categorization associated with prevailing relations of domination become barriers to transformative change, particularly when such categories reinforce state legitimacy in the face of contestation from civil society actors (Bluwstein & Lund, 2018; M. Fletcher et al., 2021; Igba & Liaga, 2021; Kashwan et al., 2021; Mei-Singh, 2016; Romero-Toledo, 2023; Witter & Satterfield, 2019; Ybarra, 2012). This is apparent in many disputes over land tenure, where Indigenous and communal land tenure systems (Asher & Ojeda, 2009; Bryant, 2002; Domínguez & Luoma, 2020; Enters & Anderson, 1999; Hendlin, 2014; Hopwood, 2022), Indigenous and local practices (Dressler & Roth, 2011; Fairhead & Leach, 1995), and Indigenous and local knowledge (Trisos et al., 2021) are categorized as inefficient, unproductive, or otherwise less valuable and valid than Western scientific framings. Another barrier to transformative change emerges in situations where Indigenous resource management systems are categorized separately from scientific land management and thus not integrated into environmental management and conservation planning (Dressler & Roth, 2011; Fairhead & Leach, 1995; Gandy, 2022; Goldman, 2003; P. J. S. Jones, 2009).

Figure 4.3. Prevailing worldview and implications

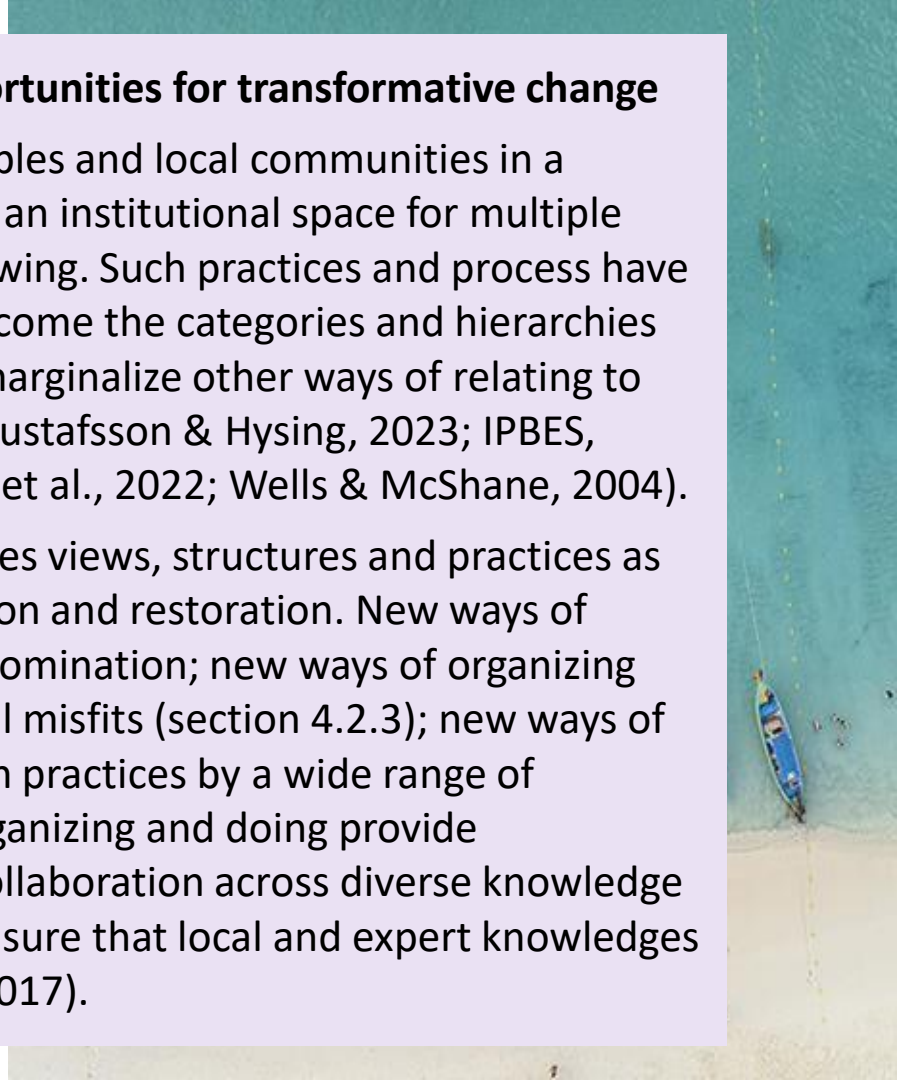
While the world is marked by diverse ways of knowing and living with nature, a prevailing worldview that is based on persistent relations of domination forged in the colonial era obscures these alternatives and their transformative potential. Various dimensions of this worldview include the stratification of different forms of knowledge that privileges quantifiable measures over other experiential understandings of the world to the simplification of biodiversity to singular, often instrumental functions or values. This prevailing worldview promotes the exclusion of alternative understandings of nature and biodiversity from decision-making about management, the exploitation of people and nature in line with prevailing assumptions about value and appropriate use, and the concentration of control over resources in the hands of those whose knowledge and decision-making reinforce existing approaches to biodiversity and nature. This worldview does not erase alternative worldviews, but it renders them illegitimate or unimportant in the context of addressing biodiversity.



Chapter 4: Section 4.3. Overcoming challenges: opportunities for transformative change

Practices and processes that engage Indigenous Peoples and local communities in a collaborative, just and equitable manner may create an institutional space for multiple ways of thinking, doing, organizing, relating and knowing. Such practices and process have been shown to reduce power asymmetries and overcome the categories and hierarchies that devalue Indigenous and local knowledges and marginalize other ways of relating to nature (Domínguez & Luoma, 2020; Eriksen, 2021; Gustafsson & Hysing, 2023; IPBES, 2023a, 2023b; Kohler & Brondizio, 2017a; Rahut, Dil et al., 2022; Wells & McShane, 2004).

Empowering new structures, views and practices takes views, structures and practices as entry points for transforming biodiversity conservation and restoration. New ways of thinking foster different approaches to relations of domination; new ways of organizing create institutional space for challenging institutional misfits (section 4.2.3); new ways of doing address unsustainable and unjust consumption practices by a wide range of stakeholders. For example, new ways of thinking, organizing and doing provide opportunities for transdisciplinary integration and collaboration across diverse knowledge systems (e.g., Indigenous and local knowledge) to ensure that local and expert knowledges are shared (Bush et al., 2023; DeFries & Nagendra, 2017).



