



INTERNATIONAL MAX PLANCK RESEARCH SCHOOL  
on the Social and Political Constitution of the Economy

Andrés López Rivera

## Re-Encountering Climate Change

Indigenous Peoples and the Quest for Epistemic Diversity  
in Global Climate Change Governance

Studies on the Social and Political Constitution of the Economy

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## Abstract

Climate change assessment reports and intergovernmental agreements are increasingly recognizing the importance of diverse “knowledge systems” (traditional, indigenous, or local) for adaptation and mitigation policies. The empirical point of departure of this dissertation is the recognition of other culturally specific ways of knowing, or epistemic diversity, in the climate field. I conceive this as a process of diversification of the knowledge basis of global climate policy. This dissertation accounts for this process by addressing the questions of why and how epistemic diversity gains visibility and recognition in a field of governance, as well as how these translate into changes in the configuration of science-policy relations. By advancing an original analytical approach to epistemic diversity, the research extends and challenges prevalent theories of epistemic authority in global or transnational spheres of politics.

Based on a multi-site process tracing, the study follows three trajectories of change. The global trajectory, on the one hand, looks into the Intergovernmental Panel on Climate Change and the United Nations Framework Convention on Climate Change against the backdrop of the historical recognition of epistemic diversity in the wider field of environmental governance. The Arctic and Amazon trajectories, on the other hand, follow these developments in the mobilization of indigenous peoples and the deployment of climate science and policy in specific socio-cultural regions. The study finds that the recognition of indigenous knowledge (holders) is reconfiguring epistemic authority – albeit partially – by introducing criteria of epistemic diversity to guide social and political judgements about what counts as valuable knowledge to address the climate crisis.

## About the author

Andrés López Rivera was a doctoral researcher at the IMPRS-SPCE from 2017 to 2022.



# Re-Encountering Climate Change: Indigenous Peoples and the Quest for Epistemic Diversity in Global Climate Change Governance

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## Abstract

Climate change assessment reports and intergovernmental agreements are increasingly recognizing the importance of other “knowledge systems” (traditional, local, or indigenous) for climate change adaptation and mitigation. The empirical point of departure of this dissertation is the recognition of other culturally specific ways of knowing, or what I call *epistemic diversity*, in the field of global climate change governance. I conceive this as a process of diversification of the knowledge basis of global climate policy. This dissertation accounts for this large process by addressing the questions of why and how epistemic diversity gains visibility and recognition in a field of governance, as well as how these translate into changes in the configuration of science-policy relations. By advancing an analytical approach to epistemic diversity, the research extends and challenges prevalent theories of *epistemic authority* in global or transnational spheres of politics.

Based on a multi-site process tracing, the dissertation traces this large process by following three trajectories of change. The global trajectory, on the one hand, looks into the Intergovernmental Panel on Climate Change and the United Nations Framework Convention on Climate Change against the backdrop of the historical recognition of epistemic diversity in the wider field of environmental governance. The Arctic and Amazon trajectories, on the other hand, follow these developments in the mobilization of indigenous peoples and the deployment of climate science and policy in specific socio-cultural regions. Specifically, the analysis zooms in on local sites of governance, namely, community-based adaptation in the Swedish side of Sápmi and forest-based mitigation in the indigenous territories of the Ecuadorian Amazon. The study finds that the recognition of indigenous knowledge (holders) is reconfiguring epistemic authority – albeit partially – by introducing criteria of epistemic diversity to guide social and political judgements about what counts as *valuable knowledge* to address the climate crisis.

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## Abbreviations and acronyms

<b>AC</b>	Adaptation Committee
<b>ACIA</b>	Arctic Climate Impact Assessment
<b>ACT</b>	Amazon Cooperation Treaty
<b>ACTO</b>	Amazon Cooperation Treaty Organization
<b>AEPS</b>	Arctic Environmental Protection Strategy
<b>ALBA</b>	Bolivarian Alliance for the Peoples of Our America
<b>AR</b>	Assessment Report of the IPCC
<b>BASIC</b>	Brazil, South Africa, India and China
<b>CBD</b>	Convention on Biological Diversity
<b>CDM</b>	Clean Development Mechanism
<b>CFC</b>	Chlorofluorocarbon
<b>CO<sub>2</sub></b>	Carbon dioxide
<b>COICA</b>	Coordinator of Indigenous Organizations of the Amazon River Basin
<b>CONFENIAE</b>	Confederation of Indigenous Nationalities of the Ecuadorian Amazon
<b>CONAIE</b>	Confederation of Indigenous Nationalities of Ecuador
<b>COP</b>	Conference of the Parties under the UNFCCC
<b>EDF</b>	Environmental Defense Fund
<b>EU</b>	European Union
<b>FAO</b>	Food and Agriculture Organization of the United Nations
<b>FIPCC</b>	Forum of Indigenous Peoples on Climate Change
<b>FPIC</b>	Free, Prior and Informed Consent
<b>FWG</b>	Facilitative Working Group of the LCIPP under the UNFCCC
<b>G77 &amp; China</b>	Group of 77 and China
<b>GHGs</b>	Greenhouse gases
<b>GIS</b>	Geographic Information System
<b>GPS</b>	Global Positioning System
<b>IBP</b>	International Biological Program
<b>ICC</b>	Inuit Circumpolar Council
<b>IGO</b>	Intergovernmental Organization



<b>IGY</b>	International Geophysical Year
<b>ILO</b>	International Labour Organization
<b>IPBES</b>	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>IPGSCC</b>	Indigenous Peoples' Global Summit on Climate Change
<b>IIPFCC</b>	International Indigenous Peoples' Forum on Climate Change
<b>IPO</b>	Indigenous Peoples Organizations
<b>ISE</b>	International Society of Ethnobiology
<b>ITCPN</b>	International Technical Conference on the Protection of Nature
<b>IUCN</b>	International Union for Conservation of Nature
<b>LCIPP</b>	Local Communities and Indigenous Peoples Platform under the UNFCCC
<b>LDCs</b>	Least Developed Countries
<b>LINKS</b>	Local and Indigenous Knowledge Systems program of UNESCO
<b>LMDC</b>	Like-Minded Group of Developing Countries
<b>NAPA</b>	National Adaptation Programmes of Action
<b>NAP</b>	National Adaptation Plans
<b>NDC</b>	Nationally Determined Contributions
<b>NGO</b>	Nongovernmental Organization
<b>NWP</b>	Nairobi Work Programme under the UNFCCC
<b>PAEA</b>	Politically assigned epistemic authority
<b>RAISG</b>	Amazonian Network of Georeferenced Socio-Environmental Information
<b>RBP</b>	Reindeer husbandry plan
<b>REDD</b>	Reducing Emissions from Deforestation and Forest Degradation
<b>RIA</b>	Amazon Indigenous REDD+
<b>SBSTA</b>	Subsidiary Body for Scientific and Technological Advice
<b>SCEP</b>	Study of Critical Environmental Problems
<b>SCoPEx</b>	Stratospheric Controlled Perturbation Experiment
<b>SMHI</b>	Swedish Meteorological and Hydrological Institute
<b>SMIC</b>	Study of Man's Impact on Climate
<b>STS</b>	Science and Technology Studies

<b>UN</b>	United Nations
<b>UNCED</b>	United Nations Conference on Environment and Development
<b>UNDP</b>	United Nations Development Programme
<b>UNDRIP</b>	United Nations Declaration on the Rights of Indigenous Peoples
<b>UNEP</b>	United Nations Environment Programme
<b>UNESCO</b>	United Nations Educational, Scientific and Cultural Organization
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>UNPFII</b>	United Nations Permanent Forum on Indigenous Issues
<b>UNSCCUR</b>	United Nations Scientific Conference on the Conservation and Utilization of Resources
<b>UNU-TKI</b>	United Nations University Traditional Knowledge Initiative
<b>WG</b>	Working Groups of the IPCC
<b>WHRC</b>	Woods Hole Research Center
<b>WIPO</b>	World Intellectual Property Organization
<b>WMO</b>	World Meteorological Organization
<b>WWF</b>	World Wide Fund for Nature

# 1 Introduction: Knowledge, governance and diversity

In March 2021, scientists from the SCoPEX<sup>1</sup> project at Harvard University were compelled to cancel a pioneering test on geoengineering which was set to take place in the northern Swedish city of Kiruna, above the Arctic Circle (Cooper, 2021). SCoPEX researchers were preparing a high-altitude balloon flight to test equipment that would be used in future experiments on the cooling effect of aerosol particles in the atmosphere as a way to counteract climate change. The opposition to the experiment came mainly from the Saami Council, an umbrella organization of the Sami indigenous people in the Arctic region of Fennoscandia. The Saami Council was calling on Harvard University to shut down SCoPEX because of the inherent uncertainties and risks of geoengineering technologies and, above all, because these sort of large-scale interventions on the Earth's climate system are in conflict with the worldview of the Sami people: "Climate manipulation strongly contradicts our understanding and experience of how to respect and live in harmony with Mother Nature and therefore, this technology is not something we see as a part of our chosen future" (Saami Council, 2021b, p. 1; see also 2021a).

To be clear, the Sami people were not taking a stand against science in general. While opposing geoengineering experiments, the Sami people in Sweden have been developing climate change vulnerability assessments and adaptation plans in collaboration with climate scientists (Sametinget, 2017, 2019a). In these, Sami reindeer herding communities combine the traditional knowledge of reindeer herders with meteorological data and climate change scenarios (Sametinget & Sweco, 2019). In this way, the Sami are producing adaptation plans that assess the impacts of climate change on reindeer herding along with other pressures, including industrial forestry, mining, road infrastructure and even wind power. Geoengineering appears as yet another threat that is not the consequence of climate change, but ironically, of purported "solutions" to the climate crisis. In the face of adverse climate impacts and policies, the Sami are advancing alternative approaches on the basis of the knowledge and values of indigenous peoples (Sametinget, 2009).

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<sup>1</sup> Stratospheric Controlled Perturbation Experiment (<https://www.keutschgroup.com/SCoPEX>).

On the other side of the world, indigenous peoples from the Amazon region have been resisting against a reductive understanding of forests as a global aggregate of carbon stocks that can be bought and sold in a global market (COICA, 2013a). To “see” and measure the carbon content of forests on a regional and global scale, scientists have been using satellite data from ever-improving remote sensing capabilities (Kwok, 2018). These scientific and technological infrastructures lay the groundwork for turning forests into a commodity for global markets. Amazonian indigenous peoples saw in these initial attempts to commodify forest carbon a threat to local forms of governance, land tenure and indigenous peoples rights in general (COICA, 2010, 2010, 2013b). Worse still, the commodification of forest carbon was advancing at the same time as extractive industries were intensifying activities in the Amazon and encroaching on the territories of indigenous peoples (Svampa, 2019, pp. 27–33).

In the face of adverse climate impacts and policies, the umbrella organization of indigenous peoples of the Amazon basin, COICA, advances an alternative approach on the basis of indigenous ways of knowing. The local forms of governance of indigenous peoples appear as an alternative policy approach for “the holistic management of territories of full life” (COICA, 2014b). To substantiate this alternative proposal, COICA collaborates with scientific and expert organizations to map deforestation and forest degradation in indigenous territories (Walker et al., 2014). Combining scientific data and indigenous knowledge, COICA has been producing maps that account for the crucial contribution of indigenous territories in the fight against global warming. Instead of seeing the forest as a carbon stock, COICA claims that “the forest is part of an indigenous territory and is the space that shelters spirituality, culture, identity, pride and future indigenous development” (COICA, 2013a, p. 4).

Whether in the Arctic or in the Amazon, what these socio-environmental conflicts show is that the knowledge politics in the climate field are not merely about an antagonism between climate scientists and “skeptics” or, alternatively, climate scientists and unwary politicians. The point of contention is not about impeding climate action by subverting truth, neither is it about the failure to heed the call for climate action coming from scientists. The rallying cry to “unite behind the science”, therefore, does not capture the underlying quandary of indigenous peoples and other communities. The point of contention lies elsewhere.

The centrality of science in climate policy is undeniable; however, something else is going on. In 2015 the knowledge of indigenous peoples and local communities was enshrined in the Paris Agreement with reference to climate change adaptation (UNFCCC, 2015, Article 7.5). The mantra of climate policy according to which the “best available science” should base and guide

decision making was complemented by a prudent yet ambitious “and as appropriate, traditional knowledge, knowledge of indigenous peoples and local knowledge systems” (UNFCCC, 2015, Article 7.5). The Preamble of the Paris Agreement, moreover, makes mention of Mother Earth as a culturally specific way of thinking about biodiversity.

These developments point to an epochal change in global climate change governance: *the diversification of the knowledge basis<sup>2</sup> of climate policy*. It is striking that these changes are taking place in a field of governance that came about by virtue of scientific discovery: without scientific knowledge, anthropogenic climate change resulting from greenhouse gas emissions would remain unknown. This begs the following questions: *why and how did these other ways of experiencing, knowing and valuing nature gain visibility – and recognition – in climate science and policy? What changes – if anything – in climate science and policy when diverse ways of knowing gain visibility and recognition?*

The present dissertation grapples with the diversification of the knowledge basis of climate policy through these research questions. In the following sections, I provide an outline of the theoretical and analytical approach that guides the present research. In the first section (1.1), I reframe the research problem in terms of social struggles and political responses to *epistemic diversity*. The second section (1.2) reviews different strands of academic literature on science-policy interactions, as well as science-policy-society interactions, and identifies epistemic diversity as a research gap. The third section (1.3) situates the research gap in global governance studies and delineates an alternative approach based on epistemic diversity. The ensuing sections (1.4, 1.5 and 1.6) elaborate on the conceptual framework and analytical approach. Finally, the last section (1.7) makes some observations and clarifications on terminology.

## 1.1 Epistemic diversity as a research problem

The recognition of “other” ways of knowing (traditional, local or indigenous) in global climate governance confronts us with the problem of *epistemic diversity*. In its most basic definition, epistemic diversity describes a plurality of ways of knowing. The underlying idea is that, just as there is a plurality of religions (religious diversity) or a plurality of cultures (cultural diversity), there is a plurality of ways in which the world is known. Epistemic diversity points to both the

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<sup>2</sup> I speak of “knowledge basis” to draw an analogy with the language used by the Intergovernmental Panel on Climate Change whose Working Group 1 concerns itself with the “physical science basis” of climate change.

*internal* and *external* plurality of knowledge (Santos, 2014). The internal plurality of science, in specific, refers to the multiplicity of scientific practices of knowledge production; whereas external plurality points to the divide between scientific and other ways of knowing. In the present research, I concentrate on external plurality with a focus on the knowledge of indigenous peoples, but the internal plurality of climate science is an underlying theme too.

The research approach that I propose here aims to analyze the process through which epistemic diversity gains visibility and recognition in specific fields of governance. I understand this as a dual process of social struggles for recognition *and* political responses to a “strange multiplicity”<sup>3</sup> of claims to knowledge. The politics of visibility and recognition, therefore, produce different orderings of epistemic diversity: in some fields of governance epistemic diversity is invisible and illegitimate, whereas in others it is visible and legitimate – and yet others lie somewhere in between. The field of climate governance is a case in point. Before the turn of the century and millennium, the knowledge of indigenous peoples was virtually invisible in climate change assessment reports and policy decisions, whereas in the present there is a broad recognition of indigenous peoples as knowledge holders in global climate science and policy.

The recognition of epistemic diversity in global governance compels us to re-think extant ways of studying the interactions between knowledge and policy. On the one hand, epistemic diversity moves beyond two-way *science-policy interactions* and, on the other hand, it re-defines triangular *science-policy-society interactions*. I consider these in turn. The research on science-policy interactions concerns itself with the role of science in policy writ large with a focus on knowledge actors (scientific communities, expert networks and the like) that mediate between knowledge production and knowledge use (through usable knowledge, science-policy interfaces or others). A key finding of this body of research is that, under certain circumstances, “science matters” (see, e.g., Haas & Stevens, 2011; Lidskog & Sundqvist, 2014). The question remains, however, as to whether other forms of knowledge that do not fit conventional understandings of science matter too.

An extension of the scholarly work on science-policy interactions was marked by adding “society” or “the public” to the equation. This underlies a broader approach that concerns itself

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<sup>3</sup> I use the expression “*strange multiplicity*” from political philosopher James Tully, to highlight the focus on the external plurality of knowledge. As Tully notes, the “Aboriginal peoples of the world” embody “the ‘strange multiplicity’ of cultural voices that have come forward in the uncertain dawn of the twenty-first century to demand a hearing and a place, in their own cultural forms and ways, in the constitution of modern political associations” (1995, p. 3).

with the “triangular interaction between scientific experts, policy-makers and citizens” (Bäckstrand, 2003, p. 25; see also Turnhout et al., 2019). One of the most important issues in this strand of the literature is arguably the problem of the so-called lay/expert divide which, in turn, raises the issue of technical decision-making versus democratic deliberation. In a way, this broader perspective deals with the issue of epistemic diversity by considering a plurality of forms of knowledge across the lay/expert divide, such as experience-based expertise or citizen science (see, e.g., Collins & Evans, 2007; Irwin, 1995). However, beyond the divide between laypersons and experts, this perspective fails to fully consider diversity in culturally specific ways of knowing.

Here I argue that the recognition of other culturally specific ways of knowing, especially indigenous knowledge, is a research problem that moves us beyond the lay/expert divide because it articulates diversity in an entirely different manner. First, epistemic diversity here is understood primarily in terms of the external plurality of knowledge, which points to the so-called *great divide* between two meta-categories of knowledge: western science and traditional or indigenous knowledge (Ellen, 2004). Second, viewed from the perspective of indigenous knowledge, epistemic diversity forms part of biocultural diversity, which means that different ways of knowing are rooted in diverse cultural practices that are inextricably linked to the natural milieu. The third and last point is that, in its political consequences, epistemic diversity is not limited to the dilemma between technical policy making and democratic deliberation. Indigenous knowledge, in specific, underwrites claims to self-determination and self-government. All these sui generis ways of articulating epistemic difference make indigenous knowledge a critical entry point to the study of the politics of epistemic diversity in global climate governance.

The following section reviews different strands of the academic literature on science-policy interactions, as well as science-policy-society interactions, and identifies epistemic diversity as a research gap.

## 1.2 The diversity gap: reviewing the literature

### 1.2.1 *Science matters*

The role of scientific knowledge and expertise has been a mainstay of research in International Relations (IR) and global governance studies (Allan, 2018; Bueger, 2014). In the mainstream of IR scholarship, these questions have been chiefly addressed by the prevailing *epistemic*

*communities* approach put forth by Peter M. Haas in a 1992 special edition of *International Organization* (Haas, 1992). This is a science-centric and actor-centric approach assuming that science and policy are discrete spheres engaging in a linear interaction, whereby “*experts as actors (...) have a causal influence on international politics*” (Bueger, 2014, p. 40; emphasis in original). The influence of epistemic communities stems from the production of consensual knowledge under conditions of uncertainty. Understood in this way, uncertainty is found in the sphere of politics and not in the sphere of science (Esguerra, 2015). The phrase “speaking truth to power” (Wildavsky, 1987) captures this linear understanding of science-policy interactions in an eloquent manner (Haas & Stevens, 2011).

In its original formulation – and arguably in its current usage – the concept of epistemic communities is “exclusively limited to scientific or technical groups” (Cross, 2013, p. 154). Beyond normative commitments or policy agendas, epistemic communities are said to share causal beliefs and criteria to validate knowledge. The recognition and credibility of these groups is taken for granted as an attribute that endows them with “an authoritative claim to policy-relevant knowledge” (Haas, 1992, p. 3). In advancing a science-centric and actor-centric analysis, the epistemic communities approach neglects claims to knowledge coming from other groups that do not qualify as scientific experts. In other words, there is no space for epistemic diversity given that the external plurality of science is not taken into account.

In keeping with an actor-centric approach, other lines of research have been put forth to analyze those groups of actors that do not qualify as epistemic communities. Prominent among these is what Keck and Sikkink (1998) call *transnational advocacy networks*. These are “networks of activists, distinguishable largely by the centrality of principled ideas or values in motivating their formation” (Keck & Sikkink, 1998, p. 1). Knowledge production plays a secondary role in transnational advocacy networks. These exert influence by “serving as alternate sources of information” or by way of interpreting “facts and testimony, usually framing issues simply, in terms of right and wrong, because their purpose is to persuade people and stimulate them to act” (Keck & Sikkink, 1998, p. 19). In other words, the agency of advocacy networks does not stem from knowledge production, but rather from value-laden framings of pre-existing facts. A clear distinction is thus drawn between the knowledge-based agency of epistemic communities and the value-driven agency of advocacy networks.

The distinction among types of actors correlates with types of authority that generally draw a line between those types of authority that rest upon knowledge and those that do not. On one side, types of knowledge-based authority are variously called “expertise-based authority” (Avant



et al., 2010b), “authority of authorship” (Hall & Biersteker, 2002), or “epistemic authority” (Zürn, 2018a), among others. On the other side, types of authority that do not stem from knowledge include “moral authority” (Risse, 2004; Sikkink, 2002) and “principle-based authority” (Avant et al., 2010b, p. 13). In this line of research, Avant and colleagues note that “[d]ifferent governors draw on different types of authority, which affects their behavior vis-a-vis their constituents and one another” (2010b, p. 9). While this account accommodates a more relational approach to authority as it does not equate one type of actor with one type of authority, it is still problematic because it reifies scientific expertise as the only source of knowledge-based authority.

All in all, these approaches prevent us from asking questions about epistemic diversity because the analysis commences with a reductive focus on scientific knowledge and expertise either in an actor-centric approach or in a taxonomic form as a type of authority.

### *1.2.2 Science, expertise and contestation*

An alternative analytical approach has been to challenge the taken-for-grantedness of knowledge-based authority and focus instead on the ways in which knowledge claims resort to expertise or counter-expertise to gain authority, especially in transnational spheres of governance (e.g. Litfin, 1994, 1995; Peterson, 2019a; Quack, 2016a, 2016b; Sending, 2015; Voß & Freeman, 2016). By stressing the contentious aspect of expert knowledge, these travails tease out the issue of contestation and competition among different scientific or expert groups. Interestingly, the epistemic communities approach seems to be moving in this direction too. As Haas points out, “[w]hereas epistemic communities 1.0 focused on consensus and its implications, epistemic communities 2.0 focuses on contestation and its implications” (2019, p. 170). The focus on contestation tackles the issue of the constitution of knowledge-based or epistemic authority head on.

The underlying question of this strand of research is why and how a specific form of knowledge comes to gain authority over others in a specific field of governance. In principle, contestation might arise from groups of actors that do not qualify as scientific experts. However, a prevailing understanding of the issue of contested expertise limits the scope of analysis to the competition among different scientific or expert groups. In general, the outcome of competition and contestation is understood as a zero-sum game in which one scientific or expert group succeeds in imposing itself over others in a specific jurisdiction (cf. A. Abbott, 1988). Understood in this way, the problem of epistemic diversity becomes irrelevant – what counts is who gains and who loses power and authority. To be sure, as I explain later, the problem of epistemic diversity is a

problem of authority too; however, it shifts our attention to other dimensions of power and authority in relation to knowledge.

An extension of the literature on scientific expertise and contestation moves beyond the issue of counter-expertise to consider contestation coming from other groups of actors across the lay/expert divide. IR scholarship in this area is scant despite a rallying cry to move in this direction (see, e.g., Bäckstrand, 2003; Esguerra, 2015; Peterson, 2019b). The boundary between laypersons and experts has been a research domain in science and technology studies (STS) as well as in social movement scholarship. In STS the interest on lay knowledge traces back to the “public turn” or the “participatory turn”, a line of research that was met by social movement studies on mobilization in highly technical or scientific issues (Hess, 2016, pp. 2–3). A wide variety of concepts that blur the lay/expert divide has come out of this body of research, including “activist scientists” (K. Moore, 1996); “citizen science” (Irwin, 1995); “street science” (Corburn, 2005); or “lay expertise” (Epstein, 1995). In principle, these approaches are not blind to issues of epistemic diversity. However, the question often evaporates in one-dimensional perspectives.

In STS scholarship, for instance, Collins and Evans pose the issue of the lay/expert divide in terms of degrees of specialized knowledge. What they propose is a “five-step ladder of expertise” (Collins & Evans, 2007, p. 36) ranging from what they call “beer-mat knowledge” at the bottom to “contributory expertise” at the top. The underlying assumption is that “[i]f you possess one of the higher levels you will possess, at least in principle, all of the lower levels but not *vice-versa*” (Collins & Evans, 2007, p. 36). There is, in that sense, not a diversity of forms of knowledge, but instead a single ladder of expertise where the higher levels subsume the lower ones. The knowledge of a “contributory expert” is superior to the knowledge of a layperson who is capable of solving science quizzes found on a beer-mat (an example from the authors that gives name to the eponymous concept). By definition, a single ladder of expertise, excludes the option of epistemic diversity.

In few instances, the issue of indigenous knowledge has been considered within the framework of the lay/expert divide. In a seminal contribution, Helga Nowotny (1993) distinguishes between expert and proto-expert knowledge to identify five public spaces in which science meets the public. One of these public spaces is where science meets ethno-science or indigenous knowledge. However, seeing the encounter of science and ethnoscience through the lenses of the lay/expert divide fails to adequately capture the issue of epistemic diversity as seen through the lens of indigenous politics. Claims to Indigenous knowledge do not conform to the notion of

proto-expert knowledge or, worse, pre-scientific knowledge. Instead, these articulate the issue of epistemic diversity in terms of a variety of “knowledge systems” with roots in (bio)cultural diversity and a claim to self-determination.

### 1.2.3 *Dismantling the “great divide”*

Beyond the boundary separating laymen and experts, a more fundamental critique consists in dismantling the so-called “great divide”, i.e. the foundational binary opposition between western (scientific) and non-western (pre-scientific) knowledge systems. This line of critique figures prominently in STS scholarship and post-colonial theory. In essence, the critique consists in positing that all forms of knowledge are local or situated, that is, that all are embedded in society. As STS scholar Bruno Latour notes:

The Great Divide makes the supposition that there is, on the right hand, knowledge embedded in society and, on the left hand, knowledge independent of society. We make no such supposition. The general fusion of knowledge and society is the same in all cases...” (Latour, 1988, p. 213)

In this line, it has been argued that all knowledge systems, including western science, are *local* knowledge systems because *localness* is a common feature of all ways of knowing (Turnbull, 2003; Watson-Verran & Turnbull, 1995; see also Geertz, 1983). From a critical feminist perspective, Haraway advances the concept of “situated knowledges” which, against scientific notions of disembodied objectivity, understands objectivity as “positioned rationality” (Haraway, 1988, p. 590; see also Harding, 2008). The end of these critical perspectives is to understand what makes the great divide possible and what are the power relations that sustain it. To quote Latour once again, “the divide between prescientific and scientific culture is merely a border —like that between Tijuana and San Diego. It is enforced arbitrarily by police and bureaucrats, but it does not represent any natural boundary” (Latour, 1986, p. 2).

In the eclectic field of political ecology, this is a prominent line of criticism especially since the seminal article by Agrawal (1995) on dismantling the divide between scientific and indigenous knowledge. Agrawal critically engages with the use of the concept of “indigenous knowledge” by development theorists and practitioners in the 1980s and 1990s. Agrawal contends that scientific knowledge and its technical solutions are “as firmly anchored in a specific milieu as any other system of knowledge” (Agrawal, 1995, p. 425). On this basis, Agrawal advocates for an understanding of epistemic diversity beyond the great divide:

Instead of trying to conflate all non-western knowledge into a category termed 'indigenous' and all western knowledge into another category, it may be more sensible to accept differences within these categories and perhaps find similarities across them. (Agrawal, 1995, p. 427)

Jasanoff and Martello (2004b) were among the first to take this step with a focus on the politics of scale that underwrite "the resurgence of local epistemologies and their associated politics in the context of globalization" (Jasanoff & Martello, 2004b, p. 14). In the view of the authors, however, the resurgence of local knowledges is first and foremost an issue of scale or, more precisely, of how knowledge is made amenable to travel beyond its local context of production. Valuable as these insights are, the gap remains as to how powerholders respond to epistemic diversity or the strange multiplicity of knowledge claims that seek to "speak truth to power", as it were, on an equal footing with science.

Beyond STS the issue of the situatedness or localness of science forms part of critical theory, above all, of post-colonial or de-colonial perspectives. Mignolo, for instance, claims that "[e]pistemic colonial differences projected to a universal scale disguise the locality of their enunciation" (Mignolo & Walsh, 2018, p. 188). However, what distinguishes postcolonial theory is its emancipatory or de-colonial project, which seeks to uncover power in knowledge and recover the subaltern experiences and knowledges of the peoples of the world. This point has been forcefully made through discussions on, for example, "epistemic violence" (Spivak, 1994), "subjugated knowledge" (Foucault, 2003), the "coloniality of knowledge" (Quijano, 2007) or the "abyssal line" (Santos, 2014, 2018). However, these grand concepts are not always amenable to empirical analysis and end up falling back on a repetitive critique of multiple forms of domination.

In the writings of decolonial thinkers, epistemic diversity is found in the resistance and survival of subaltern or marginal experiences and knowledges undergoing multiple forms of oppression under the "modern/colonial/capitalist/heteropatriarchal order" (Mignolo & Walsh, 2018, p. X). The possibility of recovering diversity lies at the margins of that oppressive world order. Against the universality of science, decolonial struggles embody (concrete) utopias of *pluriversality* (Escobar, 2014; A. Kothari et al., 2019; Mignolo & Walsh, 2018; Santos, 2018). Boaventura de Sousa Santos, a prominent figure in this body of literature, speaks for example of the imperative of "global cognitive justice" through the advent of an "ecology of knowledges" against the monoculture of scientific knowledge (Santos, 2014, 2018).

Whereas this line of research clearly recognizes the importance of epistemic diversity, its utopian and radical critique often obscures the empirical analysis of actual political responses to

epistemic diversity in specific fields of global governance. In contrast, the purpose of the present dissertation is to advance a theoretically informed and empirically grounded analysis of the process of diversification of the knowledge basis of climate policy.

### 1.3 Toward the study of epistemic diversity in global governance

Knowledge figures as a core form or dimension of authority in the sphere of politics that transcends the sovereign state – intergovernmental, transnational or global. As Voss and Freeman argue, “we should expect the recourse to epistemic authority to be most advanced where single-source authority is least developed or in greatest recession, that is, in the transnational realm” (2016, p. 5). Zürn (2018a) has put forth an elaborate theoretical account of this general observation by pointing to the centrality of epistemic authority in contemporary global governance. Unlike political authority, which refers to the capacity to make binding decisions, epistemic authority refers to the ability to “provide interpretations that structure the behavior of others” on the basis of “expert knowledge and moral integrity” (Zürn, 2018a, p. 52). According to Zürn, epistemic authority rests on reflexivity, which entails that “the recognition of external authorities is based on the knowledge about the limitations of one’s own rationality and information base” (2018a, p. 46).

The underlying assumption in Zürn’s account of epistemic authority is that “knowledge and expertise are unequally distributed, but that there is a *common epistemological framework* that makes it possible to ascertain *knowledge inequality*” (2018a, p. 52; emphasis added). Assuming that there is a common epistemological framework on the basis of which actors reflexively assess the interpretations of epistemic authorities is a theoretical position that circumvents the problem of epistemic diversity, which involves culturally specific ways of knowing and assessing knowledge. Epistemic diversity is irreducible to the unequal *distribution* of knowledge and expertise because it points instead to the unequal *recognition* of diverse ways of knowing. It follows that *epistemic diversity* challenges the assumption that *epistemic authority* is fundamentally a matter of knowledge inequality and reflexivity.

*Epistemic authority* is always a political response to *epistemic diversity*. Some recent theoretical developments in IR literature on cultural diversity point in this direction. Marking a resurgence of interest in cultural diversity in IR, Reus-Smit (2017, 2018) has put forth the concept of “diversity regimes” as “systems of norms and practices that simultaneously configure authority and construct diversity” (Reus-Smit, 2017, p. 876). The concept of diversity regimes highlights a twofold problem of legitimation in international order. International order requires “converting

material might into political authority”, on the one hand, and “transforming complex heterogeneity into authorized forms of cultural difference”, on the other (Reus-Smit, 2017, p. 853). Reus-Smit rightly emphasizes the connection between authority and diversity. Political responses to complex heterogeneity vary as these construct *authorized* diversity, something that Starr calls “the political reduction of social complexity” (1992, p. 265).

Whereas epistemic diversity is in principle limitless because of the inexhaustible plurality of world experience (Santos, 2014), the ordering of epistemic diversity entails a political reduction of the incommensurable multiplicity of ways of knowing. Ordering epistemic diversity, in that sense, is about *transforming a strange multiplicity of knowledge claims into official categories of epistemic difference*. The theoretical and conceptual approach that I advance here, however, departs from the concept of diversity regimes in several ways.

Although the concept of diversity regimes accurately reflects the mutual construction of authority and diversity, it is too broad and static to capture the specific processes through which epistemic diversity is articulated within and across fields of governance. Diversity regimes refer to macro-historical configurations of cultural diversity in international order, from the Westphalian Peace in mediaeval Europe, over the Ottoman Empire, to the modern liberal order (Reus-Smit, 2017, 2018; Phillips & Reus-Smit, 2020). As Reus-Smit and Philipps acknowledge, “by highlighting macro-configurations of cultural difference, the concept of diversity regimes blinds us to the very real forms and expressions of cultural heterogeneity that exist in local contexts” (2020, pp. 29–30). These limitations are even more salient when it comes to epistemic diversity.

Contrary to the macro-perspective on international orders, the analysis of epistemic diversity advances micro- and meso-perspectives on fields of governance which are themselves complex and polycentric. The focus on fields of governance sets out to advance an analytical account of the mutual constitution or co-production of knowledge and policy in governance processes (Allan, 2017; Jasanoff, 2004b; Miller, 2004). This perspective also brings into focus the ways in which discourses, practices and institutions change in the process of transforming a multiplicity of knowledge claims into authorized categories of epistemic difference. Notably, I do not see these crystalizing into coherent and stable regimes. The ordering of epistemic diversity follows the complex dynamics of social struggles for recognition and governance processes.

Another fundamental point where I depart from the “diversity regimes” approach is in the analytical approach to the co-constitution of authority and diversity. Reus-Smit accurately points out that the organization of diversity always produces hierarchies with patterns of inclusion and exclusion (Reus-Smit, 2018, pp. 216–219). However, the analytical approach that I advance here

contends that the main thrust or core feature of epistemic diversity is not the creation of hierarchies with patterns of inclusion and exclusion, but rather the production of “heterarchies” that introduce or increase knowledge pluralism in a field of governance (cf. Lamont, 2012; see also Boltanski & Thévenot, 2006). The concept of *heterarchy*<sup>4</sup> refers to the “multidimensionality or plurality of criteria/grammars of valuation and evaluation” (Lamont, 2012, p. 207). *Valuation* refers to ways of assigning worth or value to something or someone, whereas *evaluation* refers to assessing how something or someone “attains a certain type of worth” (Lamont, 2012, p. 205). As I elaborate later in this chapter, the focus here is on whether existing configurations of science-policy relations in the climate field are becoming more heterarchical by incorporating alternative criteria of what makes knowledge valuable in a field of governance.

In sum, the theoretical and analytical approach that the present research advances revolves around two main lines of inquiry:

(1) *Ordering epistemic diversity* by transforming a strange multiplicity of claims to knowledge into official categories of epistemic difference. Ordering knowledge (Jasanoff, 2004a), in that sense, points to ways in which epistemic diversity translates into categories of epistemic difference, such as “indigenous knowledge” or “ethnoscience”. Crucially, the ordering of epistemic diversity elicits a politics of visibility and recognition – rendering some ways of knowing (in)visible and (il)legitimate in specific fields of governance. To develop this line of inquiry, I draw on the study of boundaries and categories in the social sciences. Specifically, I build on and extend the study of the “boundaries of science” in STS (Gieryn, 1983, 1995, 1999) and the analysis of social and cultural categories in political science, as well as in sociological and anthropological insights (e.g. Douglas, 1986; Fourcade, 2016; Starr, 1992). This line of inquiry addresses the following research question: *why and how did epistemic diversity gain visibility and recognition in climate science and policy?*

(2) *Reconfiguring knowledge-policy relations* through practices or institutions that produce heterarchies of epistemic diversity. Heterarchies point to multiplicity or plurality in social and political judgements about what counts as valuable knowledge – or who counts as a valuable knowledge holder – in a field of governance. The analytical focus is on whether

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<sup>4</sup> Other uses of the concept of “heterarchy” include, most prominently, as a structure or principle of world order in IR (Donnelly, 2009) and global governance studies (Baumann & Dingwerth, 2015). My approach to heterarchy, in contrast, is a reformulation of the concept in the sociology of valuation and evaluation (Lamont, 2012).

existing configurations of science-policy relations in the climate field are becoming more heterarchical by introducing criteria of epistemic diversity to guide judgements about what counts as valuable knowledge for climate research and policy. To develop this line of inquiry, I reformulate the concept of heterarchy in the sociology of (e)valuation (Lamont, 2012) against the background of the vast literature on science-policy interactions. This line of inquiry addresses the following research question: *what changes – if anything – in climate science and policy when epistemic diversity gains visibility and recognition?*

Beyond these two lines of inquiry, there is an additional analytical consideration which is how to develop these lines of inquiry in a complex landscape of governance across global, regional, national and local scales. In the following sections, I elaborate on these lines of inquiry and the analytical approach to polycentric landscapes of governance.

#### 1.4 Ordering epistemic diversity: boundary work and categorization struggles

Ordering epistemic diversity, as conceived here, refers to the process of transforming a strange multiplicity of claims to knowledge into official categories of epistemic difference. To be sure, ordering epistemic diversity is an open process that may lead to the diversification of knowledge or to the suppression of epistemic difference; however, the focus of the present research is on ordering as a process of diversification. Given that my focus is on plurality beyond science or external plurality – also known as “the great divide” – the core question of ordering revolves around the recognition of epistemic difference as the “Other” of science. To develop this line of inquiry I build on and extend STS scholarship on the “boundaries of science” and especially the concept of *boundary work* put forth by Gieryn (1983, 1995, 1999).

Boundary work, in Gieryn’s definition, refers to “the discursive attribution of selected qualities to scientists, scientific methods and scientific claims for the purpose of drawing a rhetorical boundary between science and some less authoritative residual non-science” (Gieryn, 1999, pp. 4–5; 1983, 1995). The key problem that Gieryn seeks to address by introducing this concept is the demarcation of science from non-science. Non-science is whatever is left out of the inner boundary of science (e.g. ideology, metaphysics or pseudo-science) in specific situations that evoke “credibility contests” (Gieryn, 1999). What makes the “rhetorical boundary” between science and non-science consequential is that it involves allocations of epistemic authority and attendant symbolic or material resources (Gieryn, 1995, p. 440, 1999). In other words, the epistemic boundaries that demarcate science from non-science underwrite objectified forms of difference in the making of authoritative claims to knowledge.



Boundary work is, in essence, a discursive practice introducing a demarcation that defines the “Other” of science (Gieryn, 1999, p. 22). Here it is possible to see an opening towards the study of epistemic diversity in boundary work in so far as it points to “other” knowledges that are conceived of as distinct from science. However, in its original formulation, boundary work virtually describes a “zero-sum”<sup>5</sup> game in which the demarcation of science from nonscience settles credibility disputes to the detriment of whatever falls into discredit as nonscience. However, there are situations in which the Other of science is not merely “residual nonscience” or nonknowledge, but rather it is *another knowledge* – a knowledge which is, at once, different from and analogous to science in its epistemic status. To grapple with these situations it is necessary to re-tool the approach to boundary work in a manner that allows us to analyze the production of epistemic boundaries beyond pure demarcation. This alternative perspective entails that boundary work is not only about demarcating, but rather it involves an array of discursive practices including boundary-blurring and boundary-spanning.

In the present research, I analyze how the categories of *traditional, local and indigenous knowledge* came into being, endure and change through boundary work. Categories might be thought of as products of boundary work that “stabilize the flux of social life and even create to some extent the realities to which they apply” (Douglas, 1986, p. 100). This is especially the case when categories become “official”, that is, when they are “officially adopted or approved by the state and incorporated into law and administration” (Starr, 1992, p. 263). As Starr argues, official categories reveal the “problem of legitimate classification” whereby political authorities “decide what categories they will use or allow to be used” (Starr, 1992, p. 265; see also Yanow, 2015). Put differently, official categories of epistemic difference embody the political recognition of claims to other ways of knowing. Importantly, official categories are not only found in national states but also in global organizations.

Category-making has been described as a core activity and source of power of global organizations. As Barnett and Finnemore argue, international organizations “exercise power as they use their knowledge and authority not only to regulate what currently exists but also to constitute the world, creating new interests, actors and social activities” (Barnett & Finnemore, 2004, p. 7). Examples include categories of actors such as “refugees”, international tasks like “development”, or new interests such as the promotion of human rights (Barnett & Finnemore, 1999, p. 699). The constitutive or performative dimension of categories is what Barnett and

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<sup>5</sup> In some cases, Gieryn acknowledges that Boundary work is not necessarily a zero-sum game (Gieryn, 1999, pp. 175, 359).

Duvall call “productive power” as a form of power that “orients social activity in particular directions, defines what constitutes legitimate knowledge and shapes whose knowledge matters” (Barnett & Duvall, 2005, p. 4). The productive power of official categories of epistemic difference elicits, among others, the emergence of identities that derive from a newly found epistemic status, such as that of “indigenous knowledge holders”.

To make these analytical observations operational, I focus on two dimensions in the making of official categories of knowledge (actors) that underwrite epistemic diversity: knowledge *attributes* and knowledge *attribution*. The former refers to attributes as characteristic qualities of a body of knowledge, whereas the latter points to attribution as the act of ascribing a category of knowledge to an individual or collective knowing holder<sup>6</sup>. I consider these in turn.

*Attributes* are the elementary units of categories because these define criteria of sameness and difference (Yanow, 1999, pp. 49–50). Attributes derive from classificatory judgements that Fourcade describes as “nominal”, that is, “judgments of ‘type,’ purporting to describe some intrinsic character and relation: ‘that kind of.’” (2016, p. 176). However, in the making of official categories, the attributes of any kind of knowledge do not remain stable, but rather these are a matter of contention. As the Other of science, indigenous knowledge acquires different attributes depending on who is doing boundary work and in what context. Some of these attributes highlight the affinities between indigenous knowledge and science, while others emphasize the differences. What matters most is that there are patterns of boundary work that persist in time especially when it comes to establishing defining attributes. These defining attributes are often inscribed in the label that one uses to name types of knowledge, e.g., “indigenous”, “traditional” or “local”.

A longstanding boundary dispute in the making of indigenous knowledge as an official category is whether it can be abstracted from its context and archived or whether it is inseparable from the cultural practices and people that embody it. In biodiversity debates this issue appears in terms of in-situ versus ex-situ conservation of indigenous knowledge (Agrawal, 1995). The attendant boundary dispute is whether indigenous knowledge is a sort of science producing disembodied objective knowledge or if it is a form of embodied, experiential knowledge. In

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<sup>6</sup> The Oxford English Dictionary defines the meanings that I highlight here in the following terms. *Attribute*: “4(a). A quality or character considered to belong to or be inherent in a person or thing; a characteristic quality”. *Attribution*: “4. The ascribing of an effect to a cause, of a work to its author, date, place, or of date and place to a work” (“Attribute, n.,” 2019; “Attribution, n.,” 2021).

climate change governance these boundary disputes take different forms that, in turn, enable diverging policy approaches to the integration of indigenous knowledge in climate governance institutions and practices.

In relation to the *attribution* of knowledge, the specific problem is how to define a knowing subject for the category of indigenous knowledge. As Anil Kumar Gupta notes, “[t]he discourse on indigenous knowledge is also a discourse on politics of attribution and acknowledgement of learning from those who are supposedly good subjects of study but are seldom considered lead producers of knowledge” (2010, p. 166). Attribution, therefore, is a core issue in the politics of visibility and recognition. In climate governance and other issue areas, the term “knowledge holder” seems to be the prevalent way to describe a knowledge actor that is different from experts or scientists in the conventional understanding. However, the specific collective group that it designates remains unspecified. A knowledge holder might be an indigenous spiritual leader, a small farmer, or a whole community, to name but a few examples.

Sometimes the label of a type of knowledge hints at a knowing subject, e.g., “indigenous knowledge” as the knowledge of indigenous peoples or “local knowledge” as the knowledge of local communities. Hence, labels are an important element of attribution. An important source of contention is who attributes knowledge to whom. Is a scientist attributing knowledge to an indigenous community? Or is an indigenous community collectively attributing knowledge to one of its members? There is a fundamental difference between these two scenarios. Whereas in the former knowledge holders are passive receivers of attributions, in the latter they are making claims to their own knowledge as active knowing subjects.

In short, the present research concerns itself with the ordering of epistemic diversity as a line of inquiry that advances a three-tier conceptual framework: boundary work -> categorization -> attributes/attribution. *Boundary work*, as conceived here, provides insights on the boundaries of science and the recognition of epistemic difference; *categorization* points to the stabilization and institutionalization of boundary work; and the *attributes/attribution* of knowledge are dimensions of categories that come to the fore in the operational part of the analysis. The following section presents the second main line of inquiry which concerns itself with the reconfiguration of knowledge-policy relations through the production of heterarchies of epistemic diversity.

## 1.5 Reconfiguring knowledge-policy relations through *heterarchies*

In the field of climate governance, the centrality of scientific knowledge gave way to the proliferation of science-policy interfaces that weave together science and policy to produce, at once, “policy-relevant science” and “science-based policy” (see, e.g., Lidskog, 2014; Shackley & Wynne, 1995; Sundqvist et al., 2018). With the recognition of epistemic diversity, the question arises as to whether formal recognition will translate into a reconfiguration of science-policy relations leading towards other culturally specific ways of knowing. The underlying assumption of the present research is that, once other ways of knowing gain visibility and recognition in a field of governance, one would expect epistemic authority to change from a one-dimensional, hierarchical order towards a more or less multi-dimensional, “heterarchical” order.

In reference to epistemic diversity, the concept of *heterarchy* refers to multiplicity or plurality in the criteria that guides social and political judgements about what counts as *valuable knowledge* – or who counts as a valuable knowledge holder – in a field of governance (cf. Lamont, 2012). In general, knowledge is thought to be valuable for policy when it is “usable” or “policy-relevant” (see, e.g., Lidskog, 2014; Tuinstra et al., 2019). However, epistemic diversity also conveys other “languages of valuation” that escape the instrumental or utilitarian logic of usable knowledge, pointing instead toward other social or cultural values – e.g. living in harmony with nature – that ground knowledge in a *Weltanschauung* (cf. Inoue, 2018; Leff, 2021; Martinez-Alier, 2002, 2008). Heterarchies, in that sense, incorporate alternative criteria of what counts as valuable knowledge without displacing previous criteria of valuation in a field of governance, but rather by pluralizing the criteria or languages of valuation.

Heterarchies reconfigure epistemic authority, not by imposing new hierarchies over old ones, but rather by introducing or increasing pluralism in a field of governance. To be sure, the ordering of epistemic diversity produces hierarchies too. Reus-Smit argues, in this respect, that the organization of diversity creates “social hierarchies and patterns of inclusion and exclusion” (2018, pp. 216–217). However, the main thrust of epistemic diversity, as conceived here, is that it could potentially produce and sustain heterarchies of value or worth, specifically of what counts as valuable knowledge in a field of governance. Heterarchies reconfigure epistemic authority – and the underlying knowledge-policy relations – by expanding the scope of criteria to judge what is a legitimate claim to knowledge or whose knowledge is legitimate.

Consider the Paris Agreement, which states that adaptation action “should be based on and guided by the *best available science* and, as appropriate, *traditional knowledge, knowledge of indigenous peoples and local knowledge systems*” (UNFCCC, 2015, Article 7.5; emphasis added).

On the one hand, the text introduces a hierarchy in the epistemic status of knowledge systems by fully recognizing science and qualifying the recognition of other ways of knowing (traditional, indigenous or local) through the caveat “as appropriate”. On the other hand, the text is also introducing heterarchies because it moves from the “the best available science” toward traditional, local and indigenous forms of knowledge, thereby diversifying the criteria about what kind of knowledge should base and guide policy. Analyzing the production of heterarchies of epistemic diversity, therefore, requires looking into changing knowledge-policy relations that – beyond science – include other diverse forms of knowledge.

In this study, I seek to address this broad line of inquiry by looking into specific cases where indigenous peoples or knowledge holders engage with scientists or experts, as well as advocacy groups and policymakers, to find ways to work together in the production of knowledge for policy. The analytical focus is on whether these encounters produce heterarchies by changing the practices and institutions that connect knowledge to policy in three levels:

- (1) *Knowledge brokering* or, alternatively, the practices that indigenous peoples – as knowledge holders – engage in to speak to policymakers. Knowledge brokering thus refers to those practices that link knowledge producers and users (Turnhout et al., 2013; see also Litfin, 1995). Here, the analytical focus is on how indigenous peoples change the criteria of valuable knowledge in the climate field by making claims to their own diverse forms of knowledge, either through institutional or extra-institutional channels.
- (2) *Policy instruments* or governance approaches that seek to incorporate indigenous knowledge (holders) in climate change governance. Here, I concentrate on how climate policy instruments introduce criteria of epistemic diversity by incorporating indigenous knowledge (holders) – with or without the intervention of other forms of scientific or technical expertise.
- (3) *Institutions* that connect knowledge to policy. The analytical focus here is on institutional change, especially institutional innovations, that connect diverse types of knowledge (holders) to policy, in a manner analogous to science-policy interfaces. These innovations may include changes within existing institutional frameworks or new institutions altogether.

These sets of practices and institutions are amenable to produce heterarchies in so far as they introduce criteria of epistemic diversity to guide judgements about what counts as valuable knowledge – or who is a valuable knowledge holder – to address the climate crisis. Thus, heterarchies are amenable to reconfigure existing science-policy relations in the climate field and elicit alternative approaches to climate change governance through the inclusion of diverse

types of knowledge (holders). Indigenous peoples, for instance, speak of alternative approaches to live in harmony with nature or for the stewardship<sup>7</sup> of nature which form part of indigenous knowledge and values.

The idea that knowledge-policy relations may become more or less heterarchical implies that epistemic authority is not necessarily the outcome of a competition between opposing groups to gain control over a “jurisdiction” or a field of governance; nor is it a zero-sum game where one group gains authority relative to another group who loses authority. Rather, heterarchies introduce criteria of epistemic diversity on the basis of reciprocal recognition between scientists and other diverse knowledge holders. The cases that the present study analyzes are instances where these different groups work together to co-create knowledge for policy. That being said, the striving for the production of heterarchies takes place against the background of underlying power or authority relations – these do not disappear in the process of working together. However, in principles, the production of heterarchies is capable of reconfiguring these underlying power or authority relations.

## 1.6 Trajectories of change and polycentric sites of governance

To study the process of diversification of the knowledge basis of global climate governance, it is necessary to identify where such process or set of processes take place. In the present research, I speak of climate change as a field of governance, not as a monolithic whole, but rather as an intricate landscape of sites of governance that span across local, national, regional and global scales. As Bigo points out, in transnational spaces “fields may be characterized by diffraction, by disseminated boundaries, by dispersed effects and complex trajectories” (2017, p. 37). Tracing a process in the intricate landscape of climate governance, therefore, requires following trajectories of change that do not necessarily occur in one single site of governance but are scattered across multiples sites.

While the United Nations Framework Convention on Climate Change (UNFCCC) and the Intergovernmental Panel on Climate Change (IPCC) lie at the core of the global architecture of climate governance, there is at the same time a proliferation of institutional forms including, alongside intergovernmental organizations, transnational schemes with the involvement of

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<sup>7</sup> On the concept of “environmental stewardship” as different from the domination of nature see Berry (2006).

public, private and hybrid actors. In IR regime theory, climate governance has been described as an international or transnational “regime complex” (Keohane & Victor, 2011; K. W. Abbott, 2012). However, the concept of polycentricity<sup>8</sup> provides a more dynamic way of describing climate governance as a process “generating multiple nodes of governance authority both horizontally (through the proliferation of international and transnational institutions) and vertically (across local, national and regional jurisdictions)” (Andonova et al., 2018, pp. 266–267; see also Jordan et al., 2018). To be clear, what I call here the *global* is a scale that encompasses all the other in the sense that all developments taking place at other scales orient epistemic and political activities towards the “global climate”.

Polycentricity throws light on how to trace a process by following trajectories of change. As Koinova et al. remark, polycentricity requires “an examination of how social ties are built, maintained, and disrupted” (Koinova et al., 2021, p. 5; Gadinger & Scholte, Forthcoming). In a more specific way, following trajectories involves analyzing the linkages between sites of governance in the process of change.

An important aspect of looking into polycentric landscapes of governance is that a trajectory of change, and the linkages between sites of governance that it brings about, may reach beyond a specific field of governance. Changes happening in the climate field, for example, may originate in or link to another field of governance such as the biodiversity field or the human rights field. Especially when looking for historical antecedents or origins, it is crucial to look into other fields of governance. Therefore, in the present research, the analysis start with a historical account of the diversification of knowledge in the constitution of the broader environmental field as a background for the process of diversification in the climate field.

As the following chapter explains, when looking into a large process that occurs in a polycentric landscape of governance it is not always possible to identify a single trajectory of change. As a consequence, the analytical strategy to trace such a process requires paying attention to different trajectories of change across local, national, regional or global scales. One of the implications of this observation is that it is not possible to provide one single causal chain of how a large process unfolds, but rather it is necessary to follow trajectories that reveal the different ways and temporalities in which change happens in polycentric landscapes of governance.

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<sup>8</sup> Elinor Ostrom (2009) was the first to describe and prescribe a “polycentric” approach to climate governance.

The large process that I trace in the present research is the diversification of the knowledge basis of global climate governance. After specifying my methodological approach in *Chapter 2*, I move on to follow different trajectories of change within this large process. *Chapter 3* starts by searching for epistemic diversity in the historical constitution of the broader field of environmental governance, prior to the formation of the climate field. *Chapter 4* focuses on the “core” of the global architecture of climate governance, namely the UNFCCC and the IPCC, to follow the global trajectory of knowledge diversification in climate science and policy. In the next two chapters, I trace the polycentric trajectory that indigenous peoples of the Amazon and Arctic regions follow as they mobilize for the recognition of epistemic diversity. Within each trajectory, I zoom in on local sites of governance that connect to regional and global sites, namely, community-based adaptation policies in the Swedish side of Sápmi (*Chapter 5*) and forest-based mitigation in the Ecuadorian Amazon (*Chapter 6*). Finally, in *Chapter 7*, I return to the global trajectory to analyze the formation of the Local Communities and Indigenous Peoples Platform (LCIPP) under the UNFCCC, as an institutional innovation for the inclusion of indigenous and local knowledge holders in the climate field.

## 1.7 A word on terminology

There is no consensus in scholarly debates nor in the official language of global organizations as to how to name other forms of knowledge. Recurrent terms include “traditional knowledge”, “indigenous knowledge” and “local knowledge”, sometimes with markers that specify its links to the natural environment, as in “traditional *ecological* knowledge” or “local *environmental* knowledge” (Horowitz, 2015). As former UNESCO experts Nakashima and Roué note,

The challenge of understanding indigenous knowledge begins with the perplexing task of deciding how it should be named. On this matter, few persons agree. Or to be more precise, everyone recognizes that existing terms are for one reason or another unsatisfactory. Should one speak of TEK [traditional ecological knowledge], the term coined when the field emerged in the public arena in the 1980s? Or abandon this designation in favor of the term indigenous knowledge? (Nakashima & Roué, 2002, p. 314)

The disagreements over how to call these other knowledges are visible in processes of boundary work and categorization. The contentious ways in which labels or categories come into being and change is an object of study of the present research. Therefore, I choose not to provide a conceptual definition of traditional knowledge or indigenous knowledge. I follow, instead, the approach proposed by Yanow who, in her study of race and ethnicity categories in the United



States, proposes “a reading of meanings in use, in action, in practice – an inductive reading from human act to human meaning, rather than a deductive examination beginning with conceptual definitions to see how they are applied” (2015, p. ix). Boundary work and struggles over categorization underwrite the formation of official categories and labels in the language of global organizations and other institutional spheres.

I use the general labels *other ways of knowing*, *other knowledges* and *diverse knowledges* as encompassing terms that include a set of recurrent categories in climate governance, especially *traditional knowledge*, *indigenous knowledge* and *local knowledge*. The “other” in other knowledges is a marker of difference vis-à-vis scientific knowledge; a marker of difference that underwrites epistemic diversity. In general, I use specific terms (traditional, local or indigenous) to be consistent with the language that is used in different historical contexts and sites of governance. The knowledge of indigenous peoples is the main focus of the present research. However, depending on the context, the knowledge of indigenous peoples acquires different names, for instance, “traditional knowledge” or “ancestral knowledge”.

A similar terminological problem is raised by the term *co-production*. There is a wide array of uses of the concept of co-production in climate research (Bremer & Meisch, 2017). The analytical approach outlined above builds on what STS scholar Sheila Jasanoff calls the idiom of co-production. Jasanoffian co-production conveys the central idea that “the ways in which we know and represent the world (both nature and society) are inseparable from the ways in which we choose to live in it” (2004b, p. 2). However, a terminological confusion arises because, in my empirical analysis, I encounter the term co-production in the official language of global organizations. The use of the term co-production in official language is distinct from Jasanoffian co-production. Its use is closer to the use of the term co-production in sustainability science. As Miller and Wyborn note, “sustainability science makes co-production into a normative aspiration: science should be co-produced with its users” (Miller & Wyborn, 2020, p. 90). To avoid confusion, I restrict the use of the term co-production to refer to the official language of global organizations.

## 2 Research design, methods and data

### 2.1 Research design

The underlying rationale of the present research design is to trace the process of diversification of the knowledge basis of global climate policy across multiple sites of governance. The research design thus builds upon the general approach of an *outcome-explaining* process tracing (Beach & Pedersen, 2013). The purpose of this type of process-tracing is “to trace the complex conglomerate of systematic and case-specific causal mechanisms that produced the outcome in question” (Beach & Pedersen, 2013, p. 19). The outcome that the present dissertation seeks to explain is the diversification of the knowledge basis of global climate governance through the recognition of categories of epistemic difference, namely *indigenous, local and traditional knowledge*. The outcome is observable, among other things, in the enshrinement of these categories in the Paris Agreement and the establishment of a “knowledge platform” for local and indigenous knowledge holders under the UNFCCC. Working backwards from the outcome, the research design consists in tracing the relevant process in its historical development.

The diversification of the knowledge basis of global climate governance is understood here as a large process spanning a relatively long period of time and taking place in a polycentric landscape of governance, i.e. across multiple sites of governance. Instead of searching for a single trajectory of change that would describe a unique causal path leading to the outcome, the analytical strategy that I pursue here consists in following a juxtaposition of trajectories that contribute to understanding the different temporalities and patterns of change in a large process.

The analysis traces three trajectories of change that do not unfold in isolation from each other, but rather they present several entanglements and interlinkages. Entanglements point to converging or diverging temporalities of change, whereas interlinkages refer to the underlying connections and interdependences between sites of governance across local, national, regional or global scales. These entanglements and interlinkages pose a challenge to the explanatory logic of process tracing. As Mayntz remarks, “[c]ausal explanations of a given outcome or event, produced by the combination of several factors that operate at the same time, but according to

different logics, confront us with the well-known dilemma of contemporaneousness, the *Gleichzeitigkeit des Ungleichzeitigen*" (Mayntz, 2020, p. 5).

To address these methodological issues, the present research advances what I call a *multi-site process tracing*, which consists in tracing a large process through the juxtaposition of trajectories that occur across multiple sites of governance. The research design consists in the juxtaposition of three trajectories that display either horizontal polycentricity (across fields of governance on one scale) or vertical polycentricity (across local, national, regional or global scales of governance). The first trajectory is a *global trajectory* which displays mainly horizontal polycentricity due to interlinkages between international or "global" sites of governance. The other two trajectories consist of "globally embedded regions" (i.e. the Arctic and the Amazon) and display vertical polycentricity given the underlying linkages across scales of governance. These trajectories point to different – albeit related – pathways and temporalities of change that form part of the larger process of knowledge diversification in the climate field.

The following sections elaborate on the specificities of multi-site process tracing (2.2); the case selection (2.3); and the techniques of data collection and qualitative data analysis (2.4).

## 2.2 Multi-site process tracing

Process tracing describes a set of research techniques that seek to uncover the intermediate steps – causal chain or causal mechanism – that link initial conditions to an outcome of interest (Beach & Pedersen, 2013; Bennett & Checkel, 2014). The theory-centric approach to process tracing consists in opening the "black box" of causality by specifying how independent variables link to dependent variables or "what happens between X and Y" (Trampusch & Palier, 2016, p. 438). Another way of using process tracing methods, however, is to pursue a case-centric inductive explanation "working backward from the outcome by sifting through the evidence in an attempt to uncover a plausible sufficient causal mechanism that produced the outcome" (Beach & Pedersen, 2013, p. 20). In a manner analogous to historical methodology, the researcher pursues an iterative analysis to find a sufficient explanation for the relevant outcome. In the present research, I follow the general approach of the outcome-explaining process tracing, albeit with important revisions to adapt it to multi-site research as well as discourse- and practice-oriented research (cf. Pouliot, 2014).

Doing research in "global" or transnational settings complicates the linear logic of conventional process tracing. The cross-scale and multi-site nature of global governance points to the

possibility of multiple trajectories of change with entanglements and interlinkages. This has been a core concern of anthropological research on globalization and transnationalism (Kearney, 1995), especially in “multi-sited ethnography” (Marcus, 1995). Multi-site research requires “following connections, associations and putative relationships” of people, things, discourses or conflicts across multiple sites (Marcus, 1995, p. 97). A key insight from multi-site research is that it seeks to capture the interface between the global and the local, that is, of multiple sites across scales of governance. To quote Marcus once again, “the global is collapsed into and made an integral part of parallel, related local situations rather than something monolithic or external to them” (Marcus, 1995, p. 102).

By extrapolating these insights from multi-site research to process tracing, it is possible to see the limitations of an approach that seeks to discover *the* one and only mechanism or causal chain that accounts for an entire process. The key issue is, once again, that the researcher might discover multiple trajectories depending on the connections and relationships that she follows and reconstructs in a polycentric landscape of governance.

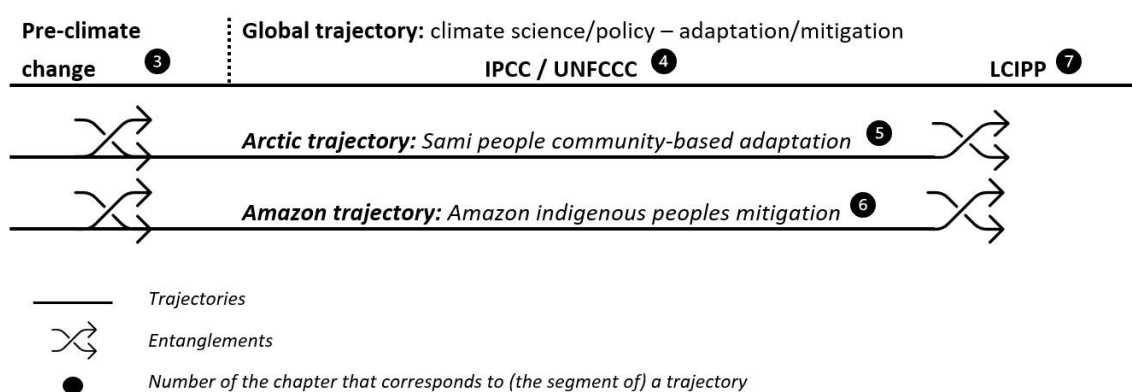
What I propose here instead is a multi-site approach to process tracing as a way to study a large process with a juxtaposition of trajectories. The large process of interest is the transformation of the knowledge basis of global climate change governance through the emergence of epistemic diversity. I follow and reconstruct three trajectories that contribute to this large process. Within each trajectory, I delineate *episodes* understood as “conveniently or conventionally bounded, connected sets of events that include phenomena requiring explanation” (Tilly, 2008, p. 138). In general, the phenomena that I focus on in all episodes relates either to the articulation of diverse categories of knowledge or knowledge holders (e.g. a reference to “traditional knowledge” in a landmark scientific report or political decision) or reconfigurations in the practices and institutions that connect knowledge to policy (e.g. through policy instruments or institutional change). Crucially, the purpose of the analysis is not to find a single causal mechanism or a causal chain, but rather to search for patterns of change in discourses, practices and institutions that account for a process of change.

The research starts by following what one might conveniently call a *global* or *overarching trajectory* where the deterritorialized spaces of international organizations and global scientific bodies take center stage. The global trajectory displays mainly horizontal polycentricity given that there are several linkages between different fields or sites of governance that operate globally. The global here is understood as “a disembodied space of social life, one that exists in various spaces but is not grounded in anyone of them” (Merry, 2006, p. 29). In these spaces is

where discourses, practices and institutions of epistemic diversity acquire recognition through scientific and political consensus. The IPCC assessment reports or the UNFCCC COP decisions point to the production of global consensual knowledge and worldwide political agreements.

Under the global trajectory, I juxtapose two trajectories of globally embedded regions: the Arctic and the Amazon. These trajectories display mainly vertical polycentricity given that there are multiple interlinkages across scales of governance – local, national, regional and global. Here, my interest is on trajectories that “mirror” the global trajectory, as it were. In the Arctic trajectory, on the one hand, I focus on the transnational mobilization of the Sami indigenous people in the quest for epistemic diversity and the integration of Sami knowledge in community-based adaptation policies in Sweden. In the Amazon trajectory, on the other hand, I focus on the transnational mobilization of indigenous peoples from the Amazon in the quest for epistemic diversity and the integration of indigenous knowledge in forest-based mitigation policies in indigenous territories of the Ecuadorian Amazon region.

A key point in this research design is that it does not involve a discrete comparison between trajectories. This is because these trajectories cannot be seen in isolation from each other. There are flows of discourses, practices and institutions between the global trajectory and the Arctic and Amazon trajectories. Notably, these flows are not one-directional but recursive as they move back and forth from one site of governance to another. Thus, instead of discrete comparisons, I propose to explore the entanglements and interlinkages of these trajectories to gain a better understanding of the sometimes converging and sometimes diverging patterns and temporalities of change.



**Figure 1** Multi-site process tracing with juxtaposition of trajectories. Source: own elaboration. Figure 1 provides a sketch of the three trajectories that serve as case studies for the present research. The global trajectory starts before climate change governance per se in order to account for the historical background of epistemic diversity in global environmental governance at large. Then,

the global trajectory continues with climate governance, with a focus on the organizations that lie at the heart of climate science and policy, namely the IPCC and the UNFCCC. Next, I turn to the globally embedded trajectories in the Arctic and the Amazon in order to capture the entanglements of the global process in specific socio-cultural regions. The interlocking arrows in Figure 1 indicate that these are not linear and separate trajectories, but rather there are several entanglements with the global trajectory. Lastly, I return to the global trajectory and the UNFCCC in specific, to analyze the institutionalization of a knowledge platform for indigenous and local knowledge holders. The numbers in Figure 1 indicate the chapters dedicated to each trajectory or segment of a trajectory.

### 2.3 Case selection

The selection of the trajectories for the multi-site process tracing was the result of exploratory fieldwork at the Bonn Climate Change Conference of the UNFCCC in April-May 2018. The key institutional process pointing to the recognition of epistemic diversity, which I was able to identify during the exploratory fieldwork, was the Local Communities and Indigenous Peoples Platform (LCIPP) under the UNFCCC. Indigenous peoples organizations were the single most important non-state actors in the process. Through the exploratory interviews that I was able to conduct with indigenous representatives, it became clear to me that the establishment of an institutional space for indigenous and local knowledge holders was the outcome of a historical process reaching beyond the climate field. Indigenous representatives with a long history of involvement in international negotiations would always refer to the 1992 Rio Earth Summit as a milestone. Hence, I decided to follow a historical approach starting with the constitution of global environmental governance to subsequently focus on global climate governance per se.

In my exploratory fieldwork, I was able to conduct interviews with indigenous representatives from different socio-cultural regions: North America, Arctic, Asia, and Latin America and the Caribbean. Regardless of the region, these indigenous representatives were part of a transnational community of indigenous peoples striving to act collectively and develop a common language and consensual practices in climate change negotiations. However, at the same time indigenous representatives would point to the unique features of their respective socio-cultural regions, countries or communities. This is how I came to realize that it was important to explore the entanglements of the global trajectory in specific trajectories of different socio-cultural regions.

The selection of the Amazon and Arctic trajectories was driven by the rationale that, to capture wide variation in sites of governance, it was necessary to look into very different socio-cultural regions. The Arctic and the Amazon appear as extremely important human and ecological systems in climate change research (Lenton et al., 2008). These feature, at the same time, regional governance mechanisms dealing with a complex political landscape marked by environmental concerns, historically increasing extractivism and the impacts of these on the livelihoods of indigenous peoples (Burkhart et al., 2017).

The specification of two sites in each region, namely the Swedish side of Sápmi and the Ecuadorian side of Amazonia, was driven by the following criteria: the presence of climate policy interventions that affect indigenous peoples; the presence of an indigenous peoples' mobilization striving for epistemic diversity and advancing alternative approaches to climate governance; and the presence of direct or indirect linkages to the global trajectory. There were also practical concerns for the selection of specific sites, most prominently: background knowledge, access to fieldwork and local connections. This is how the otherwise extremely distant Amazon and Arctic regions became the regional and local foci of the present research. As Hannerz notes, "site selections are to an extent made gradually and cumulatively, as new insights develop, as opportunities come into sight and to some extent by chance" (2003, p. 207). In the following, I describe the process of data collection and analysis.

## 2.4 Data collection and analysis

The present research uses three data collection methods: documentary analysis, in-depth interviews and participant or direct observation. The empirical chapters use these sources of evidence to varying degrees. As Table 1 shows, the relative weight of each technique of data collection varies in every chapter.

In the historical chapters (3 and 4) and in the historical background section of other chapters, textual analysis of documents and other secondary sources was the main form of data collection. Beyond the documentary analysis, the most important source of data were interviews with key informants. These were invaluable sources of information to reconstruct episodes of the larger process and obtain an understanding of the personal trajectories and perspectives of participants. Participant or direct observation, lastly, was the most important method of inquiry in the chapters or sections of chapters that explore ongoing episodes in specific institutional settings, most prominently in Chapter 7.

Data collection	Chapter 3	Chapter 4	Chapter 5	Chapter 6	Chapter 7
Documents					
Interviews					
Participant observation					

	High
	Medium
	Low
	Null

**Table 1** Relative weight of data collection techniques per chapter.

The rationale behind using multiple sources of evidence was triangulation (Yin, 2013, p. 114). The triangulation of multiple sources of evidence is a way to increase the robustness of the research findings. The biases and omissions that arise when relying on one single source of evidence can be thus overcome. Each source of evidence serves, in that sense, to complement or contrast the information found in other sources of evidence.

Documents, broadly understood, are “literary, textual or visual devices that enable information to be shared and ‘stories’ to be presented” (Coffey, 2014, p. 369). One of the advantages of documents is that these are naturally occurring sources of data that do not require the intervention of the researcher (Silverman, 2006, p. 153). Given that documents are social and cultural products, it is imperative to “locate [them] within their social as well as textual context” (Coffey, 2014, p. 370). Contextualization is what makes documents intelligible as sources of evidence to trace processes as these unfold. Notably, a documentary analysis is often the only alternative when it comes to historical episodes or events.

Interviews, in contrast to documents, may be thought of as contrivances led by the researcher to generate data with an informant. Interviews give access to the actors’ account of events and are therefore invaluable sources of data to reconstruct episodes of interest. Interviews may also serve as an alternative source of information to complement or contrast the information found in documents or observations. As Yanow notes,

This is a common use of interviews – for clarifying, corroborating and/or refuting the researcher’s provisional meaning making derived from observation, reading and/or other conversations, with the same or other conversants. Because of the word-deed tension, efforts are made to ground such interviewing in the details of lived experience... (2006, p. 19)

In addition, it is important to add that by conducting interviews with actors who have different roles and group identities but who are all participants in the same site of social action, it is



possible to contrast and compare a variety of perspectives and potentially conflictive positions with regard to a specific issue. Grappling with a multiplicity of perspectives adds to the robustness of the research findings too in so far as it does not rely on one single account of what is going on in a specific setting.

Participant observation involves a direct engagement and an immersion in the relevant field of practice. As Pouliot notes, the advantage of participant observation is that it occurs in the “natural habitat” of practitioners (2014, p. 245). Observation, therefore, presents an undeniable advantage of data collection because of the access that it provides to the social setting of study. There are different degrees of participation in fieldwork, however. As Schwartz-Shea and Yanow note, “[t]he degree and kind of participation may vary, ranging from a role in which the researcher participates as researcher alone, to one in which the researcher is present as both researcher and situational participant” (Schwartz-Shea & Yanow, 2012, p. 63). I refer to the former as *direct* observation and the latter as *participant* observation proper. However, regardless of the degree of participation, participant or direct observation follows the imperative of “being there”, as anthropologist Clifford Geertz (1988) put it, where social practices take place.

The following sections present the methods of data collection and analysis according to each source of evidence.

#### 2.4.1 *Analyzing documents*

Documents were an extensive source of data either as objects of analysis or as sources of information to reconstruct historical contexts. Throughout the dissertation I look into a variety of textual data according to the episode of interest. Instead of a cumbersome exhaustive list of all textual data, which is found in the references of each chapter, here I provide an overview of the types of documents and methods of analysis of textual data. The recurring types of textual data that were used for the present research are the following:

- (1) *Scientific and technical reports*, especially landmark global environmental reports and climate change assessment reports.
- (2) *Legal documents* including treaties, decisions by international organizations and other international agreements.
- (3) *Official documents* from international organizations and governments, including policy documents, official reports, submissions to international bodies and other relevant documents.

- (4) *Social movement and advocacy documents*, especially from indigenous peoples organizations, including declarations, political statements, open letters, petitions and submissions to international bodies.
- (5) Other *miscellaneous sources*, including newspaper articles, website and online resources, among others.

These various types of documents were used to reconstruct the episodes of a process by providing information on the relevant local and historical context. In addition, some documents – sorted by relevance and lengthiness – were also object of an in-depth textual analysis that builds on and extends the content analysis method by Ford et al. (2016; supplementary information). The first step was to familiarize with the overall content and structure of the documents in order to develop keywords, which I conceptualize as categories of epistemic diversity. In specific, the keywords that I identify were different formulations of “knowledge with adjectives”, with a predominance of three adjectives, namely *traditional*, *local* and *indigenous*. Here, it is important to note that in the early phases of global environmental governance, these keywords were still absent. The crucial point, however, is that these categories of epistemic diversity would eventually become more stable as part of official language of organizations. Therefore, I use the keywords to navigate contemporary texts and trace the embeddedness of these conceptual categories in global institutional discourses. When I move towards regional, national and local contexts, I identify terms that are specific to these contexts.

The second step was to perform a basic keyword search to find occurrences of the terms of interest. In IPCC assessment reports, which were the largest set of documents in this research, I perform an additional frequency analysis by counting the number of occurrences of keywords<sup>9</sup> and comparing them across documents using the MAXDictio function of MAXQDA (see section 4.2.1). The surrounding text of keywords was then set apart as units of analysis in all the relevant documents. These units of analysis were paragraphs or sections that provide the *context* of occurrences – in the case of very short documents the unit of analysis was the entire document.

The third step was to code the keywords and the surrounding text that comprises the unit of analysis – either parts of documents or entire documents. The coding was made in two cycles (Saldaña, 2013). The first coding cycle was mainly exploratory, consisting of descriptive or in-

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<sup>9</sup> The following keywords were found in the IPCC assessment reports (excluding references): indigenous knowledge; traditional knowledge; local knowledge; traditional ecological knowledge; indigenous environmental knowledge; traditional forms of knowledge; indigenous ecological knowledge; indigenous forms of knowledge; and traditional environmental knowledge.

vivo codes of segments. The second coding cycle was the core of the analysis, consisting of the conceptual and theoretical organization of the descriptive/in-vivo codes from the first cycle.

Special focus was given to boundary work and categorizations, by coding the *attributes* of categories of knowledge in relation to climate change, on the one hand, and the *attribution* of these categories of knowledge to a knowledge holder, on the other. These codes were the basis of the analysis of the problematization of epistemic diversity in climate governance and its relation to specific topics such as community-based adaptation or co-production, as well as the emergence of the figure of the “knowledge holder” as the counterpart of climate scientists.

The fourth and last step was to analyze the underlying historical context in the making of landmark reports and other documents. Specifically, the focus was on the practices and institutions that undergird the production of documents which include peer-reviewing, public hearings or multistakeholderism. These numerous practices and institutions throw light on the ways in which the recognition of epistemic diversity potentially reconfigures knowledge-policy relations.

The reconstruction of episodes or even situations to follow trajectories and trace the overall process was possible through the triangulation of data sources and extensive background reading of historical and contemporary documents.

#### *2.4.2 Analyzing interviews*

I conducted formal semi-structured interviews with key informants in the episode or setting of interest. The semi-structured interviews consist of a series of guiding questions based on the topics of research. The interview questions were in general open-ended to elicit long responses from the interviewees. The content of the questions was made to revisit the interviewee’s personal trajectory in specific episodes of the relevant process, on the one hand, and to delve into the experiential knowledge of these in relation to epistemic diversity and climate politics, on the other hand. In other words, the reconstruction of specific events or situations went hand in hand with the inquiry of different conceptions of epistemic diversity in climate politics.

Interviewees were selected following purposeful sampling, based on actor mapping both through desk work and fieldwork as well as snowball sampling (Blaikie, 2000, p. 39). The interviewees were all in one way or another direct or indirect participants of specific episodes in the relevant political process. The interviewees cluster around four main types of actors: indigenous representatives; government officials; NGO representatives; and researchers. Indigenous peoples were the single most important knowledge holders striving for recognition

of epistemic diversity in climate change governance. As an intergovernmental process, state Parties were the key target of claims from indigenous peoples, while at the same time some of them became allies of indigenous representatives in specific episodes. The NGO representatives that I focus on were mainly allies of indigenous peoples in specific episodes of the process of recognition. Last but not least, there has been a continuing involvement of researchers from the very beginning of the process, be it as distant advocates of indigenous and local knowledge or as close allies of indigenous peoples or even as targets of the claims for recognition on the part of indigenous representatives. A key focus of the present study has been to analyze the encounters between these different sets of state and nonstate actors.

Table 2 shows a list of the interviewees with their respective organizational affiliation. A total of 42 interviews were conducted between 2018 and 2021 (28 in-person and 14 online). Three of these interviews were group interviews, which makes a total of 46 interviewees. In average the interviews were around 47 minutes long. About half of the interviews were conducted in English and the other half in Spanish, except for two interviews that are in French<sup>10</sup>. All interviews were fully transcribed, except for one where the interviewee only gave authorization to take notes of the interview.

To ensure a uniform approach to all interviews, I have chosen not to use real names given that not all of the interviewees agreed that their real names be used for quotes. Therefore, with the informed consent of the interviewees, I refer to the organizational affiliation and area of activity of the interview participant and I use numbers instead of names. This approach is consistent with the focus of my research which is not on specific individuals, but rather on representatives of organizations and other collective actors. Whenever I use the name of an actor in the text it is because I am referencing material that was already published and is publicly available.

The interview transcripts were analyzed using the same coding methods that were used for the textual data in the documentary analysis. There was a first coding cycle consisting of descriptive and in-vivo codes, and a second coding cycle consisting in the conceptual and theoretical organization of the codes from the first cycle. In the analytical approach to the interviews, however, there was an important difference. The most important thematic focus of the documentary analysis was arguably the identification of keywords relating to categories of knowledge and its attendant attributes and attribution. In contrast, the analytical approach for

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<sup>10</sup> Translations in direct quotations of interviews or documents in Spanish and French are my own. Translations in direct quotations of documents in Swedish were made by accredited translators.

the coding of the interviews was broader because these were important to contextualize data from other sources, to reconstruct episodes, and to engage reflexively with the topic of epistemic diversity through the perspective of the interviewees who were, essentially, practitioners. Insights from the latter point were of pivotal importance in the analysis of changing knowledge-policy relations, above all, in the social and political judgements about what counts as valuable knowledge or who counts as a valuable knowledge holder in specific policy contexts.

Interview participant	Organization	Date
1 Government official	Minsitry of Environment (Ecuador)	08.02.2019
2 Government official	Minsitry of Environment (Ecuador)	08.02.2019
3 Government official	Minsitry of Environment (Ecuador)	08.02.2019
4 Government official	Ministry of Foreing Affairs (Ecuador); UNFCCC delegation	28.02.2019
5 Government official	UN REDD+ (Ecuador)	11.03.2019
6 Government official	Sami Parliament of Sweden	04.07.2019
7 Government official	Sami Parliament of Sweden; UNFCCC delegation	12.11.2019
8 Government official	European Union; UNFCCC delegation	29.11.2019
9 Government official	European Union; UNFCCC delegation	29.11.2019
10 Government official	Ministry of Environment and Water (Bolivia); LCIPP FWG	30.11.2019
11 Government official	Government of Bolivia; UNFCCC delegation	13.05.2020
12 Government official; former indigenous representative	UN REDD+ (Ecuador)	10.03.2019
1 IGO official	UNESCO LINKS Programme	11.02.2020
2 IGO official	former UNESCO LINKS Programme	02.05.2020
1 Indigenous representative	COICA	01.05.2018
2 Indigenous representative	Indigenous Environmental Network	02.05.2018
3 Indigenous representative	National Congress of American Indians	03.05.2018
4 Indigenous representative	Tebtebba Foundation	04.05.2018
5 Indigenous representative	Saami Council	04.05.2018
6 Indigenous representative	COICA; LCIPP FWG	19.02.2019
7 Indigenous representative	Sami Parliament of Finland	24.06.2019
8 Indigenous representative	Te Kopu - Pacific Indigenous and Local Knowledge Center	26.06.2019
9 Indigenous representative	Sami Parliament of Sweden	27.06.2019
10 Indigenous representative	COICA	03.12.2019
11 Indigenous representative; researcher	Inuit Circumpolar Council; LCIPP FWG	16.06.2019
1 NGO representative	EcoCiencia Foundation	07.02.2019
2 NGO representative	Environmental Defense Fund	03.05.2019
3 NGO representative	Environmental Defense Fund	10.05.2019
4 NGO representative	Pachamama Foundation	08.01.2020
5 NGO representative	Civil Rights Defenders	04.06.2021
6 NGO representative; former government official	World Wildlife Fund Ecuador	18.02.2019
7 NGO representative; former indigenous representative	Conservation International	08.03.2019
8 NGO representative; researcher	EcoCiencia Foundation	28.01.2019
9 NGO representative; researcher	Accion Ecologica	25.03.2019
1 Researcher	Pontificia Universidad Católica del Ecuador	24.01.2019
2 Researcher	Pontificia Universidad Católica del Ecuador	24.01.2019
3 Researcher	Universidad San Francisco de Quito	07.02.2019
4 Researcher	Universidad San Francisco de Quito	07.02.2019
5 Researcher	Woods Hole Research Center	29.03.2019
6 Researcher	Swedish University of Agricultural Sciences	28.06.2019
7 Researcher	University of Tromsø	11.07.2019
8 Researcher	Swedish University of Agricultural Sciences	26.09.2019
9 Researcher	AgroParis Tech	25.02.2020
10 Researcher	National Museum of Natural History (France)	02.05.2020
11 Researcher	Swedish University of Agricultural Sciences	03.09.2020
12 Researcher; former government official	Ecuadorian Constituent Assembly 2008	26.02.2019

**Table 2** List of interviews

### 2.4.3 *Analyzing observations*

A key source of data collection for the present research stems from the participant and direct observation of international climate change negotiations. Being there where political negotiations take place has become a prevalent approach in the field of global environmental politics (O'Neill & Haas, 2019). A key advantage of “being there” is that it makes it possible to see and meet practitioners in the settings where social interactions take place. As Table 3 indicates, my main site of fieldwork was the UNFCCC, especially the sessions of the LCIPP and its Facilitative Working Group (FWG). Here, the degree and type of participation in which I was able to engage was both as a researcher and as a situational participant. In the official language of the UNFCCC, my status of participation in these meetings was as an observer or a contributor. Beyond these official sessions, I was able to participate in other events related to the LCIPP and the FWG or the indigenous peoples caucus under the UNFCCC. These include training webinars, multi-stakeholder dialogues, technical workshops, dedicated events and informal meetings.

When the sessions of the Facilitative Working Group of the LCIPP adopted a virtual format in the wake of the COVID-19 pandemic, I was able to conduct virtual fieldwork by participating in the online sessions. All the sessions were live streamed; however, the access to the virtual platform in which one could access the chat and ask questions was restricted to admitted virtual participants. As an admitted virtual participant, I was able to follow the conversations in the chat and access the break-out sessions where participants split in smaller groups to discuss specific agenda items.

Beyond the UNFCCC, other sites in which I was able to carry out fieldwork for my Amazon and Arctic cases were the meetings of indigenous peoples organizations, a regional forum and a protest event. These were single events in which I was able to conduct direct observations that did not involve any form of situational participation in so far as I was not able to engage in sustained observation. However, as in other sites of fieldwork, these events gave me the opportunity to see and meet some practitioners as well as interview some of these in-person or, when the circumstances did not allow, online.

The field notes that I was able to take during fieldwork were mainly following the development of the meetings or events that I was able to attend. In many cases, where I was able to participate with the sponsorship of an organization or a UNFCCC constituency, I would organize and summarize my notes to write an observation report – or contribute to the collective writing of a report – for the constituency or organization that was sponsoring my participation. Given that many of the meetings of the LCIPP were also recorded and accessible online, it was possible

for me to return to the episodes that I found particularly relevant during the participant observation and revise the recordings. In some cases, I would transcribe the relevant interventions of participants to make verbatim quotations.

FIELDWORK	EVENT	LCIPP	Place	Dates	
UNFCCC	Intersessional conference	SBSTA 48		Bonn, Germany	30 April - 5 May 2018
	Intersessional conference	SBSTA 50	FWG1	Bonn, Germany	14-16 June 2019
	COP25	SBSTA 51	FWG2	Madrid, Spain	28-30 November 2019
			FWG3	Online	5-8 October 2020
			FWG4	Online	14-17 December 2020
			FWG5	Online	21-24 June 2021
Ecuador	COICA 25th Anniversary			Quito, Ecuador	13 March 2019
	Protest event - Waorani communities			Puyo, Ecuador	27 February 2019
Sweden	SSR annual meeting			Stockholm, Sweden	4-5 June 2019
	EU Arctic Forum			Umeå, Sweden	3-4 October 2019

**Table 3** Overview of sites of fieldwork.

Other material that I was able to collect during fieldwork were photos – or screen captures – from the events that I was able to attend. Although I do not conduct a visual analysis of the photographic material, this was useful to capture important moments of the relevant events and serve as illustrations of specific episodes of the process that the present study traces.

In the analysis I use the field notes either as independent sources of evidence to reconstruct episodes and trace specific practices or as complementary sources to interpret the interviews and documents. As independent sources, field notes and observation reports were used to reconstruct episodes especially by identifying specific situations of interest. These situations would usually throw light on the critical points of the negotiations as well as underlying conflicts or contentious issues in relation to epistemic diversity, especially the integration of diverse types of knowledge (holders) in policy instruments or institutions. As complementary sources, observations were crucial to make a richer analytical interpretation of the theoretical and conceptual coding. In general, I would use specific observations to contrast or complement data from the interviews or the documents – usually in the form of memos attached to the specific segments of the interview transcripts or documents.

In a more general way, the participant and direct observations were of crucial importance to become familiar with the field of study, to select case studies and to identify potential interviewees.

### 3 The coming of age of epistemic diversity<sup>11</sup>

In the wake of the 1992 Earth Summit in Rio de Janeiro, “traditional”, “indigenous” and “local” knowledge became a recurrent theme of global environmental governance. This has been described as “a shift from ‘science’ as the primary cognitive resource for addressing global-scale social and ecological challenges to the broader category of ‘knowledge’” (Jasanoff & Martello, 2004c, p. 9). However, as the present chapter contends, this shift was not about an open understanding of knowledge without distinctions, but rather it was about *knowledge with adjectives* – as an expression of epistemic diversity. The shift toward epistemic diversity is thus better understood as the transformation of a multiplicity of knowledge claims, coming from indigenous peoples, peasant communities, scientific communities and other groups, into authorized categories of epistemic difference. As a consequence, beyond scientific communities, other groups of actors, namely indigenous peoples and local communities, came to acquire an epistemic status as “knowledge holders” in global environmental governance.

The shift toward epistemic diversity in global environmental governance is puzzling in two respects. Our modern understanding of the environment was first brought into light by a globalized science that, in the context of postwar internationalism, took hold in international organizations with the United Nations at its core (Selcer, 2018; Warde et al., 2018). Other ways of knowing are largely absent from historical accounts of the emergence of the environment as an object of global governance. Therefore, it is striking that a science-centric field became a crucial space for the recognition of epistemic diversity. Another aspect to consider is that the international environmental regime rests on interstate politics and, unlike scientific communities, those nonstate actors that would later become knowledge holders were at the margins of intergovernmental processes. The question, then, is how some marginal groups with no recognition of an epistemic status came to be seen as knowledge holders.

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<sup>11</sup> This chapter is a revised version of the research paper “Blurring Global Epistemic Boundaries: The Emergence of Traditional Knowledge in Environmental Governance” (López-Rivera, 2020).



These issues remain unaccounted for in extant literature on the constitution of global governance objects, in which science and expertise come to the fore (e.g. Allan, 2017; Miller, 2001a; Miller & Edwards, 2001; Warde et al., 2018; Weart, 2003). The global governance of the environment and the climate is seen as a co-creation of scientific knowledge and state steering. It is not clear how other knowledges, let alone epistemic diversity, fit into these historical and contemporary accounts focusing on global science and interstate politics. This chapter presents an alternative historical narrative where a diversity of ways of knowing emerge as the “Other” of science, thereby eliciting discourses and practices of epistemic diversity. I trace these in the boundary work of public scientists, political leaders and landmark environmental reports that blurred the lines between science and nonscience, thereby opening a space for indigenous peoples and other nonstate actors to make claims to their own knowledge.

To be clear, the aim is not to reconstruct the complex history of environmental governance, nor the intricate intellectual origins of the concept of indigenous knowledge in ethnoscience. Instead, what I propose is a chronological account of specific historical episodes in which other non-scientific forms of knowledge appear in the institutionalization of global environmental governance. These instances occurring in different historical contexts might be understood as layers of discourse and practice that underwrite the emergence of official categories of epistemic diversity, as well as the figure of the knowledge holder. This process of emergence revolves around a constellation of international bodies with the United Nations at its core, which is arguably the matrix of the contemporary complex architecture of environmental governance.

The chapter proceeds as follows. In the first section (3.1), I briefly discuss some aspects of the intellectual origins of the concept of traditional knowledge with a focus on boundary blurring through discursive practices that define the attributes of knowledge and its attribution to knowing subjects. The subsequent sections are structured in two parts. The first part (3.2) analyzes how epistemic diversity gains visibility without recognition in the emerging field of global environmental governance. The historical trajectory spans from the first postwar environmental conferences to the genesis of an environmental field of governance at the Stockholm conference in 1972. The second part (3.3) analyzes how epistemic diversity gains recognition, especially through practices of inclusion of knowledge holders, and spans from the main post-Stockholm reports to the landmark Rio Earth Summit in 1992. The last section (3.4) summarizes the findings and draws theoretical conclusions in relation to the ordering of epistemic diversity.

### 3.1 The “ethno” and the science

The intellectual origins of the scholarly concept of traditional or indigenous knowledge are rooted in the scientific disciplines of anthropology and ecology (Berkes, 2008, pp. 49–50). Ethnoscience and human ecology, which arose in the second half of the twentieth century, were of pivotal importance in producing an understanding of the intellectual endeavors of “non-western” peoples as a distinct form of knowledge. In its origins, ethnoscience was primarily concerned with folk taxonomies (H. C. Conklin, 1972) with a strong focus on culturally specific ways of ordering the natural milieu; e.g. ethnobotany, ethnozoology or ethnobiology, among others. The prefix “ethno” and the adjective “folk” were the markers of epistemic difference demarcating the “Other” of science. However, at the same time to speak of ethno-*science* was a way of recognizing the epistemic status of the anthropological subjects of study<sup>12</sup>. This was a turning point in anthropological scholarship. As John Clammer points out, classical anthropologists were generally inclined “to talk about not what other cultures *knew* (a position that would commit the anthropologist to an unambiguous position in respect of the truth claims of native informants' statements), but rather about what they *believed*” (2012, p. 92; emphasis in original).

The ethnosciences did not seek merely to reconstruct folk classifications or knowledge systems of other cultures, but instead they drew parallels between western science and non-western knowledges. One of its proponents, the anthropologist Stephen Brush, notes that cognitive anthropology has sought to demonstrate “historic affinity and structural similarity between non-Western (‘non-literate’, ‘pre-scientific’) and Western (‘literate’, ‘scientific’) knowledge systems” (1993, p. 658). This affinity-seeking endeavor can be understood as a form of boundary blurring in so far as it works against the pure demarcation of science from nonscience. The Other of science is not ignorance, myth or superstition but rather a different form of knowledge that shares a sort of “family resemblance” (Wittgenstein’s *Familienähnlichkeit*) with science. Seeking affinities is thus a way of blurring the boundaries that sustain pure demarcations, especially in the form of a “great divide” between science and nonscience.

This affinity-seeking theme would acquire utilitarian undertones in the inter- and trans-disciplinary endeavors of anthropology and ecology. Under the premise that “cultural knowledge is adaptive” (Hunn, 1982, p. 844), anthropological and ecological perspectives were

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<sup>12</sup> Historically, scientific expeditions would have been impossible without the knowledge of anonymous native “informants” (cf. Burnett, 2002).

brought together. The concept of “adaptation” was central in these theoretical developments (Ortner, 1984, p. 132; Alland, 1975). The basic idea was to understand how human cultures *adapt* to – and ultimately survive in – the environment in which they live. Beyond physiological or evolutionary factors, adaptation was thought to be a cognitive resource. As Brush remarks, “human ecology has focused on the *adaptive nature of local knowledge* in a fashion similar to a utilitarian theme in cognitive anthropology” (Brush, 1993, p. 659; emphasis added). Utilitarian and adaptationist explanations<sup>13</sup> became a mainstay of ethnoscience (Hays, 1982). This was a way of theorizing deriving from exchanges between anthropology and biological ecology (Orlove, 1980, p. 241).

The utilitarian and adaptationist theme would advance the neo-functionalist argument that survival is the litmus test of adaptive knowledge. Hunn, for instance, claims that “[t]raditions are the products of generations of intelligent reflection tested in the rigorous laboratory of survival” (Hunn, 1993, p. 13). In a more recent formulation, the Canadian ecologist Fikret Berkes, notes that “[s]urvival is the ultimate criterion for verification of traditional ecological knowledge and adaptation is key” (2008, p. 71). The survival of native cultures proves that they *know how* to adapt to their environments. However, as a way of knowing that responds to the imperatives of survival and adaptation, “[f]olk science is for the most part applied science, rarely truly theoretical” (Hunn, 1982, p. 831). This reductionist understanding of folk or ethno-science was a way of uprooting “knowledge” from other parts of culture such as religion or myth that convey notions of wisdom and spirituality. Unlike wisdom, which is in essence “unformalized and even unformalizable” (Ezrahi, 2004, p. 255), folk taxonomies or even knowledge systems were something that anthropologists could formally reconstruct as an object of study.

In current formulations the markers “ethno” and “folk” have been substituted by various designations, among which the most common are “traditional”, “indigenous” or “local”; while the term science has given way to the that of knowledge. At the same time, there has been a proliferation of more specific labels that emphasize that these are mainly knowledges about the environment, such as “traditional *ecological* knowledge” or “local *environmental* knowledge” (Horowitz, 2015; Nakashima & Roué, 2002).

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<sup>13</sup> A major counterpoint to the utilitarian and adaptationist theses was formulated by Claude Lévi-Strauss, who in *The Savage Mind*, famously argued that “animals and plants are not known as a result of their usefulness; they are deemed to be useful or interesting because they are first of all known” (1966, p. 9).

The anthropological and ecological concepts of ethnoscience or more recently traditional and indigenous knowledge, lay the groundwork for an incipient idea of epistemic diversity. By claiming that their subjects of study were not only capable of believing but also of knowing, anthropologists were acknowledging the epistemic status of other non-western cultures. In that sense, they were blurring the boundaries between science and nonscience. However, at the same time ethnoscience was a way of “othering” the knowledge of native informants through reductive theorizations of the nature of such knowledge as utilitarian and adaptive. The knowledge of other cultures was, in that sense, thought to be pre-scientific or at best a sort of applied science with no theoretical depth. In essence, ethnoscience appears as a colonialist attribution of knowledge to other cultures (those that were the subject of study of anthropologists) and an essentialization of other knowledges by characterizing their “nature” or defining attributes.

In the following, I zoom in on some episodes in the history of global environmental governance in which incipient ideas of indigenous knowledge were brought to international arenas. These episodes culminate in the emergence of an official category of epistemic diversity and the figure of the knowledge holder at the Rio Earth Summit in 1992. To be sure, the official category of indigenous knowledge in climate and environmental governance does not map neatly onto the anthropological and ecological concepts of folk science, indigenous knowledge or cognate terms<sup>14</sup>. However, the official category of indigenous knowledge would have been arguably unthinkable without its previous conceptualizations as the Other of science. At the same, by virtue of its institutionalization as an official category, indigenous knowledge becomes increasingly detached from scholarly debates as it becomes part of the official language of global organizations (cf. Niezen, 2003).

## 3.2 Oscillations between visibility and invisibility

### 3.2.1 *Postwar precursors: on “backward people” and the facts of nature*

In 1949, the UN held two parallel conferences on natural resources and conservation, thereby laying the foundations of postwar environmental governance (Jundt, 2014; Mahrane et al., 2012; Selcer, 2018). These conferences were the UN Scientific Conference on the Conservation

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<sup>14</sup> Some scholars have long rejected the use of the concept of indigenous knowledge (e.g. Agrawal, 1995; Ellen, 2004; Sillitoe, 2007).

and Utilization of Resources (UNSCCUR), announced at the behest of US president Harry S. Truman and the International Technical Conference on the Protection of Nature (ITCPN), sponsored by the United Nations Educational, Scientific and Cultural Organization (UNESCO). The UNSCCUR, on the one hand, responded to growing concerns about the scarcity of natural resources understood as a threat to peace and industry in the postwar international order. The ITCPN, on the other hand, put forth a concurrent vision of environmental governance in which the protection of nature took precedence over the utilization of natural resources. The economic focus of UNSCCUR, aiming at securing resources for private industry, was thus challenged by the ecology-centered approach of the ITCPN (Jundt, 2014).

The ITCPN was intentionally held at the same time as the UNSCCUR to make sure that voices from UNESCO and its offspring organization, the International Union for the Protection (later Conservation) of Nature (IUPN/IUCN), were heard at the UNSCCUR. It is among the ranks of UNESCO and IUPN that the early thoughts on indigenous knowledge began to take hold. Jean-Paul Harroy, the secretary-general of IUPN, was one of the key figures among the dissenting voices that went from one conference to the other to express a conservationist counterpoint in the discussions. Harroy took part in one of UNSCCUR's plenary meetings in which the "education for conservation" was considered. When prompted by the chairman to consider the "methods to be used with illiterate and *backward people*", Harroy replied:

You wish to bring about a change in the habits of human beings in under-developed countries. You are dealing with people who have traditional cultural habits which are adapted to the surroundings in which their ancestors lived, for the indigenous peoples have always used the empirical method. During the centuries that method, by means of a series of unsuccessful experiments, has enabled them to develop certain cultural techniques which have been handed down from father to son and which Europeans have sometimes found surprising and tried to change (United Nations, 1950, pp. 269; emphasis added).

In a nutshell, this unnoticed statement foreshadows what was later to become the global discourse on indigenous knowledge. It characterizes this knowledge as empirical, adaptive and experimental. Age-old cultural techniques are understood to be the outcome of a series of experiments. In other words, indigenous knowledge is here understood as a form of knowledge that is akin to science in its empirical and experimental facets, but at the same time forms part of traditional cultural habits. It follows that the knowledge of "primitive peoples" cannot be dismissed as nonknowledge (e.g. ignorance, superstition or belief) and, by the same token, is not to be mended by western education.

Before becoming IUPN's secretary-general, Harroy managed the Institute of National Parks of the Belgian Congo between 1935 and 1948. In 1944, he published the book *Afrique, terre qui meurt: La dégradation des sols africains sous l'influence de la colonisation*, which was the outcome of his doctoral degree in "colonial sciences" at the Université Libre de Bruxelles (Van de Walle, 2015). In it, Harroy holds colonization responsible for environmental degradation in Africa<sup>15</sup>. The book would influence postwar ecology and reach a wide audience, not the least because a summarized version of it was reproduced by William Vogt in his classic 1948 book *Road to Survival*. Somewhat paraphrasing Harroy, Vogt writes:

Before the arrival of the European, primitive populations apparently had some empirical understandings of the laws controlling the African landscape. In Madagascar, for example, excessive lumbering was punished by decapitation of the criminal upon the stump of one of the trees he had felled. (Vogt, 1949, pp. 249; emphasis added)

However, the claim that "backward people" did not need to be educated in the scientific method to conserve nature because they held an "empirical understanding" of their landscape was still a distant call in the early postwar period and its enduring colonial rule. Colonial ideology was pervasive in conservation, notably in the national parks of the Belgian Congo that Harroy once administered. Julian Huxley, the first director-general of UNESCO and one of the key figures behind the ITCPN, once praised the Belgian conservation model for treating "pygmies, quite properly, as fauna rather than as tribes to be civilized" (quoted in De Bont, 2015, p. 225). Harroy himself was a colonial administrator, serving as vice governor-general of the Belgian Congo and governor of Ruanda-Urundi (Van de Walle, 2015). In retrospect, the continuation of colonial conservationism<sup>16</sup> was evident in the first years of the IUPN and the World Wildlife Fund (WWF) (Macekura, 2015, pp. 61–63).

Following the parallel UN conferences of 1949, colonial ideas would resurface under the guise of "modernization", much to the detriment of "traditional societies", their culture and

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<sup>15</sup> Harroy's considerations on traditional knowledge rely to a significant extent on the work of British ecologist Edgar Barton Worthington, who in his volume *Science in Africa* from 1938, explains that "[i]n the past, the enforcement of radical changes in native methods has been advocated, but in recent years native agricultural practice has been regarded as worthy of respect. It is now coming to be realized that drastic methods rarely achieve their object, and that improvements are more likely to be attained by gradual development from existing methods" (Worthington, 1938, pp. 302–303).

<sup>16</sup> This line of argument is also present in historical accounts of traditional knowledge that point to its description and co-optation by colonial scientists (Grove, 1996, p. 480; Tilley, 2011, p. 11).

knowledge (Escobar, 2011). Rostow's (2008) relentless plea for the modernization of "pre-Newtonian societies" serves as a telling example of how other knowledges were meant to be left behind in the pursuit of economic growth. The imperative of modernization coincides with the emergence of an incipient international normative framework for "indigenous and tribal populations" that were up until then referred to as "primitive" or "backward". In 1957, the International Labor Organization (ILO) adopted Convention 107 concerning the Protection and Integration of Indigenous and Other Tribal and Semi-Tribal Populations in Independent Countries (ILO, 1957). The convention set out a normative framework for the "integration" of indigenous and tribal populations into national communities, with a focus on their labor and working conditions (Niezen, 2003, p. 38).

In spite of modernization ideology, notions of indigenous knowledge cling to UNESCO's subsequent environmental initiatives. These initiatives were being introduced against the backdrop of the Cold War and decolonization, on one side and the formation of an environmental movement beckoning cultural transformations in the 1960s, on the other (Fischer & Hajer, 1999; Jamison, 2001). By this time, ecology was taking its first steps towards "big science" with the launch of the International Biological Program in 1964 and UNESCO's Conference on the Rational Use and Conservation of the Resources of the Biosphere, also known as the "Biosphere Conference", in 1968 (Warde et al., 2018, p. 136). The Biosphere Conference, in specific, brought new ecological ideas to the fore, highlighting the role of "man" (i.e. humans) in the use and conservation of the biosphere. In the conference proceedings, one specific paper on the management of natural vegetation, drafted by Heinz Ellenberg and Jean Lebrun, underscored the importance of indigenous knowledge, albeit not using the specific term. The paper states that "[i]n widely differing forms, with countless local or traditional variations, nomadic agriculture reflects an undeniable *sum total of pragmatic knowledge* and a *true philosophical approach to the facts of nature*" (UNESCO, 1970, pp. 107; emphasis added).

Jean Lebrun, the presumable author of this passage, was a colonial agronomist and botanist who had worked in the Belgian Congo under the auspices of the Institute of the National Parks of Belgian Congo led by Jean-Paul Harroy (De Sloover, 1986, p. 6). Not surprisingly, Lebrun's characterization of traditional nomadic knowledge as pragmatic and philosophical echoes Harroy's description of an age-old empirical and adaptive knowledge. The utilitarian and adaptationist theme is identifiable by the use of the term "pragmatic knowledge". The analogy with science is further specified by the reference to the "facts of nature" which suggests that traditional ways of knowing are, very much like science, capable of establishing facts. The follow-up of the Biosphere Conference was the launch of the Man and the Biosphere Program in 1971,

which was at first conceived as a successor of the International Biological Program. The program, which is still ongoing, focuses on the establishment of biosphere reserves across the globe and includes a component of indigenous knowledge in its work (Hadley & Schreckenberg, 1995).

### 3.2.2 *The Stockholm conference or the conspicuous absence of indigenous knowledge*

The United Nations Conference on the Human Environment (UNCHE), also known as the “Stockholm conference”, was a turning point in the nascent international environmental regime not least because it led to the creation of the United Nations Environment Program (UNEP). In its quest to reconcile environment and development, Stockholm became a crucible of novel ideas under the banner of “ecodevelopment” (Macekura, 2015, pp. 223–226). The guiding ideology of the conference is found in the background report *Only One Earth: The Care and Maintenance of a Small Planet* (Ward & Dubos, 1972), which was commissioned by UNCHE’s secretary general Maurice Strong. The report, which has been described as the “conference bible” (Selcer, 2018, p. 201), was officially prepared with the assistance of a committee of 152 corresponding consultants in 58 countries. However, *Only One Earth* largely reflects the positions of its two masterminds: the political economist and public intellectual Barbara Ward (Baroness Jackson) and the American biologist René Dubos, one of the key figures of UNESCO’s Biosphere Conference.

*Only One Earth* makes reference to traditional knowledge when it discusses modern science and technology. In a section that concerns itself with “the problems of high technology”, the report discusses traditional farming in the following terms:

Traditional farming methods were not unscientific. Indeed, they were based upon one of science’s most powerful tools – experimentation, which, in this case is simply called experience. But there is a limit to productivity by traditional farming... Just as the Neolithic farmer very greatly increased the soil’s productivity by moving from the gathering of wild grain to the growing of cultivated seed, so today, the scientific revolution is making possible another leap upward in output. (Ward & Dubos, 1972, pp. 65; emphasis added)

In this excerpt, traditional knowledge, in the form of “traditional farming methods”, is understood as akin to science because it relies on science’s “most powerful tool”, namely experimentation. To make this claim, the authors equate experimentation with experience. However, this blurring of epistemic boundaries is immediately followed by a caveat that introduces an abrupt distinction between traditional knowledge and science. Scientific – as opposed to traditional – farming guarantees more productivity. By an analogy to the transition from hunting and gathering to agriculture, this passage situates traditional knowledge in the



past. This seems to leave no space for traditional knowledge in modern societies. However, another passage in the report refutes this point as it considers the importance of traditional or local knowledge – here variously referred to as “traditional wisdom”, “practical farming” and “local inventiveness”:

... this framework of expertise needs to be profoundly rooted in the environmental realities of local soils, climates and plant varieties and take into account all the traditional wisdom that practical farming has developed over the millennia... It is the combination of modern science with local inventiveness and local responsibility that is ultimately at the core of the only really effective and sustainable ecological balance. (Ward & Dubos, 1972, p. 169)

Here, the ancient and local properties of traditional knowledge are understood as its epistemological and policy assets. Traditional and local forms of knowledge cannot be excluded from the governing of a highly technological world facing the threat of environmental crisis. In another instantiation of the utilitarian theme, the term “wisdom” is immediately followed by the term “practical”, which recalls Lebrun’s juxtaposition of a “pragmatic knowledge” and a “philosophical approach”. Understood in this way, knowledge cuts through the dichotomies of not only the traditional and modern but also the local and global. It achieves this by virtue of its affinities to science, which endow it with epistemic validity and its distance from it, which makes it context sensitive. It is in this affinity but not equivalence to science that traditional knowledge carves out its space in environmental governance. This is why the report advocates for the combination of “modern science” and “local inventiveness”, presaging contemporary ideas of the co-production of knowledge (cf. Bremer & Meisch, 2017; Miller & Wyborn, 2020).

However, the insights of *Only One Earth* with regard to traditional knowledge did not materialize in the Stockholm Declaration on the Human Environment. The declaration does not contain a single reference to traditional knowledge. It condemns colonial and other forms of oppression in Principle 1 and reaffirms state control over natural resources in Principle 17. When it comes to science and technology, the declaration emphasizes its application to environmental issues, as part of their role in social and economic development (Principle 18). In this line, the declaration calls for technology transfer in favor of developing countries (Principle 20). Only one vague allusion to traditional knowledge is found in one of the outcome documents of Stockholm, namely the Action Plan for the Human Environment that collects 109 recommendations for environmental action. Recommendation 43 reproduces colonial and modernization discourses,

as it refers to the conservation of “primitive varieties of traditional *pre-scientific* agriculture” in genetic crop resources<sup>17</sup> (UN, 1973: 14; emphasis added).

Third Worldism and decolonization figured prominently throughout the conference and led to the establishment of UNEP’s headquarters in Nairobi, among other things. However, Third Worldism did not imply an alignment with the plight of what ILO Convention 107 called indigenous and tribal populations – those who would eventually claim traditional knowledge. A telling illustration of this is found in the closing plenary speech of one of the key figures of the Stockholm conference, Indian Prime Minister Indira Gandhi, in which she famously decried the “pollution of poverty”. In her speech, Gandhi recalls:

The vociferous demand of elder tribal chiefs that their customs should be left undisturbed found support from noted anthropologists... I was amongst those who entirely approved. However, a visit to a remote part of our north-east frontier brought me in touch with a different point of view – the protest of the younger elements that while the rest of India was on the way to modernization, they were being preserved as museum pieces. Could we not say the same to the affluent nations? (Gandhi, 1992, pp. 11–12).

Gandhi draws an analogy between the modernization of tribal groups and the modernization of the Third World. Indigenous and tribal peoples, precisely those who were celebrated by Ward and Dubos for their traditional wisdom and local inventiveness, found themselves relegated to the sidelines of economic and national modernization.

However, outside of the Stockholm conference, a plethora of environmental idea(l)s were being aired in parallel forums and alternative events. The practice of holding parallel events was a major innovation of the Stockholm conference. These were attended by activists and prominent public intellectuals, including Margaret Mead, Barbara Ward, Barry Commoner, Paul Ehrlich, Samir Amin and Josué de Castro. While the UN-sponsored Environment Forum was the official parallel NGO conference, other alternative civil society initiatives sprung up: the Dai Dong, an ad hoc group of scientists convened through the Christian International Fellowship for Reconciliation; the People’s (Folkets) Forum, an event organized by the Swedish environmental group Pow Wow; and the Hog Farm, a counterculture “festival of life” spearheaded by the hippie icon Stewart Brand. These parallel conferences brought to light the cleavage between “insider” and “outsider” NGOs. On the one hand, insider NGOs, such as the IUCN and the International

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<sup>17</sup> The allusion, nevertheless, anticipates an upsurge of global interests in plant genetic resources and traditional knowledge in the ensuing years (cf. Raustiala & Victor, 2004).

Council of Scientific Unions, took part in preparatory committees and provided advice on agenda items. On the other hand, outsider NGOs, the newcomers, took a more assertive political stance, often in opposition to UNCHE. As Feraru (1974, p. 49) recounts, the mediation of Margaret Mead and Barbara Ward was detrimental to avoid a breach between these factions and facilitated the production of a joint statement on behalf of 170 NGOs.

Other alternative NGO statements were adopted by the Dai Dong and the Oi International Committee. The latter was an international group of young scientists and scholars coming mostly from developing countries and advancing a critical version of Third Worldism. The name reflects the group's inspiration in non-western cultures, as it was taken from the initial letters of a Swahili proverb, "Ote iwappo", meaning "all that is, must be considered" (UNESCO, 1973, p. 3). One of the key figures of the Oi committee was Taghi Farvar, an Iranian doctoral student of Barry Commoner, who was engaged in the critique of development and the imposition of "careless technology" (Farvar & Milton, 1972). As a member of an indigenous tribe of nomadic pastoralists, Farvar would later become an indigenous leader and a relentless advocate of traditional knowledge. The Oi declaration reflects some of these positions in an incipient manner.

A humane technology for the Third World must necessarily come out of the incentives of the people themselves. This can only happen after a far-reaching social revolution has achieved the goal of total participation by the masses. The new technology must also reinforce many already existing ones such as traditional farming and medical techniques; it must direct innovation in accordance with human needs and environmental imperatives.

We reject the concept of "neutrality of science and education". They can be used to enslave man or to liberate him. (Oi Committee International, 1972, n.p.)

The Oi committee puts forth a radical way of defending what Ward and Dubos call "local inventiveness". Once again, there is recognition of the importance of traditional farming. What makes this statement more radical is its link to social revolution and straightforward critique of the neutrality of science. The Oi committee was not alone in its critique of top-down technologies. This would be part of a movement in the 1970s, variously called "intermediate technology", "alternative technology" or "appropriate technology", which had been successful in entering international policy but was diverted from its original intentions in the process (Macekura, 2015, p. 138).

The Oi declaration aligns itself with the incipient indigenous movement as it condemns the "double oppression" of those who suffer not only from economic, but also ethnic, cultural and

racial exploitation. It references the Declaration of Barbados from 1971, which was the outcome document of the Symposium on Interethnic Friction in South America organized by the World Council of Churches and an international group of secular anthropologists, who were among the first to advocate for the “liberation of the Indians” (“The Declaration of Barbados,” 1973). The Oi committee further expresses its solidarity with “the Indians of North and South America” in their “struggles to retain their cultural identity and to defend their right to exist” (Oi Committee International, 1972, n.p.).