Chapter 4: Section 4.3. Overcoming challenges: opportunities for transformative change (continued)

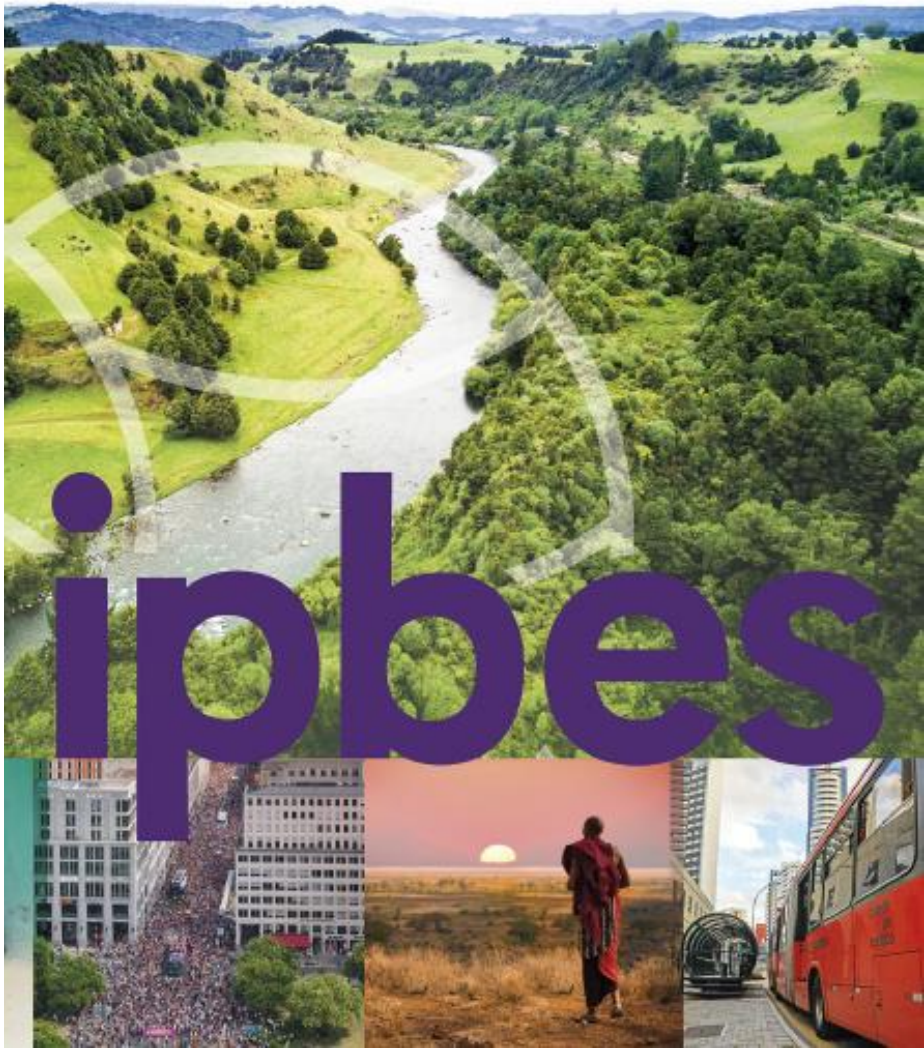
It also presents opportunities for engaging Indigenous Peoples and local communities in a collaborative, just and equitable manner, reducing power asymmetries and overcoming the categories and hierarchies that devalue Indigenous knowledges and marginalize other ways of relating to nature (Domínguez & Luoma, 2020; Eriksen, 2021; Gustafsson & Hysing, 2023; IPBES, 2023a, 2023b; Kohler & Brondizio, 2017b; Rahut, Dil et al., 2022; Wells & McShane, 2004). Connected to this, empowering different ways of repairing and including diverse knowledges of Indigenous Peoples and local communities may be overcoming separation and exclusion of these communities in planning and policy (Mungekar et al., 2023). This, in turn, may address the relations of domination that often relegate such diverse knowledge to the background of policy conversations.

[…] Deliberate strategies may address unequal power relations and concentrated wealth across multiple scales (sections 4.2.1, 4.2.2), as well as the views that support and legitimize the unsustainable practices of such institutions and industries, such as narratives of nature as a commodity, or narratives that restrict Indigenous Peoples' and local communities' rights to nature (Bellato et al., 2023; Bush et al., 2023; IPBES, 2019a; IRP, 2021).

Excerpts from

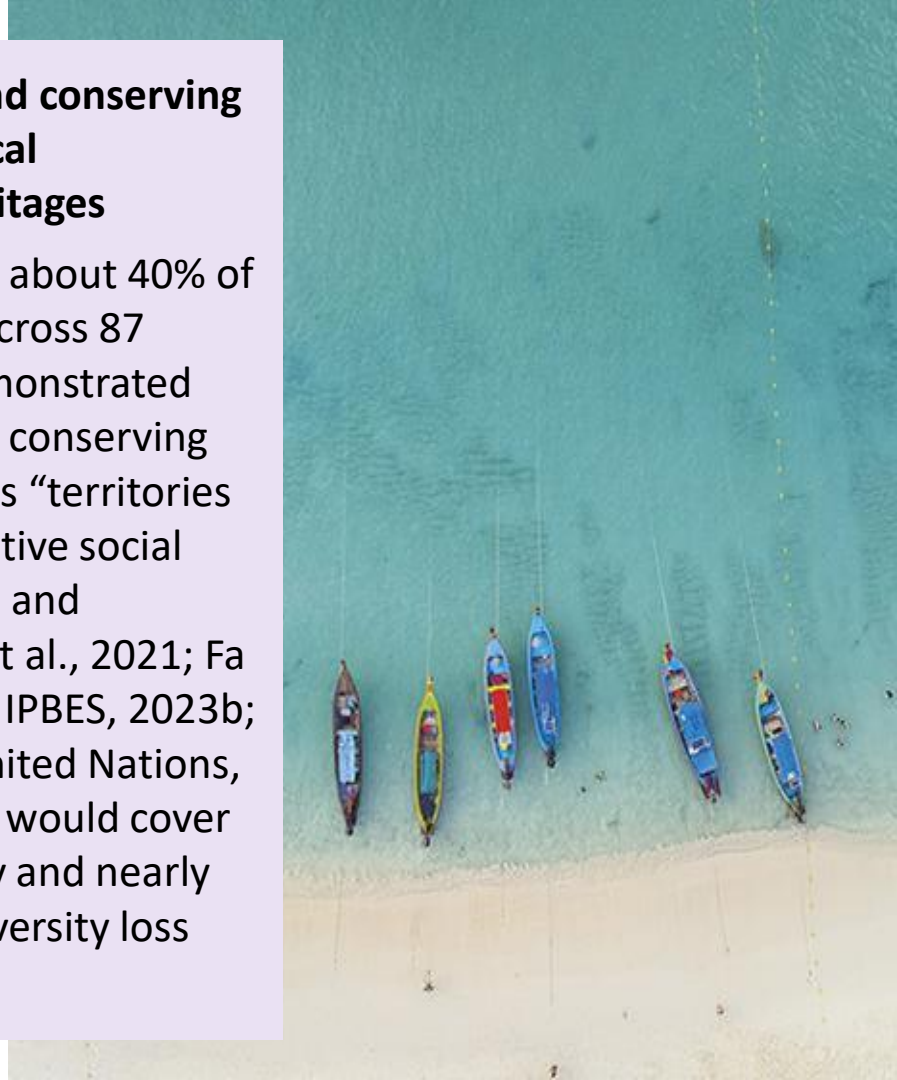
Chapter 5

Realizing a sustainable world for nature and people: transformative strategies, actions and roles for all