Beyond the Oi committee, another group sympathizing with the struggles of Indians came from the counter-culture movement and its alliance with the Red Power movement in the United States (S. L. Smith, 2012). In Stockholm, this group gathered in the so-called Hog Farm, a tent city that was put up in an abandoned airport on the outskirts of the city. The counter-culture icon, Stewart Brand, founder of the Whole Earth Catalog, was one of its key figures. In this space, indigenous issues were brought to the world mainly through the Black Mesa Defense Fund, which was a campaign against coal mining in the Black Mesa plateau in Arizona, an area that overlapped with the Indian reservations of Navajo and Hopi tribes. This issue was brought to the fore by Jack Loeffler, an acolyte of Stewart Brand and Black Mesa activist, who attended the conference “along with four Hopis and two Navajos” (S. L. Smith, 2012, p. 142). However, the Black Mesa Defense campaign did not make claims to traditional knowledge. The issue was put in terms of spirituality and not of (usable) knowledge. In the announcement of the event, it is said that “Peabody Coal Company dismisses the sacredness of Black Mesa as the superstition of a few old people – for who could prefer a mountain to money?” (Black Mesa Defense, 1972, n.p.).

Black Mesa was just the shadow of a transnational indigenous movement in the making. The 1970s were marked by an NGO explosion with a focus on social transformation (Sikkink & Smith, 2002, p. 26). Some of these international NGOs were pro-indigenous organizations. Survival International was founded in 1969 as the Primitive People’s Fund and became one of the first pro-indigenous NGOs along with the International Work Group on Indigenous Affairs (1968) and Cultural Survival (1972). For their part, indigenous peoples were moving towards self-organization in an ever-expanding transnational network. The World Council of Indigenous Peoples was created in 1974 under the leadership of the historical indigenous leader George Manuel. In the same year, the International Indian Treaty Council was founded. This organization was pivotal in the preparation of the 1977 International NGO Conference on Discrimination against Indigenous Populations in the Americas, which was attended by more than 100 indigenous delegates and participants (International Indian Treaty Council, 1977, p. 1). A second

International NGO Conference on Indigenous Peoples and the Land was held in 1981<sup>18</sup>. In the following year, these conferences led to the creation of the UN Working Group on Indigenous Populations, the first milestone of indigenous governance within the UN.

The transnational rights-based indigenous movement would eventually forge a global identity (Bennani, 2017; Niezen, 2003). In this move, indigenous peoples turned away from Third Worldism and national liberation to denounce colonization and vindicate themselves as the Fourth World (Manuel, 2019). It is telling that the key documents of Third Worldism, the Charter of Economic Rights and Duties of States and the Declaration on the Establishment of a New International Economic Order, both from 1974, speak of “indigenous technology”. However, the term “indigenous” is used in the sense of national or domestic and appears as an imperative of transfer of technology from developed to developing states. In the course of the 1980s and the 1990s, the label “indigenous” would be stripped from these national connotations to become the self-identification marker of those who were previously known as primitive or backward.

### 3.3 Global recognition and the advent of the knowledge holders

#### 3.3.1 *Paving the way for Rio: sustainable development encounters traditional knowledge*

IUCN’s *World Conservation Strategy* (henceforth the Strategy) from 1980 was the first systematic report on global environmental degradation and, more importantly for our purposes, the first to feature a specific section on “traditional knowledge” and its link to sustainable development. It is no coincidence that the IUCN spearheaded the recognition of traditional knowledge in international bodies. In the period following Stockholm, IUCN’s somewhat inchoate ideas about traditional forms of knowledge, as expressed by its first secretary general Jean-Paul Harroy, took a concrete form and linked to an emerging transnational indigenous movement under the leadership of prominent American ecologist Raymond Dasmann. As senior ecologist and head of research, Dasmann drew attention to indigenous peoples in IUCN’s agenda from the mid-1970s. He referred to these as “ecosystem people”, that is, people who are attuned to their ecosystem, as opposed to what he called the “biosphere people” or modern

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<sup>18</sup> The conference received the input of five international indigenous groups: the International Indian Treaty Council; World Council of Indigenous Peoples; South American Indian Council; the Australian National Conference of Aborigines; the Indian Law Resource Center; and the Inuit Circumpolar Conference.

societies inflicting damage to the biosphere<sup>19</sup>. In 1975, the IUCN general assembly in Kinshasa adopted a resolution stressing the role of indigenous peoples and their traditional knowledge in “conservation for development”, which became the new guiding principle of the organization (Holdgate, 1999; McCormick, 1986).

The Strategy was, in the words of one of IUCN former secretary-generals, “not only IUCN's most important product in the late 1970s, but possibly its most important single contribution in the whole of its history” (Holdgate, 1999, p. 149). The document was prepared by Robert Prescott-Allen under the guidance of the then secretary-general David Munro. Its preparation counted with the sponsorship of WWF and UNEP, as well as the collaboration of the Food and Agriculture Organization (FAO) and UNESCO. The main thrust of the report foregrounds the reconciliation between development and conservation through “sustainable development” – a novel term to designate what was up until then called “ecodevelopment”. The final report was the outcome of a series of workshops and committees, as well as several reviewing rounds in which IUCN drafts were commented by members of WWF, UNEP, FAO and UNESCO (Holdgate, 1999, pp. 149–155). It was, in this sense, an interinstitutional endeavor of a network of international bodies to solve tensions between conservation and development agendas.

In addressing sustainable development, the strategy introduces the term “traditional knowledge” in a subsection on “conservation-based rural development”. The following excerpts grasp its main contentions:

Rural communities often have profound and detailed knowledge of the ecosystems and species with which they are in contact and effective ways of ensuring they are used sustainably.

Many traditional methods of living resource management are worth retaining or reviving, either in their original or in modified forms. For example, field experiments with traditional cropping systems in various parts of the world have demonstrated that many of these systems bring high yields, conserve nutrients and moisture and suppress pests (IUCN, 1980, sec. 14.11)

Here traditional knowledge is endowed with a specific utilitarian purpose, namely the sustainable use or management of natural resources. In assigning a utilitarian value to traditional knowledge the description turns it into a form of usable knowledge that is amenable to interventions (either “retaining” or “reviving” it) that do not preclude its modification. This

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<sup>19</sup> These ideas were first presented at a Cambridge symposium organized by the renowned British anthropologist Sir Edmund Leach “in the hope of bringing ecological and anthropological viewpoints together” (De Bont, 2015: 232).

means that it might be used for conservation purposes and, with that in mind, manipulated in such a way that it fits the functions that it has been assigned to. Rural or traditional communities are understood to be the knowing subjects. However, the very autonomy of knowledge holders disappears in the assertion that it is possible to manipulate traditional knowledge for the purposes of conservation.

Another key point of the Strategy is that traditional knowledge is seen as an attribute of rural communities and not of indigenous peoples. This omission contrasts with IUCN's previous commitment with indigenous issues. One plausible explanation is that Raymond Dasmann left the organization before the main drafting of the report began. The Strategy's utilitarian approach to traditional knowledge also contrasts with Dasmann's notion of ecological people. In any case, IUCN would continue to forge a field of research on traditional knowledge through the establishment of a working group on Traditional Ecological Knowledge in 1984. One of the research outputs of the working group was a collection of essays published in 1989, which was intended to "encourage dialogue between ecologists and anthropologists and broaden the realization among researchers that traditional knowledge has a major contribution to make to the development of modern environmental science" (Briand, 1989, p. 3).

IUCN's *World Conservation Strategy* and its notion of "sustainable development" were widely diffused and influenced future developments in conservation policy (Macekura, 2015, pp. 243–244). However, it was not until 1987 when a new report commissioned by the UN General Assembly came out, that "sustainable development" would gain the global significance that it maintains to the present day. The report *Our Common Future*, also known as the "Brundtland report", was prepared by the World Commission on Environment and Development under the chairmanship of Gro Harlem Brundtland. The commissioners behind the report came from twenty-two different countries and all of them had either political or academic backgrounds (Borowy, 2013, p. 59). Beyond the expertise of the commissioners, a core feature of the Brundtland report was that its preparation included a series of public hearings that collected testimonies from civil society around the world. As Borowy (2013, p. 69) notes, in the preparation of the report "[t]he visits to selected sites tied theoretical considerations of economic and scientific issues to the physical world, to real trees, real water, real pollution, real deserts and real people. The public hearing focused on those people". The innovative practice of holding public hearings was arguably the key difference in the making of the Strategy and the Brundtland report, as well as the main reason why the latter could forge a new approach to traditional or indigenous knowledge.

Excerpts of the public hearings are interspersed in the main text of the Brundtland report. Two public hearings, one in Sao Paulo in 1985 and one in Ottawa in 1986, let the voices of indigenous peoples in. These public hearings reveal in which countries the indigenous movement was gaining ground, not least because the list of participants to the hearings reflects, to some degree, a compromise between the Brundtland commission and local authorities (Borowy, 2013, p. 69). The indigenous peoples that spoke in Ottawa and Sao Paulo were part of a wider transnational indigenous movement that was in the process of forging a global identity (Niezen, 2003). In an incipient manner, indigenous peoples were already articulating claims to knowledge that both drew upon and challenged extant notions of traditional knowledge. At the public hearing in Ottawa in May 1986, Louis “Smokey” Bruyère, president of the Native Council of Canada, claimed the following:

Indigenous peoples are the base of what I guess could be called the environmental security system. We are the gate-keepers of success or failure to husband our resources. For many of us, however, the last few centuries have meant a major loss of control over our lands and waters. We are still the first to know about changes in the environment, but we are now the last to be asked or consulted. (WCED, 1987, pp. 69; emphasis added)

Bruyère’s claim to knowledge is different from previous accounts of indigenous or traditional knowledge in so far as it foregrounds the political demands of indigenous peoples. The plea of Bruyère stresses the role of indigenous peoples in governing the “environmental security system”, in a way that echoes ecological ideas. More importantly, the knowledge of indigenous peoples is thought to be inseparable from political rights, namely the right to be consulted. To some extent, this testimony resonates with Dasmann’s ideas about indigenous peoples as “ecological people”. However, it connects this narrative with the ongoing struggles of the indigenous movement. These grievances stand out in two additional testimonies from indigenous peoples that were included in the main text of the Brundtland report. In Ottawa, the Inuit Indian Rhoda Inuksu condemned animal rights laws that impinge on indigenous livelihoods in the Arctic (WCED, 1987, p. 278); whereas in Sao Paulo the coordinator of the Brazilian Union of Indian Nations, Ailton Krenak, denounced the forced displacement of the Krenak people from their traditional lands (WCED, 1987, p. 118).

The Brundtland report draws on these public hearings and establishes the connection between the plight of indigenous peoples and the knowledge of their environments in these terms:

Tribal and indigenous peoples will need special attention as the forces of economic development disrupt their traditional life-styles – life-styles that can offer modern societies many lessons in



the management of resources in complex forest, mountain and dryland ecosystems. (WCED, 1987, pp. 27–28)

These communities are the repositories of vast accumulations of traditional knowledge and experience that links humanity with its ancient origins. Their disappearance is a loss for the larger society, which could learn a great deal from their traditional skills in sustainably managing very complex ecological systems. (WCED, 1987, p. 119)

In these lines, the Brundtland report puts forth an understanding of traditional knowledge that takes into consideration what the people who possess that knowledge have to say. Each statement on the use of traditional knowledge for managing the environment is preceded by a statement that draws on the grievances of indigenous peoples in the face of “economic development”. In other words, these passages link the plight of indigenous peoples, facing the effects of development policies, to the utilitarian theme of traditional knowledge as usable for managing resources in “complex ecosystems”.

The World Conservation Strategy and the Brundtland report embraced the category of traditional knowledge and brought it to sustainable development. However, the way in which each of them approaches the issue is different because of the way in which they engage those who may legitimately claim to be the holders of that knowledge. In the case of the IUCN report, the process of elaboration was confined to the expertise of international bodies. This resulted in a highly utilitarian approach to traditional knowledge that left no space for the voices of indigenous peoples, peasants or other local communities. By contrast, the Brundtland report opened up an institutional channel for indigenous peoples to claim that knowledge for themselves, drawing on their own experiences of struggle against development and even some environmental policies. Building on these testimonies, the Brundtland commission articulates an alternative discourse on traditional knowledge that takes into account the lives and livelihoods of those who possess that knowledge.

### *3.3.2 The Earth Summit and the global recognition of epistemic diversity*

The 1992 UN Conference on Environment and Development or “Earth Summit”, marked a watershed in the global recognition of epistemic diversity. In one sense, the Earth Summit succeeded in turning the Brundtland report into international environmental accords post-Stockholm. The conference resulted in the adoption of three intergovernmental agreements – the Rio Declaration, Agenda 21 and the Forest Principles – along with two international conventions that were negotiated in separate processes, namely the United Nations Framework Convention on Climate Change (UNFCCC) and the Convention on Biological Diversity (CBD). All

of these, except for the UNFCCC, reference traditional knowledge or, alternatively, local and indigenous knowledge. While the Rio Declaration and Agenda 21 link traditional knowledge to a broad sustainable development agenda, the Forest Principles and the biodiversity convention include it in specific policy domains. More importantly, the biodiversity convention became the first international legal instrument to enshrine the knowledge of indigenous peoples and local communities.

Agenda 21, a lengthy action plan for sustainable development, mentions traditional knowledge in several subsections, where this is linked to specific policy areas including biotechnology, human health and conservation as well as the management of fragile ecosystems. The agenda devotes chapter 26 to indigenous peoples and stresses the significance of their knowledge: "Indigenous people and their communities represent a significant percentage of the global population. They have developed over many generations a holistic traditional scientific knowledge of their lands, natural resources and environment" (United Nations, 1993a, sec. 26.1). This is the only document in which the knowledge of indigenous peoples is also labelled as scientific. The lengthy and cumbersome formula "holistic traditional scientific knowledge" signals a political will to integrate all relevant descriptions of traditional knowledge as claimed by indigenous peoples and pro-indigenous activists before and during the Earth Summit. The apparent oxymoron in the formula "traditional scientific" actually reformulates previous boundary blurring intervention, whereby key methods of science were attributed to traditional knowledge.

In the Earth Summit accords, as in the Brundtland report, the knowledge of indigenous peoples and local communities is not only seen as a valuable resource, but also as something that requires legal protection. Principle 22 of the Rio Declaration acknowledges the importance of traditional knowledge and practices in environmental and development policies and links it to the states' responsibility to protect the rights of indigenous peoples and local communities. In a similar vein, the Forest principles, which were adopted following the failed negotiations for a treaty on global forests, state the following: "Appropriate indigenous capacity and local knowledge regarding the conservation and sustainable development of forests should [...] be recognized, respected, recorded, developed and, as appropriate, introduced in the implementation of programmes" (United Nations, 1993b, sec. 12.d).

These nonbinding declarations had the effect of mainstreaming the notion of traditional knowledge in development and environment agendas. In this process, epistemic diversity acquired visibility and recognition in the form of a loose set of categories of knowledge and

knowledge holders, namely indigenous peoples and local communities. Beyond the principles and declarations of the Earth Summit, legally binding provisions relating to epistemic diversity were also adopted. The failure in adopting an international treaty on global forests and the indifference of climate change negotiations left the biodiversity convention process as the main arena to negotiate legal provisions for traditional knowledge and its “knowledge holders”.

The CBD built upon the work on biodiversity (and traditional knowledge) that had been developed within the IUCN and other international bodies including WWF and the World Resources Institute. The IUCN, in specific, produced the first drafts of a biodiversity convention that would at a later stage feed into the CBD negotiations, which were organized by UNEP. In analyzing the input of IUCN, Raustiala conceptualizes this as an epistemic community, albeit only with moderate influence (1997, p. 496).

The negotiations revolved around thorny issues including not only the conservation of biological diversity and its use, but also the equitable sharing of the benefits obtained from its genetic resources. This latter issue bore upon the economic interests of states and exacerbated North-South disputes. As Raustiala and Victor note, “[b]y the 1990s, governments viewed raw PGR [plant genetic resources] as a sovereign resource rather than as common heritage” (2004, p. 282). Carneiro da Cunha further remarks, from a regional perspective, that this led to an ideological move intended to realign “indigenous societies with Latin-American nationalisms” (2009, p. 30). However, these tensions did not avert the successful completion of negotiations in the lead-up to the Earth Summit.

The CBD was adopted at the Earth Summit and became the first international treaty to recognize the knowledge (as well as innovations and practices) of indigenous peoples and local communities in a rights-based approach that favors benefit-sharing. Article 8(j) of the CBD enshrines these as follows:

Each contracting Party shall, as far as possible and as appropriate:

Subject to national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices. (Convention on Biological Diversity, 1992, p. 8.j)

The CBD establishes a legal framework in which knowledge is defined by the collective actors who hold it. These are defined as “indigenous and local communities embodying traditional

lifestyles". On the one hand, the term indigenous "peoples" is omitted and replaced by "communities" to avert claims that would impinge on the states' sovereign rights over their biological resources. On the other hand, local communities are included to encompass those groups that are not recognized or do not identify themselves as indigenous peoples. Also noteworthy is the fact that Article 8(j) "speaks about 'holders', not 'proprietors', of traditional knowledge" (da Cunha, 2009, p. 9). This led to the formation of the category of "traditional knowledge holders" which assigns a knowledge-based role to indigenous peoples and local communities in biodiversity governance and beyond. Some authors have suggested, in this line of argument, that as a consequence indigenous identity became a knowledge-based identity (Brysk, 2000; B. A. Conklin, 2002; Muehlebach, 2008).

The category of knowledge holders is at the same time a boundary of difference vis-à-vis scientists and experts, conventionally understood. As Jasanoff and Martello rightly point out,

It is no accident that the discourse of contemporary environmentalism refers to "holders" of indigenous or local knowledge; lacking formal training, such holders are by definition not considered experts, even if the knowledge they bear is occasionally deemed valuable for management purposes. (2004a, p. 344)

It follows that knowledge holders conform a transnational community that is distinct from what is conventionally understood as an epistemic community – a concept that is conventionally designates scientific or expert communities. Whereas scientists make claims to value-neutrality and independence vis-à-vis politics, the figure of knowledge holders, especially indigenous knowledge holders, is inextricably linked to a political struggle for the recognition of epistemic diversity.

The CBD negotiations and their outcome at the Earth Summit took place amid an increasing transnational mobilization on the part of indigenous peoples and pro-indigenous activists and advocacy groups. Indigenous demands in the field of biodiversity were supported and substantiated by the International Society of Ethnobiology (ISE) which was created in 1988 under the auspices of the ethnobiologist and pro-indigenous advocate Darrell Posey. The ISE, in turn, established the Global Coalition for Bio-Cultural Diversity in 1990, based on the idea that biological and cultural diversity are inextricably linked. Its main mission was to "unite indigenous peoples, scientific organizations and environmental groups to implement a forceful strategy for the use of traditional knowledge" (Posey & Dutfield, 1996, p. xi). Posey was a key figure in fulfilling this mission bridging northern and southern academic circles and NGOs (Dumoulin, 2003). During the Earth Summit, Darell Posey, as head of ISE and its global coalition, was the

main organizer of the Earth Parliament – the main parallel forum bringing together indigenous peoples and local communities. The event was successful in positioning the concept of biocultural diversity as a way of reintroducing the question of culture in the discussions on biological diversity.

The main input from indigenous peoples organizations was the product of another parallel event, the World Conference of Indigenous Peoples on Territory, Environment and Development held in May 1992 at Kari’Oca, a village in the outskirts of Rio de Janeiro. The outcomes of the so-called “Intertribal Committee” gathering around 650 indigenous representatives from around the world (Drache, 2002) were the Kari’Oca Declaration (1992) and the Indigenous Peoples Earth Charter (1992), perhaps the first global indigenous declarations focusing on the environment. The Kari’Oca Declaration was officially presented in an plenary session of the Earth Summit by the Brazilian indigenous leader, Marcos Terena, marking another turning point in the participation of indigenous peoples in global environmental conferences.

The main claims to indigenous knowledge are found in the Indigenous Peoples Earth Charter. The charter asserts that “traditional knowledge has enabled Indigenous Peoples to survive” (Point 98), echoing a fundamental argument in the utilitarian and adaptationist explanations of ethnoscience. With regard to biodiversity conservation, one of the central concerns for indigenous peoples, the charter puts forth a caveat: “We value the efforts of protection of the biodiversity but we reject to be included as part of an inert diversity which pretends to be maintained for scientific and folkloric purposes” (Point 59). This caveat is further elaborated by the claim that “[t]raditions cannot be separated from land, territory or science” (Point 97). What indigenous peoples were demanding was a holistic approach to biodiversity by fully integrating the view of *biocultural* diversity. In the last section, indigenous peoples call on the UN to further the inclusion of indigenous knowledge: “The United Nations should promote research into Indigenous knowledge and develop a network of *Indigenous sciences*” (Point 109). The term “science” is more or less consistently used to describe the knowledge of indigenous peoples.

What the Kari’Oca Declaration and the Indigenous Peoples Earth Charter show is how the indigenous movement set out to (re)appropriate a discourse on their knowledge that, up until then, was mainly claimed on their behalf without them being present in the global fora of environmental governance. In doing this, indigenous peoples began to occupy a discursive space that was opened up by the boundary blurring interventions of public scientists and mega reports on the global environment. This re-appropriation itself was a collective endeavor involving the participation of scientists and pro-indigenous activists. In contrast to the purely academic

notions of ethnoscience, indigenous claims link this back to the context in which this knowledge was produced, stressing its political and ethical dimensions. This runs counter to utilitarian and adaptationist approaches which tend to decouple indigenous knowledge from its social and political context, transforming it into usable knowledge or even a commodity, as the genetic resources debate illustrates.

The practice of organizing parallel conferences and alternative events was key for indigenous peoples organizations to make their claims in the Earth Summit. The origins of this practice are found in the Stockholm conference of 1972. However, whereas indigenous peoples organizations were virtually absent in Stockholm, they were numerous and well organized in Rio de Janeiro. In a manner analogous to the public hearings of the Brundtland report, the parallel conferences of indigenous peoples were a channel to reach out to the “international community”. A key difference, however, is that public hearings were part of the preparation of a report with a disperse collection of testimonies of indigenous peoples around the world, while parallel summits were the product of the own initiative of indigenous peoples organizations and, therefore, were part of an endeavor to forge a transnational community at the fringes of an intergovernmental process.

### 3.4 Ordering epistemic diversity

The historical trajectory that the present chapter follows reveals that ordering epistemic diversity was a fundamental process in the making of global environmental governance; a process that remains invisible, however, in reductive historical accounts focusing on the transnational organization of scientific and expert knowledge. *Ordering* here is taken to mean the transformation of a multiplicity of claims to knowledge into official categories of epistemic difference. I trace the recognition of official categories of epistemic difference as these emerge from the blurring of boundaries between science and nonscience. Blurring the “boundaries of science” made it possible to see the intellectual activities of the Other not as ignorance, myth or superstition, but as a culturally specific form of knowledge that is, at once, akin to science (e.g. as empirical and experimental) and different from it (e.g. as practical, adaptive, inter-generational or experiential). The attributes of these “other” forms of knowledge and the attribution of these to “knowledge holders” mark the contentious interactions that undergird the recognition of epistemic diversity.

The historical analysis reveals that, at the outset, the encounter with epistemic diversity was reminiscent of a colonial encounter where global scientific and political elites would decide

whose knowledge matters. The intellectual and political discussions about the knowledge of “primitive” peoples, small peasants, rural communities, and other groups took place in the absence of these diverse peoples, that is, without the intervention of those who were thought to be the knowledge holders. It is within the confines of a small constellation of international bodies, including most notably UNESCO, IUCN and the Brundtland Commission, that epistemic diversity was thought of as a valuable resource for governing the global environment.

The analysis shows that the categorization of other kinds of knowledge changed as knowledge holders were finally able to (re)claim their own knowledge. In particular, the intervention of knowledge holders is clear in the changing practices to define the attributes of a particular kind of knowledge and its attribution to knowing subjects. Whereas intergovernmental agreements and landmark environmental reports highlight the utilitarian and adaptive dimensions of traditional knowledge as its defining attributes, the claims of indigenous peoples – i.e. the knowledge holders – advance a holistic understanding of knowledge as part of wider political and ecological struggles that lies at the heart of indigenous politics. In a way, this struggle embodies what Ian Hacking calls “resistance by the known to the knowers” (2007, p. 306). Indigenous peoples were not the passive receivers of knowledge attributions anymore, but rather they were actively claiming their own knowledge. These claims would gradually enter the official discourse of global organizations as a result of the transnational mobilization of indigenous peoples to gain visibility and recognition in global politics through institutional and extra-institutional channels.

A bundle of practices was key in bringing the knowledge holders to these governance processes. The practice of holding public hearings was crucial to render indigenous peoples visible in the Brundtland report. This was a major innovation in comparison to previous landmark reports that were prepared within the confines of scientific and expert circles. Likewise, the practice of holding parallel events or alternative summits at intergovernmental conferences was of pivotal importance to channel demands into international policy circles. In this respect, the Stockholm conference and the Earth Summit appear historically as groundbreaking experiences of civil society participation in intergovernmental negotiations. Indigenous peoples were the main transnational community claiming their own knowledge when they were allowed to speak in public hearings or parallel events, as well as in official intergovernmental negotiations.

The Earth Summit marks a turning point in the recognition of epistemic diversity in global environmental governance through the enshrinement of official categories of epistemic difference in intergovernmental declarations and agreements. These categories designate

various forms of “knowledge with adjectives”. In this process we see the incommensurable plurality of culturally specific ways of knowing condensing in a cluster of categories of knowledge, the most prominent adjectives or markers of difference being the following: “traditional”, “local” and “indigenous”. Crucially, the recognition of epistemic diversity led to the attendant recognition of the figure of the “knowledge holder” which, in contrast to conventional scientific or expert groups, designates diverse groups including most prominently indigenous peoples and local communities.

Whereas the involvement of indigenous peoples in intergovernmental negotiations was historically seen through the lenses of advocacy or activism, their status would acquire an epistemic dimension that brought them closer to scientific or expert communities. The epistemic status of knowledge holders, in conjunction with the legal status of rights holders, would become the cornerstone of indigenous claims to self-determination. Reclaiming the status of knowledge holders – and rights-holders – became a key feature of transnational indigenous mobilization in the aftermath of the Earth Summit.

In sum, the historical trajectory that I designate here as “pre-climate change” follows a process of diversification that lays the groundwork for future orderings of epistemic diversity across various fields of governance. The ordering of epistemic diversity in global environmental governance reveals historical specificities that would shape its recognition in the climate field. On the one hand, instead of an incommensurable multiplicity of culturally specific ways of knowing, we see these condensing in a loose set of categories of epistemic difference. On the other hand, there is the attribution of an epistemic status to indigenous peoples (and local communities) as the counterpart to scientists and experts in global environmental governance. This epistemic status undergirds a novel identity and elicits certain forms of agency by indigenous peoples, especially the capacity to legitimately make claims to knowledge in various fields of governance.



## 4 Diversifying global climate science and policy

Climate change stands out as an exception in the global recognition of epistemic diversity, which was largely an accomplishment of the Earth Summit in 1992. The UNFCCC and its Kyoto Protocol do not include any reference to traditional knowledge or cognate categories. The IPCC, for its part, would not make reference to traditional knowledge in an assessment report until 2001. The absence of epistemic diversity in climate change governance until the early 2000s is intriguing considering that all other issue areas that were part of the declarations and conventions of the Earth Summit did include a wide recognition of a plurality of ways of knowing, including in the fields of biodiversity, forests and sustainable development. However, it is equally intriguing that approximately a decade later climate science and policy came to embrace epistemic diversity in a manner analogous to the field of biodiversity, albeit with its own distinctiveness.

The present chapter analyzes these absences and emergences by following the trajectory of the organizations that lie at the heart of the global architecture of climate governance: the IPCC and the UNFCCC. These global organizations embody a division of labor between scientific and political elements of climate change. The IPCC provides the scientific basis for climate governance and the UNFCCC constitutes the negotiating body in which intergovernmental agreements come into being. In the following, I argue that the interplay between the scientific work of the IPCC and the negotiating process of the UNFCCC gave way to a global trajectory of change leading to the diversification of the knowledge basis of global climate governance.

The analytical focus of the present chapter points to changes in the discourses and practices of these global organizations, especially in the recognition and reinterpretation of pre-existing categories of epistemic difference, as well as in the changing status of indigenous peoples as knowledge holders. Changing discourses, on one side, are observable in the introduction of conceptual innovations (Ish-Shalom, 2021; Meadowcroft & Fiorino, 2017) to make sense of epistemic diversity in the field of climate change. Changing practices, on the other side, are discernible in the way in which the IPCC produces assessment reports, as well as in the political organization and mobilization of indigenous peoples in the negotiating process of the UNFCCC.

The chapter proceeds as follows. The first section (4.1) concerns itself with the issue of the absence of epistemic diversity in climate governance, by pointing at some elements of climate science and its politicization. The second section (4.2) analyzes the emergence of categories of epistemic difference in IPCC assessment reports, by focusing on the evolving idea of adaptation and co-production as conceptual innovations. The third section (4.3) analyzes the same process within the UNFCCC. With this purpose, I trace the references to traditional knowledge or akin terms in adaptation and mitigation decisions, and I delve into the process of inclusion of indigenous peoples in the UNFCCC. The final section (4.4) draws theoretical conclusions in relation to the re-ordering of epistemic diversity in the climate field.

#### 4.1 Climate exceptionalism

Climate change came into being as a governance object within scientific circles that were fundamentally distinct from those who brought about the idea of the global environment (Warde et al., 2018). Whereas the intellectual roots of “traditional knowledge” reach deep into the history of the global environment and sustainable development (see Chapter 3), in climate change epistemic diversity in respect of indigenous peoples and local communities was unheard of up until recently. Climate science or more precisely the disparate scientific fields that would converge to form climate science, did not concern themselves with the “human environment”, let alone cultural aspects of human-nature interactions:

The communities of scientists that started developing a language of environment, based in ecology, conservation, geography, resource economics and other fields, were quite distinct from the community of geophysical scientists. Even the single community united by the IGY [International Geophysical Year] was divided into geologists, meteorologists, atmospheric chemists and physicists, oceanographers, physical geographers, glaciologists and space scientists. Each of these groups had preferred lines of reasoning and different theories about changes in climate and their cause. It was also a community with very little interest in conservation and ecology and they had no expertise whatsoever in the workings of humans and societies. (Warde et al., 2018, pp. 107; emphasis added)

These disparate scientific communities are discernible in the emergence of “big science” in geophysics and biology. This traces back to the establishment of the International Geophysical Year (IGY) in 1957, on the one hand, and the attempt to emulate this endeavor in biology, albeit with limited success, with the creation of the International Biological Program (IBP) in 1964, on the other hand (Aronova et al., 2010). The plethora of scientific fields that came together in

these international scientific programs were producing different objects of knowledge. Climate science, in specific, came about through the convergence of meteorology, atmospheric physics and oceanography (P. N. Edwards, 2010; Hart & Victor, 1993; Weart, 2003).

Beyond the IGY, US military patronage was key in providing political steering for the geophysical sciences that would form the core of climate research (Allan, 2017; Hart & Victor, 1993). As Weart remarks, “[w]ithout the Cold War there would have been little funding for the research that turned out to illuminate the CO<sub>2</sub> greenhouse effect, a subject nobody had connected with practical affairs” (2003, pp. 30–31; see also Hamblin, 2017). In the same vein Oreskes (2021) argues that military funding affects the way in which science constructs its domain of knowledge and the concomitant domains of ignorance. The Cold War and US military patronage of the geophysical sciences is what explains why the climate came to be “represented as a geophysical rather than a bioecological system” (Allan, 2017, p. 132).

Bioecological perspectives became part of climate research only in a later stage. As Warde et al. remark “[o]nly after the 1980s did climate research become more integrated with other strands of environmental research and vice versa” (2018, p. 115). Before the integration of bioecological perspectives in climate science there was no space for epistemic diversity because, as the previous chapter explains, the intellectual origins of the “discovery” of epistemic diversity are found at the intersection of anthropological and bioecological perspectives – not geophysical research.

In geophysical renderings and militaristic imaginaries, climate change was an odd issue for environmentalism. Turning climate change into an environmental issue was in and of itself a result of new scientific framings highlighting environmental problems and the impact of human activities on the climate. In this respect, historical accounts point to two groundbreaking publications sponsored by the Massachusetts Institute of Technology: the Study of Critical Environmental Problems (SCEP) of 1970 and the Study of Man’s Impact on Climate (SMIC) of 1971. Hart and Victor point out that “[n]either SCEP nor SMIC was technically novel... What was unusual about them was their interdisciplinary and environmentalist tone” (1993, p. 662). The reports were successful in positioning “the atmosphere as a mainstream environmental issue, both in content and in presentation” (Howe, 2014, p. 57). Although not as immediate as a “not in my back yard” issue, the atmosphere came to be seen as yet another object of environmental politics in the face of anthropogenic climate change and ozone depletion.

Both SPEC and SMIC were prepared with a view to providing input for the Stockholm Conference on the Human Environment. An immediate impact of the input from SPEC and SMIC was the

approval for the creation of a global atmospheric monitoring network in the Stockholm conference's action plan (Hart & Victor, 1993, p. 664). However, the approval was not a call for political action, but instead it was pointing to the need for more research to dissipate uncertainties relating to the human impact on climatic changes. In the words of Stockholm's outcome document, there was a need "to understand better the general circulation of the atmosphere and the causes of climatic changes whether these causes are natural or the result of man's activities" (United Nations, 1973, p. 21). The imperative, then, was to foster climate science before the advent of climate policy proper. As Howe argues, the "UN Conference on the Human Environment in that sense was a failed attempt to include CO<sub>2</sub> in global governance" (2014, p. 92).

In 1987 the seminal report from the Brundtland Commission, *Our Common Future*, put forth an overview of global environmental issues with extensive consideration of human-induced climate change. Reflecting the advances in climate research on impacts, the report states that the "greenhouse effect' may by early next century have increased average global temperatures enough to shift agricultural production areas, raise sea levels to flood coastal cities and disrupt national economies" (WCED, 1987, p. 19). This is the same report that drew attention to the importance of the knowledge of indigenous peoples and local communities for the sustainable management of complex ecosystems (see Chapter 3). However, the importance of these other ways of knowing is only found in connection to the management of ecosystems and not to climate change policies. While the report speaks of "interlocking crises", the atmosphere was essentially different from forests, oceans or other ecosystems. While the emerging global movement of indigenous peoples was becoming increasingly engaged in environmental issues in the 1980s and 1990s, the atmosphere or the climate were less relatable as objects of activism than forests or other ecosystems.

The negotiations that led to the creation of the UNFCCC were kept out of the domains of environmental governance in which categories of epistemic diversity were gaining traction, most prominently biological diversity, forests and desertification. In a way, climate negotiations were following in the footsteps of the ozone regime. Ozone depletion was akin to climate change in that it was about the release of specific substances that cause damage to the atmosphere. In ozone depletion chlorofluorocarbons (CFCs) were the equivalent of CO<sub>2</sub> in global warming. What is more, CFCs and other ozone-depleting substances turned out to be important greenhouse gases (Hart & Victor, 1993, p. 666). The Vienna Convention for the Protection of the Ozone Layer from 1985 was the first international agreement setting a basis for cooperation to reduce the production of CFCs. In 1987, this was complemented with the Montreal Protocol

which sets specific targets to phase out ozone-depleting substances. Climate change replicates this model (cf. Oberthür, 2001). The international climate regime, as originally conceived, is based on a framework convention to reduce the emission of greenhouse gases, the UNFCCC and its Kyoto Protocol sets targets for the reduction of greenhouse gas emissions.

The separate trajectory of climate science and climate negotiations explains why all the outcome declarations and agreements of the 1992 United Nations Conference on Environment and Development or Earth Summit, make mention of traditional knowledge or cognate categories, except for the UNFCCC. The Rio declaration, the forest principles, the biodiversity convention, Agenda 21 and the convention to combat desertification, all contain references to traditional, indigenous or local knowledge. Climate change stands out as the only exception. However, climate science and governance would progressively integrate approaches that allow for a recognition of other ways of knowing and governing in a diverse and local approach. Jasanoff and Martello note this evolution by pointing to changes in scale:

The paradoxical rediscovery of the local can be readily observed in the science and politics of climate change. Experts in the (global) IPCC and the (national) US government, for example, began to regionalize or localize their studies of climate impacts. Early work on sea level rise, extreme weather events and crop yields tended to focus on how changes in climate parameters would affect ecological and social systems on global or nearglobal scales. Newer analyses, by contrast, examine the vulnerability and adaptability of particular social groups and ecological systems—in the Great Plains of the United States, for example or on small islands such as Samoa. (Jasanoff & Martello, 2004c, p. 7)

However, as I argue in the following sections, this was not only a process driven by a scale shift, but it was also a process of knowledge diversification. Re-thinking the scale of scientific research and policy interventions went hand in hand with diversifying the knowledge basis of climate governance. In the following sections, I trace the recognition of epistemic diversity in climate science, specifically in IPCC assessment reports and in global climate policy, especially in the UNFCCC process.

#### 4.2 The IPCC: diversifying global climate science

The Intergovernmental Panel on Climate Change provides the scientific basis for climate governance. Its creation in 1988 was a joint endeavor of two UN agencies, the World Meteorological Organization (WMO) and the United Nations Environment Program (UNEP). Its key role, as originally thought, is to bring about scientific consensus on climate change to inform

the intergovernmental negotiations under the UNFCCC and climate policy in general. As the single most important global scientific panel on climate change, the IPCC figures as *the* authoritative source of climate knowledge. The epistemic authority of the IPCC derives in great part from its intergovernmental status (Agrawala, 1998). Indeed, as Howe argues, the “IPCC consensus was made to be more than an agreement among scientists or NGOs; it was to be an agreement among governments” (2014, p. 159).

The IPCC embodies a form of epistemic authority that originates in and works through political authority. Zürn calls this “strange animal” a “*politically assigned* epistemic authority” (PAEAs) (2018a, p. 53; emphasis added). PAEAs are international or transnational organizations that do not have the political authority to make binding *decisions*, but they do have the epistemic authority to make consequential *interpretations* (Zürn 2017, 2018b; Zürn, Binder and Ecker-Ehrhardt 2012). The IPCC is a PAEA in so far as it is politically delegated, on the one hand, and it provides autonomous “interpretations”, on the other. The concept of PAEAs resembles the concept of “boundary organizations” in science and technology studies (Gustafsson & Lidskog, 2018; Guston, 2001a; Miller, 2001b). Akin to PAEAs, boundary organizations feature a “dual agency” as they are responsive to two or more principals in the worlds of politics and science (Guston, 2001a, p. 401). However, here the focus is not on consequential interpretations, but instead on the institutional design and practices of these organizations (Gustafsson & Lidskog, 2018).

The analytical approach that I advance here focuses on the ordering dimension of the authority of the IPCC, especially through institutional discourses and practices that order epistemic diversity. The epistemic authority of the IPCC is discernible in its institutional design as well as in the discourses and practices that underwrite the production of its main output: assessment reports. Tracing the recognition of categories of epistemic difference by the IPCC, therefore, requires revising and analyzing the elaboration and content of assessment reports.

IPCC assessment reports are arguably the *raison d’être* of the IPCC. For the preparation of these hundreds of authors, following the nomination of governments and observers, review and assess scientific, technical and socioeconomic research on climate change. The IPCC member states participate in plenary sessions and in the review process of assessment reports, including a line by line approval of the summary for policymakers. As the IPCC website claims, “[b]y

endorsing the IPCC reports, governments acknowledge the authority of their scientific content”<sup>20</sup>.

The connection between science and policy is inscribed in the threefold organization of the IPCC Working Groups (Agrawala, 1997). Working Group 1 (WG1) concerns itself with the physical scientific basis; Working Group 2 (WG2) assesses vulnerability, impacts and the options for adaptation; and Working Group 3 (WG3) deals with the mitigation of climate change. This division of work corresponds to a linear model of expertise that rests on the assumption that scientific consensus brings about political agreement and renders policy more rational (Beck, 2011). The institutional design of the IPCC follows this linear model. As Beck notes, “[t]he initial organization and three-tier structure of the IPCC is characterized by the sequence: science -> impacts -> response” (2011, p. 300). In other words, the scientific basis (WG1) lays the ground for the political response to climate change through adaptation (WG2) and mitigation (WG3).

As the political locus of epistemic authority, the IPCC defines what counts as valuable knowledge in the field of climate change. The ordering power of the IPCC is discernible in its institutional design, discourses and practices. These include the admission of observers, the selection of authors following nominations from governments and observers, as well as the selection and review of the scientific literature for the assessment reports (Agrawala, 1997). Authors are conventionally understood as leading experts with scientific credentials, while the sources for the assessment reports are first and foremost scientific literature (cf. Hughes & Paterson, 2017). Without institutional change, the plurality of indigenous and other ways of knowing could only be taken into account through the mediation of science; for example, through a scientific paper on indigenous knowledge related to climate impacts. Other forms of direct input would be possible, for instance, if an indigenous organization is admitted as an observer or if an indigenous knowledge holder is selected as an expert reviewer for an assessment report. These other forms of input would, in principle, produce heterarchies by introducing more pluralistic approaches to judge, among others, who counts as a valuable knowledge holder for the production of IPCC assessment reports.

In the following I analyze how the IPCC assessment reports came to recognize epistemic diversity, especially through the category of traditional knowledge. The recognition of traditional knowledge in IPCC assessment reports was part of changing institutional practices and discourses that made it possible to apprehend epistemic diversity in the context of climate

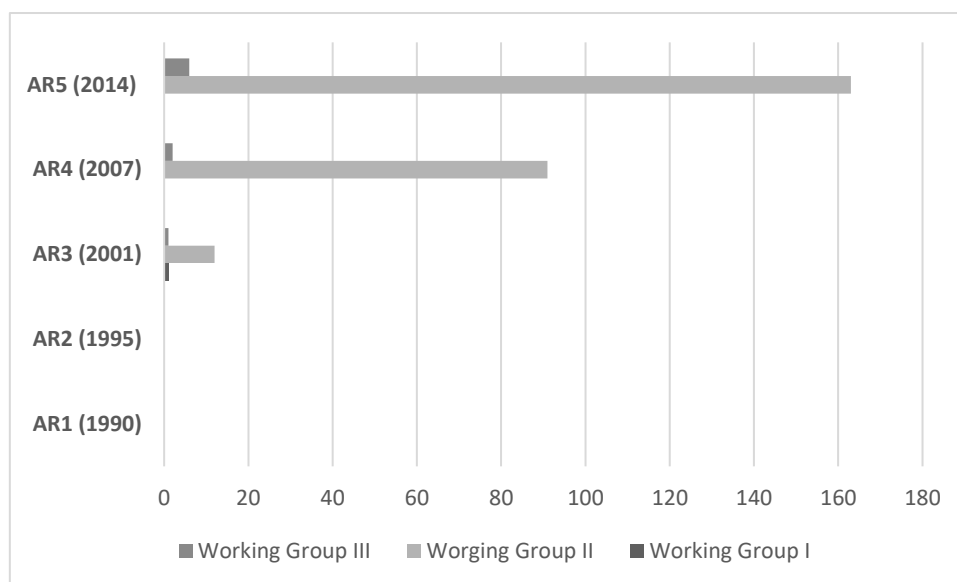
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<sup>20</sup> Quoted from IPCC home page (<https://report.ipcc.ch/>).

change. I trace this in the evolution of IPCC assessment reports, with a focus on three conceptual innovations: “adaptive capacity”, “community-based adaptation” and “co-production”. Whereas the recognition of epistemic diversity by the IPCC produces heterarchies by acknowledging the value of traditional knowledge, the IPCC also creates a hierarchy between science and traditional knowledge as it tends to confine the value of the latter to the realm of adaptation.

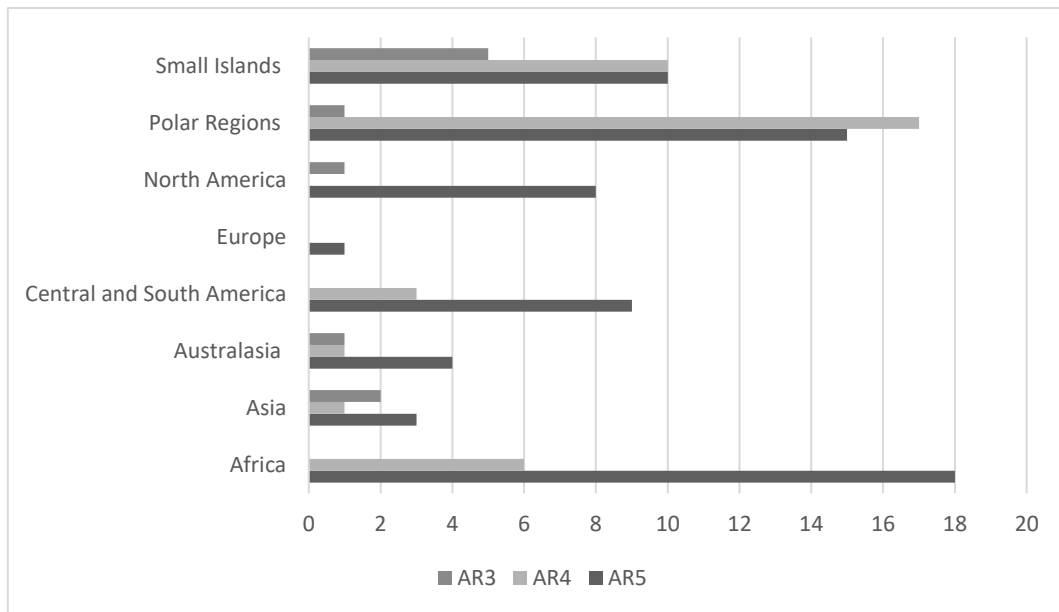
#### 4.2.1 An overview of diverse knowledges in IPCC assessment reports

In IPCC assessment reports, there are no references to diverse categories of knowledge until 2001, with the release of the third assessment report (AR3). The first (AR1) and second (AR2) assessment reports, from 1990 and 1996 respectively, do not make any reference to other forms of knowledge. As Nakashima and colleagues note, these reports contain a handful of references to indigenous peoples or cultures, but do not conceive of these as “knowledge holders” (2018, p. 5). Other forms of knowledge are considered for the first time in the third assessment report (AR3) and continue to appear more consistently in the fourth (AR4) and fifth (AR5) assessment reports. However, the references are not evenly distributed among working groups. The bulk of references to diverse forms of knowledge (local, indigenous or traditional) appear in the contributions of Working Group 2, i.e. the assessment of impacts, adaptation and vulnerability (se Figure 2).



**Figure 2** References to local, indigenous and traditional knowledge in IPCC Assessment Reports according to working group (1990-2014). Source: own elaboration.





**Figure 3** References to traditional knowledge in specific regions in IPCC Assessment Reports (2001 - 2014).

Source: own elaboration.

In AR3 the references to traditional knowledge and cognate categories appear for the first time in the contribution of Working Group 2 on climate change impacts, adaptation and vulnerability (IPCC, 2001). However, the 1032-pages report contains only a handful of occurrences (n=12) that are interspersed in sections that correspond to geographic regions. These are divided into eight geographic areas: Africa, Asia, Australasia (Australia and New Zealand), Europe, Latin America, North America, Polar Regions (Arctic and Antarctic) and Small Islands<sup>21</sup>. In AR3 the references to traditional knowledge appear most often in the context of Small Islands, but also in Asia, Australasia, North America and Polar Regions (see Figure 3). The regional chapters are an innovation of AR3. This marks a regionalization and localization of research on impacts, which underwrites a focus on the vulnerability and adaptability of local populations and ecosystems.

The disperse references to other knowledges in AR3 do not add up to a coherent discourse about epistemic diversity in climate change assessments. In AR4 from 2007 the number of occurrences is significantly higher than in the previous report (n=91). Although AR4 does not provide a

<sup>21</sup> The regional partition of IPCC reports partially overlaps with the sociocultural regions in which indigenous peoples organize within the United Nations Permanent Forum on Indigenous Issues (UNPFII) and other UN bodies: Africa; Asia; Central and South America and the Caribbean; the Arctic; Central and Eastern Europe, Russian Federation, Central Asia and Transcaucasia; North America; and the Pacific. The main difference is that Australasia and small islands are lumped together in the Pacific region, and Europe is part of a larger region that includes parts of Asia.

general definition of traditional knowledge, it gives a general idea of what traditional knowledge is and how it could be used for adaptation and sustainable development. For this, it uses a number of case studies and boxes specific to traditional or indigenous knowledge. These are interspersed in the regional chapters (see Table 5). The regional chapters in which the terms appear more often are Polar Regions and, once again, Small Islands, followed by Africa, Central and South America, Asia and Australasia (see Figure 3).

IPCC Fourth Assessment Report (AR4) – Working Group 2			
	Heading	Chapter	Box or Section
General	<i>Role of local and indigenous knowledge in adaptation and sustainability research</i>	Chapter 20 Perspectives on climate change and sustainable development	Box 20.1
	<i>Indigenous Knowledge Systems</i>	Chapter 9 Africa	Section 9.6.2
Regional Aspects	<i>Adaptation capacity of the South American highlands' pre-Colombian communities</i>	Chapter 13 Latin America	Box 13.2
	<i>Traditional knowledge for adaptation</i>	Chapter 15 Polar Regions – Arctic and Antarctic	Section 15.6.1
	<i>Traditional Knowledge and Past Experience</i>	Chapter 16 Small Islands	Section 16.5.5.1

**Table 4** Traditional knowledge case studies and boxes in IPCC Fourth Assessment Report. Source: own elaboration based on IPCC (2007a).

It is also noteworthy that in AR4 a couple of occurrences appear in the contribution from WG3, which uses the term “local knowledge” in the context of “cooperative environmental governance” (IPCC, 2007b, p. 715) and “non-climatic policies affecting GHG emissions/sinks” (IPCC, 2007b, p. 733). However, as in AR3, the bulk of references to other forms of knowledge are found in the contribution of WG2.

In the Fifth Assessment Report the number of occurrences continues to increase (n=163). The report from Working Group 2 is divided in two parts, one on global and regional aspects and other on sectoral aspects of impacts, adaptation and vulnerability. Other knowledges appear both in the regional and sectoral sections (see Table 6). The references to traditional knowledge appear across different sectors. Likewise, there is more balance among the regions in which references to traditional knowledge appear if compared with previous assessment reports (see Figure 3). The regions in which there are more occurrences are Africa, Polar Regions, Small Islands, Central and South America, and North America. Once again, only a handful of occurrences are found in the contribution of WG3 (n=5).

IPCC Fifth Assessment Report (AR5) – Working Group 2			
	Heading	Chapter	Box or Section
Sectoral Aspects	Indigenous Knowledge	Part A, Chapter 7 Food security and food production systems	Section 7.5.1.1.4
	Local and traditional forms of knowledge	Part A, Chapter 12 Human security	Section 12.3.3
	Application of local knowledge in climate change adaptation	Part A, Chapter 15 Adaptation Planning and Implementation	Table 15-1
	Detection, Attribution and Traditional Ecological Knowledge	Part A, Chapter 18 Detection and Attribution of Observed Impacts	Box 18-5
Regional Aspects	Knowledge Development and Sharing	Part B, Chapter 22 Africa	Section: 22.4.5.4
	Indigenous Peoples and Traditional Knowledge	Part B, Chapter 28 Polar Regions	Section: 28.2.5
	Building Adaptive Capacity with Traditional Knowledge, Technologies and Skills on Small Islands	Part B, Chapter 29 Small Islands	Section 29.6.2.1

**Table 5** Traditional knowledge case studies and boxes in the IPCC Fifth Assessment Report. Source: own elaboration based on IPCC (2014a, 2014b).

The glossary of AR5 includes for the first time an entry on “traditional knowledge” that provides the first official definition from the IPCC:

[Traditional knowledge] The knowledge, innovations and practices of both indigenous and local communities around the world that are deeply grounded in history and experience. Traditional knowledge is dynamic and adapts to cultural and environmental change and also incorporates other forms of knowledge and viewpoints. Traditional knowledge is generally transmitted orally from generation to generation. It is often used as a synonym for indigenous knowledge, local knowledge or traditional ecological knowledge. (IPCC, 2014b, p. 1774)

This general definition echoes some of the key elements found in Article 8(j) of the biodiversity convention. First, it identifies both indigenous and local communities as knowledge holders. Second, it avoids using the term indigenous *peoples* that remains contested by some governments as it implies self-determination or self-government. Third, it uses the phrase “knowledge, innovations and practices”, which conveys a broader understanding of traditional knowledge as experiential and innovative. Beyond these elements, the IPCC definition seeks to strike a balance between a depiction of a historical or intergenerational knowledge and a dynamic and adaptive knowledge. These specifications are important given the use of the label “traditional” that seems to preclude innovation. At the same time, the justification for the use of the term “traditional knowledge” is arguably that it applies to both indigenous peoples and

local communities in contrast to the more restrictive “indigenous knowledge” or “local knowledge”. All in all, by providing an official definition of traditional knowledge, AR5 marks an important milestone for the recognition of traditional knowledge as an official category of epistemic difference.

Another landmark of AR5 was to speak, for the first time, about traditional knowledge in the Summary for Policymakers of the Synthesis Report. This inclusion is all the more important considering that, as mentioned above, the Summary for Policymakers is subject to line by line approval by governments. The document speaks of “[i]ndigenous, local and traditional knowledge systems and practices” as “a major source for adapting to climate change” (IPCC, 2014c, p. 19). Notably, traditional knowledge is here seen as a major resource only for adaptation. In other words, the IPCC recognizes traditional knowledge within a discourse about impacts and vulnerability – a perspective that conceives of adaptation as the only policy domain where traditional knowledge acquires its value or policy-relevance.

Based on this overview, several observations are in order. Firstly, traditional knowledge made its entrance to IPCC reports in AR3 but it became established in AR4 and AR5. Secondly, the bulk of references to traditional knowledge or other cognate categories appear in the contributions of Working Group 2, which since the AR3 focuses on impacts, adaptation and vulnerability. There are no references to traditional knowledge in the reports from Working Group 1 and a few references in Working Group 3. Hence, traditional knowledge became an issue that falls within the policy domain of adaptation to climate change – something that the summary for policymakers clearly reiterates. Thirdly, the regional approach that was inaugurated in AR3 shows that the consideration of traditional knowledge came along with the regionalization and localization of the research on impacts and vulnerability. Fourthly and lastly, in the official definition of AR5 the attribution of traditional knowledge points to indigenous and local communities as knowledge holders. In the following I analyze the conceptual innovations that underwrite the integration of epistemic diversity in IPCC assessment reports.

#### *4.2.2 Climate adaptation as purposeful adjustment*

Adaptation falls within the thematic scope of Working Group 2, along with the assessment of impacts and vulnerability. However, its relative importance has changed over time. WG2 was initially mainly concerned with the assessment of climate change impacts. Impact assessments were, in turn, mainly developed on the basis of climate change scenarios coming from the scientific assessments of WG1. Adaptation, for its part, was initially thought of as a complement to impact assessments. However, it would eventually occupy a central position in climate

research at the same time as political developments at the UNFCCC led to the recognition of adaptation on the same footing as mitigation (Schipper, 2006). In the following, I come back to the conceptual history of adaptation in IPCC assessment reports, focusing on those conceptual innovations that led to the recognition of epistemic diversity in climate adaptation science and policy.

Adaptation is virtually absent from the first assessment report of 1990. The scope of AR1 is limited to the impacts of climate change with no consideration of adaptation. The word itself appears only in a few instances. However, one mention is worth noting as it bears a connection with traditional knowledge. In one instance the report speaks of “biological and *cultural* adaptation” in relation to biodiversity and endangered species (IPCC, 1990, pp. 3–17; emphasis added). In physical anthropology, *biological adaptation* refers to genetic and physiological responses to conditions in the environment. *Cultural adaptation*, for its part, points to the socially transmitted knowledge and practices that humans use to adapt to the natural milieu (cf. Ellen, 2018). The concept of cultural adaptation is close to discussions about traditional knowledge, which was often seen as “adaptive” in the works of ethnoscience (see Chapter 3). The fact that in AR1 the term appears in a discussion about biological diversity reveals that the recognition of cultural aspects and in specific traditional knowledge, were far more advanced in the domain of biodiversity than in climate change. In AR1 the mention of cultural adaptation remains an isolated reference in a context in which climate change adaptation was not yet conceptualized as such.

The second assessment report is the first to consider adaptation options in view of the impact assessment. However, the report uses a broad definition of adaptation as “any *adjustment* – whether passive, reactive or anticipatory – that can respond to the anticipated or actual consequences associated with climate change” (IPCC, 1996, pp. 831; emphasis added). The use of the term adjustment is not fortuitous. It situates the concept of adaptation in a specific body of research that Bassett and Fogelman (2013) trace back to the literature on natural hazards from the 1970s. The hazards school focuses on the “purposeful adjustment” to the adverse effects of hazardous events. The concept of purposeful adjustment, in turn, is based on the premise of bounded rationality in human responses to natural hazards. The responses or “adaptive solutions” that the hazards school put forth are mainly top-down and technocratic (Bassett & Fogelman, 2013, p. 44).

The purposeful adjustment approach contrasts with the concepts of biological and cultural adaptation (Head, 2010). While biological adaptation precludes the voluntarist assumption of

*purposeful* adjustment, cultural adaptation moves beyond the study of bounded rationality in responses to hazards. In the hazards framework, culture is at best a background condition of the adaptability or “absorptive capacity” of society or, alternatively, purposeful adjustments might gradually become embedded into cultural adaptation (Burton et al., 1993, p. 52). However, in underscoring the purposeful character of adjustments, the hazards school downplays cultural adaptation and emphasizes individual choices to respond to the impacts of hazards in the biophysical environment (Bassett & Fogelman, 2013, p. 45).

Climate change adaptation, under the adjustment perspective, is understood as the outcome or end-point of analysis (Beck, 2011, p. 299). This follows a linear model of expertise in which climate change impacts lead to vulnerability and adaptation, with no consideration of the socio-economic context that underlies risk or vulnerability. In other words, it is a model that is based on the analysis of the multiple impacts of a single climate-event with no consideration of the socioeconomic conditions that lead to vulnerability in the face of risks (Ribot, 2010). The so-called “impacts-led” approach is, in that sense, politically conservative as it focuses on “biophysical risks and technical solutions”, while it neglects the structural origins of vulnerability and the need for transformative change (Bassett & Fogelman, 2013, p. 44; Watts, 1983). This top-down approach to policy correlates with top-down “*scenario-driven impact assessments*” that produce global representations of adaptation based on climate scenarios from general circulation models (Beck, 2011, pp. 300; emphasis in original).

The purposeful adaptation framework leaves indigenous peoples in a passive role. In AR2 these are depicted as vulnerable groups that might suffer from the impacts of climate change. For example, AR2 states that “[c]limate change may disrupt mountain resources for indigenous populations” (IPCC, 1996, p. 30) or that climate change “could have a major impact on indigenous people who live in Arctic regions and depend upon traditional occupations, food gathering and hunting” (IPCC, 1996, p. 257). However, there is no discussion of cultural adaptation among indigenous peoples or any form of purposeful adjustment for that matter. There is no discussion of the multiple causes of vulnerability either. There is, in other words, no form of agency – let alone an epistemic status of knowledge holders – accorded to these populations within the context of climate change adaptation in these early assessment reports.

#### *4.2.3 Re-thinking adaptation: from adaptive capacity to traditional knowledge*

In AR3 traditional knowledge appears for the first time and it is embedded in the research on adaptation. In particular, traditional knowledge appears in the context of a novel approach to adaptation revolving around “adaptive capacity”. The concept of adaptive capacity – which

resembles the concept of “absorptive capacity” in the hazard’s school – refers to the “adaptability of an affected system, region or community to cope with the impacts and risks of climate change” (IPCC, 2001, p. 879). Beyond this general definition, the way in which AR3 treats adaptive capacity is intrinsically different from the AR2 concept of “adaptability” in that it reintroduces socioeconomic factors and vulnerability into adaptation. AR3 contends that “enhancement of adaptive capacity reduces vulnerabilities and promotes sustainable development” (IPCC, 2001, p. 879). Thus, the concept of adaptive capacity reinterprets adaptation policies as development interventions (F. C. Moore, 2010).

In adopting the adaptive capacity concept, the IPCC begins to integrate research that had been openly critical of the natural hazards approach to adaptation. These critical approaches shift the focus from an impacts-led approach to the assessment of vulnerability in terms of “entitlements”<sup>22</sup> or livelihoods (Ribot, 2010). The following excerpt from AR3 signals this change:

Acceptance of western economic ideals coupled with increasing and rapid development may reduce the capacity of traditional societies to adapt (Watts, 1983; Chan and Parker, 1996). In the case of traditional or indigenous societies, the pursuit of western/European-style development trajectories may modify the nature of adaptive capacity (some improved, some diminished) by introducing greater technology dependence and higher density settlement and by devaluing traditional ecological knowledge and cultural values (Newton, 1995). (IPCC, 2001, p. 898)

Here adaptive capacity is directly linked to traditional ecological knowledge, with an implicit idea that this form of knowledge underpins the capacity of “traditional societies” to adapt. The link to sustainable development is done by the critique of western development in an opposition of the modern against the traditional. The mere reference of these critical approaches in AR3 signals important changes in the IPCC approach to adaptation. It is an acknowledgement of research that points to traditional knowledge as a paramount element for adaptation endeavors. However, in AR3 and in the ensuing assessment reports, this critical analysis coexists with an adaptation-as-adjustment narrative. This is why, despite the inclusion of critical literature, the report maintains a middle ground between this and the conservative hazards

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<sup>22</sup> The concept of “entitlement” comes from Amartya Sen and it refers to “the total set of rights and opportunities with which a household can command—or through which it is ‘entitled’ to obtain—different bundles of commodities” (Ribot, 2010, p. 55).

school approach. Bassett and Fogel (2013) call this “reformist adaptation” – a middle ground between “adjustment adaptation” and “transformative adaptation”<sup>23</sup>.

AR4 retains the conceptualization of adaptation from the previous report. However, it elaborates a more detailed discourse on traditional knowledge and its connections to adaptation and sustainable development more broadly. In the chapter on Polar Regions, for instance, the report speaks of traditional knowledge as “an invaluable basis for developing adaptation and natural resource management strategies in response to environmental and other forms of change” (IPCC, 2007a, pp. 673–674). This excerpt links a domain in which the idea of traditional knowledge was well established (natural resource management) to the emerging domain of climate change adaptation. The openness of the phrase “and other forms of change” denotes its application to other domains that do not necessarily fall within the scope of climate change. This openness was already implicit in the concept of “adaptive capacity” as it connects adaptation to the broad agenda of sustainable development.

Adaptation or “adaptive capacity”, through its link to sustainable development, comes to be seen as part of other enduring environmental and development issues in which traditional knowledge was already visible and legitimate. AR3 and AR4 link traditional knowledge to natural resource management, food security, tourism and biodiversity conservation, among others. In this way, assessment reports draw connections that would eventually bring about a new understanding of traditional knowledge in the light of climate change. These are the conceptual innovations of IPCC assessment reports. These bring about novel meanings to the category of traditional knowledge in the light of climate change. The most recent conceptual innovation in this sense was introduced by AR5, namely “community-based adaptation”.

#### *4.2.4 The rediscovery of community in adaptation research*

The fifth assessment report introduces community-based adaptation as another conceptual innovation that embraces a bottom-up approach to adaptation. In its basic formulation community-based adaptation echoes previous grassroots approaches to environmental policy, in particular community-based natural resource management or community-based conservation (H. Reid & Schipper, 2014, pp. 5–6). However, in AR5 it becomes embedded in the evolving conceptualization of adaptation in IPCC reports. It moves away from the individual

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<sup>23</sup> This mirrors Pelling’s threefold categorization: adaptation as resilience, adaptation as transition, and adaptation as transformation (Pelling, 2010).



rational actor that makes adaptation choices in the face of natural hazards resulting from climate change. Instead, the new approach embraces human adaptation from a collective perspective, taking into account issues of scale, culture and knowledge. It does so by introducing the classic distinction between society and community.

AR5 puts forth the notion of community as opposed to society. In the report it is said, for example, that “egalitarian societies may respond more to community-based adaptation in contrast to more individualistic societies that respond to market-based forces (medium confidence)” (IPCC, 2014a, p. 203). It thus introduces an alternative approach to adaptation that is pitted against the large-scale solutions that have been prioritized in global negotiations. The rediscovery of community goes hand in hand with the recognition of local knowledge and alternative adaptation policies. There is a straight line that connects the notion of adaptive capacity to the notion of community-based adaptation. The official definition provided by the report makes this point clear:

[Community-based adaptation] Local, community-driven adaptation. Community-based adaptation focuses attention on empowering and promoting the adaptive capacity of communities. It is an approach that takes context, culture, knowledge, agency and preferences of communities as strengths. (IPCC, 2014b, pp. 1762; emphasis added)

This is an approach to adaptation that builds upon the notion of adaptive capacity as it melds together adaptation and local development interventions. But, at the same time, it goes beyond this as it brings local forms of organization to the fore. It moves away from a top-down approach, as in the techno-managerial approach of the hazards school, towards a bottom-up model that relies on the self-organization and the autonomous response of communities, instead of isolated rational actors. This form of governance is at odds with the prevailing governance scheme of the UNFCCC that relies on states and markets. In one sense, community-based adaptation foreshadows the polycentric governance model that was introduced by the Paris Agreement in 2015 (Jordan et al., 2018). Community-based adaptation is polycentric in the sense that it goes “beyond markets and states” and accommodates local or grassroots forms of governance (Ostrom, 2010).

Traditional knowledge becomes a key element of polycentric governance as it allows for a pluralism in perspectives which derive from different scales and sites of knowledge-making that inform policy (Berkes, 2007). In the executive summary of the African region, the report spells out the “five common principles” of this new way of conceiving adaptation:

(1) supporting autonomous adaptation through a policy that recognizes the multiple-stressor nature of vulnerable livelihoods; (2) increasing attention to the cultural, ethical and rights considerations of adaptation by increasing the participation of women, youth and poor and vulnerable people in adaptation policy and implementation; (3) combining “soft path” options and flexible and iterative learning approaches with technological and infrastructural approaches and blending scientific, local and indigenous knowledge when developing adaptation strategies; (4) focusing on building resilience and implementing low-regrets adaptation with development synergies, in the face of future climate and socioeconomic uncertainties; and (5) building adaptive management and social and institutional learning into adaptation processes at all levels. {22.4} (IPCC, 2014b, pp. 1203; emphasis added)

The “soft path” approach in principle 3 consists of adaptation measures that rely on natural infrastructure or “natural capital”, appropriate technologies, and the empowerment of local communities (Sovacool, 2011). An example of this is “ecosystem-based adaptation”, an innovative framework that mirrors that of community-based adaptation with a focus on the use of biodiversity and ecosystem services as adaptation strategies (CBD, 2009). This framework blends climate change adaptation with development and ecosystem management. It is in this kind of policy instruments that traditional knowledge becomes a “major resource” for adaptation – to use the words of the AR5 summary for policymakers. The value of indigenous or local knowledge gets lost in large-scale state interventions or market-oriented solutions. That is why, the recognition of traditional knowledge and cognate categories is also coupled with the recognition of alternative adaptation policies. When large-scale technologies and market-based solutions with high social impact are privileged, epistemic diversity drops out of sight.

#### *4.2.5 Co-production or the “best available knowledge”*

The “co-production” of scientific and traditional knowledge is yet another conceptual innovation of AR5 that moves beyond the domain of adaptation and advances a governance approach that spans the boundaries between scientific and traditional knowledge. While AR5 is the first to consider co-production, the underlying idea is not new in environmental governance. Agenda 21, adopted at the Earth Summit in 1992, was already speaking of the integration of science and traditional knowledge: “Sustainable development requires... using the best scientific and traditional knowledge available (35.5)”. In IPCC assessment reports the integration of science and traditional knowledge is taken into account from the third assessment report onwards. AR3 speaks of the importance to encourage approaches that “marry use of modern science and technology with traditional wisdom” (IPCC, 2001, p. 865). AR4 is in general more cautious and

draws attention to the “technical and social issues related to the intersection of different knowledge systems” (IPCC, 2007a, p. 833).

The input for the conceptual innovation of “co-production” in AR5 came basically from the collaboration among the IPCC, UNESCO’s Local and Indigenous Knowledge Systems<sup>24</sup> (LINKS) program and the United Nations University’s Traditional Knowledge Initiative (UNU-TKI). LINKS was established as a UNESCO program in 2002, while UNU-TKI was a research project that began in 2007 and culminated in 2016. Both LINKS and UNU-TKI were working on indigenous knowledge in different areas, including biodiversity and climate change. In July 2011, these institutions convened an expert meeting in Mexico City on “Indigenous Peoples, Marginalized Populations and Climate Change: Vulnerability, Adaptation and Traditional Knowledge”. The meeting brought together indigenous peoples and local communities, scientists from developing countries, and indigenous knowledge experts (Nakashima et al., 2018, p. 6). This event provided the input for the joint publication of UNU and LINKS, “Weathering Uncertainty: Traditional knowledge for climate change assessment and adaptation” (Nakashima et al., 2012). This technical report, which provided an overview of the literature on traditional knowledge and climate change, was cited 15 times in AR5 (IPCC, 2014a, 2014b). As one of the authors of the report recounts, Weathering Uncertainty was made to embed indigenous knowledge into the text of AR5:

Weathering Uncertainty was written very clearly to look at the table of contents that was proposed for the fifth assessment report and find entry points within, knowing that, because they [IPCC authors] decide first on the table of contents, so you look at their table of contents and say “okay they could be relevant on what’s here, there, there, in these chapters or these sub-chapters” [...] So it was really trying to engage, but engage with them on their own terms, otherwise they won’t understand; you need to fit into their process. (IGO official 2, personal communication, May 2, 2020)

The IPCC was reaching out to UNESCO and UNU to gain a better understanding of traditional knowledge. In general, only few IPCC authors work on issues relating to traditional knowledge. Even in the fifth assessment report, only 2.9 percent of the authors from WG2 had published on climate change and indigenous peoples (Ford et al., 2012). In this case the authors of AR5 were for the most part not directly assessing the scientific literature on traditional knowledge and its

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<sup>24</sup> UNESCO-LINKS favors the use of the term “local and indigenous knowledge” over “traditional knowledge”. IPCC seems to reach a compromise by referring to the cumbersome but inclusive formula: “traditional, local and indigenous knowledge”.

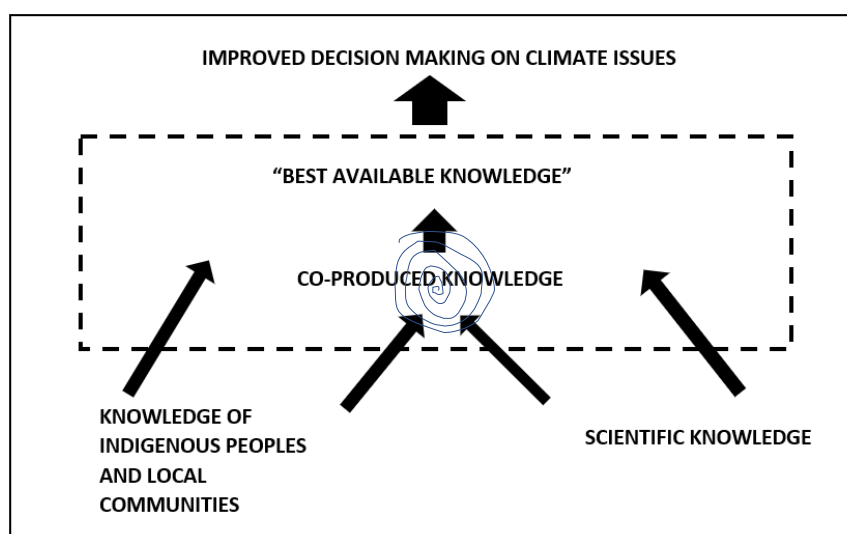
connection to climate change, but instead they were relying on the expertise of UNESCO and UNU. Co-production was in that sense a conceptual innovation that other organizations brought into the IPCC process.

The Weathering Uncertainties report states that “[i]n the face of climate change risks and impacts that remain uncertain and unpredictable, there is a growing need for policies and action that foster the co-production of new knowledge sets, based upon collaborative efforts involving community-based knowledge holders and natural and social scientists” (Nakashima et al., 2012, p. 66). Here co-production is mobilized for its potential to create new knowledge that would allow us to clear out the uncertainties of climate change. The technical report cites the following definition of co-production: “the collaborative process of bringing a plurality of knowledge sources and types together to address a defined problem and build an integrated or systems-oriented understanding of that problem” (Armitage et al., 2011, p. 996). The key idea behind co-production is to span the boundaries of different categories of knowledge to address a research or policy problem.

There are four core assumptions in the co-production approach put forth by UNESCO-LINKS and the IPCC AR5. The first is that science and other knowledges are relatively autonomous “knowledge systems” (cf. B. Kothari, 2002). This assumption is further elaborated by a second assumption, which is that these knowledge systems might be divided in two overarching groups, one being science and the other being other forms of knowledge (local, indigenous or traditional). The third assumption is that these knowledge systems are not incommensurable, but to the contrary, they can be combined or integrated in such a way that new knowledge emerges from it. This core assumption is grasped by the concept of “transdisciplinarity”, which goes beyond “interdisciplinarity”. As a program specialist from UNESCO-LINKS explains, “interdisciplinarity is among sciences, different types of natural sciences and social sciences and transdisciplinarity goes beyond science and includes other forms of knowledge too” (IGO official 1, personal communication, February 11, 2020). The fourth and final assumption is that knowledge co-production creates new knowledge – and better knowledge – than knowledge production within disciplinary boundaries.

The co-production of science and other knowledge systems is meant to provide what the UNESCO-LINKS program calls the “best available knowledge” for improved decision making. The phrase “best available *knowledge*” replaces the phrase “best available *science*”, which is common use within the UNFCCC. This idea rests upon a pluralistic notion of knowledge, i.e. a heterarchical understanding that rejects any form of hierarchy between scientific and

indigenous or local knowledge. The way in which knowledge co-production works is described by the following sketch (Figure 4), which is usually used by program specialists from UNESCO-LINKS:



**Figure 4** Co-production according to UNESCO-LINKS. Source: own elaboration based on UNESCO-LINKS presentation at the UNFCCC Multi-stakeholder workshop on implementing the functions of the Local Communities and Indigenous Peoples Platform, 1 May 2018, Bonn-Germany.

The figure was described by a program specialist from UNESCO-LINKS, who drew the sketch on a paper during our interview and explained it in the following terms:

In the Paris Agreement there is a section where it says that action for adaptation to climate change must always take place on the basis of the best available science and indigenous and local knowledge. So, what we say is that a concept that encompasses all this is the “best available knowledge”. Not just science but knowledge... And so, this objective has a part of indigenous knowledge and a part of science, obviously. Indigenous knowledge can contribute to this separately and science can contribute to this separately. But it is also about the co-production of knowledge and this means that both are going to do this [the interviewee draws a spiral on the term co-produced knowledge], they will sit at a table to do this [the interviewee continues to draw a spiral]. And so, if you want, here what is important is that the contribution of indigenous knowledge comes by itself and in co-production. (IGO official 1, personal communication, February 11, 2020)

Co-production (here in the figurative form of spirals) points to the amalgamation of science and local or indigenous knowledge. While each knowledge system is amenable to contribute on its own, the main thrust of co-production is a boundary-spanning endeavor seeking to integrate science and other knowledges. Notably, co-production is primarily a normative policy goal that promises “improved decision making on climate issues”. However, for all its novelty, co-

production, as conceived by LINKS, remains within a linear model of expertise, one in which knowledge produces consensus, reduces uncertainty and informs policy. Moreover, this view of co-production conveys an idea of an unproblematic collaboration among different actors with a collective purpose, namely, to produce the best available knowledge. The asymmetric relations between scientists, indigenous or local knowledge holders and policymakers are not taken into account (cf. Turnhout et al., 2020).

Co-production is linked to a specific mode of governance that supports deliberative or participatory decision-making. As the AR5 argues, “[i]n integrating different kinds of knowledge, participatory processes, which call for a deliberative form of decision making among stakeholders, are well-suited to the governance culture necessary for effective adaptation and mitigation” (IPCC, 2014a, p. 1120). Thus, co-production translates into governance as deliberative or participatory decision-making. The key “stakeholders” are, in that sense, local and indigenous knowledge holders. This is how co-production connects to community-based adaptation and other policy approaches to bottom-up governance.

However, multistakeholderism or other forms of participatory governance often obscure the demands of indigenous peoples who, beyond stakeholders, highlight their status as rights holders and knowledge holders. It comes as no surprise that indigenous peoples are careful about what should be understood under the term co-production. This was pointed out by an indigenous representative from the Arctic region, referring to an intervention from an IPCC member at 50<sup>th</sup> the meeting of the UNFCCC Subsidiary Bodies:

For example, the woman that spoke up from the Intergovernmental Panel on Climate Change about “oh no, we made reference to land rights of indigenous peoples in these reports”, well that's not co-production of knowledge, that's a scientist doing some writing and “thank you he did make mention of indigenous land rights”. But it is not the same as an indigenous person with knowledge about land rights sitting and working and co-producing the information... which means also the legitimacy of it, the value of it, the importance that there is a difference. (Indigenous representative 11, personal communication, June 16, 2019)

A superficial approach to co-production, therefore, is not capable of producing actual heterarchies that incorporate indigenous knowledge holders as valuable contributors to climate research and policy. This is why co-production is not necessarily the ultimate goal of indigenous peoples. The autonomy of indigenous knowledge or as an indigenous representative from the Arctic region calls it, the “self-determination in research” (Indigenous representative 11, personal communication, June 16, 2019, p. 11), is a key objective for indigenous peoples reaching beyond the imperative of co-production:

Q: Would you say that indigenous knowledge always has to go through this co-production?

A: No, not at all. In fact, I think it is important that we're seeing more and more research papers and writing on the basis of indigenous knowledge, strictly on the basis of indigenous knowledge.

(Indigenous representative 11, personal communication, June 16, 2019)

Along these lines, the UNESCO-LINKS' understanding of co-production includes the option of an autonomous contribution from local and indigenous knowledge. However, the emphasis is on the advantage of drawing on different forms and sources of knowledge to produce the "best available knowledge for policy.

In a similar vein, the latest special reports from the IPCC point to new conceptualizations of co-production that dispense with the great divide between science and other knowledges. The IPCC Special Report on the Ocean and Cryosphere from 2019 illustrates this new approach (IPCC, 2019, p. 104). As Figure 5 shows, the underlying idea is that there are "independently available knowledge systems" and there is no specification of whether these knowledges systems are scientific, indigenous or local. Co-production does not necessarily involve different knowledge systems in so far as different branches of one single knowledge system are amenable to co-produce new knowledge (Panel A in Figure 5). This means that co-production is both about interdisciplinarity and transdisciplinarity. The trajectory of knowledge systems over time indicates that these tend to become more diverse as new branches of knowledge emerge from the original roots. The diversification of knowledge systems, in turn, opens the possibility for co-production between diverse ways of knowing.

All in all, the main thrust of this new conceptualization of co-production is that it dispenses with binary oppositions of scientific and other knowledges, thereby conveying an image of epistemic diversity where all knowledge systems are part of a heterarchical or pluralistic order. However, at the same time this conceptualization retains some of the elements found in the UNESCO-LINKS approach and previous IPCC reports, namely that knowledge can be divided into different systems, that these knowledge systems are not incommensurable, and that the purpose of co-production is to produce new knowledge to inform policy. It is still uncertain whether these new conceptions of co-production will last or whether they will change with the increasing involvement of indigenous peoples in climate research and policy.

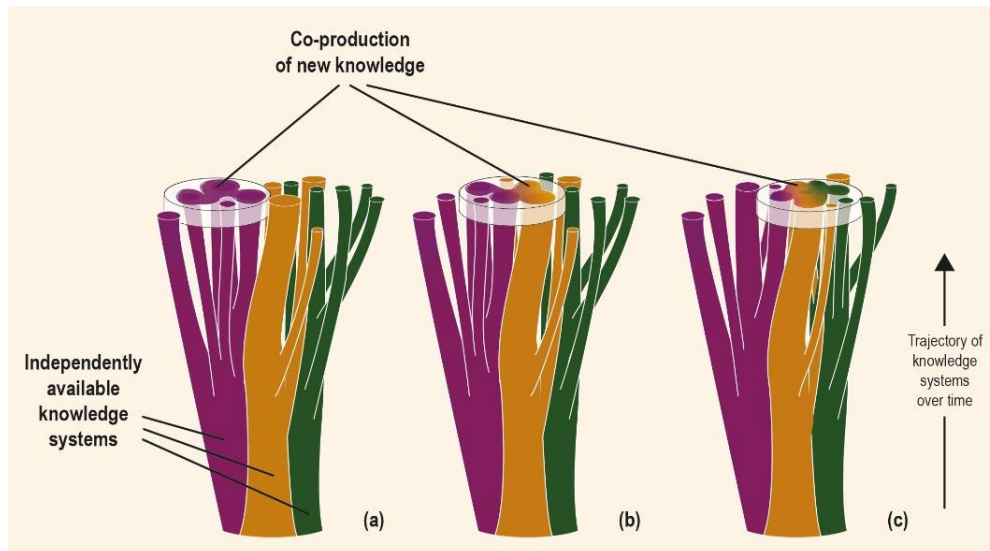


Figure CB4.1 | Knowledge co-production using scientific knowledge, Indigenous knowledge (IK) and/or local knowledge (LK) to create new understandings for decision making. Panels A, B and C represent the use of one, two and three knowledge systems, respectively, illustrating co-production moments in time (collars). Panel A represents a context which uses one knowledge system, for example, of IK used by Indigenous peoples; or of LK used by farmers, fishers and rural or urban inhabitants; or of scientific knowledge used in contexts where substantial human presence is lacking. Panel B depicts the use of two knowledge systems, as described in this Cross-Chapter Box in the case of Bowhead whale population counts and in Himalayan flood management. Panel C illustrates the use of all three knowledge systems, as in the Pacific case in this Cross-Chapter Box. Each collar represents how making use of knowledge from different systems is a matter of both identifying available knowledge across systems and of knowledge holder deliberations. In these processes, learning takes place on how to relate knowledge from different systems for the purpose of improved decisions and solutions. Knowledge from different systems can enrich the body of relevant knowledge while continuing independently or can be combined to co-produce new knowledge.

**Figure 5** Co-production according to IPCC Special Report on the Ocean and Cryosphere in a Changing Climate. Source: IPCC (2019, p. 104)

#### 4.2.6 The knowers and the known

By acknowledging the importance of traditional knowledge, the IPCC sets the groundwork for the recognition of epistemic diversity in climate governance. Through its assessment reports, the IPCC recognizes and reinterprets official categories of epistemic difference that transcend the confines of climate science proper. However, the recognition of traditional knowledge by the IPCC conceals the absence of the knowledge holders in the IPCC process itself. Neither indigenous nor local knowledge holders were authors or expert reviewers of the assessment reports considered here and, up until recently, there were no indigenous or local communities' organizations admitted as observers in the IPCC.

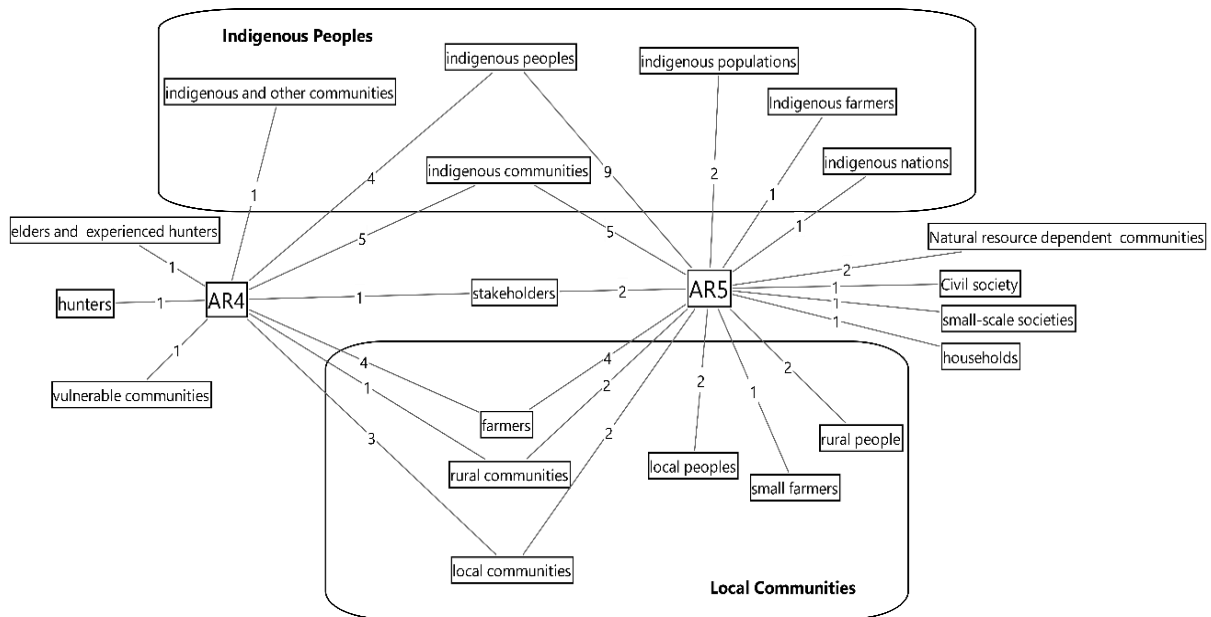
The absence of indigenous knowledge holders is not due to a lack of interest on the part of indigenous peoples organizations. The declarations that indigenous peoples were producing throughout their participation in the UNFCCC process contain claims to knowledge that target



the IPCC. The Hague Declaration of 2000 by indigenous peoples and local communities attending UNFCCC meetings, for instance, includes as one of its recommendations the “inclusion of indigenous peoples in the IPCC” (The Hague Declaration 2000). Although subsequent declarations do not insist on the demand of inclusion, there is a relentless call for indigenous-led climate research. The Anchorage Declaration, adopted by the Indigenous Peoples’ Global Summit on Climate Change in 2009, asks the IPCC for support to carry out their own climate change assessments: “We call on the Intergovernmental Panel on Climate Change (IPCC), the Millennium Ecosystem Assessment and other relevant institutions to support Indigenous Peoples in carrying out Indigenous Peoples’ climate change assessments” (Indigenous Peoples’ Global Summit on Climate Change, 2009, sec. 3).

Certainly, in practice, the work of the IPCC is not to receive and certify the knowledge claims or political demands from indigenous peoples or other actors, but instead to assess the scientific literature on climate change. In the scientific literature, traditional knowledge falls within certain lines of research on adaptation and co-production as the discussion above explains. These lines of research do not necessarily correspond to the claims made by indigenous peoples about what makes their knowledge valuable or relevant for climate policy. In other words, the IPCC attributes knowledge to knowledge holders without the involvement of these. This “politics of knowledge attribution” (Gupta, 2010) is what defines the productive power of the IPCC as it produces categories of knowledge and defines the attributes of these in climate science and governance.

Beyond scientists, who are these other diverse knowledge holders according to the IPCC? The official definition in the glossary of AR5 ascribes traditional knowledge to indigenous and local communities. An overview of knowledge attribution in AR4 and AR5 illustrates this point (see Figure 6). Other knowledges are mostly attributed to indigenous peoples, followed by local communities in the form of small farmers or rural people. There is a diversification of knowledge actors that follows from the recognition of traditional knowledge. Beyond scientists, there is a plurality of knowledge holders including hunters, small farmers, natural resource dependent communities, and indigenous peoples. All these diverse knowledge holders fall within a classificatory scheme that groups them in two overarching groups, namely indigenous peoples and local communities. Some groups, however, do not fit neatly into either category and would require further specification.



**Figure 6** Attribution of knowledge to diverse knowledge holders in IPCC's Fourth and Fifth Assessment Reports. Source: own elaboration based on IPCC (2007a, 2014a, 2014b).

The politics of knowledge attribution implies that these diverse knowledge holders encounter a situation in which the recognition of epistemic diversity does not derive from their immediate demands, but rather from the indirect attribution of knowledge in scientific literature. Here recognition takes the form of an attribution that indigenous peoples receive and not of the certification of a claim (cf. Honneth, 2002). However, even this form of external attribution is a form of recognition that works as a resource for indigenous peoples to make claims to knowledge in the first person. As a North American indigenous representative explains:

We believe that our knowledge is also scientific. It is based on empirical evidence. But I think that science, generally the academic science, western science, has been coming around to the idea that some of our believes, some of our traditions, are actually scientifically verifiable and do in fact contribute to the preservation of the Earth. It is not that we're going toward them, it is that they come along toward us. (Indigenous representative 2, personal communication, May 2, 2018)

The claim that indigenous knowledge is also scientific is not present in IPCC assessment reports, however. The IPCC never uses the adjective “scientific” to describe the attributes of traditional knowledge. This is an illustration of the gap or tension between the claims of indigenous representatives and the discourse of the IPCC. Therefore, indigenous peoples have been demanding greater involvement in the IPCC or an autonomous space to produce climate change assessments. The slogan “nothing about us without us” is often used by indigenous peoples to highlight this point. It is only recently that the IPCC seems to be moving in that direction. One of the latest IPCC special reports, *Ocean and the Cryosphere in a Changing Climate* of 2019, includes

the participation of expert reviewers from the indigenous organization Inuit Circumpolar Council (IPCC, 2019; Annex IV). This indigenous organization was also the first to become an IPCC observer organization.

The prospects of greater engagement of diverse knowledge holders in scientific and expert bodies is not unique to the IPCC. There are some counterexamples of pluralistic approaches to knowledge that get closer to a heterarchical order among different knowledge systems. The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) established in 2012 is a case in point. IPBES was initially thought of as an IPCC for biodiversity, but it adopted a more open approach to knowledge in its conception. Indeed, “instead of taking scientific, peer-reviewed knowledge as the gold standard, the IPBES plenary discussed the relevance and credibility of different forms and sources of knowledge and experience in relation to serving the broad range of tasks the IPBES decided to tackle” (Beck et al., 2014, p. 84). The conceptual framework of IPBES advances an intercultural and transdisciplinary approach that brings into dialogue diverse conceptions of nature, such as ecosystem services and Mother Earth (Borie & Hulme, 2015). The IPBES conceptual framework has been described as “a kind of ‘Rosetta Stone’ [...] for biodiversity concepts that highlights the commonalities between very diverse value sets and seeks to facilitate crossdisciplinary and crosscultural understanding” (Díaz et al., 2015, p. 4).

The pluralistic approach to knowledge that underlies the heterarchical conceptual framework of IPBES facilitates the inclusion of “stakeholders” or “knowledge holders”, in particular indigenous peoples and local communities (Díaz et al., 2015; Esguerra et al., 2016). IPBES task force on indigenous and local knowledge includes not only indigenous and local knowledge experts, but also representatives from indigenous peoples and local communities. The task force has been in charge of developing a “participatory mechanism” to engage indigenous peoples and local communities more effectively in IPBES assessments and other areas of work<sup>25</sup>. The work of IPBES on indigenous and local knowledge has been coordinated by a Technical Support Unit hosted by UNESCO-LINKS. In short, IPBES shows how biodiversity could provide a model for a heterarchical approach to knowledge-policy relations in the IPCC and beyond.

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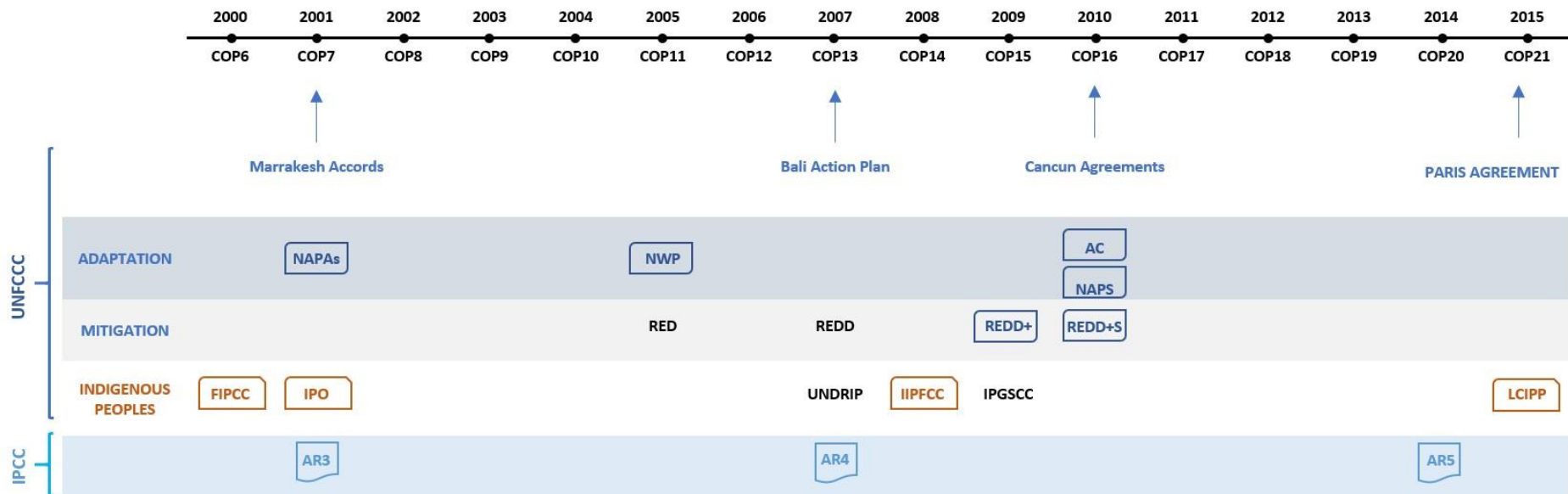
<sup>25</sup> Quoted from IPBES webpage (<https://ipbes.net/participation-iplc-ipbes>)

### 4.3 The UNFCCC: diversifying global climate policy

The UNFCCC is fundamentally different from the IPCC. While the IPCC is first and foremost a scientific organization, the UNFCCC is above all a negotiating body. If we were to think this difference with the concepts put forth by Zürn (2018a), one would say that the IPCC embodies *epistemic authority* (i.e. the authority to make interpretations), while the UNFCCC wields political authority (i.e. the authority to make decisions). The UNFCCC has the authority to make binding agreements and decisions in all domains of climate policy. However, the authority of the UNFCCC is not bounded to the political dimension. One of the subsidiary bodies of the UNFCCC, the Subsidiary Body for Scientific and Technological Advice (SBSTA), has been described as a boundary organization in STS scholarship (Miller, 2001b) and would also qualify as a PAEA. The analytical challenge, therefore, is not to determine whether the nature of authority is epistemic or political, but rather to explain how different institutional processes produce orders of epistemic diversity and reconfigure knowledge-policy relations.

The UNFCCC has been the primary target of knowledge claims coming from indigenous peoples in the climate field. In contrast to the IPCC, the UNFCCC has been a key forum of participation for indigenous representatives. However, the status of indigenous peoples in the UNFCCC was up until recently not that of knowledge holders, but rather a political and legal status as stakeholders and rights holders. In gaining this legal and political status, indigenous peoples have come to develop a series of practices of representation and advocacy in the intergovernmental negotiations to ensure that their voices be heard in global climate policy. However, in the wake of an increasing recognition of epistemic diversity, indigenous peoples are increasingly acquiring the status of knowledge holders and developing practices of knowledge brokering that could potentially reconfigure knowledge-policy interactions in the UNFCCC.

In the following, I start by analyzing the organization and mobilization of indigenous peoples within the UNFCCC. Next, I look into the UNFCCC decisions on adaptation and mitigation that recognize epistemic diversity by making explicit references to the knowledge of indigenous peoples – and local communities. Figure 7 provides a timeline of these processes. In a way analogous to the IPCC, the UNFCCC recognizes the knowledge of indigenous peoples and local communities in adaptation and restricts it to some areas of mitigation, especially the enhancement of carbon sinks through forests. Lastly, I argue that in all these respects, the Paris Agreement and the Paris Decision mark a turning point as they lay the groundwork for a new approach to epistemic diversity and a potential reconfiguration of knowledge-policy relations in the UNFCCC.



**Figure 7** Timeline of milestones of recognition of epistemic diversity in the UNFCCC and the IPCC (2000-2015). Source: own elaboration.

List of abbreviations in the figure: Adaptation Committee (AC); Conference of the Parties (COP#); IPCC Assessment Report (AR#); Forum of Indigenous Peoples on Climate Change (FIPCC); Indigenous Peoples Global Summit on Climate Change (IPGSCC); Indigenous Peoples Organizations constituency (IPO); Intergovernmental Panel on Climate Change (IPCC); International Indigenous Peoples Forum on Climate Change (IIPFCC); Local Communities and Indigenous Peoples Platform (LCIPP); National Adaptation Programs of Actions (NAPAs); National Adaptation Plans (NAPS); Reducing emissions from deforestation in developing countries (RED); Reducing emissions from deforestation and forest degradation in developing countries (REDD); Reducing emissions from deforestation and Forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries (REDD+); REDD+ and safeguards (REDD+S); United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP); United Nations Framework Convention on Climate Change (UNFCCC).

#### 4.3.1 *The UNFCCC as a forum for indigenous peoples (and local communities)*

The UNFCCC has been a forum for civil society from its inception. Its adoption took place amid an unprecedented gathering of civil society organizations at the Rio Earth Summit (Mauelshagen & López Rivera, 2020, p. 325). However, indigenous peoples were not at all involved in the negotiations that led to the formation of the UNFCCC and do not appear anywhere in the text of the convention. The UNFCCC was negotiated within an ad-hoc body, the Intergovernmental Negotiating Committee, established by the UN General Assembly in 1990. This intergovernmental body did allow NGO groups to take part in the negotiations as observers, but ultimately the participation was restricted to a limited number of environmental NGOs and business-industry NGOs. The UNFCCC became a forum for indigenous peoples only on a later stage of the negotiations. Before considering this process in detail, it is worth considering how the participation of nonstate actors works under the climate convention.

NGOs and other nonstate actors can obtain “observer status” within the UNFCCC. Once these are admitted as observers, they are allowed to participate in the proceedings of formal and sometimes informal sessions at the COPs and its subsidiary bodies, but they are generally not allowed to make interventions unless asked to do so. Besides, observers are excluded from all meetings designated as “closed” by the Parties to the convention. Observers may form “constituencies”, i.e. groups of like-minded observer organizations<sup>26</sup>. All constituencies have a “focal point” that is in charge of the interactions with the UNFCCC Secretariat. A constituency might generate input for the negotiations through interventions in plenary sessions or through formal submissions to the secretariat. In addition to this, constituencies or observer organizations in general can organize side events and press conferences at COPs or at the intersessional meetings of the subsidiary bodies.

Beyond the formal channels of participation for observers and constituencies, there are other informal ways of exerting influence in the negotiations (Schroeder, 2010; Witter et al., 2015). Among these are the lobbying of state delegates or the dissemination of activist information to raise awareness and draw attention to a particular cause. Outside of the negotiations there are parallel events that take place outside of the official meetings and may be attended by anyone. These parallel events might be, among others, forums, public gatherings or protest events.

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<sup>26</sup> The constituencies are the equivalent of Major Groups in sustainable development that were established by Agenda21 at the Rio Earth Summit and reaffirmed at the Rio+20 summit.

Before becoming a constituency, indigenous peoples were decrying their lack of access to climate change arenas. A number of indigenous declarations that were explicitly targeting the UNFCCC evidence this malaise. The Albuquerque Declaration (1998) and the Quito Declaration (2000) are early examples of international or regional indigenous declarations devoted to this issue. The Albuquerque Declaration was the outcome of the Native People-Native Homelands Climate Change Workshop-Summit, that brought together indigenous peoples from North America in November 1998. The Quito Declaration, for its part, was the outcome of a workshop of mostly Latin American indigenous organizations on climate change that convened in May 2000. Both of these declarations were addressed to the UNFCCC. The demand of indigenous peoples was straightforward. They were asking for their inclusion in climate change negotiations. The Quito Declaration, for instance, decries “that the 1992 United Nations Framework Convention on Climate Change, as well as the Kyoto Protocol have been negotiated without the participation of the Indigenous Peoples and Organizations and do not take into account our rights” (2000, sec. 4).

Following the Albuquerque and Quito declarations, indigenous peoples attending the UNFCCC Conference of the Parties (COPs) and intersessional meetings of the subsidiary bodies came together as the Forum of Indigenous Peoples (and Local Communities) on Climate Change (FIPCC)<sup>27</sup>. This forum might be thought of as a proto-constituency of indigenous peoples. The first forum convened in September 2000 during the intersessional meeting of the UNFCCC subsidiary bodies. Its outcome document was the Lyon Declaration, which addressed the issue of further inclusion of indigenous peoples as well as substantive topics including carbon sinks and adaptation. The second forum met in The Hague at COP6 in 2000 and its outcome was a declaration making a call for inclusion: “We propose that COP guarantees the fullest and most effective participation of Indigenous Peoples in all activities related to the FCCC” (2000, sec. III.1). The Third and last forum took place at the extended negotiations of COP6 in Bonn in 2001. In the Bonn Declaration (2001) the claim for recognition is reiterated: “We denounce the fact that neither the UNFCCC nor the Kyoto Protocol recognizes the existence or the contributions of Indigenous Peoples” (2001; Preamble). From COP7 on, the Forum of Indigenous Peoples on Climate Change became the so-called “indigenous peoples caucus”.

The plea for recognition from indigenous peoples was backed by their status as a Major Group in Agenda 21 as well as their full participation in other international environmental organizations including the biodiversity convention. Hence, indigenous representatives were seeking to gain a

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<sup>27</sup> I bracket “local communities” because the term does not appear in all the declarations.

voice in climate change negotiations by drawing linkages between the UNFCCC and other regimes in which they were actively participating. The Marrakesh Declaration, which was agreed upon by indigenous peoples attending COP7 makes a call for these interlinkages among different regimes:

The existing linkages amongst the UNFCCC, the Convention on Biological Diversity and the Convention to Combat Desertification and key chapters of the Program of Action of the World Summit on Development and Environment (Agenda 21), are crucial for climate change mitigation, as well as for the recognition of the provisions related to the respect and defense of the particular and specific rights of Indigenous Peoples and Local Communities. COP7 offers a historic opportunity for implementing this interrelation. (Indigenous Peoples and Local Communities Caucus, 2001, sec. 3)

The indigenous peoples caucus was recognized as a UNFCCC constituency at COP7. The indigenous constituency was further formalized at COP14 in 2008 with the creation of the International Indigenous Peoples Forum on Climate Change (IIPFCC). These were major steps for a more active participation of indigenous peoples in climate change negotiations. In practice, the constituency or IIPFCC works as the caucus for indigenous peoples participating in UNFCCC processes. Here is where indigenous peoples organize, as in other UN bodies, according to sociocultural regions: Africa; Asia; Central and South America and the Caribbean; the Arctic; Central and Eastern Europe, Russian Federation, Central Asia and Transcaucasia; North America; and the Pacific. These sociocultural regions were defined by the United Nations Permanent Forum on Indigenous Issues (UNPFII).

In general, the caucus is a space where indigenous peoples agree on common positions for the negotiations and establish a direct link to the secretariat through its focal point. It provides a representation for all those who identify as indigenous peoples. As an indigenous representative from the Amazon and former focal point of the indigenous constituency explains:

The caucus is for everyone who arrives here. An indigenous person from any place in the world who arrives here, whether with the assistance of an NGO or a church, that indigenous person has a spokesperson [vocería] here. This indigenous person is not voiceless, it is someone who has something to say, someone who has a story, someone who has an own people, someone who has a country. And this [the indigenous caucus] formalizes that. (Indigenous representative 1, personal communication, May 1, 2018)

The indigenous caucus is where in-group dynamics take shape, where a common identity emerges out of diverse groups coming from all over the world. The indigenous caucus is also a space where collective claims are articulated. It provides continuity to the engagement and



mobilization of indigenous peoples in climate change issues. The caucus warrants the autonomy and the unity of indigenous peoples. An indigenous Elder from North America explained this in the following terms:

Well, we have decided that it is important for us not to be uh... to not let a “divide and conquer” type of tactic to be used at us. So, what we’ve done is we strive with the utmost effort to reach consensus positions and we do our very best to make sure that those people who speak for the caucus are speaking a consensus position, even if the position is you have no position; I guess that sometimes is the case. And we have to reach consensus within ourselves because we come from seven different regions, each region has its own issues and we all have some common issues, but we also have ones that are more specific to the regions. (Indigenous representative 3, personal communication, May 3, 2018)

The statements or declarations that come out from the indigenous caucus reflect these consensus positions. Consensus is also at the root of more informal channels of influence within the UNFCCC. Once indigenous peoples agree on a common position and, more importantly, on a common strategy, they engage in lobbying with state delegates or what has been called “indigenous diplomacy” (cf. Beier, 2009).

However, the unique status of indigenous peoples in the UN is being put into question by another category of actors that was brought into the official language of the UN by stealth, namely *local communities*. It is a common term in the official language of UN bodies. The use of this language, however, has become problematic for indigenous peoples in so far as local communities are often lumped together with indigenous communities, thereby obscuring their status as distinct peoples with the right to self-determination. The lumping together of indigenous peoples and local communities is largely the result of the language used in the Convention for Biological Diversity, which speaks of “indigenous and local communities embodying traditional lifestyles”. While indigenous peoples have a special status in the UN, as rights holders and as a Major Group in sustainable development agendas, local communities are in many respects an unspecified newcomer. In a way, the inclusion of local communities in a legal UN document was an unintentional invention. As Niezen notes, “[w]hatever ‘local communities’ turned out to be, the Convention on Biodiversity gave them a more salient reality that then called for elaboration” (2017, p. 301).

The unspecified and evasive meaning of local communities has given way to attempts to define who they are and how to identify them. The UNPFII (2004) and the CBD (2011) addressed this issue without reaching definitive conclusions. Beyond substantive characteristics, these discussions cling to the principles of self-organization and self-identification. The main problem

for the work of international organizations and in specific for the UNFCCC, is that this blurry concept has been brought to the domain of climate change with no further specification.

Within the UNFCCC, local communities are not a constituency and therefore lack a formal representation. Other constituencies might partially resemble what is understood under the term local communities. For instance, there is a constituency for farmers and agricultural NGOs, with the umbrella NGO World Farmers Organization at its center. This is partly linked to local communities in so far as it includes smallholder farmers. However, it is not clear whether these smallholder farmers should embody “traditional lifestyles” to be considered local communities. Besides, the farmers constituency includes large scale farmers who definitely do not fit into the concept of local communities. In contrast, La Via Campesina, an international NGO that represents small farmers and peasant communities, is not part of the farmers constituency. As a follow-up of the Paris Agreement, this confusion was exacerbated by the creation of the Local Communities and Indigenous Peoples Platform (see Chapter 7).

The struggle for political representation and legal recognition of indigenous peoples at the UNFCCC contrasts with the inchoate collective of local communities. However, the lumping together of indigenous peoples and local communities continues to shape the understanding of epistemic diversity in the climate field and beyond, because these are thought to be the knowledge holders as the counterpart of scientists. However, indigenous peoples highlight the fact that they are distinct peoples with the right to self-determination. Therefore, the epistemic status of indigenous peoples as knowledge holders is to be understood against the backdrop of the recognition of a political and legal status that underwrites the collective identity of these as peoples.

#### *4.3.2 Adaptation and diverse ways of knowing*

The UNFCCC, mirroring the IPCC, came to the realization of epistemic diversity first through the recognition of traditional knowledge and cognate categories in the policy domain of climate change adaptation. A key development of climate policy, in this regard, was the recognition of adaptation on an equal footing with mitigation which was the core area of global climate governance since the inception of the UNFCCC (Schipper, 2006). The increasing importance of adaptation in climate negotiations was key for indigenous peoples to be recognized as knowledge holders in climate policy (Ford, Maillet, et al., 2016).

The first mentions of other knowledge systems by the UNFCCC are found in decisions from 2001, the same year in which the IPCC third assessment report came out, which was in turn the first

assessment report containing references to traditional knowledge. The decisions in which the term appears relate to capacity-building in developing countries (UNFCCC, 2002a; Annex, Decision 2/CP.7) and the National Adaptation Programs of Action (NAPAs) (UNFCCC, 2002b; Annex, Decision 28/CP.23). The latter were established in conjunction with the least developed countries (LDCs) work program to support these in their climate change adaptation policies. Both decisions were taken at COP 7 as part of the Marrakesh Accords, a set of decisions that mark the emergence of adaptation as a policy domain in the UNFCCC. The UNFCCC had up until then kept its focus on mitigation, which was originally set as the “ultimate objective” of climate governance. The Marrakesh Accords were of pivotal importance in providing financial mechanisms (namely the Adaptation Fund) as well as technical support and advice for developing countries, in particular LDCs.

Indigenous peoples were following these developments, in particular with the objective of being included as recipients of the Adaptation Fund. The Lyon Declaration (2000) supports the creation of an adaptation fund and asks for the inclusion of indigenous peoples as recipients of these funds. The Bonn Declaration (2001) calls for the establishment of an Adaptation Fund with the full participation of indigenous peoples. Lastly, the Milan Declaration at COP9 in (2003) reiterates this demand and links it to traditional knowledge: “We vigorously support the creation and financing of the Adaptation Fund to be accessed by Indigenous Peoples to address the potential and actual impacts of climate change in a manner compatible with our traditional knowledge, customs, culture and lifestyles” (2003, sec. 6.g.).

In spite of these claims indigenous peoples were absent from these decisions. It is telling that the Marrakesh Accords make mention of traditional knowledge, but they avoid making any reference to indigenous peoples or local communities. Speaking of knowledge without any reference to the “knowers” is a practice that reveals the politics of attribution and especially what Agrawal (2002) calls the “scientization” of traditional knowledge, i.e. turning it into a disembodied form of knowledge that is amenable to be kept in databases and be used without the intervention of the knowers.

At COP 11 in Montreal (2005) the Parties recognized the “importance of local and indigenous knowledge” (UNFCCC, 2011b; Decision 2/CP.11) in the establishment of the Nairobi Work Program, a mechanism to assist LDCs and small island developing states through the development and diffusion of knowledge for adaptation policies and actions. The Nairobi Work Program (NWP) would become one of the only spaces to consider traditional knowledge within the UNFCCC. However, due to limited resources, its main output has been limited to compile a

database of best practices and available tools for the use of indigenous and traditional knowledge in adaptation policies and actions. This was partly carried out through the creation of an online database and platform for sharing information called the Adaptation Knowledge Portal.

The next landmark of adaptation policy came to fruition at COP 13 in 2007 with the adoption of the Bali Action Plan that speaks consistently of mitigation *and* adaptation, thereby placing each of these governance dimensions of climate change on an equal footing. The Bali Action Plan does not make mention of traditional knowledge, but it remains important in the development of adaptation policies and the inclusion of indigenous peoples because it led to the adoption of the Cancun Adaptation Framework in 2010, a turning point in the recognition of the knowledge of indigenous peoples and local communities.

In the lead-up to Cancun indigenous peoples held the Indigenous Peoples' Global Summit on Climate Change (IPGSCC) in Anchorage, Alaska. This was an unprecedented global gathering of indigenous peoples from all over the world to discuss climate change outside the UNFCCC. The Anchorage Declaration (2009) that came out from the summit was a resolute call from indigenous peoples to be taken into account in climate negotiations. The Cancun Agreements would reflect this revival of indigenous peoples in climate change governance.

The Cancun Adaptation Framework was adopted at COP16 in 2010. It is the source of three work streams on adaptation: (1) the Adaptation Committee (AC), whose purpose is to promote the implementation of enhanced action on adaptation; (2) the National Adaptation Plans (NAPs), as a process to formulate and implement medium and long-term adaptation plans; and (3) the Work Program on Loss and Damage (L&D), to consider approaches to loss and damage from climate impacts. In the preamble of the agreements, the Conference of the Parties

12. Affirms that enhanced action on adaptation should be undertaken in accordance with the Convention, should follow a country-driven, gender-sensitive, participatory and fully transparent approach, taking into consideration vulnerable groups, communities and ecosystems and should be based on and guided by the best available science and, as appropriate, traditional and indigenous knowledge, with a view to integrating adaptation into relevant social, economic and environmental policies and actions, where appropriate" (UNFCCC, 2011b; Decision 1/CP.16; emphasis added)

The formula "best available science and, as appropriate, traditional and indigenous knowledge" is one of those formulas that, in the context of international negotiations, achieves the exact wording that accommodates the positions of all states in the light of the demands from

indigenous peoples. It keeps the conventional phrase “best available science”, but it adds “traditional and indigenous knowledge” to it. This, however, is qualified by the caveat “where appropriate”, which implies that whereas science is an imperative, the use or integration of traditional or indigenous knowledge is at the discretion of states. There is, in that sense, a hierarchy assigning a higher value to scientific knowledge vis-à-vis traditional or indigenous knowledge. That being said, this was an extremely important instant of recognition that would extend to the Paris Agreement itself. It is also worth noting that, as the previous section explains, the UNESCO-LINKS program seeks to change this discourse by using the formula “best available knowledge”, which achieves equal footing between indigenous knowledge and scientific knowledge.

The Cancun Adaptation Framework presages community-based adaptation. It is emphatic on the need of a participatory approach that takes into consideration and fully integrates gender issues and vulnerable groups, in particular indigenous peoples and their knowledge. Indeed, the Cancun approach to adaptation is a breakthrough in adaptation policy in that it fully embraces traditional knowledge and embeds it in participatory governance. More generally, Cancun was a landmark in adaptation policy because it finally succeeded in placing adaptation on an equal footing with mitigation, as it claims that “[a]daptation must be addressed with the same priority as mitigation” (UNFCCC, 2011b; Decision 1/CP.16, Para. 2b).

Cancun was also a breakthrough because it initiated a close relationship between the indigenous constituency and the secretariat of the UNFCCC. In a UNFCCC workshop on indigenous peoples and local communities held on 1 May 2018, Patricia Espinosa, executive secretary of the UNFCCC, recalled that “it was in Cancun, back when I was foreign minister of Mexico and Mexico hosted the COP, where we first worked to amplify the voices of indigenous peoples and local communities in the climate process” (P. Espinosa, 2018, 00.25:29 - 00.25:41). The Cancun Agreements are, in this sense, the most important instance of recognition of traditional knowledge before the Paris Agreement.