Chapter 5: Section 5.3.1. Action 1.1: Recognizing and conserving the “territories of life” - Indigenous Peoples and local communities are custodians of vital biocultural heritages

Indigenous Peoples manage or have tenure rights to about 40% of protected areas and ecologically intact landscapes across 87 countries (Garnett et al., 2019). Recognizing the demonstrated role of Indigenous Peoples and local communities in conserving the biocultural resilience of these areas, described as “territories of life” (Zanjani et al., 2023) creates a myriad of positive social and ecological outcomes across regions, ecosystems and intervention types (Blackman et al., 2017; Dawson et al., 2021; Fa et al., 2020; Garcia et al., 2022; Garnett et al., 2018; IPBES, 2023b; Martín-López et al., 2020; Schleicher et al., 2017; United Nations, 2021a). Additional recognition of "territories of life" would cover at least one-third of intact forest landscapes globally and nearly one-third of areas considered key to reversing biodiversity loss and to storing carbon (Zanjani et al., 2023).

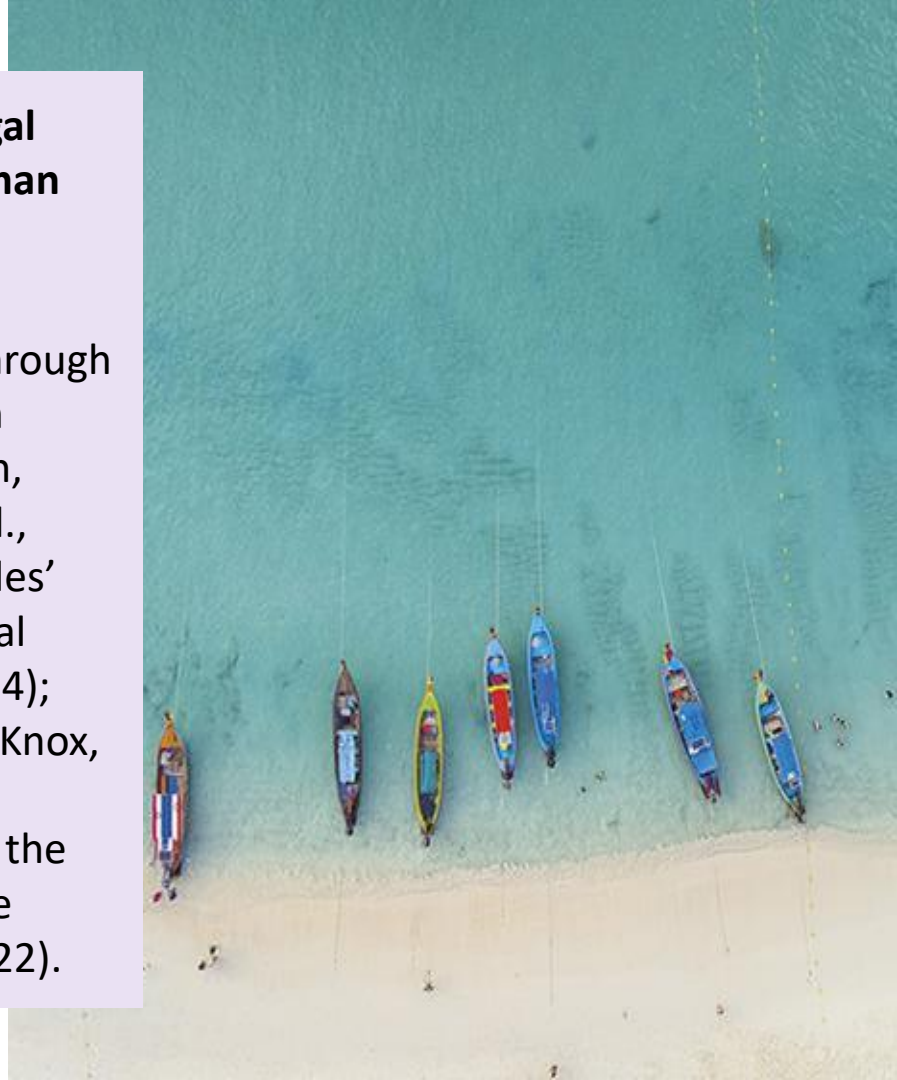


Chapter 5: Section 5.3.1. Action 1.1 (continued)

Effective conservation of Indigenous Peoples' and local community territories is advanced when accompanied by legal protection of customary and collective tenure rights, implementation of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), the United Nations Declaration on the Rights Of Peasants and other people working in rural areas (UNDROP) at the national level, as applicable (Garnett et al., 2018; Knox, 2018a; Morgera & Nakamura, 2021; Oldekop et al., 2016) and recognition of biocultural governance and knowledge systems (Mansuy et al., 2023; Tauli-Corpuz et al., 2020). Legal protection of rights and territories together can be an effective approach to resisting territorial pressures of industries, including agriculture, forestry, fisheries, livestock industries, mining and oil and gas, that negatively impact on the environment and human rights (Agrawal & Redford, 2009; Christoplos et al., 2009; Ferraro & Hanauer, 2011; Howe et al., 2014; Mbaria & Ogada, 2016; Scheidel et al., 2023). Recognizing views, structures and practices that deeply connect humans with nature over generations supports biodiversity (Conversi, 2021; IPBES, 2019, 2022a; Ortiz-Prado et al., 2021; Purvis et al., 2018; Reed et al., 2024). The protection of human rights and tenure recognition can be implemented through new forms of equitable co-governance and power-sharing (Makagon et al., 2014; Maxwell et al., 2020; Tauli-Corpuz et al., 2020) in "ethical space", where multiple ways of knowing are recognized (Buxton et al., 2021; Ermine, 2007).

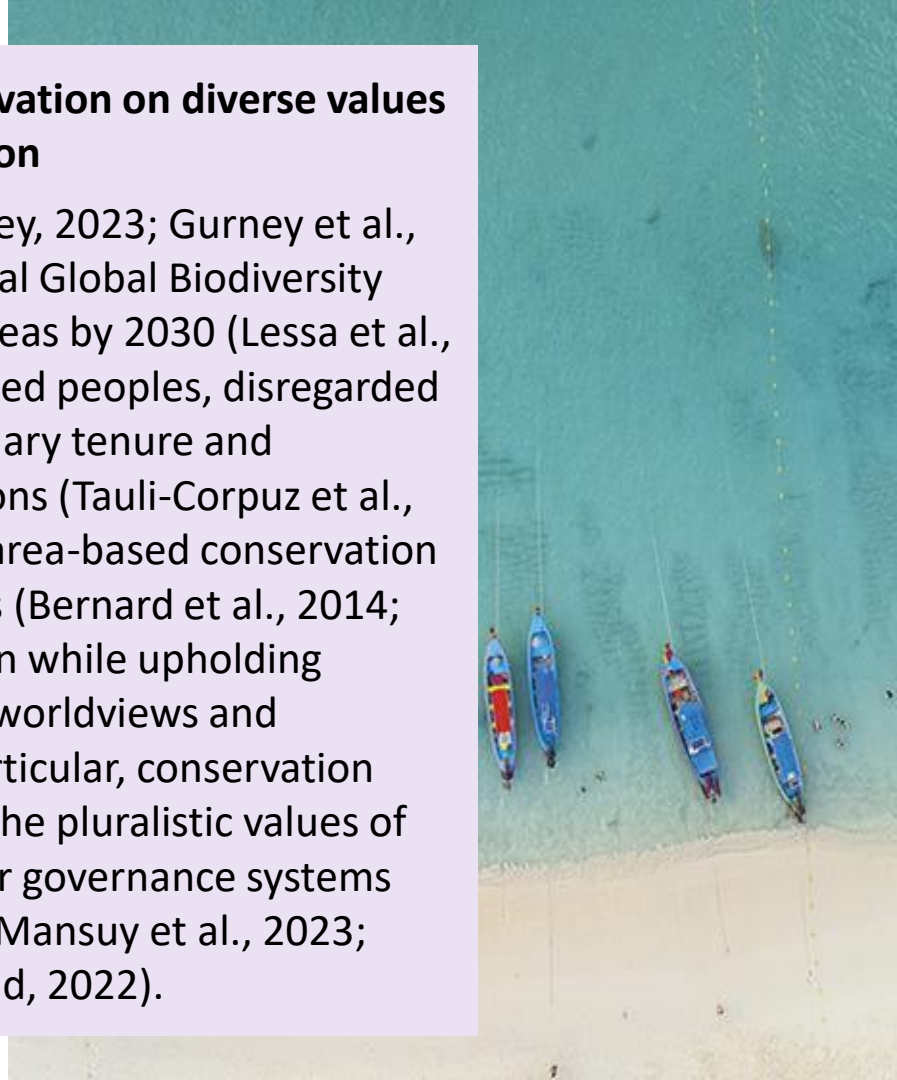
Chapter 5: Section 5.3.2. Action 1.2: Enhancing legal protection for biodiversity through protecting human rights, recognizing nature's rights and preventing ecocide

Legal protection of biodiversity can be enhanced through the protection of internationally recognized human rights, including the right of every human to a clean, healthy and sustainable environment (Bennett et al., 2024; Knox, 2018b; UNGA, 2022); Indigenous Peoples' rights (Knox, 2018b; Morgera, 2019; UN, 2020); local communities' rights (De Schutter, 2012; Fakhri, 2024); women's rights (Boyd, 2023); and children's rights (Knox, 2018a; Morgera, 2024; Shields et al., 2023; UNCRC, 2023). Legal recognition of these rights can change the perception of the importance of biodiversity for the realization of multiple policy goals (Reber et al., 2022).



Chapter 5: Section 5.3.3. Action 1.3: Basing conservation on diverse values of nature to achieve inclusive biodiversity protection

Protected areas represent a primary approach (Bailey, 2023; Gurney et al., 2023) to achieving Target 3 of the Kunming-Montreal Global Biodiversity Framework: to conserve 30% of lands, waters and seas by 2030 (Lessa et al., 2021). However, some protected areas have displaced peoples, disregarded Indigenous Peoples' and local communities' customary tenure and knowledge systems and led to human rights violations (Tauli-Corpuz et al., 2016; UN, 2021). Protected areas, alongside other area-based conservation measures, can generate multiple and diverse values (Bernard et al., 2014; IPBES, 2022a) that support biodiversity conservation while upholding human rights and social safeguards and respecting worldviews and governance approaches (Dudley et al., 2018). In particular, conservation designations can be transformative by recognizing the pluralistic values of Indigenous Peoples and local communities and their governance systems (Fa et al., 2020; Indigenous Circle of Experts, 2018; Mansuy et al., 2023; Maxwell et al., 2020; Maxwell et al., 2020; Townsend, 2022).



Chapter 5: Section 5.3.3. Action 1.3 (continued)

Indigenous - and locally - led biocultural approaches to conservation provide demonstrated long-term sustainability and socioeconomic co-benefits (Garnett et al., 2018; Raymond et al., 2010; Reyes-García et al., 2023; Vigilante et al., 2017). For example, the Amazigh argan oil cooperatives in Morocco provide a compelling example of how cultural revival, environmental management and economic empowerment , especially for women, can intersect to create transformative change (IPBES, 2023b; annex 5.3). Achieving Target 3 will necessitate investment in knowledge building and collaboration between modern science and Indigenous and local knowledge, adequate financial supports and removal of policy barriers to designating conserved areas managed by Indigenous Peoples and local communities (Tran et al., 2020). This includes protecting human rights to avoid relations of domination persisting in conservation (Morgera, 2019; Tauli-Corpuz et al., 2020; Youdelis et al., 2021).