#### **4.3.3 Mitigation and diverse ways of knowing**

There is no parallel between adaptation and mitigation when it comes to the recognition of epistemic diversity by the UNFCCC. However, there is one specific area in which the knowledge of indigenous peoples and local communities is taken into account for mitigation policies, namely forest management for the enhancement of carbon sinks. Forests work as *carbon sinks* given that these absorb CO<sub>2</sub> from the atmosphere and store it as carbon in biomass. At the same time, when forests undergo deforestation, these become *carbon sources* as these produce

greenhouse gas emissions. Because of the importance of forests and deforestation in climate change mitigation efforts, they were already considered in the early phases of the climate regime, in particular since 1988 at the Toronto Conference on Our Changing Atmosphere (Fogel, 2004, pp. 104–105). However, the formal inclusion of forests in climate governance was undertaken in 1997 by the Kyoto Protocol's Clean Development Mechanism (CDM).

The CDM was a project-based mechanism poised to channel financial resources to developing countries for emission reductions or removal enhancement (UNFCCC, 1997; Article 12). The CDM included forests in the form of reforestation and afforestation. The former refers to the planting of trees in areas where there was a previous tree cover, whereas the latter refers to the planting of trees in areas where there was no previous tree cover. However, the CDM excluded "avoided deforestation", i.e. keeping existing forests standing, because of the technical issues that it involves (Pistorius, 2012, p. 639).

In introducing forests to the climate change regime, the Kyoto Protocol impinged on a policy area in which indigenous peoples and pro-indigenous NGOs were actively speaking of traditional knowledge. Traditional knowledge was already recognized in the Forest Principles, one of the outcome documents of the Rio Earth Summit. The follow-up of the Forest Principles was a series of succeeding initiatives: the Intergovernmental Panel on Forests (1995-1997); the Intergovernmental Forum on Forests (1997-2000); and the United Nations Forum on Forests (2000 onwards). An enduring agenda item in this evolving process was the so-called "traditional forest-related knowledge" (Newing, 2009). This focus on traditional knowledge was consistent with the evolving identity of forest-dependent indigenous peoples, that went from being depicted as the "guardians of the forest" to the "guardians of *knowledge* of the forest" (B. A. Conklin, 2002, p. 1056). These forest governance initiatives, however, do not amount to a forest regime. They were rather the result of the failure of a forest treaty in Rio 1992. However, despite their peripheral place in environmental governance, these forest forums provided a space for claims to the so-called traditional forest-related knowledge.

The CDM, in its original formulation, did not take into consideration forest-dependent communities, let alone indigenous peoples. As a consequence, the CDM faced resistance from indigenous peoples organizations. The declarations released by the International Forum of Indigenous Peoples (and Local Communities) on Climate Change evidence this resistance. The Lyon Declaration, which was signed by the indigenous peoples and local communities representatives present at the UNFCCC intersessional meetings in 2000, opposes the redefinition of forests as carbon sinks:

Our intrinsic relation with Mother Earth obliges us to oppose the inclusion of sinks in the Clean Development Mechanism (CDM) because it reduces our sacred land and territories to mere carbon sequestration which is contrary to our cosmivision and philosophy of life. Sinks in the CDM would constitute a worldwide strategy for expropriating our lands and territories and violating our fundamental rights that would culminate in a new form of colonialism. Sinks in the CDM would not help to reduce GHG emissions, rather it would provide industrialized countries with a ploy to avoid reducing their emissions at source. (2000, sec. Sinks)

In a similar vein, the Marrakesh Declaration (2001) from indigenous peoples and local communities at COP7 rejects the CDM and puts forth indigenous knowledge as an alternative:

The inclusion of carbon sinks in the Clean Development Mechanism (CDM) will constitute a dangerous tool for the expropriation of our lands and territories and culminate in a new form of colonialism. No development mechanism can be clean, from our point of view, if it does not guarantee the rights of Indigenous Peoples including the right to free, prior informed consent of indigenous and local communities and the respect of our cultures, practices, sciences and knowledge. Nonetheless, we resolve to continue contributing with our knowledge of nature conservation and management to prevent and mitigate the effects of climate change. (2001, pt. 4)

The perils of CDM projects were known from ongoing large-scale reforestation and afforestation projects. Planting monocultures<sup>28</sup> of fast-growing trees in developing countries for the sole purpose of sequestering and storing carbon led in many cases to the eviction of local populations through land lease agreements that constitute a form of “green grabbing” or “CO2lonialism”. The report *Tree Trouble*, prepared by Friends of the Earth International in collaboration with the World Rainforest Movement and Fern, presented a compilation of testimonies on the negative impacts of large-scale monoculture tree plantations for COP 6 in 2000. The report was unequivocal in its critique of CDM and its forests-as-carbon-sinks approach. A recurrent accusation in the report is the loss of traditional knowledge, arguing that monoculture plantations will then be imposed over “forestry production models which are better adapted to natural ecosystems and which follow the patterns elaborated through traditional knowledge, sometimes of thousands of years, of peoples and communities” (Baltodano, 2000, p. 8).

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<sup>28</sup> The monocultures trope has been used in critical theory to describe the dominance of Western “scientific” forestry and agriculture to the detriment of local forms of knowledge. Shiva (1993) speaks in this sense of the “monocultures of the mind”, while Santos (2014) calls for an “ecology of knowledges” that recognizes a plurality of knowledges against the monoculture of scientific knowledge.

The resistance to CDM by indigenous peoples was resolute despite the fact that, in the end, the number of reforestation/afforestation projects that were actually carried out under the CDM remained very small (Thomas et al., 2010). However, the CDM experience gave indigenous peoples a common cause and a repertoire of mobilization to oppose this sort of top-down climate policies. These lines of contention would surge again when a novel scheme for the integration of forests in climate mitigation was proposed to the UNFCCC: REDD+.

Forests became further embedded in climate governance through REDD+<sup>29</sup>. REDD+ was initially formulated at COP11 in 2005 as RED (Reducing emissions from deforestation). The main thrust of the proposal is to financially reward developing countries for the “avoided emissions” that result from reducing deforestation, the missing element of CDM whose focus is on reforestation and afforestation. Following two expert workshops RED became REDD at COP13 in 2007 to include forest degradation in addition to deforestation. At COP15 in 2009 a final add-on was introduced with the “plus” activities: conservation, sustainable forest management and enhancement of carbon stocks. In its original conception REDD+ was a “quintessential” market-based instrument seeking to finance forest management by trading carbon credits in a global carbon market (Fletcher et al., 2016, p. 673). However, a compliance market for REDD+ credits did not materialize and public finance – coming from international donors but also from REDD+ countries – has come to fill the gap (Angelsen et al., 2018).

The negotiations on REDD+ as a market-based instrument led to discussions about possible unintended negative impacts on biological diversity and forest-dependent communities. These considerations led to the inclusion of “co-benefits” or “non-carbon benefits”, as well as safeguards for indigenous peoples and local communities in REDD+ intervention areas (Pistorius, 2012). As I explain below, traditional forest-based knowledge would become an important element of co-benefits and safeguards.

The initial formulation of REDD+ did not include any consideration of forest-dependent communities. As an indigenous representative from the Amazon recalls, when REDD+ came out indigenous peoples were nowhere to be seen: “...where are we? And where do we live? In the air or in the forests? No. In the forests!” (Indigenous representative 1, personal communication, May 1, 2018). It is no surprise, then, that REDD+ was initially rejected by the indigenous caucus under the UNFCCC. At COP13 in 2007, a statement from the International Forum of Indigenous

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<sup>29</sup> Reducing emission from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries.



Peoples on Climate Change echoes the declarations made by indigenous peoples in rejection of the CDM:

REDD will not benefit Indigenous Peoples, but in fact, it will result in more violations of Indigenous Peoples' Rights. It will increase the violation of our Human Rights, our rights to our lands, territories and resources, steal our land, cause forced evictions, prevent access and threaten indigenous agriculture practices, destroy biodiversity and culture diversity and cause social conflicts. Under REDD, States and Carbon Traders will take more control over our forests. (International Forum of Indigenous Peoples on Climate Change, 2007)

The statement recalls their rejection of CDM. However, there is an important difference because this time indigenous peoples could reference the UN Declaration on the Rights of Indigenous Peoples (UNDRIP), which was finally adopted in 2007 after several years of discussions. The UNDRIP became the cornerstone of the rights-based resistance to REDD+. The UNDRIP provides for the protection of traditional knowledge, including intellectual property (UNDRIP, 2007, Article 31). The other line of resistance that emerges from this statement draws upon the indigenous cause in the realm of biodiversity or more precisely, biocultural diversity. Both of these issues, the rights of indigenous peoples and forest-dependent communities, as well as the importance of biocultural diversity would enter the REDD+ debate after COP13. Rights in the form of safeguards and biodiversity in the form of co-benefits.

After Bali, indigenous representation within the UNFCCC was consolidated by two emerging organizations. First, there was the creation in 2008 of the International Indigenous Peoples Forum on Climate Change (IIPFCC) as a way of formalizing the indigenous constituency within the UNFCCC. REDD+ immediately became a central issue for the IIPFCC. An indigenous representative from Asia recalls that “in that forum we agreed to be better engaged in REDD+ and forest related issues saying that we are the people of the forests, so we have to be included in these negotiations” (Indigenous representative 4, personal communication, May 4, 2018). Second, there was the creation of the Accra Caucus on Forests and Climate Change, a group of civil society and indigenous peoples organizations that was set up to discuss REDD-related issues. This was a source of fragmentation in indigenous representation, but at the same time an opportunity for forging alliances with environmental and human rights NGOs (NGO representative 4, personal communication, January 8, 2020).

In 2008, as the IIPFCC and the Accra Caucus were established, REDD+ would fail to recognize the rights and knowledge of indigenous peoples. At a 2008 CBD Conference of the Parties, Victoria Tauli-Corpuz, then chair of the UN Permanent Forum on Indigenous Issues, articulates the plight and demands of indigenous peoples in the following terms:

What adds insult to injury is that, indigenous peoples do not only suffer from climate change impacts but also from the effects of climate change mitigation measures which are mainly market-based mechanisms. [...]

We believe if REDD is to benefit indigenous peoples there must be a thorough redesigning of it so that global and national policy reforms, guided by the UN Declaration on the Rights of Indigenous Peoples, will take place which respects the rights of indigenous peoples to their lands, territories and resources. (Tauli-Corpuz, 2008a)

These claims were not taken into account by the UNFCCC. In 2008 at COP14, the final draft conclusion of Agenda Item 5 (REDD) removed all references to the rights of indigenous peoples and UNDRIP. In a press statement following the release of this document, Tauli-Corpuz (2008b) condemns this omission of indigenous rights, as well as the use of the term “indigenous people”, in the singular, a formula that denies the fact that indigenous peoples have the right to self-determination. This episode would mark a turning point towards the progressive recognition of indigenous peoples in REDD+.

In 2008 the CBD established a technical expert group on REDD and biodiversity (Pistorius, 2012, p. 641). Its mandate was to “to consider the possible negative impacts of climate change related activities on biodiversity, identify the role of biodiversity in climate change mitigation and identify opportunities for achieving climate change and biodiversity co-benefits” (CBD, 2009, p. 6). The input given by the CBD to the UNFCCC would advance co-benefits as one of its central points. The technical report uses a broad notion that includes social, economic, environmental and cultural co-benefits. In this framework, the protection of traditional knowledge is one of the co-benefits, while at the same time the use of traditional knowledge ensures that co-benefits result from ecosystem-based approaches to climate change mitigation and adaptation. Furthermore, in 2010 the CBD received the mandate to organize regional expert workshops on environmental safeguards (Pistorius, 2012, p. 642).

In 2009, in the lead up to COP15, UNFCCC asked for state submissions on issues related to indigenous peoples and local communities for the development and implementation of REDD. Five submissions were sent from the Czech Republic on behalf of the European Community, Ecuador, Guatemala, Panama and Costa Rica. The input from Parties was generally pointing out to the importance of including indigenous peoples and local communities in REDD+ implementation and activities. On that same year indigenous peoples held the Indigenous Peoples’ Global Summit on Climate Change. The Anchorage Declaration makes claims to rights with regard to REDD+ and exposes the contradictions between a rights-based approach and the use of traditional knowledge. It claims that all REDD initiatives “must secure the recognition and

implementation of the rights of Indigenous Peoples”. The Declaration ends with a big statement on knowledge and rights:

We offer to share with humanity our Traditional Knowledge, innovations and practices relevant to climate change, provided our fundamental rights as intergenerational guardians of this knowledge are fully recognized and respected. We reiterate the urgent need for collective action. (Indigenous Peoples’ Global Summit on Climate Change, 2009)

Once again, indigenous peoples were insisting on the inextricable link between traditional knowledge and fundamental rights not only in REDD+ but in all climate policies and actions.

In 2009 the first REDD-related UNFCCC decision acknowledges the importance of indigenous and local knowledge in its preamble, albeit in a cautious manner:

Recognizing the need for full and effective engagement of indigenous peoples and local communities in and the potential contribution of their knowledge to, monitoring and reporting of activities relating to decision 1/CP.13, paragraph 1 (b) (iii) (UNFCCC, 2010; Decision 4/CP.15, Preamble)

The UNFCCC speaks of a “potential contribution” that does not amount to an imperative of taking traditional knowledge into consideration. But the next year, the Cancun Agreements from COP16, the same in which adaptation and traditional knowledge came to the fore, the importance of traditional knowledge would become established through the agreement on safeguards (UNFCCC, 2011b; Decision 1/CP.16, Para. 71). The decision requests developing Parties to develop a system of information that documents the implementation of safeguards. One of the safeguards stipulated by the agreement are specific about indigenous rights and knowledge as well as their participation.

Respect for the knowledge and rights of indigenous peoples and members of local communities, by taking into account relevant international obligations, national circumstances and laws and noting that the United Nations General Assembly has adopted the United Nations Declaration on the Rights of Indigenous Peoples; (UNFCCC, 2011a; Appendix 1, para. 2c)

This is one of the main instances of recognition of indigenous peoples. In the follow-up of this decision, REDD+ countries would develop Safeguard Information Systems as one of the core elements of the REDD+ framework. At COP 19 in 2013 a new decision reiterates the importance of traditional knowledge in the implementation of REDD+, namely to “[s]trengthen, consolidate and enhance the sharing of relevant information, knowledge, experiences and good practices, at the international level, taking into account national experiences and, as appropriate, traditional knowledge and practices” (UNFCCC, 2014; Decicion 10/CP.19, Para. 3a). All in all, the

struggle against REDD+ evinces the inseparable character of rights and knowledge as core elements of the claims of indigenous peoples.

#### 4.3.4 *The Paris Agreement: back to Rio and beyond*

The Paris Agreement from COP21 marks a watershed in the recognition of epistemic diversity in global climate governance. Under the banner of “leave no one behind”, COP21 set out to initiate a new phase of climate negotiations with a wider participation and inclusion of civil society. In this way, COP21 was set to make up for the failure of COP15, which was poised to deliver a post-Kyoto climate change agreement. COP15 was marked by the exclusion of observers and a last-minute closed-door arrangement between the United States and the BASIC countries (Brazil, South Africa, India and China). The consequence of this developments were widespread mobilizations on the part of civil society and a general rejection on the part of developing states that were left behind (Mauelshagen & López Rivera, 2020, p. 326). The negotiations in Paris, by contrast, featured a different dynamic in terms of civil society engagement, including indigenous peoples (Foyer & Dumoulin Kervran, 2017).

The IIPFCC, commonly known as the indigenous caucus, was advancing a comprehensive agenda for indigenous peoples at COP21 consisting of four main proposals (IIPFCC, 2015c). The first point was demanding recognition of and respect for the rights of indigenous peoples in the Paris Agreement and COP decisions. The second point was about the recognition of the traditional knowledge of indigenous peoples in adaptation *and* mitigation, among others, through the creation of an advisory body for indigenous peoples’ experts and knowledge holders. The third point was to ensure the full and effective participation of indigenous peoples in climate change processes at all levels. The fourth and final point was demanding direct access to climate finance for indigenous peoples organizations. In one way or another all points are reflected in the Paris Agreement and the COP21 decision.

The IIPFCC agenda became more concrete as the negotiations on the draft texts of the Paris Agreement and the COP21 decision were gaining momentum. The indigenous caucus was struggling for the inclusion of specific statements on the rights and knowledge of indigenous peoples, as well as the use of specific wording, in the draft texts of COP21 (IIPFCC, 2015a, 2015b). An indigenous representative from North America who was present at COP21 described this work as

...hours of tedium punctuated by seven minutes of examining. Because, we were said, one person at one point hit a button refreshing the screen every fifteen seconds for an hour and a

half waiting for a document to be released. When it was released, we then had to print it, tear into it, decide what had happened to our language, divide up who was supposed to go splitting us all into different groups and then we immediately went out to start meeting with various parties, about our concerns over the particular wording that was in the draft that was being proposed. (Indigenous representative 3, personal communication, May 3, 2018)

The tedious advocacy work of the indigenous caucus is reflected in the outcome of COP21, albeit with some erasures and omissions. The Paris Agreement acknowledges the rights of indigenous peoples in its Preamble. However, there is no reference to these in the main text despite the rallying cry of the indigenous caucus to include the rights of indigenous peoples in Article 2 or 4 (IIPFCC, 2015a, 2015b). The knowledge of indigenous peoples and local communities appears once in the Paris Agreement, specifically in reference to adaptation. In fact, the text from the Paris Agreement is almost identical to the text of the Cancun Agreements on adaptation:

5. Parties acknowledge that adaptation action should follow a country-driven, gender-responsive, participatory and fully transparent approach, taking into consideration vulnerable groups, communities and ecosystems and should be based on and guided by the best available science and, as appropriate, traditional knowledge, knowledge of indigenous peoples and local knowledge systems, with a view to integrating adaptation into relevant socioeconomic and environmental policies and actions, where appropriate. (UNFCCC, 2015, Article 7.5)

The formula is once again the “best available science and, as appropriate, traditional knowledge, knowledge of indigenous peoples and local knowledge systems”. The main difference is that, while the Cancun Agreements speak of “traditional and indigenous knowledge”, the Paris Agreement opts for a more elaborate differentiation substituting “indigenous knowledge” by the “knowledge of indigenous peoples” and adding “local knowledge systems”. These are no minor changes. The use of the term indigenous *peoples* is a major advance as it moves beyond the biodiversity convention that speaks of indigenous *communities* and other decisions that speak of indigenous people in singular. Moreover, the knowledge of indigenous peoples is a formula that places the knowledge holder at the center as opposed to indigenous knowledge. Finally, the more general reference to “local knowledge systems” is arguably pointing to local communities in a diffuse way. It is also worth noting that the caveat “where appropriate” was kept despite the demand to erase it coming from the indigenous caucus (IIPFCC, 2015b, sec. 4).

Article 7.5 of the Paris Agreement confirms the restrictive recognition of traditional knowledge confining it to the domain of adaptation, thereby disregarding the indigenous caucus’ demand to extend this recognition to mitigation (IIPFCC, 2015c, 2015b). The Paris Agreement, in that sense, did not take the recognition of traditional knowledge further than the Cancun

Agreements. However, there was a wider recognition of the knowledge of indigenous peoples in the accompanying decision of the Paris Agreement. In specific, the COP21 decision provides for the creation of a platform for indigenous peoples and local communities to strengthen and exchange knowledge on adaptation *and* mitigation:

135. Recognizes the need to strengthen knowledge, technologies, practices and efforts of local communities and indigenous peoples related to addressing and responding to climate change and establishes a platform for the exchange of experiences and sharing of best practices on mitigation and adaptation in a holistic and integrated manner. (UNFCCC, 2016; Decision 1/CP.21, Para. 135)

The COP21 decision goes beyond the Paris Agreement in so far as it recognizes the knowledge and practices of indigenous peoples not only in adaptation but also in mitigation. This is the first time that traditional knowledge appears as a resource for climate change mitigation in a decision of the COP. More importantly, the COP21 decision includes a concrete provision for the creation of a platform in which indigenous peoples and local communities would exchange experiences and share best practices on mitigation and adaptation. This “knowledge platform”, as it came to be known, would become the first institutional space devoted to indigenous peoples and local communities within the UNFCCC. In a similar way to the Working Group on Article 8(j) under the biodiversity convention, the UNFCCC set out to engage with indigenous and local knowledge holders. Chapter 7 analyzes the platform in detail as an institutional innovation reconfiguring knowledge-policy relations.

The Paris Agreement and the COP21 decision from 2015 mark, at once, a culmination and a beginning in the recognition of epistemic diversity in climate governance. They mark the culmination of “climate exceptionalism” through the enshrinement of the knowledge of indigenous peoples and local communities in adaptation – and to a lesser extent in mitigation – policy. In one sense, the Paris Agreement and the accompanying decision make up for the erasures and absences of climate governance with respect to epistemic diversity and catches up with a process that began in other policy domains of environmental governance already in 1992. Therefore, at the same time, the COP21 decision marks the beginning of a new phase in global climate governance in so far as it reconfigures knowledge-policy relations by providing an institutional space for epistemic diversity under the UNFCCC.

#### 4.4 Re-ordering epistemic diversity

The global trajectory that the present chapter follows presents a broad picture of how the IPCC and the UNFCCC led to the recognition of epistemic diversity in global climate science and policy. These global organizations did not discover or invent new categories of epistemic difference ex nihilo, but instead they were re-ordering diversity on the basis of those official categories that were already part of the wider field of environment and development. The categories of epistemic difference that came to acquire recognition in the climate field are broadly the same as in the Earth Summit, especially in the field of biodiversity. However, the way in which these become valuable or policy-relevant in the climate field is not the same as in other fields of governance. *Re-ordering*, in that sense, refers to the ways in which readymade categories of epistemic difference change as these become embedded in a new field of governance with a distinct configuration of science-policy interactions.

In the climate field, epistemic diversity was virtually invisible until the turn of the millennium, in so far as there was no consideration whatsoever of other ways of knowing in the UNFCCC and the IPCC. I refer to this as “climate exceptionalism” because the invisibility of epistemic diversity in the climate field contrasts with its broad recognition in the wider fields of environment and development, especially since the Earth Summit from 1992. The analysis then moves on to focus on how epistemic diversity came to be seen as valuable or policy-relevant in global climate governance. To be seen as valuable in the climate field, these attributes had to be rethought in the light of climate change mitigation and/or adaptation policies. The IPCC, in specific, ushered in a new understanding of the attributes of traditional knowledge through a series of conceptual innovations that link it to the policy domain of adaptation, especially community-based adaptation. In the UNFCCC process, there is a concomitant recognition of traditional knowledge in COP decisions on adaptation and a gradual acknowledgement of its value in some areas of mitigation, most prominently within the framework of REDD+.

The diversification of knowledge in the IPCC and the UNFCCC is discernible in changing institutional discourses and practices. IPCC authors, for the most part, did not have the necessary expertise to make sense of traditional knowledge in the field of climate change. To fill this gap the IPCC had to resort to other UN bodies who were knowledgeable about these issues, most prominently UNESCO-LINKS and UNU-TKI. The involvement of these bodies was key in providing surrogate expertise through the production of comprehensive reports reviewing the “scientific literature” on traditional knowledge. Through this input the IPCC fifth assessment report was able to integrate this body of literature – and attendant conceptual innovations – in

a cross-cutting approach. All this process did not require introducing new practices in the work of the IPCC. The input from UNESCO-LINKS and UNU-TKI consisted in reviewing and summarizing scientific literature which is a cornerstone of IPCC assessment reports. New practices that could produce hierarchies of epistemic diversity seem to be emerging only recently in the work of the IPCC, such as including indigenous knowledge holders as experts in the review process or admitting indigenous peoples organizations as observers.

The UNFCCC follows an essentially different dynamic. The core underlying dynamic is the political organization and mobilization of indigenous peoples within the UNFCCC, beginning with an informal group of indigenous representatives attending the COP and other intersessional meetings, and culminating in the constitution of the IIPFCC or “indigenous caucus”. Knowledge is a recurrent theme in the political advocacy of the indigenous caucus. Through persistent mobilization the indigenous caucus was able to ensure that key decisions relating to adaptation and REDD+ include explicit references to the knowledge – and rights – of indigenous peoples. A series of practices of political representation and advocacy underpin the mobilization of indigenous peoples for the recognition of epistemic diversity, especially the recognition of the epistemic status of indigenous peoples as knowledge holders in the climate field.

The indigenous struggle for epistemic diversity in the climate field, however, did not achieve a form of status equality vis-à-vis scientific knowledge. Two points of contention reveal the unequal recognition of indigenous and other diverse ways of knowing in the climate field. Firstly, the reductive focus on adaptation as virtually the only policy domain where traditional knowledge is valuable and, secondly, the qualifications and caveats in political decisions that recognize the importance of epistemic diversity. The Paris Agreement, in specific, confines epistemic diversity to “adaptation action” claiming that this should be guided by “the best available science and *as appropriate*, traditional knowledge, knowledge of indigenous peoples and local knowledge systems” (UNFCCC, 2015, Article 7.5). The caveat “as appropriate” contrasts with the imperative of scientific knowledge as a basis for climate policy. These were the outcomes of the negotiations despite the opposition on the part of indigenous peoples, who were demanding the elimination of caveats or qualifications as well as an equal recognition in the policy domains of mitigation and adaptation.

In sum, the global trajectory of change that I follow in the present chapter focuses on the core organizations of the global architecture of climate governance, namely the IPCC and the UNFCCC. This global trajectory evinces a re-ordering of epistemic diversity as official categories of knowledge with wide recognition in other fields of governance entered the climate field. The



analytical focus points to changes in the discourse and practices of these global organizations, especially in the recognition and reinterpretation of already available categories of knowledge, as well as in the changing status of indigenous peoples as knowledge holders. The following chapters explore the entanglements of this global trajectory in specific socio-cultural regions, namely the Arctic and the Amazon.

## 5 Arctic knowledge

The Arctic is warming three times faster than the global average (AMAP, 2021). There is ongoing debate about whether Arctic sea-ice loss has already passed a tipping point beyond which the Arctic Ocean may become seasonally ice-free (IPCC, 2019; Lenton et al., 2008). These alarming scientific assessments feed into the narrative of the Arctic as a harbinger of the climate crisis and a “living laboratory” for climate science (J. M. I. Dahl, 2015). A concurrent image, however, foregrounds local populations, especially indigenous peoples, as both vulnerable groups at the frontlines of climate impacts and holders of intimate knowledge of Arctic ecosystems (Martello, 2008). Here, the image of an uninhabited ice-covered region gives way to a diverse population of indigenous peoples and other communities who have been adapting to the extreme Arctic weather for millennia. These indigenous and local knowledge holders appear as the counterpart of climate scientists in Arctic governance.

The present chapter concerns itself with the diversification of the knowledge basis of Arctic governance, especially in the field of climate change. The Arctic trajectory presents entanglements and interlinkages with the global trajectory that the previous chapter follows. A diversification of climate research and governance is underway in the Arctic region, especially since the establishment of the Arctic Council as an intergovernmental forum with strong presence from indigenous peoples organizations and a wide recognition of epistemic diversity. In a way, the approach of the Arctic Council appears as a model for the inclusion of indigenous knowledge holders in the IPCC and the UNFCCC. The question is whether the ordering of epistemic diversity in the Arctic mirrors the global trajectory or whether it delineates a different approach in terms of boundary work and categorizations of knowledge (holders).

Here, I focus on one thread of the Arctic trajectory by following the transnational, cross-scale mobilization of the Sami people of the Arctic region of Fennoscandia. The Sami people’s mobilization for epistemic diversity moves in a polycentric field between the Arctic Council and local sites of governance. To investigate the ways in which the Arctic approach to epistemic diversity reconfigures climate research and policy, I zoom in on local sites of governance. The engagement of indigenous knowledge holders with scientists and policymakers is most visible in

local contexts where these different actors come together to produce policy-relevant knowledge and evidence-based policy for climate change mitigation and adaptation. Specifically, I zoom in on community-based adaptation policies in the Swedish side of *Sápmi*, i.e. the traditional lands of the Sami people. The analytical focus is on how Sami reindeer herding communities engage with climate scientists and policymakers to produce adaptation plans and vulnerability assessments that incorporate criteria of epistemic diversity and alternative approaches to climate change governance.

The chapter is divided in two parts. The first part (5.1) delineates the Arctic trajectory from the perspective of the Sami political mobilization in regional Arctic governance. In the first sections (5.1.1 and 5.1.2), I analyze the transnational mobilization of Sami people, especially the Saami Council and the recognition of these as knowledge holders in Arctic governance. The next sections (5.1.3 and 5.1.4) provide an overview of the recognition of epistemic diversity in the Arctic Council as the background against which Sami people make claims to knowledge as part of a struggle against “green colonialism”. The second part (5.2) of the chapter turns to the specific context of Sami politics in Sweden. The first section (5.2.1) analyzes the knowledge dimension of the Swedish Arctic agenda, with a focus on the Sami people. The next sections (5.2.2 and 5.2.3) grapple with the issue of Sami reindeer herders as knowledge holders (knowledge attribution) and the characterization of traditional knowledge as adaptive (knowledge attributes). The final section (5.2.4) zooms in on the work of reindeer herding communities along with climate scientists and policymakers to develop a heterarchical approach to community-based adaptation.

## 5.1 Diversifying Arctic science through Sami<sup>30</sup> knowledge

### 5.1.1 *The Sami voice: Saami Council and Sami Parliaments*

The Nordic Saami Council was established in 1956 to gather the Sami people across the nation state borders of Norway, Sweden and Finland. Its official name changed to Saami Council in 1992 with the inclusion of the Sami people living in the Kola Peninsula in northwest Russia as members of the organization (Henriksen, 1999, p. 27). The Saami Council consists of nine

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<sup>30</sup> I use the spelling *Sami* throughout the dissertation which is arguably the most common in contemporary English texts. Other spellings include *Saami* and *Sámi* which are sometimes part of the official names of organizations.

member organizations: three in Norway, three in Sweden, one in Finland and two in the Russian Federation. In its long history as a pan-Sami organization, the Saami Council has become the voice of the Sami people in global indigenous politics, ensuring recognition and representation across borders. The Saami Council is a founding member of the World Council for Indigenous Peoples, established in 1975 and it has an advisory status as an NGO at the United Nations since 1989 (Henriksen, 1999, p. 28).

The organizational process of the Sami people, however, would take on another dimension at a later time through the establishment of Sami Parliaments in Finland (1973), Norway (1989) and Sweden (1993). These national Sami Parliaments are elected bodies providing democratic representation for the Sami people in each of these countries. However, because of different legal and political remits, the Sami Parliaments do not have the same institutional channels of influence in each country (Josefsen, 2010). At the supranational level, the Sami Parliaments cooperate through the Sami Parliamentary Council, an inter-parliamentary body which was established in 2000 “to speak with a joint voice in all international processes” (Indigenous representative 7, personal communication, June 24, 2019). In contrast to the Saami Council, whose legal status is that of a nongovernmental organization, the Sami Parliaments derive from public authority and popular elections. There is, in that sense, a dual representation of Sami people in international organizations: the Saami Council ensures the autonomous representation of Sami civil society, whereas the Sami Parliaments ensure conventionally joint official state delegations, thereby extending its role of representation through popular elections (Government official 7, personal communication, November 12, 2019).

The participation of Sami Parliaments as part of state delegations in international organizations has led to legitimacy issues. Jens Dahl, a long observer of international indigenous issues, recounts an episode in which, at an indigenous caucus meeting at the UN, a Sami representative from the Sami Parliament of Norway was accused of collaborating with the Norwegian government by Latin American indigenous peoples (J. Dahl, 2012, pp. 106–107). Conversely, delegates from the Sami Parliament point out that their role is sometimes not fully understood by third state delegations (Government official 7, personal communication, November 12, 2019). There is, however, continuous collaboration between the Sami representatives regardless of whether these are part of state delegations as members of the Sami Parliaments or observers as members of the Saami Council. Besides, it is worth noting that the inclusion of indigenous representatives in state delegations is not unique to the Sami peoples, in fact it has become a relatively common practice among a number of UN member states (Belfer et al., 2019; Delgado Pugley, 2019; Schroeder, 2010).

The dual representation of Sami people is manifest in UN bodies. However, there are other international fora in which one form of representation prevails over the other. In other words, there is a sort of division of labor in the global representation of the Sami people. The Arctic Council is a case in point. Sami representation in the Arctic Council is marked by the historic engagement of the Saami Council in global cooperation in the Arctic. The self-identification of the Sami people as Arctic peoples was to some degree the work of the Saami Council and its pan-indigenous connections. In the following section I analyze how the formation of a Sami Arctic identity went hand in hand with the self-identification of the Sami peoples as knowledge holders.

### *5.1.2 Becoming Arctic peoples and knowledge holders*

The Arctic Peoples' Conference, which took place in November 1973 in Copenhagen, was the first conference bringing together indigenous peoples from Canada (Inuit, Métis, Indians and non-status Indians), Greenland (Greenlandic Inuit) and Fennoscandia (Sami) under a common indigenous identity as Arctic peoples (J. Dahl, 2009; Kleivan, 1992). The initiative came from the indigenous leader James Wah-Shee, president of the Federation of Natives North of 60 in Canada. Following a conference on Arctic oil and gas in Le Havre, France, which was attended by indigenous representatives, Wah-Shee travelled to Denmark to discuss the idea of an indigenous conference with Greenlanders living in Copenhagen (Kleivan, 1992, p. 228). Thereupon, invitations were sent to indigenous organizations in Alaska, Canada, Greenland, Norway, Sweden and Finland. The Sami organizations attending were the Nordic Saami Council and the Nordic Saami Institute, along with national Sami organizations from Norway, Sweden and Finland (Kleivan, 1992, p. 229).

The Arctic Peoples' Conference set out to form a Circumpolar Body of Indigenous Peoples, whose purpose would be, in the words of the outcome resolution, "to pursue and advance our shared collective interests" (Arctic Peoples' Conference second resolution, quoted in Kleivan, 1992, p. 232). A sense of common identity was manifest in the acknowledgement of shared interests of Arctic peoples. However, the intent did not come into fruition. No pan-Arctic indigenous body came out of the conference due to lack of resources (Kleivan, 1992, p. 233). However, another indigenous organization did come into being as a follow-up of the conference uniting the Inuit indigenous peoples from Canada, Alaska and Greenland: the Inuit Circumpolar Conference (later Inuit Circumpolar Council, ICC) (Kleivan, 1992, p. 234). Hence, the Arctic Peoples' Conference did not lead to the creation of a permanent body for Arctic indigenous peoples but it did lead to the formation of the ICC. Moreover, the conference was key in the

forging of long term relationships among Arctic peoples, especially between the ICC and the Saami Council (Indigenous representative 11, personal communication, June 16, 2019).

The formation of a transnational community of Arctic indigenous peoples is inseparable from the historical processes of region-building and regime creation in the Arctic (Keskitalo, 2003; Young, 1998). The Arctic, in that sense, is not a pre-given geographical region but a political construction emerging in the context of rapprochement between the Western and Eastern Blocs and subsequently the end of the Cold War (Young, 1998, Chapter 2). The locus of region-building and regime creation in the Arctic is usually understood to be the Arctic Council. In the words of Oran Young, “the council has become a symbol of the emergence of the Arctic as a distinct region in international society” (Young, 2000, pts. 4, recommendation 2). The role of the Arctic Council was crucial in cementing the definition of Arctic states as the eight circumpolar countries along the Arctic Circle as opposed to the alternative of five Arctic Ocean coastal states (Keskitalo, 2003, p. 45).

In the context of the end of the Cold War, the construction of the Arctic region came to be coupled to environmental concerns and the indigenous movement, which were new issues following the up until then all-consuming security agenda. In fact, the Arctic Council is an offshoot of the Arctic Environmental Protection Strategy (AEPS). The AEPS, which was established in 1991, was born from a Finnish initiative taking up a proposal made by Mikhail Gorbachev in his famous Murmansk speech calling for “an integrated comprehensive plan for protecting the natural environment of the North” (Gorbachev, 1987). The AEPS was thus framed exclusively as an environmental protection initiative seizing a window of opportunity for Arctic cooperation in the wake of the post-Cold War era (Young, 1998, p. 66). The AEPS paved the way for the participation of indigenous peoples in the Arctic Council and more importantly, for the recognition of traditional knowledge in environmental policy. The AEPS was “historical” in so far as it was the first time that Arctic indigenous peoples could participate in the preparation of an intergovernmental agreement (Tennberg, 1996, p. 2). The indigenous organizations participating were the ICC, the Saami Council and the recently created Russian Association of Indigenous Peoples of the North. The Rovaniemi Declaration establishing the AEPS recognizes “the special relationship of the indigenous peoples and local populations to the Arctic and their unique contribution to the protection of the Arctic Environment” and invites Arctic indigenous peoples organizations to participate as observers (AEPS, 1991).

The involvement of indigenous peoples organizations in the AEPS was marked by claims to traditional knowledge spearheaded by the ICC (Tennberg, 1996). The ICC was the driving force

introducing the use of indigenous knowledge in the AEPS. The specific contribution of the ICC was to prepare a report on indigenous knowledge for the AEPS ministerial meeting in Nuuk in 1993. In the report the ICC defines indigenous knowledge as "information and concepts about the environment and ecology that are known but usually not formally recorded by individuals who belong to a particular cultural group that has occupied an identifiable territory over a long period of time" (quoted in Tennberg, 1996). The ICC defines the attributes of indigenous knowledge by specifying its scope of use for environmental and ecological issues so as to link up with the mandate of the AEPS, which became broader in the wake of the 1992 Earth Summit to include sustainable development (AEPS, 1993). The Nuuk Declaration from 1993 that came out from the ministerial meeting builds upon the ICC report on indigenous knowledge and echoes the Rio Declaration in its recognition of traditional knowledge:

We recognize the special role of the indigenous peoples in environmental management and development in the Arctic and of the significance of their knowledge and traditional practices and will promote their effective participation in the achievement of sustainable development in the Arctic. (AEPS, 1993, point 7)

Thus, in the wake of the Earth Summit, the Nuuk Declaration turns indigenous or traditional knowledge into an official category with relevance for sustainable development. The Nuuk Declaration did translate into concrete actions within the AEPS, for example, "in indigenous peoples being responsible for writing a chapter on indigenous ways of living and traditional diet for an assessment report on the state of the arctic environment" (Tennberg, 1996, p. 27). The AEPS thus constitutes the immediate antecedent of the Arctic Council and its work with indigenous peoples and the recognition of traditional knowledge. With the creation of the Arctic Council the work of the AEPS was embedded into the broader agenda of the Arctic Council as the main locus of Arctic cooperation.

The 1996 Ottawa Declaration establishing the Arctic Council set out to promote cooperation, coordination and interaction among Arctic states with the involvement of indigenous peoples organizations. The Arctic Council was in its origins a Canadian initiative reflecting the salience of indigenous issues in the Canadian North. As Young notes, the "growing voice of the indigenous peoples of the Canadian North during the 1980s and 1990s has served to focus attention in Canada on northern issues" (1998, p. 158). Under the auspices of Canada, the role of indigenous peoples in the Arctic Council became even broader than in the AEPS. A critical observer went as far as to describe the Arctic Council as an "external projection of internal political processes related to the indigenous peoples of the Canadian north" (Scrivener, quoted in Keskitalo, 2003,

p. 162). Hence, the connection between Canada and the ICC was crucial for the involvement of indigenous peoples as Permanent Participants in the Arctic Council (Keskitalo, 2003, p. 68).

The category of Permanent Participant under the Arctic Council goes beyond the observer status as its purpose is “to provide for active participation and full consultation with the Arctic indigenous representatives within the Arctic Council” (Arctic Council, 1996b, Article 2). As Permanent Participants indigenous representatives participate in all meetings and activities and have the right to present proposals for cooperation activities (Bloom, 1999, p. 18). The three original Permanent Participants of the Arctic Council were the same organizations that were involved in the AEPS: ICC, Saami Council and the Russian Association of Indigenous Peoples of the North.

The Arctic Council founding Ottawa Declaration reiterates the recognition of traditional knowledge as a category of epistemic difference that is valuable for Arctic governance as the Nuuk Declaration did under the AEPS:

Recognizing the traditional knowledge of the indigenous peoples of the Arctic and their communities and taking note of its importance and that of Arctic science and research to the collective understanding of the circumpolar Arctic (Arctic Council, 1996b, Preamble)

A salient feature of the Ottawa Declaration is that it recognizes traditional knowledge in tandem with science to produce research about the Arctic. This marks a turning point in so far as science and traditional knowledge appear side by side in the constitutive declaration of an intergovernmental organization. Arctic indigenous peoples in the Arctic Council were, as a consequence, gaining a foundational recognition as knowledge holders. As a posterior document prepared by Permanent Participants clearly states: “Permanent Participants represent Indigenous Knowledge holders and are integral to the inclusion and use of Indigenous Knowledge in the work of the Arctic Council” (Arctic Council Permanent Participants, 2014, Preamble). Accordingly, the role of Permanent Participants is essential to the representation and inclusion of indigenous knowledge holders in the Arctic Council.

The Arctic Council, through the involvement of Permanent Participants, has become the locus of exchange among Arctic indigenous peoples on the basis of a novel understanding of their role in global politics (Shadian, 2017). There is continuous exchange and cooperation among Permanent Participants, especially between the ICC and the Saami Council to reach common positions as Arctic peoples in international spaces (Indigenous representative 5, personal communication, May 4, 2018; Indigenous representative 11, personal communication, June 16, 2019). However, there is not only cross-fertilization between indigenous knowledge holders but



also between these and scientific experts. To account for these connections, it is necessary to see how the Arctic Council orders epistemic diversity, especially through boundary-spanning interventions that lead to converging roles for traditional and scientific knowledge.

### *5.1.3 The Arctic Council and the invention of Arctic knowledge*

In the face of the climate crisis, the image of the Arctic as a living laboratory for climate science is a recurring theme of Arctic governance (Chaturvedi, 2016; J. M. I. Dahl, 2015). The Arctic change narrative is admittedly complex as it touches upon crucial environmental and geopolitical issues. Yet, underlying these issues, is an epistemic dimension that cuts across the narrative of a changing Arctic region. Arctic science has been a driving force of Arctic cooperation. The increasing recognition of epistemic diversity, however, is giving way to a shift from Arctic science to Arctic knowledge, that is, a boundary-spanning endeavor to co-produce scientific and traditional knowledge. The origins of this boundary-spanning endeavor in the form of co-production are to be found in climate change assessment reports that ushered in the idea of bridging knowledge systems to produce “Arctic knowledge”. A pioneering scientific report in this respect was the Arctic Climate Impact Assessment (ACIA).

The ACIA report was launched in 2000 at the request of the Ministers of the Arctic Council. ACIA was unique in that it was arguably the first international climate change assessment report that “explicitly bridges epistemologies” (Miller & Erickson, 2006, p. 306; see also Martello, 2008; Callison, 2014). ACIA advances indigenous knowledge in a prominent way as it features an entire chapter on “indigenous perspectives” (ACIA, 2005, Chapter 3). The chapter is made up of case studies that “attempt to convey the sense of how climate change is seen, not in the form of aggregate statistics or general trends, but in specific terms for particular individuals and communities” (ACIA, 2005, p. 62). In moving away from conventional scientific representations of the climate, ACIA was inaugurating a new form of climate knowledge in which indigenous and local knowledges are an integral part of the collective understanding of climate change. What makes ACIA even more innovative is that, beyond bridging epistemologies, it formulates tentative policy implications that grapple with the political dimension of indigenous knowledge and climate policy:

Empowering northern residents, particularly indigenous peoples, through self-government and self-determination arrangements, including ownership and management of land and natural resources, is a key ingredient that would enable them to adapt to climate change. Indigenous peoples want to see policies that will help them protect their self-reliance, rather than become ever more dependent on the state. There are compelling reasons for the national governments

of the arctic states to provide northerners, specifically indigenous peoples, with the powers, resources, information and responsibilities that they need to adapt to climate change and to do so on their own terms. (ACIA, 2005, p. 91)

The ACIA report expounds the political dimension of “indigenous perspectives” on climate change and link these up with climate adaptation policies. Thus, adaptation policies are read through the lenses of indigenous self-government and self-determination. This is a crucial change in focus as it moves away from the mere epistemic dimension of indigenous knowledge – as a mirror of western science – and embeds it into the rights and political claims of indigenous peoples. There is no IPCC assessment report that makes these connections in such an explicit manner (see Chapter 4). It follows that the ACIA report not only anticipates the integral recognition of indigenous knowledge in IPCC assessment reports, but it also goes beyond the IPCC in that it grapples with the political dimension of the claims of indigenous peoples in climate policy.

In the aftermath of the publication of the groundbreaking ACIA report, the Arctic Council has been working on the substantive incorporation of indigenous and local knowledge<sup>31</sup>. The recognition of epistemic diversity was already enshrined in the foundational Ottawa Declaration. Subsequently, eight ministerial declarations have made reference to traditional or indigenous knowledge – and in some instances local knowledge – thereby delineating a specific understanding of the use and integration of these knowledges into climate change policy in the Arctic (see Table 6). There are two salient elements in the high-level framing of climate-related traditional knowledge in the Arctic Council: co-production and adaptation.

Arctic Council Declaration	Statement
Ottawa Declaration, 1996	“Recognizing the traditional knowledge of the indigenous people of the Arctic and their communities and taking note of its importance and that of Arctic science and research to the collective understanding of the circumpolar Arctic”
Iqaluit Declaration, 1998	“Encourage the Sustainable Development Working Group to take special note of proposals which reflect the importance of traditional and indigenous knowledge and the perspectives of indigenous communities in developing a sustainable future for the Arctic”
Reykjavik Declaration, 2004	“Welcome the continuing contribution of indigenous and traditional knowledge to research in the Arctic”
Salekhard Declaration, 2006	“Welcoming the continuing contribution of indigenous and traditional knowledge to research and culture in the Arctic”

<sup>31</sup> Beyond the Arctic Council a great number of community-based monitoring programs including components of indigenous knowledge have been developed in different sites of the Arctic, most notably, since 2005 (Johnson et al., 2016).

Tromsø Declaration, 2009	“Acknowledge that indigenous peoples in the Arctic are taking a leading role to use best available traditional and scientific knowledge to help understand and adapt to challenges related to climate change and other challenges in their societies and welcome initiatives to build the capacity of indigenous peoples”
Nuuk Declaration, 2011	“Reiterate the importance of the use of Arctic Indigenous Peoples’ traditional knowledge and capacity-building initiatives in the planning and implementation of measures to adapt to climate change, recognize that climate change and other negative factors have impacted the traditional livelihoods and food safety and security of Arctic Indigenous Peoples and other Arctic residents and communities”
Kiruna Declaration, 2013	“Recognize that the use of traditional and local knowledge is essential to a sustainable future in the Arctic and decide to develop recommendations to integrate traditional and local knowledge in the work of the Arctic Council”
Iqaluit Declaration, 2015	“5. Recognizing that the Arctic is an inhabited region with diverse economies, cultures and societies, further recognizing the rights of the indigenous peoples and reaffirming our commitment to consult in good faith with the indigenous peoples concerned and also recognizing interests of all Arctic inhabitants and emphasizing the unique role played by Arctic indigenous peoples and their traditional knowledge in the Arctic Council”  “10. Welcome the recommendations on traditional and local knowledge and recognize the importance of using this knowledge in the work of the Council, instruct the Arctic Council to take relevant actions to implement these recommendations and note with appreciation the work done by the Permanent Participants to develop their own principles for the use of traditional knowledge”
Fairbanks, 2017	“31. Recognize the importance of scientific assessments and projections to informed decision-making in the Arctic, incorporating as well traditional and local knowledge and the reliance of Arctic biodiversity and inhabitants on the availability of freshwater, welcome the updated assessment of Snow, Water, Ice and Permafrost in the Arctic, note with concern its findings and adopt its recommendations”

**Table 6** References to traditional knowledge in Arctic Council declarations. Source: Arctic Council (1996a)

In the founding Ottawa Declaration from 1996 traditional knowledge and science appear side by side. The boundary-spanning imperative of co-production, however, is only discernable in subsequent documents. The 2009 Tromsø Declaration calls for the use of the “best available traditional and scientific knowledge” (Arctic Council, 2009), a formula that echoes the UNESCO-LINKS program and its pursuit of “best available *knowledge*” as opposed to “best available *science*” (see Chapter 4). A more comprehensive formulation of co-production is found in the so-called Kiruna Vision for the Arctic (henceforth Kiruna Vision). This is a forward-looking statement that, marking the culmination of the Swedish chairmanship of the council in 2013, advances a renewed vision for future cooperation among Arctic states and Permanent Participants. The Kiruna Vision expounds a vision of co-production under the heading *Arctic Knowledge*:

We will continue to deepen the knowledge and understanding of the Arctic, both inside and outside the region and to strengthen Arctic research and transdisciplinary science, encourage cooperation between higher education institutions and society and synergies between traditional knowledge and science. (Arctic Council, 2013b)

Arctic knowledge is understood as a transdisciplinary endeavor with the aim to bridge epistemologies or, more precisely, span the boundaries between scientific and traditional knowledge. The terminological shift from Arctic *science* to Arctic *knowledge* delineates a field of governance in which co-production, through synergies between scientific and traditional knowledge systems, becomes an imperative for research endeavors. To be sure, this remains to a great extent a vision for future Arctic cooperation. The necessity for a more comprehensive incorporation of traditional knowledge in the work of the Arctic Council was acknowledged in the Kiruna Declaration which explicitly requests the development of recommendations to fill this gap (Arctic Council, 2013a). Interestingly, the Kiruna Declaration speaks of traditional and local knowledge, while previous declarations would usually use the terms indigenous and traditional knowledge. The use of the term “local knowledge” responds to the claim by non-indigenous Arctic peoples (e.g. Icelanders) to recognize the knowledge of local people (Indigenous representative 11, personal communication, June 16, 2019). In any case, the Arctic Council via the Permanent Participants concerns itself first and foremost with indigenous knowledge or, alternatively, the traditional knowledge of indigenous peoples.

As a follow-up of the Kiruna ministerial meeting, a specific project was created for the purpose of integrating indigenous and local knowledge in the work of the council. The outcome of this was a list of recommendations that were presented at the ministerial meeting in Iqaluit, Canada, in 2015. A key milestone in this process was the adoption of a set of principles on traditional knowledge by the Arctic Council Permanent Participants in 2014. The so-called Ottawa Indigenous Knowledge Principles<sup>32</sup> address issues of intellectual property, appropriate use of knowledge and identification of knowledge holders, among others. A number of these principles come to grips with the boundary-spanning imperative of co-production:

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<sup>32</sup> The original title of the document uses the term “traditional knowledge”, whereas the updated version from 2018 replaces this for “indigenous knowledge”. The rationale behind this terminological change might be that Permanent Participants seek to emphasize that these principles are specific to indigenous peoples and do not apply to non-indigenous Arctic peoples and their claims to “local knowledge”.

9. Indigenous Knowledge and science are different yet complementary systems and sources of knowledge and when appropriately used together may generate new knowledge and may inform decision making, policy development and the work of the Arctic Council.

11. The co-production of knowledge requires creative and culturally appropriate methodologies and technologies that use both Indigenous Knowledge and science applied across all processes of knowledge creation.

13. Recognize the need to bridge knowledge systems, including leveraging existing indigenous knowledge networks, institutions and organizations, as well as developing education strategies to broaden mutual understanding.

(Arctic Council Permanent Participants, 2014)

The Ottawa principles of indigenous knowledge reveal that co-production is an imperative for Permanent Participants as representatives of knowledge holders. These see co-production as a step further in the recognition and integration of indigenous knowledge in Arctic governance and beyond.

The general consensus around co-production was built in the context of a shift of focus from sustainable development to climate change research and policy. The use of traditional knowledge – or its coproduction with scientific knowledge – is in general acknowledged in the policy field of climate change adaptation. The Tromsø and Nuuk declarations, from 2009 and 2011 respectively, reference traditional knowledge in this context (Arctic Council, 2009, 2011). The imperative of co-production is also found in the work of the Arctic Council. The project Adaption Actions for a Changing Arctic from the Arctic Monitoring and Assessment Program is a case in point (AMAP, 2017a, 2017b, 2018). One of the assessment reports of the project claims, for instance, that “to create effective, timely and responsible adaptation governance requires co-production of knowledge in which different knowledge producers, keepers and users communicate with each other” (AMAP, 2017a, p. 47). Ultimately, these Arctic Council declarations and reports confine traditional knowledge to the climate policy domain of adaptation and establish co-production with scientific knowledge as an imperative.

#### *5.1.4 Sami knowledge: adaptation, co-production and resistance*

The Ottawa principles of indigenous knowledge provide a common framework for all Arctic peoples in the domain of knowledge governance writ large and reflect the cross-fertilization among Permanent Participants in producing a consensual discourse on Arctic indigenous knowledge. However, claims to Sami knowledge are specific to the Sami people and, accordingly,

reflect the political demands of the Saami Council as the Permanent Participant of the Arctic Council. At the same time, the Saami Council cannot develop a discourse that is specific to one national context: the indigenous territory that it represents, the so-called Sápmi, stretches itself over four sovereign countries (i.e. Norway, Sweden, Finland and Russia). It follows that the mobilization around Sami knowledge is to be understood against the backdrop of the development of Arctic governance, on one side and pan-Sami indigenous politics, on the other.

The conference declarations of the Saami Council are key political documents advancing claims to climate-related Sami knowledge. In its claims to knowledge the Saami Council coincides in a considerable way with the institutional discourse of the Arctic Council. The leitmotiv is that Sami knowledge should serve as a basis for climate change policy, in specific adaptation policy, on an equal footing with western science. The Rovaniemi Declaration contends that the “State’s climate change adaptation strategies must also be based on the traditional knowledge of the Saami, recognizing its equal value with other forms of science” (Saami Council, 2008, Point 10). This early statement, in its simple and straightforward formulation, anticipates the development of more elaborate claims pointing to adaptation policies and co-production.

In the policy domain of adaptation, the knowledge claims of the Saami Council reflect scholarly debates in so far as they define *adaptiveness* as one of the defining attributes of traditional knowledge and link it to the survival of indigenous peoples. The policy implication of this is that state intervention should not interfere with the inherent adaptive capacity of indigenous peoples:

15. Sami livelihoods have developed and survived due to their traditional knowledge on how to cope with climatic variations. Governance frameworks must not constrain saami peoples [sic] ability to use their own knowledge in order to cope and adapt to climate changes. States must monitor and adjust their frameworks to avoid such institutional constrains [sic]. (Saami Council, 2013)

The forceful claim to Sami knowledge is a claim to autonomy and self-determination vis-à-vis the state. However, at the same time the claim of the Sami to their own knowledge does not exclude the option of working with scientists to co-produce knowledge. In the same document, the Saami Council embraces co-production as a way forward: “In addressing climate and environmental changes, *best available knowledge*, both scientific and traditional, should be used as basis for decision making” (Saami Council, 2013, Point 16; emphasis added). Here, the Saami Council uses the same term that UNESCO-LINKS promotes in its work, namely the “best available knowledge” (see Chapter 4).

The way in which the Saami Council speaks of traditional or indigenous knowledge is close to the framework of the Arctic Council. Co-production and adaptation remain guiding threads for the engagement of indigenous knowledge holders. These convergences are no coincidence. As a Permanent Participant, the Saami Council takes part in the negotiations of the Arctic Council and is therefore not to be understood as an extra-institutional actor engaging in contentious politics. However, at the same time Permanent Participants represent indigenous peoples who make claims to self-determination within nation states. Hence, it comes as no surprise either that the Saami Council and the Arctic Council do not always align when it comes to issues of knowledge and self-determination.

In the 2017 Tråante Declaration, the Saami Council makes claims to territoriality and self-determination. The declaration speaks of the Sami as a nation and pleads for the establishment of a pan-Sami Parliament or “Saemiedigkie representing all Saami who belong to the Saami nation” (Saami Council, 2017, Point 3). A crucial dimension of these claims to self-determination appears in the form of autonomous natural resource management, on the basis of indigenous rights and knowledge:

The Sami have during long-term use acquired the right to manage their territory and we have the knowledge and cognizance of the conditions of life in these areas. This knowledge will constitute the basis for the management of the area's resources. The prerequisite for our society and our life to survive and develop is an management based on our needs and values. (Saami Council, 2017, p. 1)

Understood in this way, climate change – and environmental – governance in general becomes a matter of indigenous self-determination, especially in relation to rights to manage the natural resources of indigenous territories – a more assertive version of the apolitical concept of community-based adaptation as it appears in the IPCC (see Chapter 4).

The encroachment of the colonial state on traditional indigenous territories is not confined to historical extractive policies. Beyond mining, forestry and other extractive industries, the Sami have taken a stand against climate change mitigation and adaptation policies. The development of “green energy” in the territory of Sápmi, above all hydropower and wind power, has been a major source of conflict. The 2008 Rovaniemi Declaration warns that “[a]ttempts to mitigate the effects of climate change, such as the establishment of windmills, must not be used as an excuse to further exploit the Saami traditional territories, without our consent” (Saami Council, 2008, para. 11). In a similar vein, the 2013 Murmansk Declaration warns against the impacts of adaptation and mitigation policies on Sami people (Saami Council, 2013, para. 14). The Sami

critique of the Nordic transition towards green energy points to the internal paradoxes of the narrative of sustainable development in the Arctic.