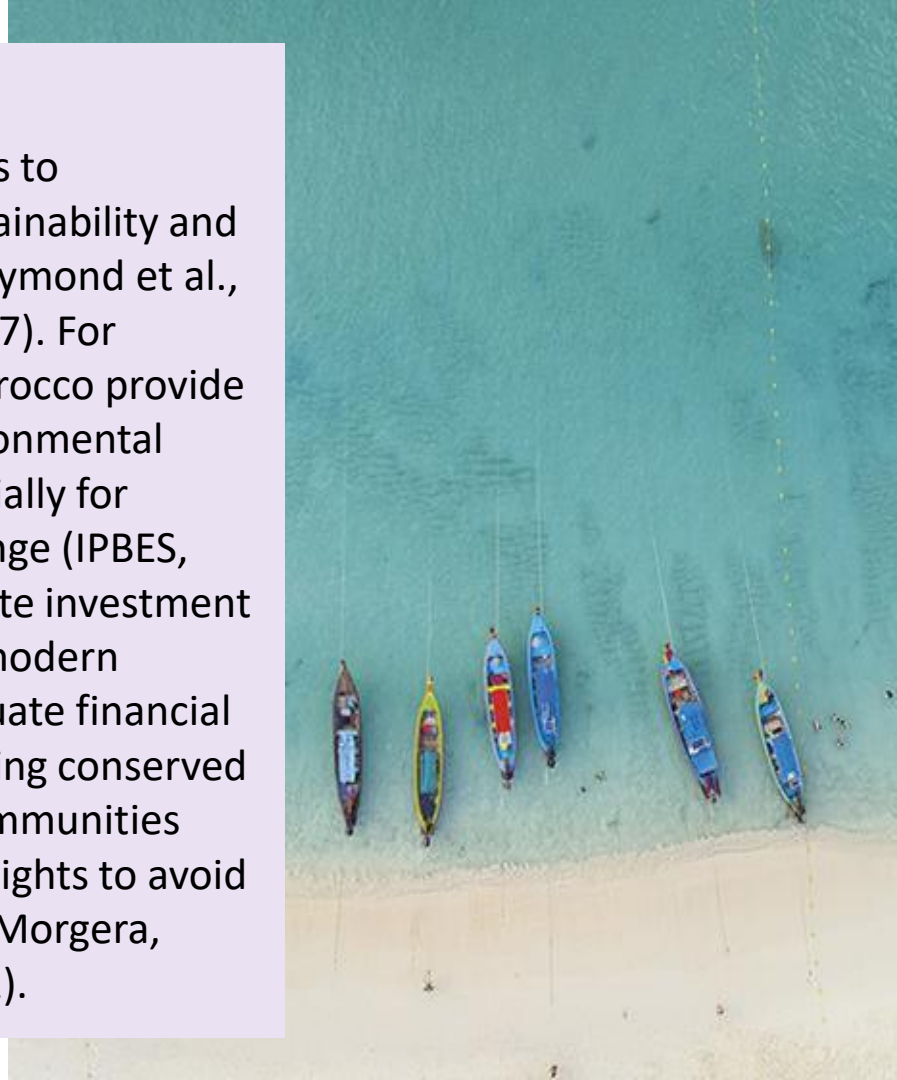


Figure 5.6. Protect All Life. Artwork by Kisa MacIsaac - Copyright. See action 1.4 in annex 5.2. Protect All Life.

“In my artwork (a mix of acrylic painting and digital illustration), I sought to capture the powerful connection and interconnectedness between nature and humanity, in the context of this land we call Canada—both our history and present-day realities. Woven together are plants, insects, berries, water, sky, people, land—no one more important than the other—no hierarchies: symbolic of the delicate balance that sustains our ecosystems and how all life on earth should be valued as equal and worthy of protection from colonization, land theft, war and direct exploitation of organisms. A reminder that our relationship with the land should be rooted in stewardship and harmony, as has been the case for Indigenous Peoples around the world for thousands of years. We must speak up, we must act, we must fight for justice and liberation of all oppressed peoples, for the protection of children and for all life on the planet. All my relations and kinanaskomitinawaw - I am grateful to you all.”

Box 5.1. Civil society initiatives: Prey Lang Community Network, Cambodia

The Cambodia Prey Lang Community Network was established in 2007 by local Khmer and Kuy Indigenous Peoples to protect Prey Lang Forest, Southeast Asia's last major lowland rain forest, which was threatened by illegal timber trade, agro-industries and mining concessions. The movement conducted regular forest patrols to stop illegal loggers and confiscate chain saws, used smartphones to collect data on forest crimes, lobbied authorities and launched several campaigns that drew wide attention to their cause. Actions of the Network implied changes in views, structures, and practices (Theilade et al., 2021). For their substantial contributions to environmental protection, they were awarded the 2015 UNDP Equator Prize and the 2019 Energy Globe Award.

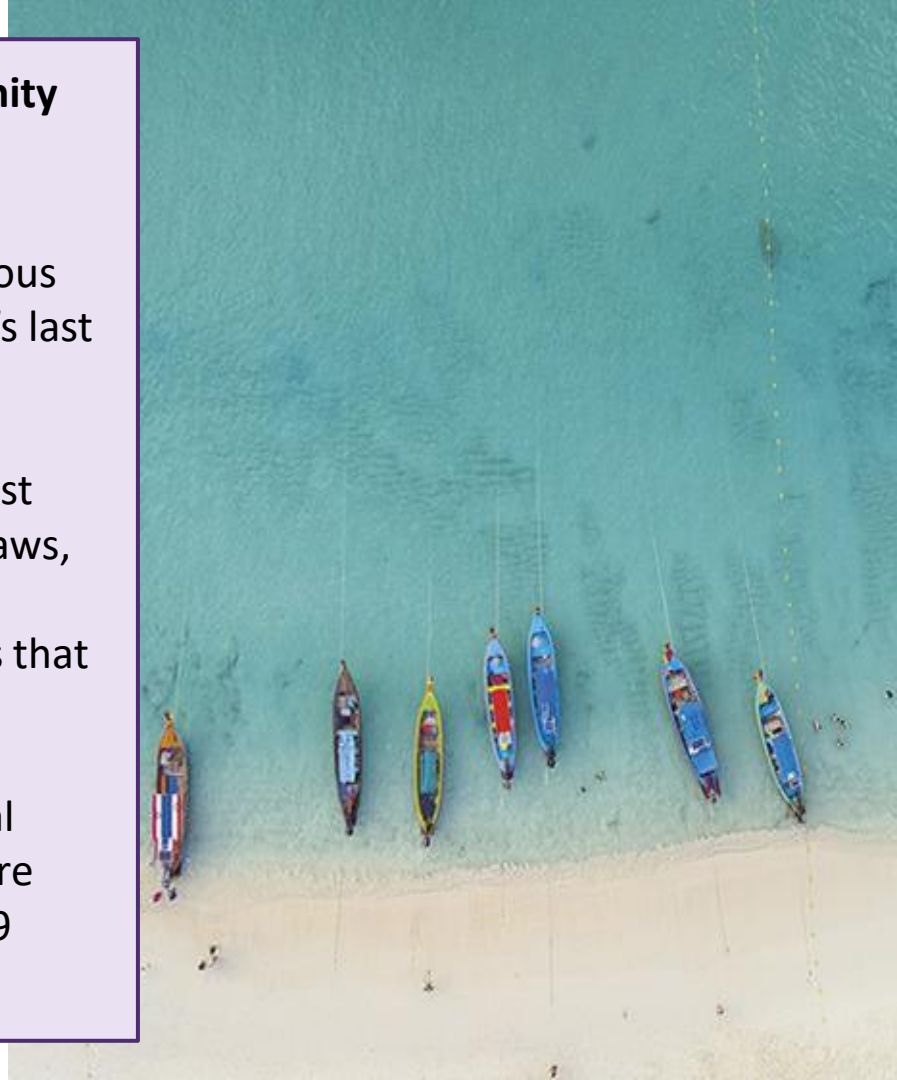


Table 5.3. Ways of characterizing human-nature relationships in diverse cultures and languages. Many Indigenous and other relational philosophies recognize humans and nature as being deeply entangled, with an emphasis on care, reciprocity and harmony. Creating space for plural understandings of reality and relating to nature based on ethics of care is important for transformative change for a just and sustainable world.

Examples	Origin	Source
Ahimsā[35] Principle of non-violence in the context of a cosmology where 'all lives are integrated and to harm others is to hurt the community as a whole'.	India	Singh, 2014
Birgejumpi[40] A North-Sámi concept that means to have a good life according to what one has access to, living in a modest way with interactions between humans and non-humans based on care and respect.	Sami	Rybråten et al., 2024
Gaga[36] The Tayal Law' - a broad concept that encompasses ways of being and interacting with others and the land.	Tayal, Taiwa	Silan et al., 2022; Silan & Munkejord, 2022
Hurai[36] Translated as 'all the best things', it expresses the logic of transforming from nature to animals and then to human beings, in accord with Chinese Tuvan's people's cosmology. It sustains the belief that human beings are capable of continuously receiving the Hurai and blessing from nature.	Tuva, Siberia (China, Mongolia, Russia)	Hou, 2019

Figure 5.14. Te Ira Tangata (The life principle of man).