The Saami Council employs the term “green colonialism” to denounce climate policy that encroaches on Sami traditional land use. In one sense, green colonialism is not a novel phenomenon but a continuation of extractivism and infrastructure development in Sápmi (Keskitalo, 2019; Raitio et al., 2020; Sehlin MacNeil, 2017). It is interesting to note that the international salience of Sami issues and the global indigenous identity of the Sami people, were to a great extent sparked by the resistance against the construction of a hydropower dam in the Alta river in the northern Norwegian region of Finnmark in the 1970s and 1980s (Minde, 2005). In a way, the Alta conflict was a form of green colonialism *avant la lettre*. However, it is only in recent times that this sort of intrusion has been denounced as a form of colonialism. The term appears for the first time in the Tråante Declaration from 2017. The hydro power conflicts of the past and the wind power conflicts of the present are read through the lenses of green colonialism (eg. Lawrence, 2014; Normann, 2021; Öhman, 2016).

In accusing the Nordic states of green colonialism, the Sami point to a paradox in which the so-called “Green Nordic industry” impinges on “Saami livelihoods – including reindeer herding – [that] are among the ‘greenest’ there is” (Saami Council, 2017, Point 26). Viewed from this perspective, the biggest threat to Sami livelihoods is not climate change as such, but ironically climate change policies. Sami knowledge becomes contentious knowledge as it shifts from adaptation to resistance. Contrary to the harmonious discourse on co-production, climate knowledge here oscillates between the colonial expertise of the Green Nordic industry and the traditional knowledge of the Sami people.

The Saami Council has found a compromise between the consensual discourse on co-production and adaptation in the Arctic Council and a more contentious position that addresses the grievances of the Sami people facing not merely climate change but, more importantly, the forays of extractivism and the Green Nordic industry in Sápmi. In this process the Saami Council is developing a comprehensive strategy that teases out the interlocking spheres of the traditional lands of Sápmi and the Arctic region. The Saami Council adopted an Arctic Strategy at the EU Arctic Forum in the city of Umeå in October 2019 (Saami Council, 2019). In doing this, the Saami Council as well as other Permanent Participants of the Arctic Council respond to the national Arctic strategies that have been adopted by Arctic states and Arctic observer states over the past years (Heininen et al., 2020).





**Figure 8** Illustration on Sami people's suffering because of large-scale windfarms on reindeer herding land. "Den enes død, den andres brød" (One [wo]man's death is another [wo]man's bread). © Katarina Blind. Reproduced by permission of the author.

In its Arctic strategy, the Saami Council reasserts its Arctic identity as it "defines the traditional Sámi land as Arctic region" (Saami Council, 2019, p. 4), although in the symbolic delimitation of Sápmi a sizeable portion of the territory lies south of the Arctic Circle. One of the most prominent points of the document has to do with knowledge production and brokering. Co-designing and co-producing research is set as a priority (Saami Council, 2019, p. 10). In order to advance an agenda of research, the Saami Arctic strategy identifies a number of knowledge gaps including demography and baseline data, climate change and environment data, and indigenous knowledge itself (Saami Council, 2019, Annex 1). The necessity of new knowledge derives from environmental changes and the economic interests that these entail:

Knowledge produced, especially for rapidly changing circumstances, should be based on best available knowledge, both Sámi Indigenous Knowledge and science. With environmental change, many actors are looking to the Arctic for new opportunities, in particular for economic development and development of green energy to support a green shift in the energy sector. These factors cause an immense change in land use in Sápmi, which again causes environmental change. In Sápmi this has been described as green colonialism. (Saami Council, 2019, p. 21; emphasis added)

The theme of co-production here is coupled to the rejection of green colonialism. There is a tension between the willingness to co-create consensual knowledge, by combining Sami

knowledge and science, and the contentious knowledge that undergirds the resistance against green technologies that impinge on the rights of indigenous peoples. This tension becomes clear when the strategy document speaks of the importance of free, prior and informed consent (FPIC) as a “principle that ensures Indigenous Peoples have a say in matters concerning them, the right to say no and or to say yes – also related to science” (Saami Council, 2019, p. 18). The last remark is of crucial importance. While the Sami Arctic Strategy embraces the idea of knowledge co-production, it is at the same time cautious about the forays of a science that has come to see the Arctic – and Sápmi – as a living laboratory.

The latest contentious episode in this regard was the Sami Council’s resistance to the launch of a geoengineering experiment which was planned to take place in June 2021 in the northern Swedish city of Kiruna. The so-called SCoPEX<sup>33</sup> project from the Keutsch Research Group at Harvard University is a scientific experiment seeking to advance the understanding of the effects of aerosols in stratospheric chemistry for geoengineering purposes. SCoPEX researchers were preparing an initial high-altitude balloon flight to test equipment that would be used in future experiments involving the release of particles into the atmosphere – also known as “stratospheric aerosol injection”. However, before the launch of the experiments, SCoPEX met the resistance of the Sami Council.

In an open letter from February 2021, the president of the Saami Council questions the legitimacy of the SCoPEX Advisory Committee for being self-appointed and not including any representatives from affected groups. The open letter further warns against “a technology that entails risks of catastrophic consequences, including the impact of uncontrolled termination and irreversible sociopolitical effects” (Saami Council, 2021a, n.p.). The rejection of SCoPEX is more elaborated in a subsequent petition from June 2021. In it the Saami Council claims the following:

Solar geoengineering strongly contradicts our understanding and experience of how to respect and live in harmony with nature. The essence of solar geoengineering technology is composed of unknown risks we cannot take as a global community, for the sake of our future generations to come. What we need is real and notable action that deals with addressing the root cause of the climate crisis and solar geoengineering does not. (Saami Council, 2021b, n.p.)

As a consequence of the Saami Council’s resistance, the SCoPEX project has been put on hold. This episode of resistance evinces the inherent conflict between the technical fixes of “big science” and the holistic knowledge and values of indigenous peoples. As the Saami Council

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<sup>33</sup> Stratospheric Controlled Perturbation Experiment (<https://www.keutschgroup.com/SCoPEX>).

argues, this is not only about indigenous peoples, but this is a common concern for the global community for the sake of future generations. Geoengineering in indigenous territories appears as an extreme form of green colonialism with detrimental effects for all of humanity. In this sense, geoengineering without the consent of indigenous peoples is the complete opposite of co-production of traditional and scientific knowledge.

## 5.2 Arctic knowledge in the Swedish side of Sápmi

### 5.2.1 *Sweden in the Arctic: re-encountering the Sami*

“The Sámi people form the link between Sweden and the Arctic” (Regeringskansliet, 2011, p. 17). This bold statement is found in *Sweden’s strategy for the Arctic region*, a policy document in which Sweden reaffirms its engagement in the polar region, thereby marking a turning point in its previous “reluctant” approach to Arctic affairs (Sörlin, 2014). The Swedish Arctic strategy was made to coincide with the country’s assumption of the chairmanship of the Arctic Council in May 2011 and it constitutes a key document in the development of an Arctic identity as a non-coastal Arctic state. It is nonetheless perplexing that the otherwise forgotten populations of northern Sweden, in specific the Sami people, come to the fore in the Swedish display of an Arctic identity (Andersson, 2018). The prominence of indigenous issues, however, has been constant in the build-up of the governance architecture of the Arctic region (Keskitalo, 2003). Here, I focus on the knowledge dimension in the construction of a Swedish Arctic identity through the mobilization of the Sami people.

In ascertaining an Arctic identity Sweden relies on its historical ties to the northern region. Sami culture and science figure prominently in this narrative. The symbolic beginning of scientific research is set in 1732 when the Swedish biologist Carl Linnaeus began his journey through Lapland<sup>34</sup> (Regeringskansliet, 2011, p. 12). The scientific ties to the Arctic convey a view of the Arctic as an object of knowledge – in addition to an economic area rich in natural resources (Keskitalo, 2019). The Sami people are said to constitute the cultural tie to the Arctic with a presence that precedes the foundation of the Swedish state and its “colonist policy” in the historical region of Lapland (Regeringskansliet, 2011, pp. 12, 17). The Sami connection to the Arctic is first and foremost understood as a cultural link. However, it also forms part of political

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<sup>34</sup> The journey of Carl Linnaeus to Lapland was marked by a colonial encounter with the Sami people, guided at once by a superficial fascination and contempt for the Sami culture (Koerner, 2001).

and economic ties that relate to tourism, reindeer husbandry and transnational cooperation through the Sami Parliamentary Council (Regeringskansliet, 2011, p. 22).

Sami knowledge does not figure prominently in the Swedish Arctic strategy from 2011; however, it does contain some key points on traditional knowledge and its relation to so-called “modern knowledge”. The strategy adopts a view of co-production when it ascertains that “[f]or most indigenous peoples, sustainable development is based on a balance between traditional and modern knowledge” (Regeringskansliet, 2011, p. 46). By modern knowledge, one might understand scientific knowledge or, alternatively, innovations and technologies developed by indigenous peoples. The recurrent reference to modern knowledge seems to conceal an underlying discourse about the loss of traditional knowledge. The strategy highlights that “[m]uch of the traditional knowledge has been either entirely or partly forgotten” (Regeringskansliet, 2011, p. 46). As a consequence, the Swedish Arctic strategy speaks of an active role of the Swedish government in documenting traditional knowledge and filling knowledge gaps about the Sami society and Arctic issues (Regeringskansliet, 2011, pp. 46–47).

The theme of co-production as such is not present in the strategy. However, there is a similar topic under the rubric of “knowledge transfer” (Regeringskansliet, 2011, p. 46). Knowledge transfer refers to the exchange of knowledge between researchers and indigenous peoples, on the one side, and the dissemination of knowledge from these to the relevant populations, on the other. The strategy sets out to improve these linkages: “[k]nowledge transfer between, for example, researchers and indigenous peoples must be improved and structured so that knowledge is available to the Sámi and other populations in the Arctic” (Regeringskansliet, 2011, p. 47). There is an overarching approach to knowledge that builds upon and feeds into the Arctic Council discourse on Arctic knowledge. In fact, it was under the chairmanship of Sweden that the Kiruna Vision for the Arctic was developed, where Arctic knowledge is appears for the first time as a research approach that spans the boundaries between scientific and indigenous ways of knowing.

In the new Swedish Arctic Strategy, which was launched in November 2020, the theme of Sami knowledge and co-production feature more prominently. Co-production appears under the name of “knowledge exchange” (Regeringskansliet, 2020, pp. 40–41). Here, the promotion of traditional knowledge is understood to reach beyond the preservation of the culture and identity of indigenous peoples: “By observing, assessing and adapting to local conditions, the indigenous peoples have knowledge and insights that are also a valuable asset in scientific contexts” (Regeringskansliet, 2020, p. 40). However, although the new strategy replaces the

term “*knowledge transfer*” by “*knowledge exchange*”, the way in which this is understood seems to imply a one-way street, where the direction of transmission is from traditional knowledge to scientific knowledge and not vice-versa. As the new strategy further explains, “[o]rally transmitted knowledge of natural and weather conditions can contribute to climate research and their observations can complement other historical data” (Regeringskansliet, 2020, p. 41). Here, the knowledge of indigenous peoples seem to be a mere resource to improve climate research and data.

Climate change is a cross-cutting theme in the Swedish Arctic Strategies and it relates to issues of adaptation and vulnerability of the Sami people, especially reindeer herders. “The Sámi culture and industries traditionally have strong links to the surrounding natural environment and the weather conditions, leaving them particularly vulnerable” (Regeringskansliet, 2011, p. 16). The vulnerability of the Sami people and especially reindeer husbandry as a livelihood is understood as stemming primarily from climate change. Here, the Swedish state seeks an active role to ensure that the “Sami population shall be able to continue to pursue and develop their reindeer husbandry and other Sami livelihoods to be able continue to live and support themselves in the Arctic region” (Regeringskansliet, 2020, p. 56).

The depiction of the Sami people as vulnerable populations in the face of climate change, on one side, and bearers of traditional knowledge that is valuable for climate research, on the other, dominates the discourse of the Swedish Arctic strategy. This discourse echoes the image of indigenous peoples as “at-risk experts” in climate change reports of the Arctic (Martello, 2008, p. 370). In a way, this narrative accommodates epistemic diversity by subordinating traditional knowledge to the intervention of public authorities and scientific actors who are called upon to reduce the vulnerability of traditional knowledge and knowledge holders, while at the same time gaining valuable insights and observations from these to produce climate research.

### 5.2.2 *The Swedish side of Sápmi*

Reindeer husbandry is a cornerstone of Sami economy and culture in the Swedish side of Sápmi. Although Sami livelihoods were historically diverse and by no means confined to reindeer husbandry, state policies came to reinforce an official view of reindeer herding as “*the Lappish occupation*” (Lantto & Mörkenstam, 2008, p. 29). Reindeer herding has been at the heart of historical legal developments in indigenous rights and an external marker of indigenous identity. The Reindeer Grazing Act of 1886 was the first to grant the monopoly of reindeer herding to the Sami. As Lantto and Mörkenstam note, “[p]rotection of the nomadic culture emerged as the sole and coherent foundation for Swedish Sami policy and the emerging system of Sami rights”

(Lantto & Mörkenstam, 2008, p. 29). The consequence of this is that the definition of Samihood and indigenous rights is marked by a fault line between the Sami who have reindeer husbandry as a livelihood and those who do not – something that has been also subject to official state definitions (Axelsson et al., 2019, pp. 130–131).

The Reindeer Husbandry Act from 1971 introduces a new governance model that revolves around self-determining reindeer herding communities or *Samebyar*, that in Swedish literally means Sami villages (Löf, 2016, pp. 435–436). The legislation establishes that the right to keep and herd reindeer is exclusive to those individuals who are members of a reindeer herding community (Sweden, 1971). A reindeer herding community denotes both a geographical area or district and a an administrative and financial association for reindeer herding companies. There are 51 reindeer herding communities in Sweden (Sametinget, 2020c). The reindeer herding area constitutes the sum total of the geographical area of the 51 reindeer herding communities. This area corresponds to around 50 percent of the Swedish land surface (Sametinget, 2020c). However, none of this area is set aside exclusively for reindeer herding. Reindeer herding coexists with other land uses: forestry, mining, wind- and hydropower, road and rail infrastructure, tourism, among others. As a consequence, there are recurring land use conflicts involving reindeer herding (see, e.g., Lawrence, 2014; Lawrence & Larsen, 2017; Öhman, 2016; Össbo & Lantto, 2011; Raitio et al., 2020; Sehlin MacNeil, 2015; Widmark, 2006).

Climate change adds another layer of complexity to the competing land use regimes in the Swedish side of Sápmi. The 2007 official report *Sweden facing climate change*, prepared by the Swedish Commission on Climate and Vulnerability, analyzes the impacts of climate change on reindeer herding (SOU, 2007, sec. 4.4.4). The impacts on reindeer herding include changing snow conditions whereby abrupt temperature shifts lead to the formation of ice and frozen crust on the snow so that the reindeer can no longer feed on the lichen beneath the snow (SOU, 2007, p. 378). Another impact is that the bare areas of the mountains will shrink as the tree line advances and exert grazing pressure in the mountain area (SOU, 2007, p. 378).

The impacts of climate change co-exist with other impacts including other land use pressures, infrastructure development and predator policies that affect reindeer husbandry. In the same official report, it is thus acknowledged that “[f]orestry is probably the industry that most affects the conditions for conducting reindeer husbandry” (SOU, 2007, p. 379). Therefore, among the key measures and proposals from the report, it is said that in order to promote sustainable forestry the “Forestry Act should be amended so that the obligation of consultation before felling trees is extended to the whole reindeer-grazing area” (SOU, 2007, p. 22). The vulnerability

of reindeer herding in the face of climate change is thus understood in conjunction with other forms of land use driven by public and private actors. In other words, climate change is but one factor hindering the practice of reindeer husbandry. As climate researchers explain:

I think when you've spent lots of time with reindeer herders you really learn, re-learn and re-learn the importance of looking at all impacts cumulatively... if there was no hydropower and wind power and forestry and trains, reindeer herding would probably do quite fine in a changing climate. (Researcher 11, personal communication, September 3, 2020)

Because when we work with indigenous people, they're not going to say "the thing on the left is climate change and the thing on the right is the state bugging me". It is everything at once, that is, the change of legislation, administration, land status, legal decisions and climate change and extractivism and all that. (Researcher 10, personal communication, May 2, 2020)

Reindeer husbandry and its vulnerability in the face of climate change conceal an economic rationale that works to the detriment of the Sami reindeer herders unless indigenous rights and values are brought into the picture. The official report *Sweden facing climate change* captures this issue in the following terms:

Reindeer herding is not particularly important from a national economic perspective, but it is very important for the local economy in sparsely populated areas and for the preservation of mountain environments. The Sami as an indigenous people and reindeer husbandry deliver culture and environmental values that are difficult to translate into economic terms. The reindeer herding policy should be formulated so that it creates the conditions for sustainable and robust reindeer herding in a changed climate. (SOU, 2007, pp. 380–381; emphasis added).

The protection of reindeer herding is therefore not to be understood in terms of its monetary value. This is why Sami organizations insist that reindeer husbandry shall rest on the cultural practices of the Sami people. The vision of the Swedish member of the Saami Council illustrates this point: "We work for Sami self-determination, sustainable management of nature and a sustainable nature- and grazing-based reindeer husbandry based on Sami traditional knowledge" (SSR, 2018). Thus, although reindeer herding constitutes an industry, it is first and foremost a livelihood of indigenous people with cultural and environmental values. The impacts of climate change on reindeer herding are at once economic impacts on an industry and human rights impacts on indigenous peoples' livelihoods. Sami knowledge, in this context, is often understood as the knowledge of reindeer herders.

### 5.2.3 *The adaptive knowledge of Sami reindeer herders*

The Swedish Sami Parliament was established in 1993 with the purpose of “monitoring issues concerning the Sami culture in Sweden” (Sami Parliament Act, quoted in Anaya, 2011, para. 23). The Sami Parliament embodies a double status as both a popularly elected body and a government agency of Sweden. However, in spite of its name, the Sami Parliament is better understood as an advisory or expert body on Sami issues. Its remit does not include any form of veto power or decision-making power. Instead, legislation highlights “its status as a consultative body with expert knowledge in questions concerning reindeer herding” (Lantto & Mörkenstam, 2008, p. 39). The double status of the Sami Parliament has led to a lack of autonomy and constitutes an obstacle to the self-determination of the Swedish Sami whose status as an indigenous people was recognized by the Swedish Parliament in 1977 and enshrined in the constitution in 2011 (Sametinget, 2020a).

As an expert authority the Sami Parliament has been one of the main actors engaging in claims to Sami knowledge for (climate) policy in Sweden. The key document providing a vision of Sami environmental knowledge is *Eallinbiras: the Sami Parliament’s Living Environment Program*, adopted in 2009 (Sametinget, 2009). *Eallinbiras*, a Sami term which translates as “living environment”, is a holistic concept of environment that encompasses nature and culture, as the overall goal of the program states: “We wish to live in a resilient Sápmi which is rooted in both healthy nature and a living (thriving) Sami culture” (Sametinget, 2009, p. 2). The holistic character of the concept of *Eallinbiras* resides in the fact that, as the program emphasizes, “[f]rom a Sami perspective all matters are environmental matters – because the environment affects all aspects of our lives and surroundings” (Sametinget, 2009, p. 1). Thus, the *Eallinbiras* or living environment program is not one among others, but rather it is the fundamental basis for all other issues. As the head of the environmental unit of the Sami Parliament put it, “*Eallinbiras* is our ground to stand in every question” (Government official 6, personal communication, July 4, 2019).

*Eallinbiras* rests on three pillars: (1) *nature* as a resilient living environment; (2) *Sami traditional knowledge*; and (3) a *balanced development* through the combination of modern and traditional knowledge (Sametinget, 2009, p. 11). I consider each of these pillars in turn.

(1) Nature or a resilient living environment sets the basis for human-nature relations. A core aspect of the Sami understanding of nature is that it refuses to reduce nature to natural resources, that is, to its economic dimension: “Economic interests should not dominate how we use natural resources” (Sametinget, 2009, p. 11). Instead in the Sami holistic perspective the use



of what nature gives is based on a reciprocal relation: “Our lives – our trades and cultural expressions – adapt flexibly in order to balance what nature can give and what we can take without depleting nature” (Sametinget, 2009, p. 4). This give-and-take is a form of human-nature interaction that rests upon what the Sami call social capital and natural capital. Social capital is understood as the sum total of Sami values, including trust, responsibility, community, knowledge, language, care and attention (Sametinget, 2009, p. 4). Natural capital, for its part, refers to what nature gives, among others, wind, soil, seasonal rhythms, sun and warmth (Sametinget, 2009, p. 4). Social capital and natural capital are the basis of a living environment.

(2) Traditional knowledge, the second pillar, is a cross-cutting dimension for the sustainable management of natural resources. The Sami position themselves as knowledge holders or experts: “We are sustainability experts” (Sametinget, 2009, p. 11). However, instead of claiming a readily available body of knowledge, the Sami speak of the importance of researching traditional knowledge, some of which has been lost or forgotten. Hence, the statement: “we will remember and revive our knowledge” (Sametinget, 2009, p. 11). In researching Sami knowledge, *Eallinbiras* promotes sustainability as a “unifying theme for Sami research about Sami culture” (Sametinget, 2009, pp. 11–12). Thus, the Sami Parliament sets out to encourage and facilitate research on sustainability-related areas, such as food, health, language and natural resource management (Sametinget, 2009, pp. 13–14).

An initial step towards generating research on Sami knowledge was marked by the publication of the Sami Parliament’s policy document on traditional knowledge, one year after the publication of *Eallinbiras* (Sametinget, 2010). The policy document is an attempt to provide a definition of Sami knowledge and its different dimensions as well as to establish ethical guidelines for its access and use. The Sami word that serves as overarching term for traditional knowledge is *árbediehtu*:

The use of the Sami concept of *árbediehtu* instead of “traditional knowledge” (*árbediehtu* is the North Sami term containing two interrelated parts: *diehtu* ‘knowledge’ and *árbi* ‘heritage, inheritance’) clarifies knowledge as both the information and the process, emphasizes different ways to gain, achieve or acquire knowledge. The concept indicates indissoluble ties between the past, the present and the future, which is validated by *árbi*, “heritage; inheritance” (Porsanger, 2010, p. 3).

The policy document draws on research on traditional knowledge and defines the main attributes of this category of knowledge as being holistic, adaptive and orally-transmitted (Sametinget, 2010, p. 13). Although this definition of the attributes of Sami knowledge is at odds with a scientific understanding of disembodied, objective and universal knowledge, it does not

preclude the co-production of scientific and Sami knowledge. The policy document emphasizes that Sami knowledge or *árbediehtu* is not in contradiction with modern scientific knowledge, but instead these are complementary (Sametinget, 2010, pp. 9–10). In other words, the Sami Parliament articulates epistemic diversity in a manner that allows for mutual engagement of diverse forms of knowledge.

(3) Balanced development is the third and final pillar of *Eallinbiras*. In a way, balanced development seems to be another way of saying sustainable development. However, there is a specificity in the Sami understanding of balanced development as it relies on the co-production of knowledge. *Eallinbiras* does not use the term co-production itself, but it speaks of the “combination of modern and traditional knowledge” (Sametinget, 2009, p. 12). The rationale behind the use of term balance is, in that sense, a balance between knowledge systems. “Sustainable development builds on a meaningful balance between traditional and modern knowledge” (Sametinget, 2009, p. 12). The caveat is that modern technologies ought to “be used within the framework of our value system” (Sametinget, 2009, p. 12). The specific areas in which the Sami Parliament pursues balanced development include, among other, energy and transportation, business, food, health, and language. Balanced development, thus, points to a wide range of practices and governance approaches that seek to produce heterarchies in the valuation of modern and traditional knowledge (Sametinget, 2009, p. 14).

It is noteworthy that *Eallinbiras* is not a list of demands from the Sami Parliament to the Swedish state. Instead, it places responsibility for environmental action in the Sami people both as a collective and as individuals. In other words, it is a call for Sami people to recuperate sustainable ways of living, as a member of the Sami Parliament puts it, “we need to go back to the origins, to our own traditional knowledge, living in traditional areas and protecting our culture by our own behavior and low consumption” (Indigenous representative 9, personal communication, June 27, 2019).

*Eallinbiras* is the basis of the Sami Parliament’s Climate Adaptation Action Plan (2017) and Climate Strategy (2019). The adaptation plan was prepared with funds from and at the request of the Swedish Meteorological and Hydrological Institute (SMHI). It establishes three priority areas of action: increased flexibility, knowledge transfer and crisis preparedness (Sametinget, 2017, sec. 6). The climate strategy adds environmental monitoring as a fourth priority area (Sametinget, 2019a, p. 17). In these documents, the Sami Parliament reiterates that Sami knowledge is adaptive knowledge and, therefore, it is of critical importance for climate change adaptation policies: “Traditional knowledge is central to the management of our landscape and

can contribute to the whole of Sweden's climate adaptation" (Sametinget, 2017, p. 3). The following excerpts, one from Eallinbiras and one from the Climate Strategy, recall that cultural adaptation is a defining attribute of Sami knowledge:

Just as each life form has adapted to its environment we Sami have continuously adapted to what the natural resources have allowed – reindeer grazing lands, hunting and berry picking grounds, fishing waters, soil, agricultural land etc. (Sametinget, 2009, p. 6)

Throughout history, the Sami culture has survived through adaptation. Therefore, many people have a belief that the adaptation will work even in the current situation. (Sametinget, 2019a, p. 4)

However, at the same time, the Sami acknowledge that there are other non-climate factors that render climate change adaptation difficult, especially with regard to reindeer herding:

Our concerns are growing and the challenge is enormous. Increasing landscape fragmentation as well as environmental strains from accelerating natural resource exploitation make it even harder and sometimes impossible for us to act flexibly and to adapt our trades in familiar ways. (Sametinget, 2009, p. 7)

Hence, adaptation to climate change is to be understood within a wider context of encroachments on Sami lands through extractivism. Therefore, a key point in the Climate Strategy and Action Plan is the need for increased flexibility. Flexibility is understood as the access of reindeer herders to grazing lands, on the one hand, and securing the livelihoods of reindeer herding communities through parallel or alternative economic activities, on the other (Sametinget, 2017, p. 6). The adaptive knowledge of the Sami people, therefore, is inseparable from the resilience of reindeer husbandry through increased flexibility.

As in the Swedish Arctic Strategies, the Sami Parliament's Climate Strategy and Adaptation Plan identify "knowledge transfer" as a priority for the engagement with Sami people. However, the Sami Parliament sees knowledge transfer primarily as a means to educate the Swedish state and other actors in Sami knowledge and values. "The Sami Parliament will help other actors understand the needs of Sami industry and Sami culture in addressing climate change. The Sami Parliament has created a space for transferring Árbodiehtu and the Sami environmental perspective (Eallinbiras)" (Sametinget, 2019a, p. 15). The Climate Strategy, further indicates the role of the Sami Parliament in this endeavor:

The Sami Parliament will actively participate as the formal representative of Sami knowledge and experience. This includes gathering knowledge, documenting changes over time and producing a common Sami knowledge basis for the purpose of knowledge transfer. The need for research

and the transfer of knowledge will increase at pace with the impact of climate change and we cannot remain dependent on the knowledge of individuals. The Sami Parliament will establish intimate relationships and cooperation between national and international climate scientists. (Sametinget, 2019a, p. 15)

The Sami approach to knowledge and climate research aligns with the position from the Swedish government that seeks to foster exchanges between traditional knowledge and scientific research. However, there is an important difference, namely that the Sami Parliament speaks of climate research in terms of the needs and requirements of Sami reindeer herders. Contrary to the Swedish Arctic Strategies, where Sami knowledge appears primarily as a source of information for climate research, the Sami Parliament speaks as a representative of knowledge holders, especially reindeer herders. These differing understandings of the role of Sami knowledge in climate governance reveal the political struggles that lie behind the consensual boundary-spanning endeavor to combine traditional and scientific knowledge.

#### *5.2.4 Co-producing adaptive knowledge*

A reindeer husbandry plan (*Renbruksplan* [RBP]) is a policy instrument and an operational tool to describe and support the land use management of a reindeer herding community or *Sameby* (Sametinget, 2017, p. 37, 2019a, p. 15). The specificity of an RBP is that it contains a host of data which is relevant for reindeer husbandry, with a focus on delineating important grazing lands. As a policy instrument, the RBP is a source of information to facilitate the communication between reindeer herders and other land users, especially forestry. As an operational tool, the RBP supports the work of reindeer herders (Kuoljok, 2019). The work on RBP began in 1998-2000 with pilot projects in two reindeer herding communities, Malå and Vilhelmina Norra, in the Swedish county of Västerbotten (Hemberg, 1999, 2000). By 2010, 26 out of 51 reindeer herding communities had an RBP, while in 2015 all except one reindeer herding communities had developed an RBP (Sametinget, 2020b).

The initial thrust for the development of RBPs was an effort to map important grazing areas for reindeer herders, thereby facilitating the communication with other land users. The mapping of these areas was based on the practical knowledge of Sami reindeer herders; however, to make the maps amenable to the use of policymakers a geographic information system (GIS) was developed. As one of the developers explains:

At the beginning of the process, the Sami reindeer herders used color pens to delineate grazing lands and personnel at the County Administrative Board of Västerbotten interpreted and digitized their drawings. This work method was soon rejected due to difficulties for an outsider

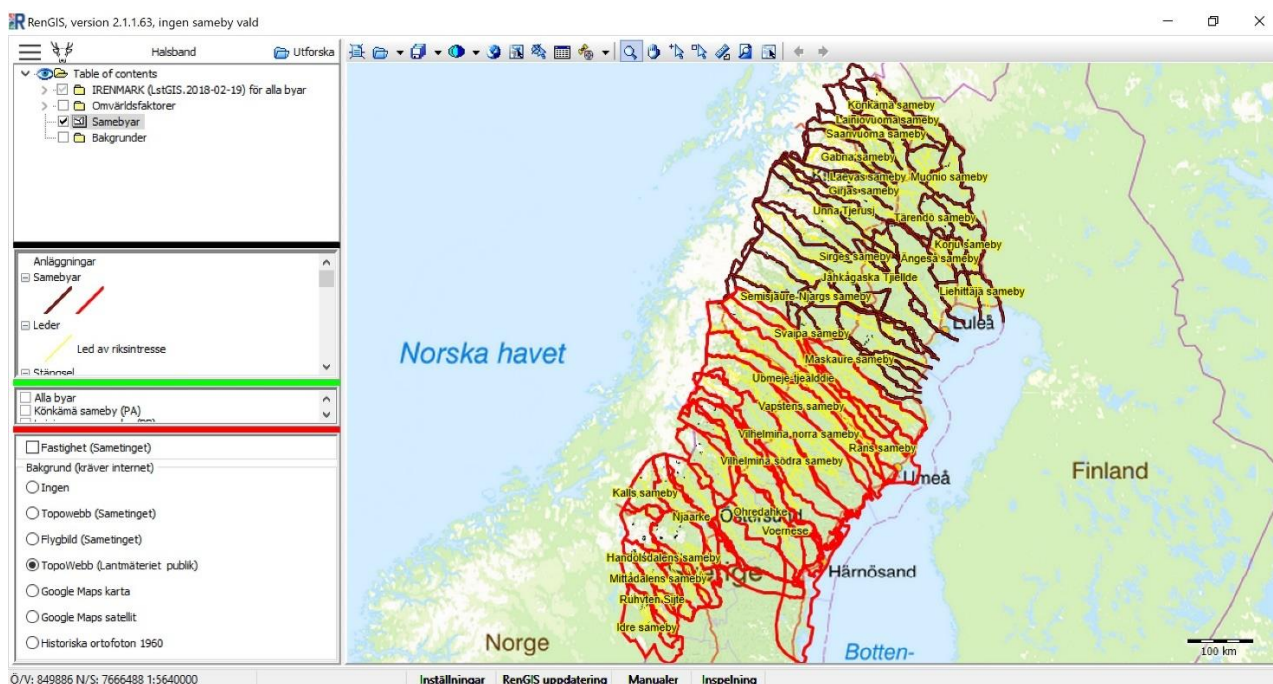
to interpret and digitize the reindeer herder's drawings. Instead, we realized that the Sami reindeer herders needed to digitize and describe their grazing lands themselves. This led us to develop the first version of our custom made GIS which we named RenGIS (in English; ReindeerGIS). (Sandström, 2015, pp. 44–45)

RenGIS, thereafter, became the digital tool and cornerstone for the development of RBPs. As part of RenGIS, other technologies have been incorporated into RBPs. The most prominent of these is the use of GPS collars on the reindeer to track their position and movements in the landscape. The GPS data then feeds into RenGIS. The use of this technology was, in the words of one of its developers, “instrumental in the refinement and strengthening of the delineation of important grazing lands” (Sandström, 2015, p. 51).

Through the use of RenGIS, Sami reindeer herders are able to speak with hard facts to other land users and policymakers. As Kuoljok remarks, a “GPS map gives an opportunity to reinforce the reindeer herders’ ability to ‘talk the same language’ as the companies that want to use the same land because both can discuss on the basis of the map” (2019, p. 356). The reliance on digital technologies, however, entails a transformation of traditional knowledge. As Löf points out, “[i]n a way, *RBP digitalizes herder’s traditional knowledge* by describing, for instance, key functional areas and how and when grazing areas are used” (Löf, 2013, pp. 332; emphasis added). The process of digitalization of traditional knowledge requires an outside intervention that goes beyond providing color pens and relying on the drawing skills of reindeer herders. Indeed, the use of RenGIS by reindeer herders requires that they become GIS experts themselves or, more precisely, that they become proficient in the use of the RenGIS software and GPS technologies.

In a sense, RenGIS embodies the Sami Parliament’s idea of a combination of traditional knowledge and modern knowledge. However, there are at least two important dimensions in the digitalization of the traditional knowledge of reindeer herders. On the one hand, reindeer herders gain autonomy, as one of the developers explains, because traditional knowledge “is digitized by the knowledge holder and it is owned by the knowledge holder, so it is not digitized for someone else” (Researcher 11, personal communication, September 3, 2020). On the other hand, this remark holds true only for the operational use of RenGIS. These digital tools are not made only for reindeer herders but also for other land users and policymakers who want to see “hard facts” through the digital representation of traditional knowledge (Kuoljok, 2019). On a deeper level, the process of digitalization introduces a technology that could potentially change the ways in which reindeer herders produce knowledge and transmit it to others.

A key feature of RenGIS is that it is not limited to the mapping of grazing lands for reindeer herding. In addition to these, it includes data about other land uses that coexist and potentially hinder the practice of reindeer husbandry. Under the rubric of “environmental factors” RenGIS includes data on forestry, mining, wind power, hydropower and other infrastructure. On this basis, RBPs seek to present a complete picture of the fragmented landscape in which reindeer herding communities operate.



**Figure 9** Screen capture of the user interface of the RenGIS software. Source: own elaboration.

Climate and weather factors were initially not part of RBPs. However, as a comprehensive tool for reindeer husbandry, RenGIS now serves as the basis for the development of specific policy instruments, namely climate change adaptation plans and vulnerability assessments for reindeer herding communities. The Sami Parliament receives funds from the respective county administrative boards for this purpose. There was an initial pilot project for the development of vulnerability assessments and action plans for climate change adaptation in four reindeer herding communities: Sirges, Ängeså, Ran and Ohredahke (Sametinget & Sweco, 2019). The ultimate goal of the Sami Parliament is that all reindeer herding communities have a climate adaptation plan (Government official 6, personal communication, July 4, 2019). However, as of 2019, the financial resources were insufficient to develop these in all reindeer herding communities (Government official 6, personal communication, July 4, 2019).

In order to include climate data in RenGIS a manual was developed to import, analyze and visualize data from the Swedish Meteorological and Hydrological Institute (SMHI) (Sametinget,

2019b). The climate data from SMHI is divided in two future scenarios from the “representative concentration pathways” of the IPCC, one being an intermediate case and the other a worst-case scenario (Sametinget, 2019b). However, the primacy of climate data in the vulnerability assessments and action plans is not necessarily relevant for reindeer herders. As an officer of the Sami Parliament recounts:

We also saw when we were working and we were talking to the pilot Sami village that the climate index and data is not always what the reindeer herders are asking for because we haven't worked on that level with the climate data. We haven't had any dialogue with SMHI about the data and which data do we want and need to make an analysis of the reindeer and the reindeer herding. So, then we saw that we could develop this together with other ones that also see that we need another type of data and to put everything together because in the Sami view the climate is just one part of the whole picture. So if you work with climate change or climate adaptation, you also work with all the other parts... the cumulative effects. (Government official 6, personal communication, July 4, 2019)

In contrast to an action plan for climate adaptation, a reindeer husbandry plan or RBP contains information on what researchers and Sami representatives call the “cumulative effects” of a plethora of factors including, beyond climate change, pressures from forestry, mining, wind- and hydropower, road and rail infrastructure. The Sami were, therefore, proposing a landscape approach that highlights traditional knowledge and culture, while at the same time denouncing the fragmentation of reindeer herding lands through other land uses (Sametinget, 2019a, p. 7). On a deeper level, this was a critique of policy approaches that see everything in silos instead of adopting a holistic approach to reindeer herding. As an official of the Sami Parliament explains:

Renbruksplan [RBP] have almost, not all but a big part of the cumulative effects for every Sami village. And so the project is much to show that the climate is one part of it, because if you explore one area for wind mills, then you maybe also affect that Sami village, their chance to adapt for climate change, because the reindeer herders need specific areas of the weather and climate and so on. And we see that the ones that make decisions about these explorations work at the government, they don't see, they see like climate is one box like everything else, like culture is one box and the nature is one box. But we see that you have to make decisions from the whole picture and then the project we hope will strengthen the picture that the Renbruksplan and this climate adaptation and the climate data, you can put these together and then you can build more of these whole view picture. (Government official 6, personal communication, July 4, 2019)

In a way, the development of adaption plans and vulnerability assessments was an external imposition of scientific data upon the reindeer herding communities. The climate data that was provided by SMHI did not necessarily fit the requirements of Sami reindeer herders. Therefore,

the reindeer herding communities participating in pilot projects did not rely solely on the SMHI data in RenGIS to develop their own community-based vulnerability assessments and adaptation plans. Interviews and conversations with Sami reindeer herders, as knowledge holders, were a key method used in the pilot projects to reflect traditional knowledge in the vulnerability assessments and adaptation plans (Sametinget & Sweco, 2019, p. 5). Thus, the reindeer herding communities were introducing criteria of epistemic diversity to guide judgements about whose knowledge counts as a valuable source of information for adaptation plans and vulnerability assessments.

These experiences of co-creating knowledge appear as successful cases of co-production in reports from the Arctic Council (AMAP, 2017a, p. 188). The elaboration of policy instruments for community-based adaptation, however, was not unproblematic for Sami reindeer herding communities. A core problem for the Sami reindeer herding communities was the restrictive focus on climate factors alone, thereby obscuring all the other factors that impinge upon reindeer husbandry. Therefore, the pilot projects in the four reindeer herding communities highlight all other non-climatic factors as aspects of vulnerability. The synthesis report of the pilot projects highlights that the core problem is the exploitation and fragmentation of grazing lands for reindeer herding (Sametinget & Sweco, 2019). The political response that the Sami demand is to stop exploiting and fragmenting grazing lands through extractive policies. As the reindeer herding community Ohredahke bluntly put it:

The Sami village moratorium on additional exploitation to prevent increased vulnerability to climate change is motivated by the current extensive exploitation of the Sami village. Ironically (given the context), a not-insignificant share of these exploitations were due to the so-called “green” energy sources of hydropower and wind power [...]

“Green” is not an objective color. It is perceived differently in different cultural contexts. Obviously, it has an entirely different meaning to Swedish decision-makers and environmentalists, who do not have to suffer the negative consequences of hydropower and wind power (or predators), compared to a Sami village whose watercourses and extensive pasturelands have been destroyed for the purpose of “green” energy. (Ohredahke sameby, 2018, pp. 61–62)

When Sami knowledge holders provide input for climate research and policy, the paradoxes and erasures of these come to the surface. Prevalent conceptions of vulnerability were assuming that future scenarios of global warming were the key point to address in order to enhance the adaptive capacity of Sami people, especially reindeer herding communities. The elaboration of



adaptation plans on the basis of scenarios was seen as the suitable policy instrument for this purpose. However, as the pilot projects show, the main threat to reindeer husbandry is not climate change per se, but other pressures stemming from extractivism and, ironically, the development of renewable energy through hydro and wind power.

The plight of Sami reindeer herding communities in Sweden echoes the Sami Council and its struggle against green colonialism. The combination of climate scenarios, meteorological data and traditional knowledge did not lead to the harmonious co-production of new knowledge for climate change adaptation policies. Instead, the adaptation plans and vulnerability assessments of reindeer herding communities led to the realization that climate change cannot be seen in isolation from other cumulative effects that hinder the livelihoods of Sami reindeer herders. If Sami knowledge makes a difference in climate research and policy, it is not only because it contributes to improving climate research as the official discourse of the Swedish government would have it, but especially because it points to the blind spots of research and policy that fail to see the linkages between extractivism, green colonialism and global warming. In a deeper sense, the Sami experience with community-based adaptation reveals that producing and sustaining heterarchies by tapping on the traditional knowledge of reindeer herders is something that does not necessarily lead to consensual knowledge, but rather contentious knowledge that escapes the narrow focus of specific policy instruments.

### 5.3 Reconfiguring Arctic knowledge

The Arctic trajectory, as conceived here, follows the transnational, cross-scale mobilization of Sami indigenous people in their quest for epistemic diversity and alternative approaches to climate change governance. The focus is on the Saami Council as the core transnational organization representing Sami people and the Arctic Council as the primary locus of recognition of epistemic diversity. The Arctic Council was pioneering the recognition of epistemic diversity as the first intergovernmental organization whose founding declaration highlights the importance of traditional knowledge on a par with science, while admitting a wider engagement of indigenous peoples organizations as knowledge holders. Contrary to the IPCC and the UNFCCC, where traditional knowledge was initially recognized in the absence of knowledge holders, the Arctic Council was a forum for knowledge holders (representatives) from its inception. Here is where the Sami people came to forge an identity as Arctic peoples and knowledge holders.

The way in which the Arctic Council articulates epistemic diversity in climate research foreshadows, and even surpasses, the latest developments in the IPCC. The ACIA report, in particular, is pioneering in that it explicitly seeks to bridge epistemologies by integrating indigenous and local perspectives in climate research. However, at the same time there are entanglements between the IPCC, the UNFCCC and the Arctic Council in the focus on adaptation and co-production. These entanglements of the global trajectory and the Arctic trajectory revolve around the reductive focus on the adaptive attributes of traditional knowledge which confine it to the policy domain of climate adaptation, as well as the imperative of co-production of scientific and traditional knowledge as a basis for climate policy.

The leitmotiv of adaptation and co-production, however, conceals underlying socio-environmental conflicts. The Sami struggle against “green colonialism” counters a reductive conception of adaptation that fails to see the deleterious cumulative effects of extractive policies and even climate policies that are detrimental to the livelihoods of Sami people, especially reindeer herders. These adverse climate policies – including the prospects of geoengineering – reveal that, despite the early recognition of epistemic diversity in Arctic governance, reconfiguring knowledge-policy relations remains an enormous challenge for indigenous peoples in the Arctic. That being said, some important changes are already yielding alternative approaches to climate change adaptation in local sites of governance.

By zooming in on local sites of governance, I have sought to analyze how indigenous knowledge holders interact with scientists and policymakers in community-based adaptation in the Swedish side of Sápmi. A recurrent theme of Arctic and climate change research in Sweden is the combination of traditional and modern knowledge or “co-production”. Sami reindeer herding communities in collaboration with scientists and policymakers have been putting this in practice through the development of GIS and GPS technologies to digitalize the knowledge of reindeer herders and produce digital maps for reindeer husbandry plans. These are important policy instruments for knowledge brokering, that is, for reindeer herding communities to communicate with other land users and decision makers. These collaborations are arguably reconfiguring the ways in which diverse forms of knowledge connect to policy. Indeed, these collaborations would have been unthinkable without the recognition of Sami reindeer herders as knowledge holders.

The imperative of digitalization, however, reveals that there is no fundamental change in political judgements about what makes knowledge policy-relevant or usable. To speak to decision makers, reindeer herders translate traditional knowledge into scientific data, here, in the form of digital maps using GIS and GPS technologies. The introduction of these technologies

is not unproblematic; it is uncertain how the production and transmission of traditional knowledge will change as reindeer herders become GIS experts. In other words, these policy instruments are not producing hierarchies that would actually incorporate criteria to assign value to Sami knowledge in its different forms and expressions – including not only hard data but also cultural practices and values of living in harmony with Mother Nature.

The Sami experience with community-based adaptation reveals that the co-production ideal of consensual knowledge for improved decision-making is not necessarily attuned to the social and political dynamics underlying the interactions between indigenous knowledge holders, scientific researchers and policymakers. The contentious knowledge that the Sami adaptation plans and vulnerability assessments bring to the fore reveals that a reductive focus on climate change impacts fails to capture the complexity of cumulative effects. In particular, Sami reindeer herding communities denounce the exploitation and fragmentation of grazing lands as the root cause of vulnerability and as an underlying constraint for adaptability. Ultimately, the cultural survival of Sami reindeer herding requires not only hard facts, but also alternative languages of valuation to live in harmony with nature.

## 6 Amazon knowledge

The Amazon is the largest tract of remaining rainforests in the world, storing nearly 38 percent of the carbon found in the tropical forests Africa, America and Asia (Walker et al., 2014, p. 480). The value of Amazonia for the Earth's climate system, however, is under threat because of increasing forest loss – and attendant carbon loss – which is turning Amazonia into a net source of carbon (Gatti et al., 2021). Forest loss, in combination with increasing global warming, may lead to a tipping point where the dieback of the Amazon rainforest becomes irreversible (Lenton et al., 2008, p. 1790). The Amazon biome is therefore a core area for the intervention and deployment of global climate science and policy.

Scientific representations of Amazonia as a vast carbon sink, however, tend to overlook the diversity of culturally specific ways in which the Amazon rainforest is known and the social-ecological systems that these ways of knowing sustain. The Amazon basin is home to 410 indigenous groups whose territories cover 27,5 percent of the region (RAISG, 2020, p. 12). Amazonian indigenous peoples, especially under the umbrella organization COICA, have been mobilizing to render indigenous territories visible in scientific representations of carbon stocks of the Amazon rainforest. Ultimately, Amazonian indigenous peoples are striving for the recognition of indigenous territories in climate change mitigation and adaptation. In a deeper sense, this is a struggle for the recognition of the value of indigenous ways of knowing to protect all forms of life in the Amazon basin.

The present chapter concerns itself with the diversification of the knowledge basis of climate governance in Amazonia. The Amazon trajectory, as conceived here, follows the transnational, cross-scale mobilization of Amazonian indigenous peoples in quest for epistemic diversity and alternative approaches to climate change governance. There are multiple entanglements between this trajectory and the evolution of the global negotiations on climate change, especially in the domain of forest-based mitigation through the multi-level policy framework of REDD+. The interlinkages between sites of governance across global, regional, national and local scales are drawn by the recursive back and forth movement of indigenous peoples, scientists

and other groups as these strive to bring about alternative ways of governing forests in the face of the climate crisis.

The analysis of the present chapter focuses on the mobilization of Amazonian indigenous peoples to advance an alternative approach to forest-based mitigation, against the backdrop of specific orderings of epistemic diversity in the Amazon region. The analysis follows the cross-scale, transnational mobilization of the umbrella indigenous peoples organization COICA and its allies to position indigenous territories as vital units of climate governance. To investigate how knowledge-policy interactions change through the engagement of indigenous peoples as knowledge holders, I zoom in on local sites of governance. Specifically, I zoom in on the mobilization of Amazonian indigenous peoples in the deployment of REDD+ in the Ecuadorian Amazon region. The analysis highlights how the Ecuadorian governance approach – including specific policy instruments – produce (or fail to produce) heterarchies by incorporating criteria of epistemic diversity to guide judgements about whose knowledge is valuable in forest-based mitigation.

The chapter proceeds as follows. The first section (6.1) delineates the Amazon trajectory by providing background on the recognition of epistemic diversity in the region and by following the mobilization of COICA around this issue, especially in the formulation of an alternative to REDD+. In the second section (6.2), I follow COICA and its allies in the formation of a coalition of indigenous knowledge holders, scientists and activists for the production of scientific data on “indigenous carbon” or the carbon stored in indigenous territories. The third section (6.3) zooms in on the repercussions of COICA’s transnational campaign in national and local sites of governance, namely the Ecuadorian Amazon region. The final section (6.4) summarizes the findings and draws broader theoretical conclusions.

## 6.1 The diversification of Amazon knowledge

### 6.1.1 *Amazonia: biocultural diversity and epistemic diversity*

Amazonia and its incommensurable diversity of forms of life appears historically as a “frontier of science”, a region of the unknown and the unexplored<sup>35</sup>. The unsuccessful attempt by UNESCO to establish an international scientific laboratory in the Amazon rainforest in the early

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<sup>35</sup> On the metaphor of the “frontier of science” in American rhetoric see Ceccarelli (2013).

postwar period illustrates the historical embeddedness of this image. The so-called International Institute of the Hylean Amazon (henceforth, Amazon Institute) was a flagship initiative in the early years of UNESCO aiming to advance the agenda of international scientific cooperation. UNESCO's agenda was driven by the "periphery principle" whose purpose was to promote scientific development in the "dark zones" of the non-industrialized world (Maio & Sá, 2000, pp. 986–988). Ultimately, however, the Amazon Institute did not materialize. UNESCO's internationalist agenda was seen as a form of "scientific imperialism" running against the developmentalist agenda of Brazilian political elites (Bertol Domingues & Petitjean, 2004; Maio & Sá, 2000).

The research agenda of the Amazon Institute, as originally conceived by the Brazilian scientist and diplomat Paulo Carneiro, was meant to transcend disciplinary boundaries in order to grasp that "dense and complex universe of beings (plants, animals and humans)" living in Amazonia (Maio & Sá, 2000, p. 986). In a way, the underlying scientific imperative was to integrate natural science perspectives with the study of native populations of the Amazon basin. Despite the failure of UNESCO's initiative, its underlying research agenda was present in the investigations of scientists working in Amazonia, especially anthropologists. Richard Schultes, the father of modern ethnobotany, is a case in point. Working in the Colombian Amazon between 1941 and 1953, Schultes lay the groundwork for the formation of ethnobotany as a taxonomic endeavor on the basis of indigenous knowledge (Sheldrake, 2020).

The insights of ethnobotany and ethnosience in general, were pointing to the importance of the protection of traditional knowledge in environmental conservation. The late Schultes would remark, in this regard, that "[m]uch of this precious knowledge is disappearing faster even than the trees in many regions where forest devastation is rife. Its loss will be disastrous for the progress of humanity as a whole" (1991, p. 264). This call for action would spur the emergence of a movement for the protection of traditional knowledge with Amazonia at its core. A key figure in this respect was ethnobiologist Darrell Posey who, following fieldwork among the Kayapo people in the Brazilian Amazon, became an advocate of traditional knowledge especially through the organization of the scientific community of ethnobiology. Posey was a key figure behind the creation of the International Society of Ethnobiology (ISE) in 1988 (Dumoulin, 2003). The Declaration of Belem, as the first declaration of the ISE, was a timely call for action in the run up to the Rio Earth Summit. It includes specific actions for the protection of traditional knowledge, among others, through recognition and consultation of "indigenous specialists", as well as compensation for the utilization of their knowledge (ISE, 1988, paras. 2 and 4).

The Declaration of Belem was furthermore the first to speak of an “inextricable link” between biological and cultural diversity (Posey, 1999). The knowledge of indigenous peoples was thus seen through the lens of these interrelations. In other words, epistemic diversity came to be seen as part of biocultural diversity. Biocultural diversity specifically points to “a variety of ways in which humans have maintained, enhanced and even created biodiversity through culturally diverse practices of management of ‘wild’ resources and the raising of domesticated species” (Maffi, 2007, p. 268). These insights were crucial for the recognition of the contribution of indigenous peoples to biodiversity conservation and sustainable development. The mobilization of the scientific community of ethnobiologists and indigenous peoples organizations was of critical importance in the recognition of epistemic diversity in the biodiversity convention and the UNCED in general (see Chapter 3).

Along with the scientific recognition of epistemic diversity – as part of biocultural diversity – in Amazonia, there was a parallel political recognition by the countries of the region. Regional cooperation among Amazon countries was historically weak and did not provide a space for indigenous knowledge holders. However, the declarations and legal documents of the Amazon Cooperation Treaty (ACT) and the Amazon Cooperation Treaty Organization (ACTO) reveal an early presence of an intergovernmental rhetoric on indigenous knowledge in the Amazon region. The ACT of 1978 marks the beginning of regional cooperation among Amazon countries with a focus on environmental protection and the rational utilization of resources (Tigre, 2017, pp. 95–96). The outcome declaration of the first ACT meeting of ministers of foreign affairs in 1980 already acknowledges the importance of indigenous knowledge in Amazonia:

The indigenous population is an essential element of the Amazon and is a source of knowledge and habits that serve as the basis for the local culture and economy and therefore deserves special attention in the current and future planning of each country's Amazon Region. (OTCA, 2013, p. 51)

The ACT’s engagement with indigenous issues became more concrete with the establishment of the Special Commission on Indigenous Affairs for the Amazon in 1989. The specific mandate of the commission includes, among others, “to promote the inclusion of the knowledge of indigenous populations in regional development programs” (OTCA, 2013, p. 69). The salience of indigenous issues is also visible in the joint position document of Amazon countries ahead of the Earth Summit. The joint position includes a section on indigenous and local populations, which sets an agenda for the protection of traditional knowledge and the compensation of knowledge holders:

1. Within the context of life quality improvement of indigenous and local populations and communities, the value of traditional knowledge and its practices must be acknowledged for promoting sustainable development. To such intents, mechanisms should be developed for the protection of traditional knowledge and for compensating the appropriation and commercial use of this knowledge. (quoted in Tigre, 2017, p. 571)

In the aftermath of the Earth Summit, regional cooperation in the Amazon was enhanced through the establishment of ACTO in 1995 as an international organization aiming to strengthen and consolidate the institutional architecture of ACT. The Earth Summit and the biodiversity convention in particular gave unprecedented attention to traditional knowledge, especially in relation to biodiversity and genetic resources. Virtually all ACTO declarations that make mention of indigenous or traditional knowledge between 1995 and 2005 do it in the context of biodiversity and genetic resources – or the intellectual property thereof (OTCA, 2013). The ordering of epistemic diversity in Amazonia, in that sense, went hand in hand with the development of a political agenda on biological and cultural diversity. In general, the wide recognition of indigenous knowledge (holders) echoes the discourse of the Rio Earth Summit.

The intellectual property over biogenetic resources was an issue reaching beyond environmental protection. The upsurge of a global interest in genetic resources and traditional knowledge was driven by the “biotechnology revolution” of the 1970s marking a shift from a common heritage system towards the creation of property rights over these (Raustiala & Victor, 2004, pp. 287–288). The economic importance of genetic resources was a high priority for the megadiverse countries of the Amazon basin. The ACTO declarations are mostly defensive in so far as these reassert sovereign rights over genetic resources in a manner that seeks to realign indigenous peoples with national economic interests (cf. da Cunha, 2009, pp. 30–32). ACTO’s strategic plan 2004-2012, for instance, calls for the “recognition of the contribution and potentialities derived from the traditional knowledge of local populations” in a manner that would allow “to intervene jointly in the defense of the rights and interests of our nations over their cultural and biological diversity” (OTCA, 2004, p. 30). By contrast, for indigenous peoples the issue of genetic resources was a struggle to preserve biocultural and epistemic diversity against biopiracy (Shiva, 1999).

Whereas biodiversity has been high on the regional cooperation agenda since the 1990s, climate change became officially part of ACTO’s agenda only in 2009, following a meeting of the heads of state in view of UNFCCC’s COP15 in Copenhagen (Tigre, 2017, p. 281). However, the knowledge of indigenous peoples did not appear in connection to climate change in the following strategic plans of the organization (OTCA, 2004, 2011). In the rhetoric of Amazon



countries, indigenous knowledge appears above all as a matter of indigenous affairs with relevance for biodiversity and forest policies. Most importantly, whereas intergovernmental cooperation in the Amazon basin points to an early recognition of epistemic diversity, especially in connection to biological (and cultural) diversity, the roots of the struggle for the recognition of indigenous ways of knowing is found in the transnational movement of Amazonian indigenous peoples, mainly under the umbrella organization COICA. The alternative regional cooperation of indigenous peoples is at the root of a holistic understanding of epistemic diversity and its value for biodiversity and climate change.

### *6.1.2 COICA and Amazon knowledge*

The origins of COICA trace back to the spread of “ethnic federations” as an organizational model for indigenous peoples in several South American countries (R. C. Smith, 1996). The first organization of this kind was the Shuar Federation, which came into being under the auspices of Salesian missionaries in 1964, to represent the Shuar communities from the Ecuadorian Amazon (Brysk, 2000, p. 64). Other similar federations sprung up in Bolivia, Colombia and Peru. These ethnic federations would subsequently gather into confederations or other forms of umbrella organizations, along sub-regional lines with Amazonia as a marker of inter-ethnic identity. In 1984, with the support of international NGOs, five of these national Amazon organizations held a meeting in Lima to form the Coordinator of Indigenous Organizations of the Amazon Basin (COICA)<sup>36</sup>.

The creation of COICA in 1984 responded to several factors. Since the end of the 1960s there was increasing concern on the part of anthropologists and NGOs for the human rights situation of indigenous peoples in the Amazon, a region that was undergoing profound transformations as a result of the geopolitics of extractivism under the guise of economic development and modernization (B. Becker & Stenner, 2008). Indigenous peoples, for their part, were constructing a transnational movement and gaining access to international organizations as evidences the establishment of the United Nations Working Group on Indigenous Populations in 1982. In Amazonia the Organization of American States, through its Inter-American Indian Institute, brought attention to indigenous issues seeking the participation of indigenous peoples in the Amazon Cooperation Treaty in 1981 (R. C. Smith, 1996, pp. 106–107). In this context, COICA set

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<sup>36</sup> The five national organizations Amazonian indigenous peoples were from Peru, Bolivia, Brazil, Colombia, and Ecuador (R. C. Smith, 1996, p. 124). The headquarters of COICA in Lima (Peru) were relocated to Quito (Ecuador) in 1992.

out to unite the indigenous organizations from the Amazon who were not being properly represented by the existing regional organization, the South American Indian Council<sup>37</sup>. The latter was not specific to Amazonian peoples and was undergoing a crisis of legitimacy after accusations of corruption and mismanagement (R. C. Smith, 1996, p. 108).

COICA was successful in becoming the official representation of indigenous peoples from the Amazon basin and carve a niche in global environmental governance. As Brysk notes, “COICA has come to be seen by foreign funders and international organizations as the definitive representative of Amazonian peoples, with a presence at almost every relevant international forum” (2000, p. 98). In the global arena, COICA has been successful in carving out a space in environmental governance, above all in the domains of biodiversity and climate change. In 1990, for example, COICA became the main indigenous partner of the Climate Alliance (Klima-Bündnis), a European city network which currently links some 1.700 municipalities and districts with the objective of combating climate change<sup>38</sup>. In 1991 the prestigious Goldman Environmental Prize was awarded to Evaristo Nugkuag, president of COICA, for bridging the gap between indigenous organizations and conservation groups (R. C. Smith, 1996, p. 113). In the long run COICA would forge an environmental identity that underpins its advocacy in climate change governance.

COICA’s indigenous environmental advocacy is grounded in the image of indigenous peoples as defenders or stewards of the Amazon rainforest. A core area in which COICA developed an advocacy agenda was biological diversity and its relation to indigenous knowledge and intellectual property rights (COICA & UNDP, 1994). The threat of biopiracy reinforced this agenda in 1996 as, while Ecuador was on its way to ratifying an intellectual property agreement with the United States, it was found out that Loren Miller, a US-American scientist, had obtained a patent on a vine used to concoct the ceremonial spiritual brew *ayahuasca*. As Brysk remarks, “[t]echnically, if Ecuador approved the U.S. accord, that country’s native peoples would be obliged to pay Loren Miller each time a shaman used the jungle vine in his own territory” (2000, p. 241). In 1999 the Center for International Environmental Law filed a legal challenge to the ayahuasca patent on behalf of COICA and Amazon Alliance (Wiser, 2001). In the end, there was

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<sup>37</sup> The South American Indian Council was a regional branch of the World Council of Indigenous Peoples (Brysk, 2000, p. 277).

<sup>38</sup> Climate Alliance webpage ([climatealliance.org](http://climatealliance.org)).

no revocation of the patent, but the patent expired in 2003 with no option of renewal (Wiser, 2001, p. 12).



**Figure 10** COICA member organizations in a wall painting at COICA's headquarters, Quito-Ecuador. Source: Photo taken by the author.

COICA's advocacy in the area of biodiversity foreshadows the claims to knowledge that COICA would make in the field of climate change. Biodiversity is where the link between knowledge and other indigenous demands, especially territoriality, comes to the fore. A consensus document on biodiversity from COICA and UNDP illustrates this point:

4. Biodiversity and a people's knowledge are concepts inherent in the idea of indigenous territoriality. Issues relating to access to resources have to be seen from this standpoint.
5. Integral indigenous territoriality, its recognition (or restoration) and its reconstitution are prerequisites for enabling the creative and inventive genius of each indigenous people to flourish and for it to be meaningful to speak of protecting such peoples. (COICA & UNDP, 1994)

It follows that knowledge and territoriality are inextricably linked. The main thrust of these claims is that indigenous territories and the biological diversity that these shelter, are better preserved by indigenous peoples due to their intimate knowledge of the natural milieu. This knowledge, in turn, cannot flourish unless indigenous territoriality is upheld. As Richard Chase Smith, a scholar and observer from Oxfam at the time, remarked: “COICA rightfully claims that indigenous peoples have proven to be the world's best stewards of the natural environment and therefore deserve to have that role recognized by governments” (R. C. Smith, 1996, p. 118). The indigenous claim to territoriality, in other words, relies not merely on the right to self-determination, but it relies also on the more utilitarian logic of effective management of natural resources on the basis of indigenous ways of knowing and living in Amazonia.

Climate change would become a key field of advocacy for COICA in the late 1990s and early 2000s. As a representative from COICA recalls:

In this context, since the 1980s, COICA began to follow up on the CBD agenda, the Convention on Biological Diversity; the agenda of the World Intellectual Property Organization, WIPO; and the climate change agenda. Well, since 1992, 1998, 2000 climate change starts getting a bit of momentum, but the indigenous movement was not present because it was not the priority at that time. In a way, we saw it as too technical rather than vindicatory [reivindicativa] in terms of rights. (Indigenous representative 1, personal communication, May 1, 2018)

This would change with the introduction of forests in climate change governance. For COICA, as for other indigenous peoples organizations linked to tropical forests, climate change would become a core issue with the emergence of forest-based mitigation, particularly through REDD+ (see Chapter 4). Climate change became a priority for COICA along with the emerging REDD+ initiative. In the four regional assemblies that COICA held biannually since 2010, climate change was one of the main points in the agenda (COICA, 2011, 2013c, 2016, 2018). Once climate change became the core issue of advocacy it was imperative to rethink indigenous knowledge not only as a valuable resource for the conservation of biological diversity, but also for fighting global warming. In the following section, I analyze how COICA rethought its struggle for epistemic diversity by articulating a response against REDD+.

### *6.1.3 Amazon Indigenous REDD+*

When RED(D+) first came out, it was met with resistance by indigenous peoples from the Amazon and beyond (see Chapter 4). The market logic of REDD+ was the core point of contention. In its original conception, REDD+ was thought of as an initiative to compensate or “offset” carbon emissions from the Global North through “avoided emissions” generated by the

reduction of deforestation or forest degradation in the Global South. Although there were differing views about the viability of REDD+ among indigenous representatives in the indigenous caucus under the UNFCCC, a consensual position was the opposition to offsets in (deregulated) carbon markets (NGO representative 7, personal communication, March 8, 2019). However, whereas some organizations categorically opposed REDD+ from its inception (see, e.g., Cabello & Gilbertson, 2010), others were more open to consider alternative approaches. This was the case of COICA, who was proposing a third way, as it were, that was not an outright rejection of REDD+ but rather an alternative under the name of Amazon Indigenous REDD+ (REDD+ Indígena Amazónico, RIA). As the vice-coordinator of COICA recalls:

RIA was born with the idea that indigenous peoples could not fully adopt REDD+ as it was in the beginning. It was contemplated with carbon markets, with the issue of compensation in the sense that “well, I pay you for taking care of the forest but I keep polluting without social responsibility, etc”. And beyond just carbon, conservation and increasing forest management, but rather going for something that is more comprehensive. The territory, in the territory there are people and those people are taking care [of it]. And the territory has also other ecosystem services that go beyond biodiversity, beyond carbon, etc. So with that conception Indigenous REDD was born. (Indigenous representative 6, personal communication, February 19, 2019)

These lines of argument would develop into the Amazon Indigenous REDD+ proposal or RIA. Here I distinguish three core dimensions of RIA: (1) knowledge, (2) valuation of nature and (3) territoriality. I present these in turn for clarity purposes, but in essence these are inseparable dimensions of a composite collective demand.

(1) *Knowledge* or wisdom is the basis of the holistic management practices of Amazonian indigenous peoples. However, in the view of COICA, knowledge is not abstract, it is not separate from ways of living and being in the world. In other words, it is not disembodied knowledge, but quite the opposite: it is a knowledge that is embodied in the practices of indigenous peoples. To quote the vice coordinator of COICA once again:

Traditional knowledge is the basis of the lifestyle of [indigenous] communities, that is to say, what is happening now in the jungle, in the communities and in the Amazon, that is traditional knowledge. In other words, their way of life, the way in which they make use of resources, forests, biodiversity, etc. Ways of practicing and living and conceiving the space and physical environment. That is what has been contributing to preserve biodiversity, forests, water systems and other resources. And those resources are of course contributing to mitigate, reduce or at least balance, the rise of temperatures. (Indigenous representative 6, personal communication, February 19, 2019)

Here the embeddedness of knowledge in the cultural practices of indigenous peoples of the Amazon appears as the defining attribute of this kind of knowledge. There are no individual knowledge holders who possess knowledge, but a collective of knowledge holders whose cultural practices embody and enact knowledge. Thus, COICA advances its own understanding of indigenous knowledge by delineating its core attributes, as well as attributing it to a certain type of knowledge holders.

The holistic understanding of a knowledge that forms part of cultural practices is visible in the way in which COICA conceives of the natural environment in its opposition to the reductive approach to REDD+. In 2010 COICA put forth six guidelines for the response to REDD+ in the Amazon region. The first guideline identifies the “vital elements” that it is necessary to protect as the soil, the forest, the oxygen and the water (COICA, 2010, first guideline). Forests figure as one among other vital elements that require protection. The position paper further claims that “[t]o protect the soil, the forest, the oxygen and the water, we will use the knowledge and wisdom that our ancestors left us and to make these practices viable” (COICA, 2010, second guideline).

In a further articulation of a holistic view of nature on the basis of indigenous knowledge, COICA challenges the concept of forests, in the following terms: “for us Amazonians, the concept of ‘forests’ is limited, because it focuses, isolates and absolutizes the isolated trees. On the contrary, the ‘jungles’ [*selvas*] reflect the unity between biological and cultural mega diversity” (COICA, 2014c, pt. 1). The centrality of biocultural diversity, which is a topic that guides COICA since the 1992 Earth Summit, entails that carbon is not amenable to be decoupled from its ecological and cultural context. COICA further develops this point in a submission to the UNFCCC, in which it contends that it is imperative to conceive of “[n]ature, not as a ‘pure’ entity but culturally and socially constructed” (COICA, 2014c, pt. 2).

The understanding of forest carbon that COICA conveys on the basis of traditional knowledge is at odds with REDD+. Whereas REDD+ isolates the carbon content of forests for governance purposes, RIA re-embeds forest carbon in its cultural and ecological context and conceives of it as inseparable from all other vital elements of nature.

(2) *Valuation of nature* is another core element of RIA. Contrary to REDD+, which was originally thought of as a market-based instrument to assign a monetary value to forest carbon, COICA was proposing to value forest ecosystems holistically through local governance on the basis of indigenous territoriality. The valuation or more precisely, the counter-valuation of COICA was opposing the reductive commensuration and commodification of forest carbon in indigenous

territories. As the initial RIA proposal claims, “industrial carbon does not have the same value as *indigenous carbon*” (COICA, 2013a, pp. 4; emphasis added). For one thing, a forest provides a wealth of ecosystem services from biological diversity to climate regulation. Most importantly, “the forest is part of an indigenous territory and is the space that shelters spirituality, culture, identity, pride and future indigenous development” (COICA, 2013a, p. 4). Hence, a tonne of *indigenous carbon* is not equivalent to a tonne of industrial carbon. This was a fundamental critique of the valuation rationale of REDD+ because, as Espeland and Stevens explain, “[v]alue emerges from comparisons that are framed in terms of how much of one thing is needed to compensate for something else” (Espeland & Stevens, 1998, p. 317).

There are elements of indigenous carbon that are incommensurable or priceless – e.g. cultural heritage and collective rights. However, at the same time COICA was also pointing to those elements that could be seen from a perspective of economic valuation that were not taken into account in carbon-centric valuation. Indeed, COICA was making references to existing concepts for the economic valuation of nature, in specific ecosystem services<sup>39</sup> (COICA, 2013a, 2014b, 2014c) and total economic value<sup>40</sup> (COICA, 2014b). Against carbon reductionism, COICA was asking for the “integral evaluation” of ecosystem services (COICA, 2014b) beyond carbon alone.

COICA’s opposition to the reductive commensuration and commodification of forest carbon is to be understood in the context of the rejection of carbon markets. As a submission from COICA to the UNFCCC contends: “Carbon reductionism is accompanied by the reductionism of the private market” (COICA, 2014c, pt. 6). RIA rejects carbon markets, as well as the concomitant idea of carbon offsets. Carbon markets or, more precisely, non-regulated carbon markets were seen as a risk because of privatization, speculation and financial bubbles (COICA, 2013a, p. 3, 2014c). Carbon offsets were rejected on the grounds that they allow the polluter to keep polluting (COICA, 2013a, p. 9). As an alternative, RIA demands economic or noneconomic “retributions” that do not follow from “additional” reductions in deforestation as in REDD+, but rather from a long-lasting stewardship of forest ecosystems (Espinoza Llanos, 2017, p. 27).

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<sup>39</sup> The Millennium Ecosystem Assessment defines “[e]cosystem services [as] the benefits people obtain from ecosystems” (2005, p. 5). In addition the assessment (2005, p. 40) distinguishes among four types of ecosystem services: *provisioning services* (e.g. food and genetic resources); *regulating services* (e.g. air quality regulation and climate regulation); *cultural services* (e.g. cultural diversity and knowledge systems); and *supporting services* (e.g. soil formation and photosynthesis).

<sup>40</sup> The concept of Total Economic Value in ecological economics comprises the following values: direct use value; indirect use value; option value; and non-use value (World Bank, 2004, p. 9).

In line with this scheme, RIA prioritizes international and national public funds as a source of financing (COICA, 2013a, 2014b). Given that a global carbon market for REDD+ did not materialize, funding ultimately did come mainly from development aid budgets and domestic resources – I will return to this point in the Ecuadorian case. However, the key demand from COICA was that indigenous communities become the direct beneficiaries of these funds. With this purpose, COICA was proposing the creation of an Amazonian Indigenous Fund as part of RIA (COICA, 2018, p. 3).

(3) *Territoriality* is another core element of RIA and it constitutes a way of re-embedding the management of carbon into local governance – as opposed to the global imaginary of deterritorialized carbon markets. RIA points to the unrecognized value of indigenous territories in climate change mitigation and adaptation policies, especially in comparison to natural protected areas:

Tendency to ignore the indigenous territories which cover more than 25% of the Amazon basin (although land-titling is still pending) with only 2% of deforestation, thus, deserving the same political and budgetary weight as protected areas. (COICA, 2013a, p. 2)

...several studies have shown that indigenous territories have lower deforestation rates than natural protected areas. Although the latter have received and still receive the greatest attention from states and international cooperation. It implies that the cultural factor, that of social practices of harmonious coexistence with the forest, is in the long run more decisive than the financing factors and therefore the market itself. (COICA, 2014c, pt. 3)

COICA highlights three priorities in the recognition of indigenous territories. The first point is land demarcation and titling for those indigenous territories that have not yet been legally recognized by states (COICA, 2013a, pp. 2–3). This is an enduring historical struggle of Amazonian indigenous peoples. The second point is the respect of the collective rights of indigenous peoples – in particular the right to self-determination – in those territories. Prominent among these is the right to free, prior and informed consent (FPIC). The third and last point, that derives from the right to self-determination, is that the governance of indigenous territories be adapted to the ways in which communities wish to live and develop according to their own culture and worldviews (COICA, 2013a, 2014b).

Indigenous territories are not merely understood as legal entities bestowing collective rights on land, but as an integral part of indigenous identity and livelihoods. Territories, in this sense, are an expression of ecological and cultural attachment (Escobar, 1999, 2008; Waldmueller & Altmann, 2018). The title of the initial RIA proposal indicates the centrality of territoriality for



COICA: *Indigenous Territories of Harmonious Life to Cool the Planet* (COICA, 2013a). Territoriality, in that sense, highlights the fact that the natural and physical environment bear the imprint of cultural practices and traditional knowledge. In line with this argument COICA bases the RIA proposal on the principle of “holistic management of territories of full life” (*gestión holística de territorios de vida plena*) (COICA, 2014b, 2014c). Holistic management is a response to REDD+’s carbon management, while territories of full life appear as an alternative to the carbon-centric view of forests.

In the RIA proposal, the policy instrument that connects territoriality, knowledge and valuation is the Life Plan<sup>41</sup> (*Plan de Vida*), which works as a community development plan for indigenous territories. Life Plans thus reflect the right of indigenous peoples to “freely pursue their economic, social and cultural development” (UNDRIP, 2007, Article 3), which is anchored in international legal instruments (COICA, 2014c, pt. 11). Life Plans establish the framework conditions for REDD+ to operate in indigenous territories according to the ways of life of indigenous communities and the holistic management of territories of full life (COICA, 2013a, p. 7, 2013c, 2014b, pp. 20–21, 2014c, pt. 11, 2016, p. 2, 2018, p. 4).

As a programmatic articulation of indigenous *knowledge, valuation and territoriality*, RIA became a transnational campaign operating in different sites and scales of governance. Indeed, RIA is a pan-Amazonian initiative targeting an international initiative (REDD+) whose implementation falls within the realm of national and subnational sites of governance. In this sense, a document from COICA speaks of RIA as a flexible and multi-level proposal:

RIA is not a rigid proposal; it evolves according to REDD+ adjustments. Therefore, RIA is part of the global process (UNFCCC), national (REDD+ National Program of each country) and jurisdictional (Local Project) of REDD+. Therefore, it is not an isolated proposal.

(COICA, 2014b, p. 17)

In a critical way, the international debate on REDD+ was at once a target and an input in the evolution of RIA. REDD+ under the UNFCCC did end up accommodating a number of aspects of that were elements of RIA, including social and environmental safeguards; co-benefits or non-carbon benefits of forest conservation; non-market mechanisms; and joint mechanisms of

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<sup>41</sup> Life Plans (*Planes de Vida*) derive from the recognition of indigenous territories in the Colombian constitution of 1991. Other countries in the region have adopted Life Plans as policy instruments for community development planning, in particular Ecuador and Peru (Bolaños & Pancho, 2008; O. Espinosa, 2014; Vieco Albarracín, 2010).

mitigation and adaptation (cf. Espinoza Llanos, 2017). However, the main thrust of the RIA proposal was to position Amazonian indigenous territories as key units of climate change mitigation and adaptation. In this endeavor, COICA would form alliances to produce scientific evidence to back their claims on the value of indigenous territories beyond forest carbon or to draw on the language used by COICA, the value of “indigenous carbon” (COICA, 2013a, p. 4).

In the next section, I analyze the cross-scale mobilization of COICA in a polycentric landscape of governance to promote RIA. In specific, I focus on the formation of a transnational coalition with advocacy groups and research organizations to make the contribution of indigenous territories visible. In specific, I zoom in on the genesis and development of “indigenous carbon” as a scientific fact that finds its roots in indigenous ways of knowing and valuing nature.

## 6.2 The genesis and development of “indigenous carbon”

### 6.2.1 *A generative question*

How much carbon is stored in the indigenous territories of Amazonia? A representative from COICA asked this question to a scientist from the Woods Hole Research Center (WHRC, later Woodwell Climate Research Center) at COP15, when indigenous peoples were taking to the streets of Copenhagen to demand that their voices be heard in the negotiation of a post-Kyoto climate agreement (Researcher 5, personal communication, March 29, 2019, p. 5). In the previous years, scientists from WHRC had been working on the first pantropical map of aboveground carbon storage, which culminated in a publication in *Nature Climate Change* (Baccini et al., 2012). In the paper the authors estimate the carbon density of tropical forests, using satellite and field data with “unprecedented accuracy and spatial resolution” (Baccini et al., 2012, p. 1). The research done by WHRC was tightly linked to the importance of forests for climate change mitigation and to REDD+ in specific. COICA, for its part, was on its way to developing RIA at that time. Hence, the question from COICA was fitting the research agenda of WHRC and the political agenda of RIA.

To answer the question, it was necessary to quantify carbon inside and outside indigenous territories. In other words, it was necessary to overlay the “natural”<sup>42</sup> boundaries of tropical

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<sup>42</sup> The natural boundaries of Amazonia are also a construction of scientific knowledge and political interventions. The boundaries of the Amazon region, for instance, are subject to multiple biophysical

forests with the legal – and political – boundaries of indigenous territories in Amazonia. As WHRC scientists recounts:

Once [COICA] asked that question in 2009, we begin to search for the best data set available on indigenous territories and protected national areas, they are actually boundaries themselves. And we learned that it was RAISG that was responsible for compiling and maintaining what was and what still is the best data set. Now, the issue was back then it wasn't open source. Now you can go online and you can download a version of the data set, but back then it wasn't open source. They kept it very close to the vest. So we reached out to them and basically, you know, over quite some time, it took us probably a year or more, we convinced them to work with us. (Researcher 5, personal communication, March 29, 2019, p. 5)

RAISG is the Amazon Geo-Referenced Socio-Environmental Information Network, a consortium of research-oriented civil society organizations from the Amazon countries, whose main activity is the production of “statistical data and geospatial socio-environmental information on Amazonia”<sup>43</sup>. Following its creation in 2007, RAISG main output would be the production of maps on indigenous territories and natural protected areas in Amazonia as a whole, with the explicit purpose of overcoming fragmentary representations of the region along national boundaries. A scientist from EcoCiencia, the Ecuadorian member of RAISG, explains that “there was a very clear, very specific, idea of making indigenous territories and indigenous peoples visible in the Amazon basin, as very important interlocutors or actors in what was happening in the basin” (NGO representative 8, personal communication, January 28, 2018). This motivation is manifest in the maps produced by RAISG, which include not only indigenous territories with official government recognition, but also those pending recognition, that is, where there are existing demands for recognition. This was the data set that WHRC and COICA needed to carry out the study on indigenous carbon. However, as the scientists from WHRC found out, the data set of indigenous territories from RAISG was not open source.

In reaching out to RAISG, the involvement of another organization would be crucial, the influential US-based advocacy group Environmental Defense Fund (EDF). In fact, EDF was the node connecting COICA and WHRC in the first place. EDF built a relationship with COICA in the context of REDD+ at the UNFCCC (NGO representative 2, personal communication, May 3, 2019; NGO representative 3, personal communication, May 10, 2019). A project manager at EDF at the

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criteria (e.g. hydrology, topography, and vegetation), while at the same time there are legal limits of the Amazon as an administrative region that each country defines (BID, PNUD, TCA, 1994, p. 53).

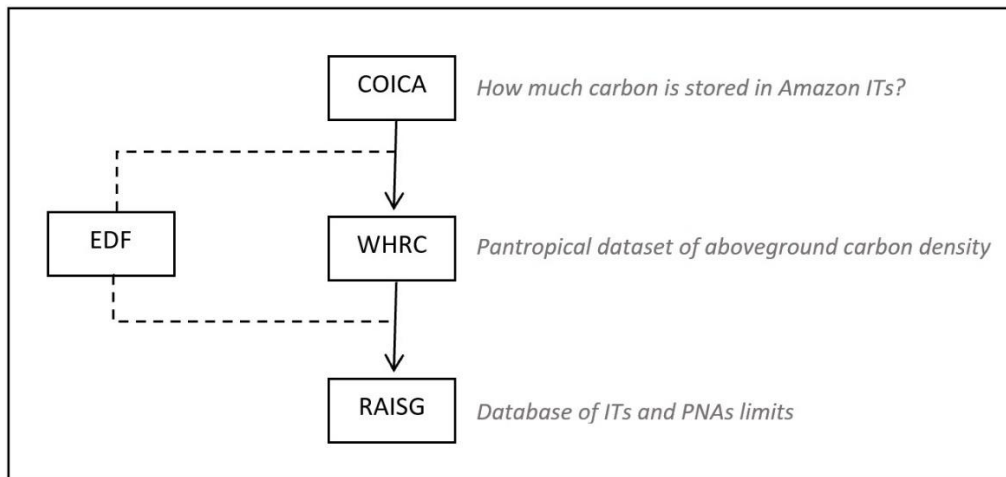
<sup>43</sup> RAISG webpage <https://www.amazoniasocioambiental.org/en/about/>

time, recalls “my job was to basically work with [...] COICA to support COICA and their base organizations participation in these REDD negotiations at the COP and other policy space” (NGO representative 3, personal communication, May 10, 2019). The relationship between EDF and WHRC, for its part, was based on long-lasting collaborative work. For EDF the science of WHRC was key to its focus on science-based advocacy (NGO representative 2, personal communication, May 3, 2019). EDF and WHRC were both working on a multi-stakeholder initiative, the Forum on Readiness for REDD, to build the capacity of local stakeholders on practical approaches to REDD+ and COICA was among these local stakeholders.

EDF would approach RAISG drawing on personal connections stemming from the previous work of EDF members in the Brazilian Amazon (NGO representative 2, personal communication, May 3, 2019). Two members from EDF were in charge of building the relationship with RAISG. The aim was not simply to access the database on indigenous territories, but to actually build a coalition for collective advocacy. This is how a member from EDF recalls the visit to RAISG and, in specific, the way EDF framed the idea of a coalition:

So I made, you know, with my boss we made an introduction to RAISG network, we went down to meet them, I mean, we all happened to be down there at the same time and we sat down and discussed like “hey, here is the idea why don't we take the network of georeferenced indigenous territories that you guys have, overlay that with Woods Hole's biomass map of carbon densities, carbon stock densities, put that all into a paper, do it together not separately without the indigenous peoples, but you know, do it together so it's all, they're consulted, they're participating fully and effectively, write a joint paper about it, get it published and then have that ready for the Lima COP”. (NGO representative 3, personal communication, May 10, 2019)

This is how the initial question by became a research paper and an advocacy campaign. COICA was at the root of the development of what I call here the “indigenous carbon coalition”. In the words of an EDF member: “So the whole coalition really grew out of that, so that really was something that was launched on the basis of COICA's question” (NGO representative 2, personal communication, May 3, 2019). EDF was the connection between the organizations and it was key in framing the campaign together with COICA. WHRC and RAISG, for their part, were in possession of the data and the scientific expertise to conduct the study. Figure 11 provides a schematic representation of the development of the coalition starting with COICA's question.



**Figure 11** Formation of the "indigenous carbon" coalition. Source: own elaboration.

There were pre-existing connections, either personal or organizational, among the members of the coalition. However, the coalition itself was spurred by the initial question that led to the research paper and the campaign. There were some incidental aspects in the formation of these alliances too. If the database from RAISG had been open source at the time, as it is now, there would have been no need to establish a formal alliance with RAISG. The fact that it was not open source was what led WHRC to seek contact with RAISG via EDF. The access to funding would consolidate the coalition thereafter. EDF was able to get financing from the World Bank to conduct the initial study (NGO representative 3, personal communication, May 10, 2019). Subsequently, a formal project would form out of this initial collaboration when the network of organizations (RAISG, WHRC, COICA and EDF) became the beneficiaries of financing from the Norwegian Agency for Development Cooperation for a five-year period (Norad, 2016).

A striking aspect of how the indigenous carbon coalition was made is the changing social judgements about who may legitimately ask a research question and become one of the authors of a scientific paper. Whereas in the beginning COICA was simply one among other stakeholders in a REDD+ multistakeholder initiative by EDF and WHRC, in the coalition itself the members of COICA became knowledge holders, most notably for asking the research question that led to the formation of the coalition. Although the data set and the database that would serve as a basis for the study did not involve the knowledge from the indigenous representatives of COICA, there was an involvement of COICA throughout the research process including as authors of the resulting paper. Moreover, COICA would be the main actor in charge of the evidence-based advocacy campaign.

### 6.2.2 *Indigenous carbon as a hard fact*

By producing data on carbon stocks in Amazonian indigenous territories, COICA and its allies were aware about the strategic use of scientific evidence for advocacy. While WHRC was first and foremost a scientific organization, EDF and RAISG were science-based advocacy groups. The central purpose of the alliance was to produce “hard facts” on indigenous carbon, i.e. of forest carbon in Amazonian indigenous territories. The underlying belief was that scientific facts would allow indigenous peoples to make authoritative claims in climate change governance. A member from EDF put this plainly:

We recognized, you know, there was a certain extent that just [indigenous peoples'] normal, I would say, high-level demands of, you know, "we want free, prior and informed consent; land titles, etc." like they just kept on repeating those things in kind of high level, but there wasn't necessarily the data-driven rationale linking it to climate, you know, that, again, might influence better the decision-makers in these processes. You know, whereas NGOs and everybody else would show a bunch of data and analysis and economics and everything else, studies, that [...] the best kind of scientists globally, you know, would try to sway and impress the policymakers at the UNFCCC, the indigenous peoples would just come with their moral arguments and rhetoric, which was possible, but again, kind of limited themselves to one tool in the toolbox instead of multiple tools in the toolbox I would say. (NGO representative 3, personal communication, May 10, 2019)

Hard facts were, in that sense, understood as a way of rendering the claims of indigenous peoples authoritative. The scientific director of Ecociencia, the Ecuadorian member of RAISG, would make a similar remark with respect to the importance of scientific facts for advocacy: “The objective of this, in any case, is to achieve, above all, that indigenous peoples have a better chance of advocacy [*incidencia*] in countries with hard data, so with data of scientific analysis and rigorously produced” (NGO representative 8, personal communication, January 28, 2018).

The paper that came out of the collaboration was published in the journal *Carbon Management* under the title “Forest Carbon in Amazonia: the Unrecognized Contribution of Indigenous Territories and Protected Natural Areas” (Walker et al., 2014). The authors of the study were the scientists from WHRC and RAISG, along with the contributors from EDF and COICA. The co-authors from COICA were Juan Carlos Jintiach, international coordinator and Edwin Vasquez Campos, general coordinator. When asked about the role of indigenous co-authors in the study, one of the lead authors stated that, beyond asking the initial research question, they were particularly involved in reviewing the results and in the “policy side” of the article (Researcher 5, personal communication, March 29, 2019). In other words, there was a division of labor

between the first part of the paper that presents the hard data on carbon density and the second part which speaks of the climate policy implications of the findings.

The findings of the research paper were confirming what COICA was claiming in the RIA proposal. The key finding was that indigenous territories and protected areas – which in some cases overlap – store over half (55%) of aboveground carbon in the Amazon region (see Figure 12). Amazonian indigenous territories alone account for nearly one third (32,8%) of the region’s aboveground carbon stocks (Walker et al., 2014, p. 480). To put it in the terminology of RIA, one third of aboveground carbon in the Amazon is “indigenous carbon”. The claim that there is something as indigenous carbon was now backed by scientific evidence.

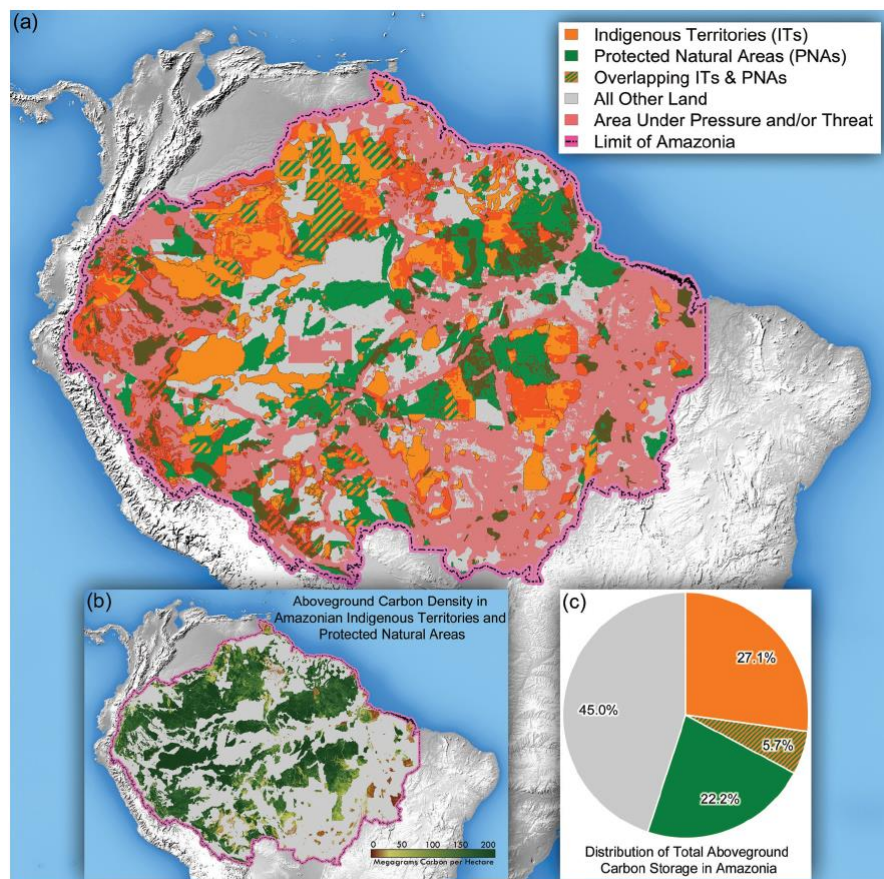


Figure 1. Amazon forest carbon at risk. (A) Risks (i.e., current pressures and near-term threats; see Table S3) to the distribution of (B) carbon stored above ground in the woody biomass of Amazonian tropical forests (C) as a percentage of the basin-wide total (i.e., 86,120 million metric tons carbon, MtC): ITs – 23,380 MtC (27.1%), PNAs – 19,116 MtC (22.2%), areas of overlapping ITs and PNAs – 4867 MtC (5.7%) and all other land – 39,376 MtC (45.0%) (see Table S1).

**Figure 12** “Amazon forest carbon at risk”. Figure summarizing the findings of the study by the indigenous carbon alliance. Source: Walker et al. (2014, p. 481)

A further finding of the research paper, which went beyond the initial question, was that over half (53%) of the Amazon region is at risk because of pressures such as agriculture, oil extraction

and mining, as well as the threat of future projects and concessions (Walker et al., 2014, p. 481). Most importantly, the paper contends that 40 percent of indigenous territories are at risk despite the fact that in principle these enjoy special protection status (Walker et al., 2014, p. 482). In short, indigenous carbon is at-risk carbon.

The forest and climate policy implications of these findings are found in the second part of the research paper. The policy implications which are drawn from the findings are largely aligned with the demands of COICA and RIA in specific. The following excerpt illustrates this point:

It follows that specific policies and investments in support of effective forest protection, sustainable development pathways for the populations that inhabit ITs [indigenous territories] and PNAs [protected natural areas] and equitable valuation of their social and environmental services, are fundamental to realizing robust, largescale reductions in emissions from land use change. (Walker et al., 2014, p. 482)

The excerpt speaks about the importance of indigenous territoriality and valuation of ecosystem services, some of the core elements of RIA. In this line, the paper further argues that the legal recognition of indigenous territories is imperative given that 14 percent of carbon is stored in not officially recognized territories (Walker et al., 2014, p. 482). This points to the imperative of land titling, which features prominently in the RIA proposal (COICA, 2013a). With respect to indigenous knowledge in particular, the authors claim that indigenous management is based on “extensive knowledge” of local ecosystems (Walker et al., 2014, p. 482). Finally, the paper adds, in line with RIA, that indigenous territories should be “preferentially eligible for both REDD+ and climate adaptation financing” (Walker et al., 2014, p. 483).

The paper was put together in time for its presentation at COP20 (2014) in Lima (NGO representative 3, personal communication, May 10, 2019). The side event, which took place on 4 December 2014, was the first official presentation of the findings of the study at the UNFCCC. It is worth noting that COP20 marked a turning point in the participation of indigenous peoples as it was the first to feature an indigenous pavilion, an initiative led by COICA with the support of the Peruvian COP presidency (G. Edwards & Roberts, 2015, p. 159). It was a moment in which indigenous peoples were gaining unprecedented visibility in climate negotiations. The hard facts on indigenous carbon that resulted from COICA’s ongoing collaboration with its allies would become a central element of its advocacy in the subsequent COPs.



In the aftermath of COP20, the maps and data that came out of the coalition became “a thing”, in the words of an EDF member (NGO representative 3, personal communication, May 10, 2019). Other major NGOs, such as the World Resources Institute, produced similar data in collaboration with broader networks of organizations. In 2018, for instance, the global coalition Rights and Resources Initiative released a Global Baseline of Carbon Storage in Collective Lands (Rights+Resources, 2018). This was an attempt to upscale the data from Amazon indigenous territories to the entire world and, on top of that, add other forms of collective land to include the contribution from local communities worldwide. However, this was not a peer-reviewed research paper and its data was incomplete as the report states, “[c]arbon storage in collective lands is far greater and more extensive than what can be assessed through available data” (Rights+Resources, 2018, p. 3).

COICA and the indigenous carbon coalition, however, would continue their work with a view to producing peer-reviewed research outputs. With the grant from the Norwegian cooperation, as well as other sources of funding, a second research paper came out in 2020 in the high-impact journal *Proceedings of the National Academy of Science of the United States of America*. The focus of this new study was, once again, indigenous territories and natural protected areas. However, the main contribution of the new study was to disaggregate the data on losses of forest carbon into forest conversion, on the one hand, and forest degradation/disturbances, on the other. One of the key findings was that, between 2003 and 2016, around 70 percent of total losses – and 90 percent of net change – of carbon density occurred outside indigenous territories and protected areas (Walker et al., 2020, p. 3017). However, the study found that there is also some loss of forest carbon in indigenous territories and more than 75 percent of it is attributable to forest degradation/disturbance in seven countries (Walker et al., 2020, p. 3019). On this basis, the authors warn that “Amazon ITs [indigenous territories] and PNAs [protected natural areas] are increasingly vulnerable to the less conspicuous (and often-neglected) processes of forest degradation and disturbance, which diminish carbon storage and ecological integrity” (Walker et al., 2020, p. 3015).

As in the previous paper, two of the co-authors were indigenous leaders from COICA: Tuntiak Katan, vice-coordinator, and Gregorio Díaz Mirabal, general coordinator. The policy implications of the findings of the research paper are expounded in less detail if compared to the previous paper; however, the key message which echoes the demands of RIA is still present:

The collective rights of [indigenous peoples and local communities] to their traditional lands, territories and associated natural resources must be understood and respected as a fundamental human right. At the same time, indigenous land stewardship is a global environmental service that merits both political protection and financial support. (Walker et al., 2020, p. 3023; emphasis added)

The key elements of COICA's RIA proposal appear in this short excerpt. In specific, the value of noncarbon ecosystem services and indigenous territoriality are summarized in the claim that the land stewardship of indigenous peoples is, in and of itself, a global environmental service.



**Figure 13** Side event “Amazonia under pressure: Degradation, land use change and forest fires” at COP25, 4 December 2019, Madrid-Spain. Source: Photo taken by the author.

The results of the (at the time) forthcoming paper were presented in a side event at COP25 in Madrid (see Figure 13). The side event featured interventions from the lead author of the paper, Wayne Walker, along with co-authors from RAISG and representatives from COICA. Once again, a side event was the main institutional channel of communication to speak to decision makers in the UNFCCC. That said, once the paper was officially published, its outreach was enhanced by extensive media coverage. Reuters, Radio France Internationale and The Guardian were among the international media outlets covering the story (Greenfield, 2020; Moloney, 2020; Morrow, 2020). The title of The Guardian was perhaps the most eloquent: “Trust our expertise or face catastrophe, Amazon peoples warn on environment” (Greenfield, 2020). This article included excerpts from an interview with Tuntiak Katan, a COICA representative and one of the co-authors of the paper. Thus, the scientific study did contribute to give Amazon indigenous peoples and their climate-related struggles unprecedented visibility worldwide.

### 6.2.3 *Scientific indigenous knowledge*

The production of scientific facts on indigenous carbon may be understood as a form of knowledge brokering consisting in the translation indigenous claims to knowledge into the science-based language of the UNFCCC. In that sense, the indigenous carbon coalition was introducing alternative ways of connecting indigenous ways of knowing to policy. However, the indigenous carbon coalition also reveals the imperative of scientific data or “hard facts” when indigenous knowledge holders seek to make authoritative claims to knowledge. A COICA representative and Shuar leader from the Ecuadorian Amazon put it in the following terms:

It is not that we [indigenous peoples] are incapable and neither is it that we do not want to connect to the external world... You can use very good things that they have, like technology, to defend, to better express your demands to a society that has developed that system, that language. Now, it would be the other way around, if the Shuar, the Indians, controlled Ecuador. It would be the other way around. (Indigenous representative 1, personal communication, May 1, 2018)

The Shuar leader was arguably using Ecuador as an example because, in our interview, he was speaking to a fellow Ecuadorian. However, the remark was pointing to a global issue with its roots in coloniality: the fact that indigenous peoples were prompted to speak in the language of the “external world”. Here, the language of the external world is the language of hard facts. Yet, at the same time, the remark from the COICA Shuar leader conveys a willingness of indigenous peoples to engage in dialogue with the external world. Certainly, this is an asymmetric dialogue. It is a dialogue that is held in the language of the dominant culture. Hence, if Shuar would be the dominant culture, those who are not Shuar would have to translate their demands into the worldview of the Shuar.

It is striking that indigenous peoples, along with their allies, were producing scientific studies of the carbon density of the forests even though they were opposing the simplification of forests as carbon stocks. They were using the very categories that they were opposing. However, in so doing, indigenous peoples were inverting the logic of valuation because, by pointing to the value of carbon in indigenous territories, Amazon peoples were seeking to enhance the value of “indigenous carbon” and the indigenous knowledge in which it inheres. The indigenous leaders from COICA were aware of the fact that they were speaking in the language of science to make claims to indigenous knowledge, but they were also consciously introducing an alternative language of valuation through the language of science. A Shuar leader from COICA explained this to me by linking deforestation or loss of forest carbon, to the loss of a connection to Gods:

My people also took medicine from a plant to connect with the Gods through waterfalls. What happens is that if you have deforestation, you start having water shortages, that is logical and in the end the water disappears and the waterfall disappears, you have a desert and who sends you your Gods back? (Indigenous representative 1, personal communication, May 1, 2018)

The use of other culturally dominant languages in the claims of indigenous peoples has been noticed in anthropology. For instance, Peruvian anthropologist Marisol de la Cadena notes that “[f]requently, to be recognized as legitimate adversaries (cf. Mouffe), indigenous leaders speak in modern terms, translating their practices into a politically acceptable speech and leaving ‘the unacceptable’ behind without necessarily abandoning it” (de la Cadena, 2010, p. 349). To speak in the language of the dominant is a contentious strategy short of revolution, as Scott explains, “[f]or anything less than completely revolutionary ends the terrain of dominant discourse is the only plausible arena of struggle” (1990, p. 103). In the case of REDD+, a knowledge claim would be authoritative only if it would mobilize scientific data on forest carbon. However, as we have seen, the claims from COICA were not one-dimensional because they were also introducing alternative languages of valuation about indigenous carbon and, ultimately, indigenous knowledge.

The leaders of COICA were aware of the difficulty of bringing the voices of indigenous knowledge holders to global negotiations without the mediation of science. COICA’s coordinator of climate change alluded to the fact that the scientific findings of the indigenous carbon coalition were something that indigenous elders were already aware of:

I was in Bonn in Germany at the beginning of the year in the SBSTA50 where we were with scientists that are going to be here tomorrow, who do studies of the Amazon and all their sophisticated scientific instruments. They were presenting that, [and] I told them “what you are presenting, our elders had already warned about”, except that we do not have, let's say the very technical elements to say “this was so or this was going to happen or is happening”, but [our elders] had already warned of this through our knowledge [saberés]. (Indigenous representative 10, personal communication, December 3, 2019)

Not only were indigenous peoples aware of using the scientific language to speak of indigenous knowledge, but also scientists, policy experts and advocacy groups were aware of providing scientific and expert knowledge as tools for the defense of indigenous knowledge. This was accompanied by a recognition of the knowledge of indigenous peoples as a valuable resource for the production of scientific knowledge. One of the lead authors of the paper acknowledged this in the following terms:

I think indigenous knowledge is really important, in my experience indigenous peoples know so much about the forest in which they live, they are so tuned into the forest and the dynamics of the ecosystem, they know better than anyone, they can sense better than anyone when things are changing and it is my impression that it is very likely that given how tune in they are to the dynamics of the forest that they probably experienced climate change before any of the rest of us began to realize what was happening because of their relationship with the forests in which they live. (Researcher 5, personal communication, March 29, 2019)

Reciprocal recognition and heterarchical valuation was the basis on which indigenous knowledge holders and scientists were able to work together. The indigenous carbon coalition was, at once, producing hard facts for political advocacy and introducing alternative languages of valuation, specifically on the value of indigenous carbon and the knowledge that lies behind it. However, the heterarchical relations that came out of this collaboration did not incorporate the knowledge of Amazonian indigenous peoples in its different forms and expressions, privileging instead the production of scientific data and introducing indigenous ways of knowing and valuing nature only by stealth.

### 6.3 Downscaling indigenous carbon: REDD+ and RIA in Ecuador

COICA's RIA proposal was not a one-size-fits-all proposal given that it was evolving according to the continually changing RED(D+) initiative, in the first place, and it came to acquire specific characteristics in specific sites of governance, in the second place. In the first place, as Turnhout and colleagues (2017) argue, REDD+ went from being carbon-centered (climate mitigation *tout court*), to co-benefits-centered (including biodiversity and communities), to landscape-centered (linking forests to other forms of sustainable land-use). As far as financing is concerned, REDD+ went from being an initiative intended to work through carbon markets to an initiative that works mostly through development aid funds (Angelsen et al., 2018). The contestation of REDD+, therefore, changes as REDD+ itself changes as a proposal and integrates part of the criticism.

In the second place, REDD+ and RIA have to be adapted and integrated into national and subnational contexts. Each element of the REDD+ framework is initially assessed in light of national circumstances and policies in order to make it fit into national or subnational legal frameworks. As a consequence, advocacy and contestation look different depending on the site of governance where the design, implementation and evaluation of policies take place. The RIA proposal from COICA, therefore, was thought as a flexible campaign adapting to national and

local contexts. Here, I zoom in on the RIA campaign in the context of Ecuador's REDD+ strategy in order to analyze how the politics of epistemic diversity play out in specific sites of governance.

### *6.3.1 Ecuador in Amazonia: petroleum, native forests and indigenous territories*

Ecuador is one of the nine countries of the Amazon basin. The official limits of the Ecuadorian Amazon region cover 116.270 km<sup>2</sup>, which represent 46,8 percent of the country's continental surface area (López Acevedo, 2016, p. 6). However, the Ecuadorian Amazon constitutes only a small portion of the pan-Amazon region, equivalent to 1,5 percent of the macro-Amazon basin (López Acevedo et al., 2013, p. 4). Despite its modest extent, the Ecuadorian Amazon has been one of the cornerstones of the development of the country's environmental profile internationally (cf. Bustamante Ponce, 2016). The ecological significance of the Ecuadorian Amazon stems to a great extent from the fact that it holds up to 80 percent of the country's biological diversity (López Acevedo, 2016, p. 6); a number whose true dimension is only possible to grasp when one considers that Ecuador has been classified as one of the 17 "megadiverse countries" in the world (Mittermeier et al., 2005). Moreover, the Ecuadorian Amazon harbors 74 percent of the native forests of Ecuador (Republic of Ecuador, 2016, p. 17).

The natural endowments of the Ecuadorian Amazon are only matched by its wealth in natural resources, especially oil and mining resources. In particular since the "oil boom" of the 1970s the Amazon region became the cornerstone of Ecuador's extractive economy (Acosta et al., 2000). Over 60 percent of oil blocks in operation in the pan-Amazon basin are located in the Ecuadorian Amazon (López Acevedo et al., 2013, p. 22) and over two-thirds of the Ecuadorian Amazon is covered by oil blocks (Finer et al., 2008, p. 4). Oil extraction, in particular through the construction of access roads to oil blocks, is a major driver of forest loss in the Amazon (Baynard et al., 2013; Finer et al., 2008, 2015; Suarez et al., 2009).

The Amazon is therefore of pivotal importance in the implementation of REDD+ in Ecuador. One of the most illustrative numbers in this respect is that, among the priority areas that were identified for the implementation of REDD+ in the country, 87 percent are located in the Amazon region (Republic of Ecuador, 2016, p. 120). However, native forests – or the carbon stocks of forests – are not the only criteria for the implementation of REDD+. Other criteria include the rates of forest loss, the importance for biodiversity, and the presence of indigenous nations, peoples and communities (Republic of Ecuador, 2016, p. 120).

The Ecuadorian Amazon is a mosaic of natural protected areas and indigenous territories, as well as oil blocks and mining concessions. According to EcoCiencia, the Ecuadorian member

organization of RAISG, 56,1 percent of the jurisdictional Amazon region are indigenous territories<sup>44</sup>and 29,4 percent of these overlap with natural protected areas (López Acevedo, 2016, p. 26,28). However, at the same time, these partly overlap with oil blocks that cover around 65 percent of the Amazon (Finer et al., 2008, p. 4). The overlap of oil blocks and protected lands underlies a disturbing trend, namely that 62 percent of carbon loss in the forests of the Ecuadorian Amazon is occurring inside protected natural areas and indigenous territories (Walker et al., 2020, p. 3023).

The status of indigenous territories in the Ecuadorian Amazon is in and of itself a complex issue. The initial phases of land titling took place in the 1960s and 1970s in the context of agrarian reform and the “colonization” of the Amazon, which was historically considered a largely uninhabited “vacant land” (Wasserstrom & Southgate, 2013, p. 34). The adjudication and titling of indigenous territories include community lands and territories of ancestral possession, one ethnic reserve for the Waorani people and one intangible zone to protect indigenous peoples in isolation, namely the Tagaeri and Taromenane. The increasing recognition of indigenous territories in the 1980s and 1990s was the result of historic indigenous mobilizations on the part of the umbrella organization of Amazon indigenous peoples CONFENIAE (Confederation of Indigenous Nationalities of the Ecuadorian Amazon) and its member organizations in the early 1990s (Sawyer, 2004). International norms and regulations would consolidate the legal status of indigenous lands and territories, in specific the ILO Convention 169 (Articles 13.2, 14 and 19) – ratified by Ecuador in 1998 – and UN Declaration on the Rights of Indigenous Peoples (Articles 8, 26 and 32). The latest development in national legislation was the adoption of the Law on Rural Lands and Ancestral Territories in 2016, which brings clarity to the adjudication and titling of indigenous lands and territories.

Beyond collective rights to lands and territories, the Ecuadorian constitution of 1998 included in its article 224 the figure of indigenous territorial districts (*circunscripción territorial indígena*) as a special administrative unit. However, no specific provisions were adopted for the creation of such administrative units. The figure of indigenous territorial districts was adopted again in the constitution of 2008 (Article 257) with a specific decree establishing an intricate procedure for the creation of indigenous territorial districts, which includes holding a referendum (*consulta popular*) (Ortiz-T., 2015, p. 62). As a result of this intricate procedure and political obstacles, there is, as of yet, no indigenous territorial district in Ecuador (Ortiz-T., 2015). However, four

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<sup>44</sup> This includes an area close to 9000 km<sup>2</sup> that has no official recognition (López Acevedo, 2016, p. 24).

processes of consultation are pending, all of which are located in the Amazon region (El Comercio, 2019).

In sum, the Ecuadorian Amazon is a priority for the implementation of REDD+ in Ecuador primarily because of its native forests. However, a sizeable extent of native forests is found in indigenous territories that partially overlap with natural protected areas and oil blocks. As a consequence, indigenous peoples from the Amazon are of paramount importance for the design and implementation of REDD+ in the country. This is the political space in which COICA and its Ecuadorian member organization CONFENIAE, would advance the RIA proposal.

### 6.3.2 *REDD+ in Ecuador*

The advent of REDD+ was seen from the outset as an opportunity for Ecuador. REDD+ was seen as an initiative to secure financial support in forest-based mitigation, a sector of pivotal importance given that 43,5 percent of the country's GHG emissions stem from agriculture, forestry and other land use (Republic of Ecuador, 2019, p. 6). However, it was uncertain whether the market logic of REDD+ was compatible with the principles and norms of the new Ecuadorian constitution of 2008, which include a wide recognition of epistemic diversity. As the outcome of a left-wing political transition, the Ecuadorian constitution of 2008 set out to inaugurate a new era of nature-human relations through the guiding principle of *Buen Vivir* or *Sumak Kawsay* in Kichwa, which translates as "Good Living". The preamble of the constitution speaks of "[a] new form of citizen coexistence, in diversity and in harmony with nature, to achieve *buen vivir, sumak kawsay*" (Constitution of the Republic of Ecuador, 2008, Preamble). The concept of *Buen Vivi* is grounded in indigenous ways of living and worldviews. A former member of the Ecuadorian constituent assembly notes, in this regard:

The good life [buen vivir] or living well [vivir bien] as they say in Bolivia, gathers a series of values, experiences, ways of life and practices, many practices, existing for a long time in many indigenous communities. The great starting point of these ideas of good living is the indigenous world. And what is interesting here is that it is not about, as I say, something pre-elaborated that is being recently discussed, but the aim is to re-encounter those communities that possess a long memory. (Researcher 12, personal communication, February 26, 2019)

*Buen Vivir* is rooted in indigenous and ecological imaginaries that rethink the relationship between human beings and nature. Beyond alternative development, it translates into an alternative to development (Gudynas & Acosta, 2011, p. 75; Acosta & Martínez, 2009). *Buen Vivir* conveys "other valuation rhetoric (ecological, religious, aesthetic, cultural) related to nature that claims economic growth must be subject to the conservation of life" (Svampa, 2019,



p. 43). To be consistent, national development plans in Ecuador were renamed “national plans for *Buen Vivir*” (SENPLADES, 2009, 2013). However, there is an inherent tension between development and *Buen Vivir* in the constitution of 2008 in so far as the Title VI outlines a development regime and Title VII a regime for *Buen Vivir* (Researcher 12, personal communication, February 26, 2019).

The constitution of 2008 was also the first to enshrine the rights of nature: “Nature or Pacha Mama, where life is reproduced and occurs, has the right to integral respect for its existence and for the maintenance and regeneration of its life cycles, structure, functions and evolutionary processes” (Constitution of the Republic of Ecuador, 2008, Article 27). The rights of nature underpin a novel understanding of the environment in which there is an encounter of the western legal tradition and the indigenous cosmovision of Pacha Mama or Mother Earth (Researcher 12, personal communication, February 26, 2019). In a more fundamental way, the rights of nature mark a shift from anthropocentrism to biocentrism (Gudynas, 2016).

The Ecuadorian constitution of 2008 rests upon a recovery of indigenous cosmovision or, alternatively, the recognition of epistemic diversity through the knowledge and values of indigenous peoples. Crucially, the guiding principle of *Buen Vivir* is not specific to indigenous rights; it is an overarching framework for the *plurinational* and intercultural state of Ecuador. The emblematic Otavalo indigenous leader Blanca Chancoso explains, in that sense, that “Sumak Kawsay is the dream not only for indigenous peoples, but also for all humans” (Chancoso, 2017, p. 277). Beyond its local indigenous roots, *Buen Vivir* became a foundational principle of the Ecuadorian state and a core element of the country’s foreign policy, which was successful in placing it in global debates on sustainable development (Kauffman & Martin, 2014; López Rivera, 2017).

Beyond *Buen Vivir* and the rights of nature, which reach beyond indigenous peoples, the constitution of 2008 includes specific provisions for the recognition and protection of indigenous rights and knowledge. The constitution recognizes indigenous *nationalities*, peoples and communities,<sup>45</sup> and defines Ecuador as a *plurinational* and intercultural state. It further

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<sup>45</sup> There are 14 indigenous nationalities and 18 peoples, who are not only indigenous, but also montubio and Afroecuadorian. The percentage of the indigenous population vary extensively according to the criteria that is used for its definition. The population census from 2010 these are around 7 percent of the

enshrines the rights of indigenous peoples to their ancestral lands and territories, as well as the right to free, prior and informed consultation (Constitution of the Republic of Ecuador, 2008, Article 57, Para. 4-7). Specific to indigenous knowledge, the constitution provides as follows:

To uphold, protect and develop collective knowledge; their science, technologies and ancestral wisdom; the genetic resources that contain biological diversity and agricultural biodiversity; their medicine and traditional medical practices, with the inclusion of the right to restore, promote and protect ritual and holy places, as well as plants, animals, minerals and ecosystems in their territories; and knowledge about the resources and properties of fauna and flora.

All forms of appropriation of their knowledge, innovations and practices are forbidden.

(Constitution of the Republic of Ecuador, 2008, Article 57, Para. 12)

The Ecuadorian constitution foregrounds the recognition, protection and development of collective knowledge specific to indigenous peoples. It centers on the environmental or ecological dimension of indigenous knowledge, thereby linking indigenous issues and environmental issues.

The novel constitutional order, with *Buen Vivir* and the rights of nature at its core, was the framework in which REDD+ would have to operate in Ecuador. REDD+ became a national policy in 2016 through the adoption of the REDD+ Action Plan “Forests for *Buen Vivir*” (Republic of Ecuador, 2016). This might be thought of as a process of vernacularization of REDD+ to the constitutional order of Ecuador. However, the REDD+ Action Plan was the culmination of a long process of preparation officially known as the “readiness” phase.

The initial steps towards REDD+ by the Ecuadorian government were driven by the development of a payment for ecosystem services scheme in 2008, namely the Socio Bosque program. Socio Bosque consists in the transfer of direct monetary incentives for the conservation of native forests – and other ecosystems – in communal lands of indigenous peoples and local communities or under the ownership of individual families (de Koning et al., 2011). The Socio Bosque program works by means of voluntary conservation agreements and regular monitoring for compliance. The program responds to a twofold objective: ecosystem conservation and poverty alleviation (de Koning et al., 2011, p. 533). The target group are mainly peasant and

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total population, whereas CONAIE claims that they make up to 40 percent of the population (M. Becker, 2010, p. 3).

indigenous communities<sup>46</sup>. Socio Bosque, with data from 2018, counted 2.681 conservation agreements covering 1.6 million hectares, which amounts to a total annual incentive of over 10 million USD (Socio Bosque, 2018).