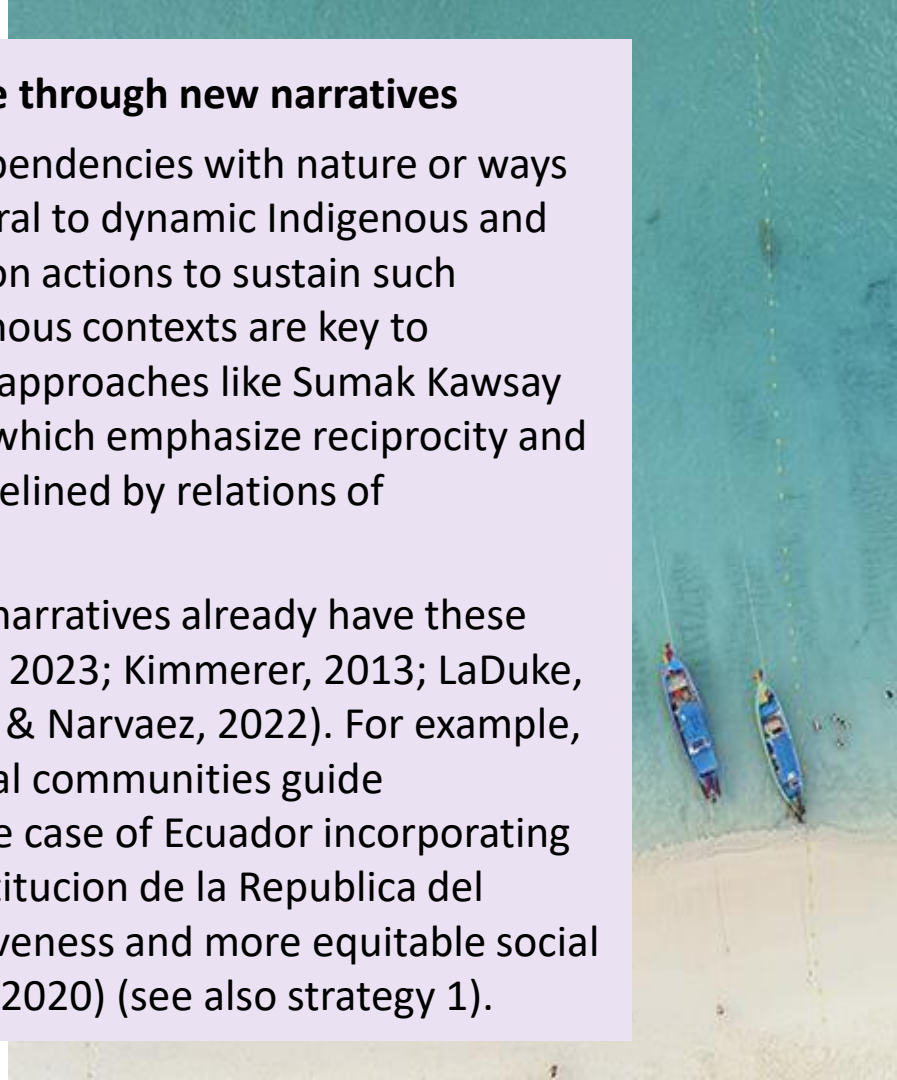
Artwork by Makuini Te Whata-Chadwick in 2003 and kindly provided by Nick Rahiri Roskruge – CC BY 4.0.

This artwork depicts the Te Ao Maori creation of the world in which humankind celebrates the relationship that moved Maori peoples' whakapapa from the spiritual to the physical world to parent humankind.

Chapter 5: Section 5.7.2. Action 5.2: Shifting culture through new narratives

Language, concepts and practices reflecting interdependencies with nature or ways of 'living as nature' based on ethics of care, are central to dynamic Indigenous and relational philosophies. The defence and revitalization actions to sustain such cultures and promote wider learning beyond Indigenous contexts are key to sustainability transformations, including Indigenous approaches like Sumak Kawsay Ubuntu or Whakapapa (table 5.3; figure 5.14) all of which emphasize reciprocity and care (Calderón et al., 2018) and which have been sidelined by relations of domination (chapter 4).

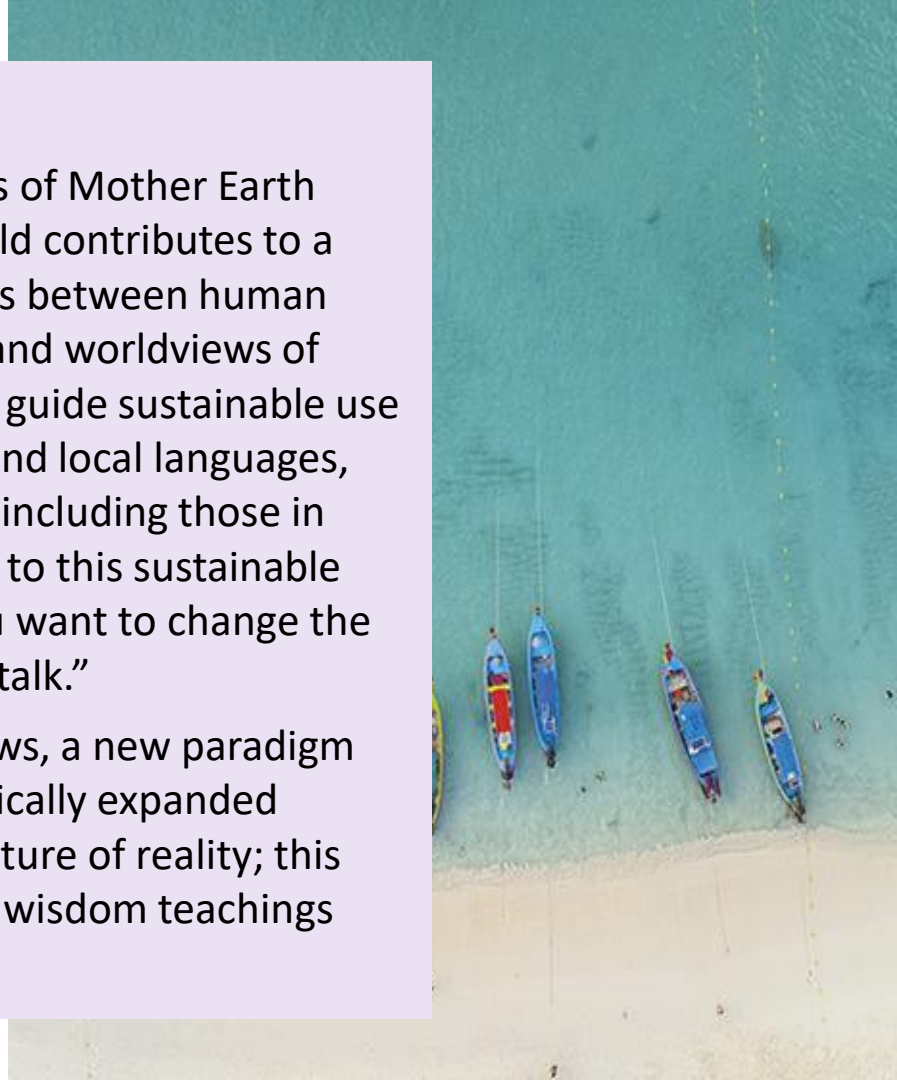
Many Indigenous and local knowledge systems and narratives already have these characteristics and can guide cultural change (IPBES, 2023; Kimmerer, 2013; LaDuke, 1999; McGregor et al., 2023; Reed et al., 2024; Topa & Narvaez, 2022). For example, when the worldviews of Indigenous Peoples and local communities guide conservation governance and management, as in the case of Ecuador incorporating the rights of Pachamama into its Constitution (Constitucion de la Republica del Ecuador, 2008), there is greater conservation effectiveness and more equitable social outcomes (Dawson et al., 2021; Martín-López et al., 2020) (see also strategy 1).



Chapter 5: Section 5.7.2. Action 5.2 (continued)

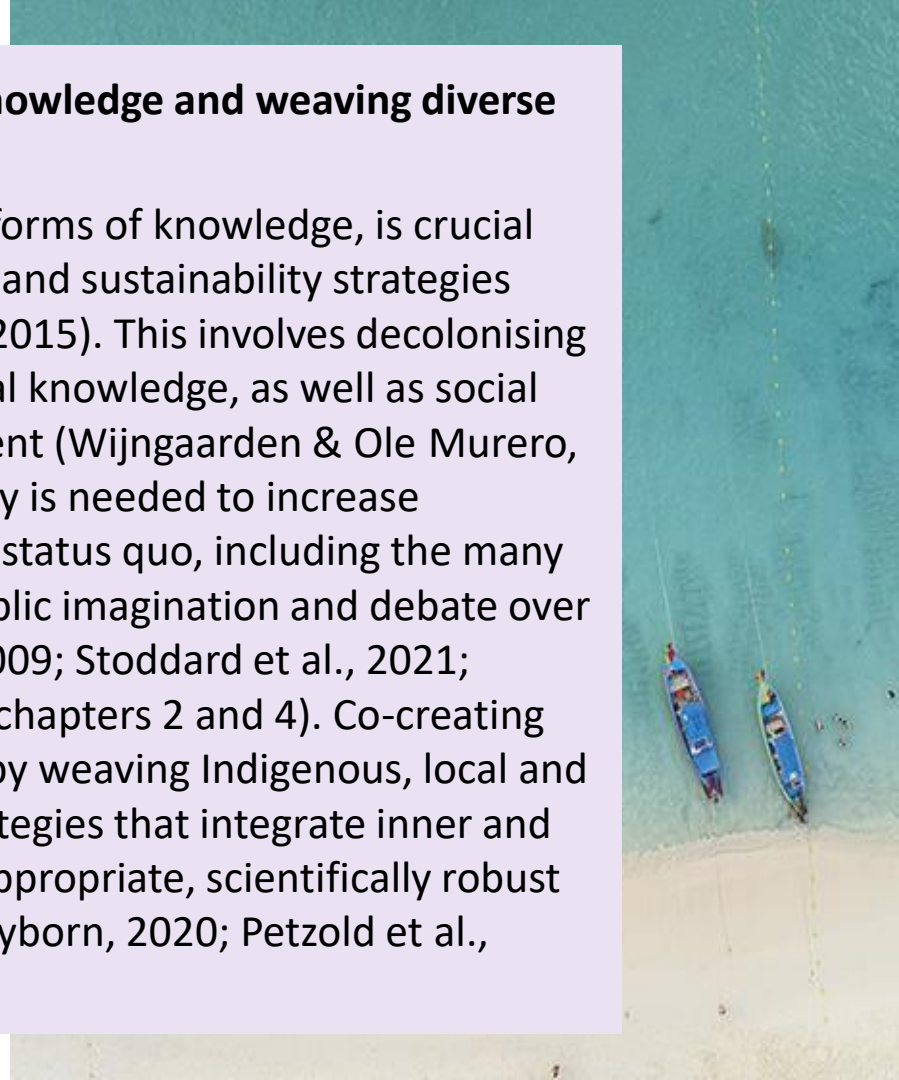
Adoption of the Universal Declaration for the Rights of Mother Earth (2010) by Bolivia and other entities around the world contributes to a shift in cultural narratives and norms about the links between human and nature's well-being. The knowledge, practices and worldviews of Indigenous Peoples and local communities can also guide sustainable use of wild species. Conversely, the loss of Indigenous and local languages, along with insufficient attention to gendered roles, including those in matrilineal and matriarchal cultures, poses a threat to this sustainable use (IPBES, 2022b). As Bate (2005) observes, "if you want to change the way people think, you should change the way they talk."

Complementing and affirming Indigenous worldviews, a new paradigm based on scientific breakthroughs is revealing a radically expanded perception of the world and realizing the unitive nature of reality; this view, based in science, is convergent with universal wisdom teachings (Currivan, 2022; Currivan & Laszlo, 2017).



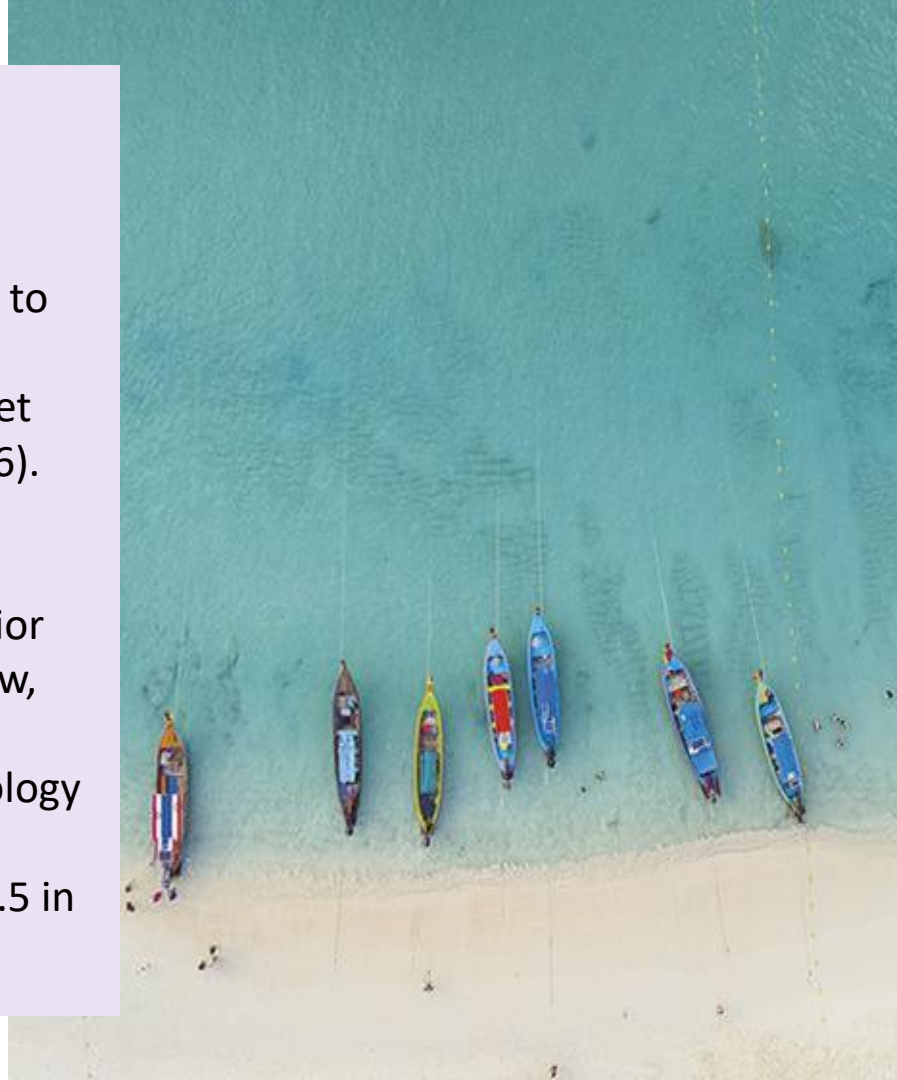
Chapter 5: Section 5.7.5. Action 5.5: Co-creating knowledge and weaving diverse knowledge systems

Knowledge co-creation and giving validity to plural forms of knowledge, is crucial for developing actionable and inclusive biodiversity and sustainability strategies (Ives et al., 2023; Miller & Wyborn, 2020; Wyborn, 2015). This involves decolonising academia and making space for Indigenous and local knowledge, as well as social sciences, arts and humanities, and public engagement (Wijngaarden & Ole Murero, 2023). A broader approach to research methodology is needed to increase understanding of the root causes that reinforce the status quo, including the many explicit and implicit forms of power that narrow public imagination and debate over alternatives (Barrett, 2011; Castree, 2015; Fisher, 2009; Stoddard et al., 2021; Wamsler & Raggers, 2018; Woroniecki et al., 2019; chapters 2 and 4). Co-creating knowledge can enhance biodiversity management by weaving Indigenous, local and scientific knowledge systems and ensuring that strategies that integrate inner and outer dimensions of transformation are culturally appropriate, scientifically robust and ecologically viable (Ives et al., 2023; Miller & Wyborn, 2020; Petzold et al., 2020; Smith et al., 2022; K. P. Whyte, 2017).



Chapter 5: Section 5.7.5. Action 5.5 (continued)

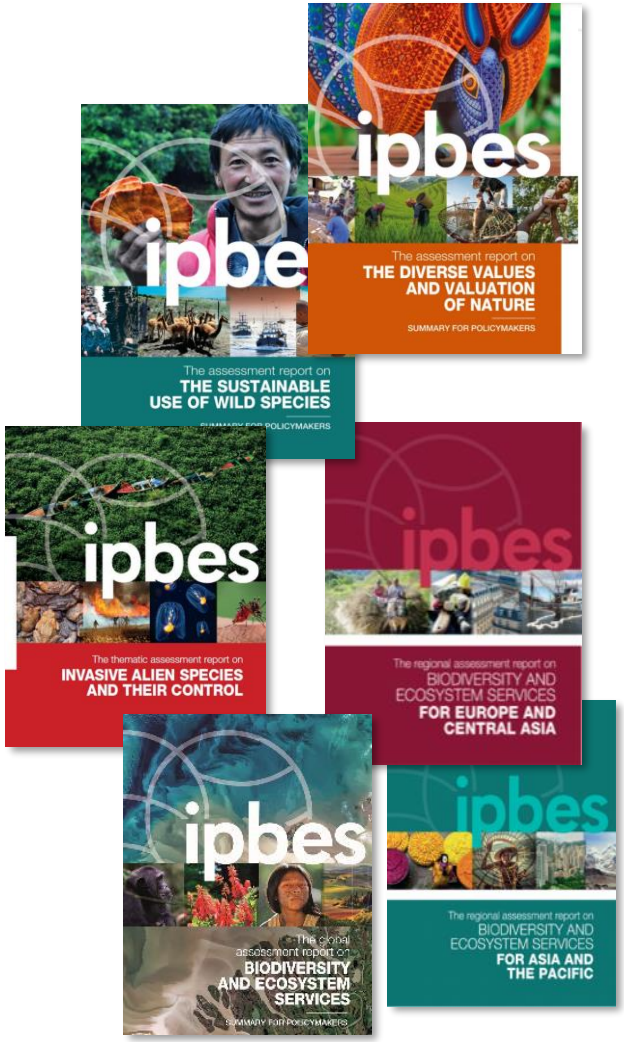
Several specific policy instruments based on the principles of consent, intellectual and cultural autonomy and justice exist, or have been proposed to support and provide accountability to principles of knowledge co-creation and accountability (Kasdan et al., 2021; Orlove et al., 2023; action 5.5 in annex 5.6). These instruments mostly focus on knowledge co-creation with Indigenous Peoples and local communities, and include full consultation, Free Prior and Informed Consent, recognition of customary law, intellectual property rights, Indigenous data sovereignty, and capacity building for use of technology (Godden & Tehan, 2016; Lusiru & Malekela, 2022; Reeves et al., 2022; Tormos-Aponte, 2021; action 5.5 in annex 5.6).



Other IPBES assessments

Assessments of biodiversity and ecosystem services are some of the main deliverables from IPBES. Completed, ongoing and upcoming assessments are as follows:

- Pollinators, Pollination and Food Production (delivered 2016)
- 4 Regional Assessments: the Americas, Europe and Central Asia, Africa, and Asia-Pacific (delivered 2018)
- Land Degradation and Restoration (delivered 2018)
- Global Assessment (delivered 2019)
- Values and Valuation of Nature (delivered in 2022)
- Sustainable Use of Wild Species (delivered in 2022)
- Nexus of Biodiversity, Water, Food and Health (delivered in 2024)
- Transformative Change and Options for Achieving the 2050 Vision for Biodiversity (delivered in 2024)
- Business and Biodiversity (to be delivered in early 2026)
- Monitoring of biodiversity (to be delivered in 2026)
- Spatial planning and connectivity (to be delivered in 2027)
- Second global assessment (to be delivered in 2028)




ipbes
Thank you!
¡Gracias!
Merci!
#TransformativeChange