Socio Bosque was critical in paving the way for the elaboration of the REDD+ Action Plan and accessing early REDD+ results-based payments. Socio Bosque in the Amazon region is currently part of a more comprehensive REDD-related program known as PROAmazonía. This is a form of jurisdictional REDD+ in the Ecuadorian Amazon region based on an integrated landscape approach, which means that it combines the Socio Bosque focus on forest conservation and restoration with sustainable production and land-use (UNDP, 2017).

The construction of the REDD+ Action Plan itself was, according to the official language, a technical and participatory process (Republic of Ecuador, 2016, sec. 3). Central to the participatory process was the establishment of a REDD+ roundtable (*Mesa de Trabajo REDD+*), as a multi-stakeholder working group convening once every two months, initially and once a month subsequently (Republic of Ecuador, 2016, pp. 86–87). Other institutional channels of participation were established through working groups in specific areas of REDD+ and capacity-building workshops (Republic of Ecuador, 2016, pp. 87–88). It was mainly through these institutional channels of participation that the indigenous organizations from the Amazon, especially CONFENIAE and COICA, sought to promote the RIA proposal.

### 6.3.3 RIA in Ecuador

CONFENIAE, the umbrella organization of indigenous nations from the Ecuadorian Amazon, was the one in charge of advancing COICA's RIA proposal in Ecuador. Before RIA became a formal proposal of COICA, however, the first reaction on the part of CONFENIAE was a categorical rejection of REDD+. CONFENIAE made its position clear in a statement from 2009: "We reject the negotiations on our forests, such as REDD projects, because they try to take away our freedom to manage our resources and also because they are not a real solution to climate change, on the contrary, they only make it worse" (CONFENIAE, 2009). CONFENIAE and other environmental groups were opposing commodification through carbon markets as well as the loss of control over indigenous territories as technical conservation measures would come to replace the traditional use of the land (Moreano Venegas quoted in Kill, 2015, p. 17).

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<sup>46</sup> In Ecuador, poverty among the indigenous population is 2.5 times higher than in the rest of the population, while extreme poverty is 5.8 times higher (CEPAL & FILAC, 2020, pp. 171–172).

CONFENIAE's opposition was also motivated by the early presence of so-called "carbon cowboys" in the Ecuadorian Amazon. In 2005, for example, the US-based company Eco-Genesis signed an agreement with the organization of the Waorani indigenous nation granting the company the rights to commercialize carbon credits from the forests in Waorani territories (Reed, 2011, p. 3). However, the agreement was illegal and it was rejected by the Waorani community who was never properly consulted. As a consequence, the president of the Waorani organization, accused of corruption and collusion, was ousted.

The initial rejection of REDD+ by CONFENIAE was in line with local environmental organizations that took a stand against Socio Bosque and REDD+. The group Acción Ecológica, most prominently, expressed its concern about the commodification (*mercantilización*) of nature and the capitalist logics of carbon markets (Acción Ecológica, 2012). REDD+ was seen as a false solution that did not tackle the underlying problem of extractivism (NGO representative 9, personal communication, March 25, 2019). Another NGO opposing REDD+ was the Pacha Mama foundation. Referring to REDD+, a representative from Pacha Mama reiterated that the main problem with the initiative was the commodification of nature: "the global discussion of carbon for many civil society movements, as well as for indigenous peoples, was framed within the issue of the monetarization of environmental services or the monetarization of the elements of Mother Earth" (NGO representative 4, personal communication, January 8, 2020).

However, the position of indigenous peoples organizations became less adversarial with the evolution of REDD+. COICA put forth RIA as a counterproposal or in any case, an alternative proposal to REDD+. CONFENIAE, as a member of COICA, was in charge of advocating for RIA when Ecuador's REDD+ Action Plan was in the making. Advocacy was mainly done through the channels that were put in place by the government, especially the REDD+ roundtable (*Mesa de trabajo REDD+*). In its first period of work, 2013-2015, the roundtable single most important indigenous organization was CONFENIAE. In its second period of work, 2016-2018, the roundtable would formally include representatives from COICA, in addition to CONFENIAE, as well as other grassroots organizations (Proaño, 2020).

The director of climate change mitigation at the Ministry of Environment in Ecuador recounts the encounter with the RIA proposal at the REDD+ roundtable in the following terms:

It is worth mentioning that in order to build the REDD+ Action Plan, this national policy, there was a REDD+ roundtable and indigenous peoples were represented there. So they were always part of this construction process and when, before launching the REDD+ Action Plan, we met with CONFENIAE, we revised their RIA, their indigenous action plan and we saw that they were not

different proposals. What was done was to specify REDD+ issues: our national policy, indigenous issues as life plans and to express that these are not only carbon issues but a holistic issue and to clarify that it is not an issue of land alienation, that each country has a different approach to REDD+ and in Ecuador it is a national [policy] and we are really quite aligned. In other words, it was a process of working together. (Government official 1, personal communication, February 8, 2019)

In the official account of government officials RIA was not seen as a counterproposal. The official narrative speaks simply of misunderstandings that needed clarification but not negotiation. The REDD+ Action Plan speaks of RIA in a similar vein: both proposals present their respective approaches with a degree of compatibility and coherence (Republic of Ecuador, 2016, p. 89). The fact that this was the official version of the events was confirmed by the responses from other representatives of the government at the Ministry of Environment. The deputy director of climate change emphasized that “[o]ur national policy is aligned, let's say it is complementary, with RIA” (Government official 3, personal communication, February 8, 2019). In a more detailed way, the technical staff for stakeholder engagement in REDD+ asserted the following:

RIA was interesting because, while we were talking about REDD during the preparation, COICA always worked very closely with us actually, we weren't very far apart despite all the political complexity, but we were there. We knew about the existence of the Amazon Indigenous REDD+ for the whole basin of the nationalities there. What we did was something super interesting, it was to put in black and white what you propose with your RIA and what we propose with our REDD Action Plan, black and white, Action Plan is this, RIA is this. And the interesting thing about this exercise, that was on the basis of a couple of workshops with them, was that they basically were not opposed to one another whatsoever. On the contrary, it was very complementary to the things that we were proposing with theirs, in what you say, in the rescue of knowledge in the very practice of producing things like this, then. We saw that, of course, their focus was on this holistic part, let's say that they always had this concept of the holistic vision of the forest, the holistic vision of the landscape, that in our reading there was also a focus on the landscape but that there was no opposition. So what we did through those encounters with COICA is that the logic is more like the two are not seen separately, that COICA or Amazon Indigenous REDD is also part of this national policy of the country. So we did a super interesting job of harmonizing these two, they go very much together. (Government official 5, personal communication, March 11, 2019)

One of the key “harmonization” arguments was that the main concern of indigenous peoples, which had to do with the alienation of land and the commodification of nature, was baseless given that Ecuador’s constitution prohibits these. Ecuador’s constitution stipulates that

“[e]nvironmental services will not be subject to appropriation; their production, provision, use and exploitation will be regulated by the State” (2008, Article 74). Hence, the opposition from indigenous peoples and critical environmental groups did not have any justification in the eyes of government officials because the constitution prohibited any form of market-based commodification of the forests. However, in the early phases of REDD+ it was not clear for the Ecuadorian authorities that carbon markets were, in principle, unconstitutional. A proof of this is that in a Socio Bosque document from 2013 carbon markets appear as a key financing option in the framework of REDD+ (MAE, 2013).

Ecuador’s REDD+ Action Plan makes several references to RIA. It acknowledges RIA as one of the key sources of input from indigenous organizations (Republic of Ecuador, 2016, p. 89). The three core elements of RIA are present in the final document. With respect to indigenous *knowledge*, the Action Plan links it to the social and environmental co-benefits of REDD+. One of the objectives that is set is the “maintenance of ancestral culture/identity” (Republic of Ecuador, 2016, p. 111). In this framework, REDD+ is poised to strengthen the ancestral knowledge of indigenous peoples:

The design of REDD+ measures and actions has considered cultural values, *ancestral knowledge* and traditional socioeconomic activities of local populations, so it is expected that, with its implementation, REDD+ will contribute to the maintenance of ancestral cultures and knowledge [...]

REDD+ activities should fully involve communities, peoples and nationalities, as well as forest owners, to ensure the *maintenance of culture and traditional production knowledge*, such as the *aja* and *chakra*, traditional orchards of the Shuar and Kichwa peoples. (Republic of Ecuador, 2016, p. 111; emphasis added)

Here, knowledge does not appear in the abstract but it is understood as a knowledge that is part of specific practices of indigenous peoples. The examples that are given are traditional gardens that are integral to cultural practices for the production of edible and medicinal plants, among the Kichwa (*chakra* or swollen gardens) and Shuar (*aja* or home gardens) peoples (Caballero-Serrano et al., 2019; Coq-Huelva et al., 2017).

In relation to the *valuation of nature* the REDD+ Action Plan recognizes that “forest ecosystems represent an *intrinsic, cultural and spiritual value* for the communities, peoples and nationalities of the country” (Republic of Ecuador, 2016, p. 41; emphasis added). Thus, there is a recognition of the *non-economic* value of forests which was a rallying cry of indigenous and critical environmental organizations opposing the commodification of nature. However, there is no

recognition of a higher *economic* value of indigenous carbon and its inextricable link to other environmental or ecosystem services. COICA was claiming that indigenous carbon does not have the same value as industrial carbon. However, the problem of (non-)equivalence between industrial carbon and indigenous carbon was not relevant in the Ecuadorian context anymore because carbon markets were officially excluded from REDD+. With no carbon markets there was no necessity to establish an equivalence between industrial carbon and indigenous carbon.

The specific section on carbon markets in the REDD+ Action Plan states that investors or donors cannot claim the ownership of REDD-related emission reductions because these are part of national accounting. In turn, emission reductions will not be negotiated in carbon markets because these form part of a cycle of environmental services for climate regulation and these cannot be appropriated according to the constitution (Republic of Ecuador, 2016, p. 94). The non-market approach to REDD+ was in tune with RIA; however, COICA was nevertheless seeking to secure economic and non-economic retributions for the multiple values of indigenous territories, especially as areas of climate change mitigation and adaptation.

With respect to *territoriality*, the REDD+ Action Plan acknowledges the importance of indigenous territories: “Most of the country's forests are located in indigenous territories, so it is important to introduce climate change and reduced deforestation criteria into these instruments so that REDD+ measures and actions are also implemented in these areas” (Republic of Ecuador, 2016, p. 129). More importantly, CONFENIAE and COICA were successful in putting the issue of land titling on the agenda. There is a specific section which, making reference to the Law on Rural Lands and Ancestral Territories, speaks of the promotion of the award of ancestral lands through the inter-institutional articulation of the Ministry of Environment and the Ministry of Agriculture (Republic of Ecuador, 2016, pp. 135–136). This was not a major breakthrough in so far as the law was already in force; however, it was certainly important to have an explicit mention on land titling in the context of REDD+. Besides, there is only sparse consideration of local governance in indigenous territories limited to the inclusion of indigenous peoples – and other communities – in the monitoring process of REDD+ as well as other related activities (Republic of Ecuador, 2016, p. 167).

The harmonization of RIA and Ecuador's REDD+ Action Plan underwrites an attempt to work out ways of integrating the alternative approach of COICA into the logic of REDD+, which consists in putting a price on forest carbon for its climate regulation services – in a market or non-market approach. To be sure, RIA in and of itself was already an attempt on the part of COICA to move

towards an alternative approach that would make REDD+ acceptable for indigenous peoples in the Amazon basin. RIA and the REDD+ Action Plan were both working out ways of incorporating a diversity of forms of knowledge and languages of valuation coming from indigenous knowledge holders, scientists and policy experts. However, although there is an important integration of RIA in the REDD+ Action Plan, it did not translate into alternative ways of valuing and governing indigenous carbon. In the following sections, I analyze the key points of contention that impeded these transformations.

#### 6.3.4 *Money for nothing*

The representatives of COICA did not share the view of government representatives that RIA and “Forests for *Buen Vivir*”, the Ecuadorian version of REDD+, were not really different proposals or, alternatively, fully integrated proposals. The main point of contention was the issue of financing. A full recognition of indigenous carbon would entail that REDD+ funds be directly administered by indigenous organizations as stewards of the forests. A prominent representative from COICA and CONFENIAE, who was a member of the REDD+ roundtable in Ecuador, decried this as a decoupling of political recognition from financial recognition. In other words, a fair allocation of resources did not follow from the formal recognition of RIA:

What we are demanding in Ecuador and in other countries is that the indigenous peoples' own forms of conservation be recognized and these forms of conservation are understood in terms of the number of hectares, the amount of forest, the amount of biomass, etc. tons of biomass that contribute to the climate balance. This recognition must be political, but it must also be financed, so that they [indigenous peoples] can manage, so that they can do governance in the territory. So we have not yet reached that level. (Indigenous representative 6, personal communication, February 19, 2019)

RIA was seeking to secure direct funding for indigenous-led governance in the territories. However, in Ecuador this did not happen in a concrete way, at least not in the framework of RIA. The only channels through which indigenous communities can access funds is under the Socio Bosque program or through competitive funds (*fondos concursables*) to finance so-called “bio-entrepreneurships” (*bio-emprendimientos*), in particular in the sector of non-timber forest products. Neither of these schemes, however, fits the vision of RIA, which was to position indigenous territories as units of forest conservation under the stewardship of indigenous peoples, with due retribution in terms of ecosystem services. The recognition of indigenous knowledge, in that sense, did not lead to the financing of forest governance by the indigenous knowledge holders of the forests.



In the view of a senior manager at WWF Ecuador and former Minister of Environment this was the missing point in the otherwise wide recognition of RIA in the Ecuadorian context:

Several parts of the Amazon Indigenous REDD are recognized in the Ecuadorian REDD strategy, but it also happened in Colombia and Peru. This is not the case in Brazil; the situation of indigenous peoples in Brazil is a little different. There were also indigenous territories in Colombia and Peru that were subject to REDD funds, but this has not happened yet in Ecuador in a very concrete way. But the idea is that indigenous peoples will first achieve the recognition of indigenous territories as areas of mitigation and adaptation to climate change and be able to qualify to receive climate change resources. (NGO representative 6, personal communication, February 18, 2019)

In the initial phases of RIA, COICA set out to carry out a number of pilot projects. With this purpose several indigenous territories and natural protected areas were identified: Amarakaeri (Peru); Inírida (Colombia); Igarapé Lourdes (Brazil); Itonama and Movima (Bolivia); and Kutukú Shaimi (Ecuador) (COICA, 2014a). However, the only projects that became eventually official RIA pilot projects were those in Peru and Colombia (Indigenous representative 10, personal communication, December 3, 2019). In Ecuador, the main achievement on the part of CONFENIAE was to sign an agreement for the implementation of REDD+ with the Ministry of Environment (WWF, 2019) and a memorandum of understanding for the implementation of the main REDD-related project PROAmazonía (Lasso, n.d.).

The financing issue was not merely about the lack of retributions for indigenous peoples in climate action, but it was also about the fact that REDD+ funds were allocated to extractivist states that were responsible for rising greenhouse emissions in the first place. More to the point, the issue was that REDD+ did not seem to tackle the main drivers of deforestation or, for that matter, climate change in general. The coordinator of climate change at COICA put it in the following terms:

We know that there are climate funds, we know that there are donors, donor countries to address climate change and the worst thing is that they are handing it over to governments. They should not, because we are saying that scientifically, according to the studies of western scientists, indigenous peoples are the best at conservation, that 92%, for example, of the 7.5 million hectares in the basin, 92% of deforestation occurs outside indigenous territories. And that those resources that are coming from the Norwegians, from Italy, from Sweden, from Switzerland, etc. for REDD+ or RIA or REDD are coming through the ministries of environment and these governments are the ones that are generating, in some way, those impacts by their policies. So we are not doing anything there, let's say, these resources are being channeled in the

wrong way. That's why we are here making it visible by saying look, there are indigenous peoples.  
(Indigenous representative 10, personal communication, December 3, 2019)

The lack of funding is a structural problem in so far as it hinders the self-determination of indigenous peoples and prioritizes policy interventions from implementing agencies that impose expert knowledge over indigenous knowledge. The issue of Life Plans is a case in point.

### 6.3.5 *Life Plans*

A Life Plan is a policy instrument similar to a development plan, which is set to foster the self-determination and the own development of indigenous peoples. In Ecuador and in the Ecuadorian Amazon in specific, Life Plans are part of the existing legislation. In accordance with Article 26 of the law establishing the Amazon Special Territorial Circumscription, Life Plans form part of the spatial planning of Ecuadorian administrative division in provinces, cantons and parishes (Republic of Ecuador, 2018). The specificity of Life Plans is that these are unique to indigenous peoples and rest on the principles of inter-culturality, pluri-nationality and diversity. Life Plans are more holistic than a conventional development plan in that they encompass multiple dimensions of a community in pursuit of *Buen Vivir*, i.e. good living.

Life Plans were a key part of the RIA proposal, especially in the countries where these are official policy instruments, namely Colombia, Ecuador and Peru (COICA, 2013a, 2014b, 2016). Life Plans are thought of as a pre-requisite for the implementation of REDD+ in indigenous territories, so that these are aligned to indigenous ways of knowing and being in the world. Viewed from the perspective of epistemic diversity, Life Plans are set to work as a safeguard against the latent risk that expert knowledge comes to replace indigenous knowledge in the governance of forests in indigenous territories (Moreano Venegas quoted in Kill, 2015, p. 17). To be sure, a Life Plan does not stand in opposition to expert knowledge – in general a Life Plan contains technical information too – but, in principle, it aims at providing a framework for action which is aligned to the knowledge and values of indigenous peoples.

There is no unique format for the elaboration of a Life Plan. However, there are some guidelines that have been put forth by the Ecuadorian government that serve as a basis for the implementation of REDD+ in indigenous territories. The guidelines define the basic elements of a Life Plan: *territory* (land tenure and land use); *bioeconomy* (natural resources and productive economic activities); “*pluriversity*” (*pluriversidad*) as a concept integrating biodiversity and cultural diversity; *cosmovision* (ways of co-existence); and *autonomy and governance* (PROAmazonía, 2019). Here, ancestral wisdom or indigenous knowledge appears as a

transversal dimension of all these basic elements, in particular as it relates to the knowledge of the natural milieu (*bioconocimiento*). In other words, indigenous ways of knowing are a key dimension of a Life Plan; however, the elaboration of a Life Plan engages different forms of knowledge ranging from economics to land-use management.

Life Plans work as policy instruments that span the boundary between experts, policymakers and indigenous knowledge holders in the implementation of REDD+. As such, Life Plans constitute a core instrument of local governance vis-à-vis the intervention of the state and international implementation agencies. As a Kichwa indigenous leader with long experience as a REDD+ official in the Ecuadorian Amazon points out, Life Plans are amenable to work against the loss of traditional knowledge among indigenous communities in the face of policy interventions:

I believe that, from my experience, in the community the subject of knowledge recuperation, if we are already empty, in our minds we are empty, that is to say I look like an indigenous person but I don't know anything, that is to say everything is erased, is clean. I believe that this topic does have to be strongly discussed from my point of view in the matter of the Life Plan. A Life Plan where things are written about what is ours, what is our management of the people because the knowledge is made there. And so, anyone who comes, NGO that comes, has to abide by this Life Plan, if they want to support us, this will be our life system. So I think that's the only way I can understand that we are going to strengthen the community. But if we don't do this, our grandparents are already passing away. Some of us do take guayusa, we take tobacco, ayahuasca, we talk to the Yachag<sup>47</sup>. Some of us do these things. But the vast majority, out of 100, maybe 70 percent don't practice anymore. (Government official 12, personal communication, March 10, 2019)

However, the way in which a Life Plan looks like in the end depends on the approach of the expert consultants, especially international nongovernmental organizations and international agencies. As the Kichwa leader and REDD+ official put it in our interview, “[i]t depends on each NGO, how it wants to work” (Government official 12, personal communication, March 10, 2019). The elaboration of a Life Plan is in essence understood as a participatory process among members of a community; however, at the same time it requires technical expertise which is usually provided by external actors, most prominently international NGOs or UN agencies.

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<sup>47</sup> All of these are traditional practices of the Amazonian Kichwas. Guayusa is a holly tree whose leaves serve to make a tea-like beverage; Ayahuasca is a spiritual and medicinal brew; and the Yachag is the shaman (Yela Dávalos, 2020).

The elaboration of Life Plans connects to the broader issue of expert knowledge becoming imposed over indigenous or local knowledge. These issues come to the surface in the institutional practices that set a reductive profile of professional expertise to be eligible for a position in the design, implementation or evaluation of climate change programs or projects. In other words, the criteria that guides institutional judgements about who counts as an expert is still excluding indigenous knowledge holders as legitimate producers of policy-relevant knowledge – and this even in the selection of personnel for the elaboration of Life Plans which are in essence policy instruments for indigenous peoples. As an NGO leader working on indigenous issues in the Ecuadorian Amazon explains,

So, what I am saying is that international cooperation with all these funds somehow strengthens the state, that's why there are so many consultancies, research on what the gaps are between what arrives and what is really going, between what arrives and the participation of those [indigenous peoples] who are taking care of the territories. And this has to do with the great international bureaucracy, because there are thousands of papers for a \$40.000 fund, for a community to apply. It turns out that an indigenous technician cannot apply to the consultancy because he does not have a master's degree and does not have five years' experience. The consultant who comes and is hired by the UNDP and who comes from outside, who just comes to learn from the community, at the moment he finishes the consultancy just learns what the community is and leaves you a document and does not leave you a "to do". (NGO representative 4, personal communication, January 8, 2020)

Thus, because indigenous knowledge holders do not meet the international profile of an expert consultant, they do not have access to climate funds. In other words, the financial dependency of indigenous peoples conceals an epistemic dependency driven by the imposition of expert knowledge for the elaboration of policy instruments whose purpose is to protect and strengthen the diversity of knowledges among indigenous communities. It follows that, the policy instruments that are being put in place do not favor the production of heterarchies that include criteria of epistemic diversity to judge who counts as a knowledge holder.

That being said, there are some institutional practices counteracting the imposition of expert knowledge on local indigenous governance. These institutional practices include mainly participatory processes analogous to the REDD+ roundtable. The PROAmazonía program, for instance, is developing so-called “territorial platforms” that work as spaces of dialogue and deliberation at the subnational level (PROAmazonía, n.d.). Yet, the testimonies from indigenous leaders and practitioners reveal a weak articulation between deliberative processes and

technical decision-making. Indigenous peoples appear in these institutional spaces mainly as stakeholders and not as knowledge holders – or not even rights holders.

### 6.3.6 *The defense of life*

The deployment of REDD+ in Ecuador runs parallel to the expansion of oil and mining activities in the Amazon rainforest. The forays of extractive industries, especially oil drilling, in the indigenous territories of the Amazon have a long history which continues to the present day (Bravo et al., 2017; Sawyer, 2004; Varea et al., 1997). While Ecuador's REDD+ Action Plan was in the making, the Ecuadorian government was expanding the extractive frontier through the auction of new oil concessions, especially in the Southeastern Amazon region. The indigenous leaders from COICA and CONFENIAE who were participating in the REDD+ roundtable were also taking to the streets to oppose the exploitation of oil blocks in indigenous territories. Thus, the struggle against extractivism was the flip side of a formal participation in official institutional spaces.

During fieldwork, I had the opportunity to see how indigenous leaders, who were actively participating in the REDD+ roundtable, were protesting together with the Waorani people to oppose the concession of an oil block covering half a million hectares of native forests and Waorani territory in the Amazon (see Figure 14). The Waorani people filed a lawsuit against the Ecuadorian government for the violation of the right to free, prior and informed consultation; self-determination; collective territory; and the rights of nature (Amazon Frontlines, 2019a). The mobilization of the Waorani people was successful, culminating in a historical legal victory protecting their territory in the Amazon rainforest against oil extraction (Amazon Frontlines, 2019b).

The Waorani struggle is illustrative of the limits of REDD+ in an extractive economy that is dependent on primary commodities, especially petroleum. It is striking that the REDD+ Action Plan acknowledges that “[t]he main policies that have influenced deforestation are those that promote the development of the mining, oil and agricultural sectors, as well as colonization” (Republic of Ecuador, 2016, p. 50). However, at the same time the same document speaks of oil production as the main source of national income on which environmental programs and projects depend (Republic of Ecuador, 2016, p. 57). COICA's RIA proposal, by contrast, was demanding a “[m]oratorium on extractive industries, mega-projects and agricultural industries until the rights and territorial management of the indigenous peoples are consolidated” (COICA, 2013a, p. 7). Not surprisingly, none of these demands were taken up by the official REDD+ Action Plan.



**Figure 14** Waorani march to launch a lawsuit against the Ecuadorian government, 27 February 2019, Puyo-Ecuador. Source: Photo taken by the author.

The moratorium on extractive industries in indigenous territories was a demand whose roots are found in the historical struggle of the Amazonian indigenous movement. The alignment of REDD+ with RIA was ultimately seen as a way to move forward in this struggle. In RIA, Amazonia is not only a carbon sink or an oil reserve. Amazonia harbors a diversity of forms of life (biological and cultural) with multiple values. In essence, extractivism writ large, was the force behind the loss of “territories of harmonious life”, in the words of RIA (COICA, 2013b). However, REDD+ is an issue-specific policy that does not directly address the threats of the expansion of extractive industries in the Amazon rainforest. In the view of the Ecuadorian government, REDD+ was compatible with the expansion of oil and mining activities in the Amazon rainforest.

In the wider Amazon region, the struggle against extractivism continues to be a matter of life and death and not only in terms of cultural survival. According to the nongovernmental organization Global Witness, only in 2019 sixty-four land and environmental defenders were killed in Colombia and twenty-four in Brazil (Global Witness, 2020, p. 9). These yearly reports are a poignant reminder that there is no indigenous knowledge unless the knowledge holders are free and alive as rights holders. The 35<sup>th</sup> anniversary of COICA, which I was able to attend during fieldwork, was dedicated to this issue (see Figure 15). In a sense, the paradox was that while indigenous peoples were gaining more recognition of their knowledge and were engaging with scientific instruments to advance their claims, their basic human rights were not being

properly protected. The general coordinator of COICA, Gregorio Mirabal, put this clearly in an intervention at the event celebrating the 35<sup>th</sup> anniversary of COICA:

Today we are saying that the maps are necessary, that the satellites are necessary, that the drones are necessary, but if the indigenous peoples continue to be assassinated, if the indigenous peoples continue to be persecuted, who is going to defend those maps? Who is going to operate those drones? Who is going to manage those satellites? If the people are dying, if the people are being imprisoned, if the rivers continue to be poisoned with mining, with oil. So, to defend those instruments the indigenous peoples have to be alive in their territories, we have to be alive. (G. D. Mirabal, personal communication, March 13, 2019)

The reflections of COICA's general coordinator were pointing at the limits of science-driven advocacy in a context where the human rights of indigenous peoples are under threat. The urgency of this problem was echoing the demands of indigenous peoples at the UNFCCC of the importance of a human rights-based approach to indigenous knowledge (see Chapter 4). Climate governance is a human rights issue. There is no knowledge if there are no knowledge holders. There is no indigenous carbon unless there are indigenous peoples alive in their territories. Once again, the knowledge claims of Amazonian indigenous peoples were not only advancing scientific data or hard facts, but instead they were connecting these with other languages of valuation that derive from the struggle of indigenous peoples in defense of their lives and livelihoods.



**Figure 15** Presentation by COICA's general coordinator, Gregorio Mirabal and EcoCiencia's scientist, Carmen Josse, at COICA's headquarters, 13 March 2019, Quito-Ecuador. Source: Photo taken by the author.

#### 6.4 Reconfiguring Amazon knowledge

The Amazon trajectory, as conceived here, follows the cross-scale mobilization of Amazonian indigenous peoples in their quest for epistemic diversity and alternative approaches to climate change governance. COICA, as the umbrella organization of indigenous peoples of the Amazon basin, was a key organizational platform to make collective claims to knowledge in global climate negotiations. In particular, the mobilization of COICA and its allies was critical for the revision and re-formulation of forest-based mitigation policies, namely under the REDD+ framework. RIA, the alternative proposal from COICA, sought to introduce a different understanding of forests on the basis of indigenous ways of knowing and doing. Against a reductive focus on the carbon content of forests, RIA put forth a holistic view of forests – and nature at large – with and alternative language of valuation and territoriality at its core. Contrary to the simplification of carbon into an accounting unit that is amenable to market exchange, COICA put forth the concept of “indigenous carbon”, which highlights the multiple values of carbon in indigenous territories.

To make claims to the special value of indigenous carbon, Amazonian indigenous peoples built alliances with scientific organizations and advocacy groups. The work of the indigenous carbon coalition, as I call it here, was mainly to produce scientific data or hard facts on the carbon density of rainforests in the indigenous territories of the Amazon. The indigenous carbon coalition came about through the reciprocal recognition of scientific experts and indigenous knowledge holders as valuable sources of knowledge for climate research and policy. These collaborations were, in that sense, embodying a heterarchical approach incorporating criteria of epistemic diversity to make judgements about whose knowledge counts in climate research and policy. The scientific data that came out of these collaborations was seen by COICA leaders as a way to claim the value of indigenous carbon – and indigenous knowledge – using the language of science. The imperative to produce hard facts to make authoritative claims to knowledge, however, reveals the difficulty of bringing the knowledge of indigenous peoples to global negotiations without the mediation of science.

The defense of indigenous carbon, as part of the RIA campaign, was brought to local sites of governance in several Amazon countries. Zooming in on Ecuador, as one of the Amazon countries entering a REDD+ scheme, the chapter finds that elements of RIA were integrated in the Ecuadorian REDD+ Action Plan as the outcome of a participatory process. The “harmonization” of REDD+ and RIA was mainly done through the rejection of carbon markets – via appropriation of climate regulation services. However, this gave a false impression of



consensus that COICA and CONFENIAE would reject because key elements of RIA were ultimately left out of the REDD+ Action Plan. In particular, indigenous territories did not gain full recognition as units of forest conservation, nor as direct recipients of REDD+ funds. One of the policy instruments that is being put in place to foster community development and indigenous self-determination is the Life Plan. However, due to the lack of REDD+ funds for indigenous communities and the imposition of expert knowledge, Life Plans are becoming technical documents reflecting external interventions more than indigenous self-determination.

The experience of Amazonian indigenous peoples engaging with scientists, advocacy groups and policymakers across sites of governance reveals that, despite a wide recognition of epistemic diversity, reconfiguring knowledge-policy relations remains an enormous challenge for Amazonian indigenous peoples. Some changes are already yielding alternative approaches to climate change governance, but underlying asymmetries and hierarchies of knowledge remain. The practices of knowledge brokering by indigenous peoples encounter the imperative of producing scientific data to make authoritative claims to knowledge in the climate field. The policy instruments that are being put in place fail to incorporate alternative languages of valuation, including the vital role of “indigenous carbon” and indigenous knowledge holders in forest-based mitigation and climate change governance at large. Ultimately, the struggle of Amazonian indigenous peoples in the defense of the territories – which harbor lives and livelihoods – against extractivism requires not only hard facts, but also alternative languages of valuation to protect all forms of life in Amazonia.

## 7 A global platform for indigenous and local knowledge

The global trajectory of diversification of climate knowledge and policy through the recognition of epistemic diversity in IPCC assessment reports and UNFCCC decisions, as well as in specific socio-cultural regions such as the Arctic and the Amazon, was anticipating the institutionalization of this process through the establishment of a global “knowledge platform” – as it came to be known – for indigenous peoples and local communities under the UNFCCC. The Local Communities and Indigenous Peoples Platform (LCIPP; henceforth LCIPP or “the Platform”), which came into being through the Paris Decision of 2015, set out to bring about an institutional space for the knowledge of indigenous peoples and local communities in global climate governance. The establishment of the LCIPP appears as the outcome of a struggle for recognition and the beginning of a new phase in the knowledge-policy landscape of the UNFCCC.

The establishment of the LCIPP, however, was not the product of a radical transformation but rather an incremental change. In other words, the LCIPP is better understood as a product of institutional “layering”, which “involves the grafting of new elements onto an otherwise stable institutional framework” (Thelen, 2004, p. 35; see also Streeck & Thelen, 2005). The underlying institutional framework displays a linear model of science-policy interactions, whereby the IPCC and other scientific or expert bodies produce scientific and technical input for political agreements under the UNFCCC (see Chapter 4). The institutional framework of global climate governance, indeed, is shaped by a complex architecture of science-policy interfaces. The grafting of the LCIPP onto these institutional arrangements is something that requires explanation in so far as it is an innovation that introduces criteria of epistemic diversity to guide political judgements about how to connect knowledge and policy in the climate field. How was the LCIPP, as a platform embodying epistemic diversity, “made to fit” into the governance architecture of the UNFCCC?

This chapter argues that the LCIPP is, at once, a *sui generis* invention and a re-invention resulting from the recombination and reinterpretation of elements from other organizational templates. It is *sui generis* in so far as there is no other governing body of this sort under the UNFCCC and it is a re-invention in that it recombines and reinterprets elements of already existing

organizations in other fields of governance. Crucially, the LCIPP was not the result of a linear process of institutional diffusion stemming from functional necessities or power relations alone. Rather, it was the outcome of a layering process to accommodate various political demands revolving around epistemic diversity in one institutional arrangement.

Building on and extending the concept of layering, I argue that the LCIPP came about through practices of “bricolage” (or recombination) and “translation” (or reinterpretation). As Djelic and Quack argue, “transnational institution building can be analyzed as a process of reinterpretation, recombination and bricolage from institutional fragments with different contextual origins” (Djelic & Quack, 2008, pp. 311–312). Bricolage points to institutional design “through the grafting of modular components rather than the *de nova* invention of individual institutional features” (Kalyanpur & Newman, 2017, p. 364; see also Douglas, 1986). In other words, bricolage is about recombining and redeploying already available elements of organizational templates. Thus, layering through bricolage involves recombining disparate elements and building these on top of an existing institutional setting; therefore, it always raises questions of congruence and compatibility. Here is where “translation” comes in.

Translation here refers broadly to the recontextualization of objects (e.g. norms, ideas, organizational components) that move from one setting to another (Berger & Esguerra, 2018). Understood in this way, the concept of translation revisits and recasts the scholarship on the flow and diffusion of norms and institutions in global governance (e.g. Finnemore & Sikkink, 1998; Keck & Sikkink, 1998; Ovodenko & Keohane, 2012). As Adler points out,

... what on the surface appear as “diffusion” of ideas and policies among formal organizations are really translation processes that take place within and between communities of practice. These processes become the source of both practice replication and creative variations, especially because of what is “lost” or gained “in translation”. (Adler, 2019, p. 226)

The concept of translation brings into focus the changing meanings of moving ideas and policies. It revolves around meaning-making across cultural settings and fields of governance that are shot through with power relations (cf. Berger, 2017; Bueger, 2015; Merry, 2006; Yanow, 2004). Translation, therefore, is of critical importance to resolve incongruences and incompatibilities that arise when recombining disparate elements and grafting them onto an existing institutional setting.

The chapter proceeds as follows. The first section (7.1) analyzes how, against the backdrop of indigenous peoples’ claims and organizational templates, the Platform became enshrined in a decision of the UNFCCC. The second section (7.2) seeks to explain how, working on the wording

of the decision establishing the Platform, this was made to fit into the governance architecture of the UNFCCC through bricolage and translation. The third section (7.3) puts forth an analysis of the initial work of the Platform as a knowledge-policy interface incorporating epistemic diversity. Lastly, the fourth section (7.4) summarizes the findings and draws broader theoretical conclusions.

## 7.1 Imagining a global platform for indigenous knowledge

### 7.1.1 *Indigenous peoples' organizational templates*

The origins of the Platform trace back to the claims of indigenous peoples, who were seeking to have a stronger voice in climate negotiations. There were two sides in this striving for participation. Indigenous peoples were pursuing self-organization to speak with a common voice, on the one hand, and an institutional space within the UNFCCC that would enable them to provide direct input to the negotiations, on the other. The former was fulfilled by the creation of the “indigenous caucus” and its recognition as a constituency by the UNFCCC in 2001 (see Chapter 4). The latter came to fruition long after through the establishment of the Local Communities and Indigenous Peoples Platform in 2015. However, well before the LCIPP came into existence, indigenous peoples were calling for the creation of an institutional framework devoted to indigenous issues in the face of climate change.

In their demands for an institutional channel of participation within the UNFCCC, indigenous peoples were drawing on organizational templates from other domains of environmental governance that were more favorable to the inclusion of indigenous peoples, in particular the biodiversity convention. The Convention on Biological Diversity established a working group for the implementation of its provisions on traditional knowledge, mainly found in its Article 8(j). This article provides that states shall “respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles”, with due account of access and benefit sharing. An *ad hoc open-ended inter-sessional working group* was thus established to “address the implementation of Article 8(j) and related provisions of the Convention” at CBD’s fourth Conference of the Parties in 1998 (CBD, 1998, Decision IV/9).

The working group on Article 8(j) provides advice for the legal protection of “the knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity” (CBD, 1998, Decision IV/9, Para. 1a). The Working Group is open-ended, which means that it consists of states, i.e.

Parties to the CBD, and admitted observers. Among observers, indigenous peoples and local communities are accorded a special status “with participation to the widest possible extent in its deliberations in accordance with the rules of procedure” (CBD, 1998, Decision IV/9, Para. 2). However, as observers, indigenous peoples and local communities do not have voting rights. All decisions are taken by Parties.

The working group on Article 8(j) was seen by indigenous peoples as an organizational template that could be taken from the biodiversity convention to the UNFCCC. As early as 1998, the Albuquerque Declaration adopted by North American indigenous peoples was calling for the establishment of an “Inter-Sessional Open-Ended Working Group for Indigenous Peoples” under the UNFCCC (Albuquerque Declaration 2002, 79). It is remarkable that this demand was formulated the same year in which the working group on Article 8(j) was established by the CBD. Indigenous peoples were surmising that the institutional trajectory of the biodiversity convention could be immediately replicated in climate change.

The statements and declarations from indigenous peoples attending the UNFCCC Conference of the Parties and intersessional meetings would reiterate this call for the creation of a working group mirroring the biodiversity convention. The Marrakesh Declaration of 2001, which was released by indigenous peoples attending COP7, gives an outline of what such a working group would look like:

Create an Ad Hoc Open-Ended Inter-Sessional Working Group on Indigenous Peoples and Local Communities and Climate Change whose objectives will be to study and propose timely, effective and adequate solutions to respond to the urgent situations caused by climate change that Indigenous Peoples and Local Communities face. This Working Group will provide an adequate mechanism for the imperative full and effective participation of Indigenous Peoples and Local Communities in the discussions, debates and programs of the UNFCCC; it will also be an apt space for channeling the contributions of our peoples and communities to climate change mitigation and for exchanging viewpoints and experiences with the Parties of the Convention. (Indigenous Peoples and Local Communities Caucus, 2001, pt. 5.b)

It follows that indigenous peoples were calling for an organization that was identical to the one under the CBD in its basic structure: a working group that is for a specific purpose (ad hoc), convenes between the COPs (inter-sessional), and whose public meetings are open to all Parties and non-state Parties (open-ended). However, in its specific content the proposed working group cannot refer back to a legal provision as in Article 8(j) of the biodiversity convention. There was no specific provision in the UNFCCC agreement, nor in the Kyoto Protocol, in relation to indigenous peoples or traditional knowledge. With no legal instrument to refer to, indigenous

peoples were proposing tentative functions for the working group ex nihilo; namely, enhancing the participation and channeling the contributions of indigenous peoples and local communities. By referring to “indigenous peoples *and* local communities”, the demand reiterates the language of the biodiversity convention. The reference to local communities was kept despite the fact that this was a declaration from the indigenous caucus, a body for the self-representation of indigenous peoples exclusively.

It is no surprise that indigenous peoples were drawing on the biodiversity convention to make their claims at the UNFCCC. These are parallel regimes within the United Nations with a similar structure and related domains of governance. The Parties to the CBD are the same as the Parties to the UNFCCC, except for the United States, who signed the biodiversity convention but did not ratify it. Indigenous representatives attending the CBD would usually attend the UNFCCC too. There are no official numbers on this; however, the guesstimate of one indigenous representative attending the UNFCCC was that “90 per cent of the indigenous caucus at UNFCCC also participates in the CBD process, so that is the cross-institutional memory that exists” (Indigenous representative 8, personal communication, June 26, 2019). This cross-institutional memory was motivating the claims for the creation of a governing body under the UNFCCC that would be akin to the working group on Article 8(j) under the CBD. Ultimately, indigenous peoples were demanding the creation of an interface between indigenous knowledge holders and decision makers.

However, despite the parallels between the biodiversity and the climate change conventions, the differences in terms of recognition of indigenous peoples and their knowledge were greater. While indigenous peoples and traditional knowledge were enshrined in the biodiversity convention, there is no mention of these in the UNFCCC. There was no provision in the climate change agreement that would justify the creation of a working group for indigenous peoples. All in all, there were only timid signs of recognition of indigenous peoples and their knowledge in UNFCCC decisions before the COP16 of 2010 (see Chapter 4). This is why the demands for the creation of a working group did not find any response in the first instance. The indigenous caucus at COP10 (2004) in Buenos Aires decried this neglect on the part of states:

5. We reaffirm previous Indigenous declarations submitted to the UNFCCC Parties of the Convention calling for the creation of an Intersessional Ad hoc Working Group on Indigenous Peoples and Climate Change.
6. We reaffirm the need for the creation of this Working Group would provide the necessary mechanism to insure [sic] for the full and effective participation of Indigenous peoples in the

UNFCCC and would further ensure the necessary funding for effective participation and strengthen its capacity.

8. We are disappointed that neither approval nor response has come from the UNFCCC or the Secretariat on our request for the creation of this Working Group.

(Indigenous Peoples Attending COP10, 2004, secs. 5, 6, 8)

The unresponsiveness of governments in the domain of climate change contrasted with the breakthrough of indigenous issues at the United Nations through the establishment of the Permanent Forum on Indigenous Issues (UNPFII) in 2000. The UNPFII serves as a high-level advisory body to the Economic and Social Council. It addresses a wide range of issues relating to indigenous peoples: economic and social development, culture, environment, education, health and human rights. Yet, its most salient feature is arguably its composition. The UNFCCC is made up of 18 members, half of which are states, the other half being indigenous representatives. The eight indigenous representatives come from the seven socio-cultural regions identified by the UNPFII: Africa; the Arctic; Asia; Central and South America and the Caribbean; Eastern Europe, Russian Federation, Central Asia and Transcaucasia; North America; and the Pacific. The eighth indigenous member comes from one of the three regions with the largest indigenous population (UNPFII, 2015). Thus, the UNPFII establishes a form of parity between government and indigenous representatives, a principle that would eventually serve as an additional organizational template for indigenous demands at the UNFCCC.

In order for indigenous peoples to succeed in bringing the establishment of a working group under the UNFCCC it was imperative for them to establish alliances with states or other nonstate actors with political clout. As observers, indigenous peoples were bound to fail in their demands unless their cause was taken up by a state delegation that could bring the proposition of a working group for indigenous peoples to the negotiations. In other words, replicating the institutional innovation of the biodiversity convention or the UNPFII in the climate convention was unfeasible unless states would support this initiative and introduce it in a UNFCCC decision. Bolivia would eventually take up this task, albeit in a relative autonomous manner with respect to indigenous peoples organizations. An indigenous and NGO representative explains:

What we were planning as indigenous organizations was the creation of a forum like the forum of indigenous peoples in the United Nations [UNPFII]. We wanted to have a forum within the climate change convention to discuss indigenous issues. They said, “no, we are not going to create that”. We want a working group, a group of experts; [they said] “we don't work that way”. They wanted nothing. We made some proposals about how we could enter. But our intention in the end has been to have some space to get in and suddenly be able to speak as equals with the

states. We know it is difficult. But everyone is aware of that issue [...] So, we raised the topic of the forum, they said no, then we raised the topic of the working group, they said no [...] In other words, all the doors were closed to us. What happened is that when Bolivia came, they said, “look, let's do this platform and this can be a forum like the one you want where you meet and whoever comes makes recommendations and these recommendations go to SBSTA and they discuss it to make policies”. (NGO representative 7, personal communication, March 8, 2019)

This was the beginning of the Platform. A long-lasting demand of indigenous peoples would translate into an agenda item spearheaded by the Plurinational State of Bolivia at the behest of the country's first indigenous president: Evo Morales.

### 7.1.2 *Bolivia, Mother Earth and the “diplomacy of the peoples”*

The engagement of Bolivia in the establishment of the LCIPP is rooted in its national political transition that brought indigenous issues to the fore. The election of Evo Morales, an indigenous and union leader, as president of Bolivia led to a process of political transition placing indigenous peoples at its center. This process was marked by the adoption of a new constitution in 2009 establishing the Plurinational State of Bolivia, in recognition of indigenous *nationalities* and peoples. In foreign policy, Morales' government would promote an alternative approach to diplomacy to overcome state-centric international relations. This alternative approach was dubbed the “diplomacy of the peoples” (*diplomacia de los pueblos*) because it sought to elicit a dialogue among the peoples of the world, thereby transcending state-centric diplomacy (Plurinational State of Bolivia, 2016).

At the same time, the Bolivian government adopted an alternative approach to environmental policy drawing on indigenous worldviews and more specifically, on the notion of Pachamama or Mother Earth. The Mother Earth Law from 2012 outlines this approach including the principles of non-commodification of environmental services, social justice, climate justice and the dialogue among knowledges. The law defines Mother Earth as a “collective subject of public interest”, i.e. as a holder of rights and therefore provides for the appointment of an ombudsman for the rights of Mother Earth (Plurinational State of Bolivia, 2012, Article 39). In the international arena, Bolivia would seek to promote this alternative conception of environmental policy, especially by introducing the notion of Mother Earth in international agreements and by promoting the diplomacy of the peoples as an alternative form of diplomacy.

The foreign policy of Bolivia in the domains of development and the environment was guided by the principle of the “Good Living in Harmony and Balance with Mother Earth” (*Vivir Bien en Armonía y Equilibrio con la Madre Tierra*) (Plurinational State of Bolivia, 2016, Chapter



Introduction). Deriving from this overarching principle was the recognition in international organizations of the collective action of indigenous nations and local populations, as well as the promotion of an “inter-scientific dialogue” between western science and traditional knowledge (Plurinational State of Bolivia, 2016, sec. 1.5.2 and 1.5.3). Bolivia would pursue this agenda in international arenas, above all in the domains of biodiversity and climate change (Government official 11, personal communication, May 13, 2020).

In the UNFCCC process, Bolivia’s engagement became more assertive at COP15 (2009) in Copenhagen. COP15 was marked by the exclusion of civil society from the negotiations and a last-minute agreement between the United States and the BASIC group (Brazil, South Africa, India and China) (Fisher, 2010). This led to a series of mobilizations on the part of indigenous peoples and other civil society groups (Chatterton et al., 2013; della Porta & Parks, 2014). The delegation from Bolivia joined these marches. In the midst of climate justice protests, Evo Morales addressed a gathering of 200 indigenous peoples with a message of sympathy and unity: “Before I was a leader, I was together with you in the alternative summits, in the summits parallel to the summits of the heads of state... We are out there marching and mobilizing, because [we are a] big family” (quoted in Aguirre & Cooper, 2010, p. 238). Morales was seeking to bridge the gap between formal negotiations and alternative summits. This was arguably the beginning of the diplomacy of the peoples in climate change politics.

As a response to the failure of COP15, Bolivia organized the World Peoples Conference on Climate Change and the Rights of Mother Earth (*Conferencia Mundial de los Pueblos sobre el Cambio Climático y los Derechos de la Madre Tierra*) in Tiquipaya, Cochabamba, from 20 to 22 April 2010. The Tiquipaya conference was “fundamentally for international social movements and secondarily for government delegations from the Global South” (Aguirre & Cooper, 2010, p. 239). The conference was attended by 35000 people from all over the world and it was divided in seventeen thematic working groups (Plurinational State of Bolivia, 2016, sec. 3.4.1.1). In a way, the conference was emulating the Summit of the Peoples (*Cumbre de los Pueblos*), a Latin American alternative summit of social movements and trade unions that is usually attended by leftist political leaders. Bolivia was organizing a Summit of the Peoples specific to climate change in accordance to the guiding principles of the diplomacy of the peoples.

One of the thematic working groups of the Tiquipaya conference was devoted to indigenous peoples. Its final conclusion reiterates the importance of the “full and effective participation” of indigenous peoples in climate change negotiations and policies. However, there is no specific proposal as to how this should be done. The closest it gets to a proposal is in its last point, which

reads as follows: “we call for an organizational space to be created that will contribute to the global search for effective solutions to climate change, with the special participation of Elders” (PWCCC I, 2010a). In other words, although it lacks specification, the proposal from indigenous peoples at the Tiquipaya conference was to create an institutional space for the participation of knowledge holders.

The agreement that came out from the Tiquipaya conference does not repeat this proposal from the indigenous working group, but it does make a call for the recognition of the knowledge of indigenous peoples and Mother Earth:

We propose to the peoples of the world the recovery, revalorization and strengthening of the knowledge, wisdom and ancestral practices of Indigenous Peoples, which are affirmed in the thought and practices of “Living Well”, recognizing Mother Earth as a living being with which we have an indivisible, interdependent, complementary and spiritual relationship. (PWCCC I, 2010b)

Beyond these indigenous demands, the Tiquipaya People’s Agreement put forth a series of ambitious proposals to transform climate governance, including the following: carrying out a global referendum or popular consultation on climate change; the establishment of an International Climate Justice Tribunal; and the adoption of a Universal Declaration of the Rights of Mother Earth (PWCCC I, 2010b). This outcome document was officially presented by President Morales to the UN Secretary General Ban Ki-moon (Aguirre & Cooper, 2010, p. 239). However, the ambitious agenda of the Tiquipaya conference would not come to fruition.

Beyond its failures, the Tiquipaya conference was an illustration of how states could provide a space for civil society groups to foster dialogue and provide input to the climate negotiations. In other words, it was about putting in practice the diplomacy of the peoples. As Pablo Solon, Bolivia’s ambassador to the UN, claimed at the opening of the conference, Bolivia was aiming to form a “big world alliance of social and people’s movements to push the governments of the developed countries to effectively reduce greenhouse gases” (quoted in G. Edwards & Roberts, 2015, p. 111).

However, the purported rapprochement between leftist governments and social movements was not without its problems. The Tiquipaya conference itself was challenged by the organization of an alternative event, the so-called “Mesa 18” as the eighteenth unofficial thematic working group, to discuss the contradictions of the Bolivian government when it comes to sustainable development at the domestic level (G. Edwards & Roberts, 2015, p. 112). Issues of concern were big infrastructure projects in environmentally sensitive areas (Aguirre & Cooper, 2010, p. 240). The “diplomacy of the peoples” was in fact reproducing a pattern of

asymmetrical alliances among states and social movements that was discernible in other leftist governments of the region that sought to build *state-led* transnational coalitions (López Rivera, 2017).

In the run-up to COP21 (2015) in Paris, the Bolivian government organized a second World Peoples Conference on Climate Change and the Defense of Life (*Conferencia Mundial de los Pueblos sobre Cambio Climático y Defensa de la Vida*). The second Tiquipaya conference was held between 10 and 12 October 2015 and it was attended by UN Secretary General Ban Ki-moon along with 7000 people including civil society and government representatives (Plurinational State of Bolivia, 2016, p. 3.4.1.2). The final declaration of the conference was taking stock of the progress made since the first Tiquipaya conference and emphasizing outstanding issues, including climate debt, the creation of an international tribunal for climate justice and the adoption of a universal declaration on the rights of Mother Earth (PWCCC II, 2015). Furthermore, the declaration speaks of the creation of an “international permanent platform”, where the struggles of the peoples of the world for Mother Earth would come together (PWCCC II, 2015, p. 14). The general idea of the creation of a platform harks back to this reference.

At COP21 the Bolivian delegation was successful in introducing Mother Earth in the preamble of the Paris Agreement as well as the establishment of the Platform in the Paris Decision. From the Bolivian government’s perspective, the Tiquipaya conferences from 2010 and 2015 were the origins of the Local Communities and Indigenous Peoples Platform. As a former delegate from Bolivia explains:

[In Paris] There is the establishment of the Local Communities and Indigenous Peoples Platform, as that mechanism that had emerged with the Tiquipaya Conference of the Peoples, it was that space already within the negotiations of the Convention. (Government official 10, personal communication, November 30, 2019)

To be sure, Bolivia was not alone in this enterprise. Bolivia is part of overlapping Party groupings within the UNFCCC. At the time, Bolivia was simultaneously a member of the following negotiating blocks: the Bolivarian Alliance for the Peoples of Our America (*Alianza Bolivariana para los Pueblos de Nuestra América*, ALBA); the Like-Minded Group of Developing Countries (LMDC); and the Group of 77 and China (G77 & China). While the ALBA was a small group of “natural allies”, in the words of the former head of the Bolivian delegation to the UNFCCC (Government official 11, personal communication, May 13, 2020), the G77 & China was a large group of 135 developing states. The LMDC was a middle range grouping with a common vision

of the Paris Agreement. A former member of the Bolivian delegation pointed out that the grouping came out of the impossibility to agree on a unique position within the larger block of G77 & China:

[In the LMDC] we had an agreement, sort of a global implicit agreement, of what the Paris Agreement should be. We did not necessarily have an agreement on specific issues, but there was sympathy regarding the proposals that countries could make within our Like Minded Group (Government official 11, personal communication, May 13, 2020).

The proposal to establish the Platform was a Bolivian initiative with the support of the Party groupings ALBA and LMDC. Ecuador, which was both a member of ALBA and LMDC at COP21, was one of the main developing countries that became directly involved in the process of establishment of the Platform. In the words of an Ecuadorian delegate, “Ecuador was one of the leaders of the creation of the platform, we were together with Bolivia negotiating since COP21 in Paris to promote the creation of the platform” (Government official 4, personal communication, February 28, 2019). The purpose of the platform was, in the eyes of Bolivia and Ecuador, to provide more space for the participation of indigenous peoples in UNFCCC negotiations. According to the Bolivian delegate, there was a “general approval” of the proposal for the creation of a Platform both in ALBA and the LMDC (Government official 11, personal communication, May 13, 2020).

### *7.1.3 A platform: translating through ambiguity*

The establishment of the Local Communities and Indigenous People Platform is found in paragraph 135 of the Paris Decision in connection with the recognition of the knowledge of indigenous peoples and local communities:

135. Recognizes the need to strengthen knowledge, technologies, practices and efforts of local communities and indigenous peoples related to addressing and responding to climate change and establishes a platform for the exchange of experiences and sharing of best practices on mitigation and adaptation in a holistic and integrated manner; (UNFCCC, 2016, p. Decision 1/CP.21, Para. 135)

The paragraph was written by the Bolivian delegation in the midst of hectic negotiations at COP21 in Paris. As the former head of the Bolivian delegation recounts:

During the Paris negotiations, well, at some point someone from the French [COP] presidency approached us to ask for a paragraph. So there the problem was that we wrote the paragraph that had to enter into the agreement a bit quickly. At that time we were negotiating other things,

so I had my head on many issues. (Government official 11, personal communication, May 13, 2020)

Of course, the basic idea behind the paragraph was coming from a long process of political mobilization on the part of Bolivia as the previous section describes. At COP21 the Bolivian delegation did carry out discussions on the Platform with other Parties and the indigenous caucus (Government official 11, personal communication, May 13, 2020). However, these discussions were inconclusive and the paragraph itself was not subject to negotiations. Indeed, the paragraph was not revised by other Parties, as the former head of the Bolivian delegation recalls, “there was no time to share it with anyone” (Government official 11, personal communication, May 13, 2020). The elementary practice of drafting a text collectively and carefully choosing every word to strike a right balance between different positions was bypassed because of the frantic pace of the negotiations. The crucial fact, however, is that the paragraph did enter the Paris Decision with no revisions. Bolivia was successful in formulating the paragraph in such a way that it could accommodate the positions of all Parties. This came as a surprise for the Bolivian delegation:

No change was made, not a comma, to the proposed paragraph that was put forth in Paris and entered as it is. In the end we really saw with surprise that the text that we had delivered to the [COP] presidency was the text that appeared in the Paris resolution. (Government official 11, personal communication, May 13, 2020)

The paragraph 135 of the Paris Decision establishes a platform with the specific purpose of sharing experiences and best practices revolving around the knowledge, technologies and practices of local communities and indigenous peoples. However, this remains a somewhat ambiguous creation. In contrast to a working group or a workstream under the UNFCCC, a platform elicits a wider margin of interpretation. By using the multivocal term “platform” instead of working group or expert group, for instance, the Paris Decision postpones the issue of what sort of body is actually being constituted. However, the vagueness of the word might be understood as its strength in so far as it elicits agreement. Establishing “a platform” – whatever that actually meant – was acceptable for all Parties to the UNFCCC.

The vagueness or the multivocality of this specific provision in the Paris Decision points to the strategic use of ambiguity in intergovernmental negotiations. Ambiguity is indeed a “symbolic device” with strategic functions in politics (Stone, 2012). Its use in the case of the paragraph 135 of the Paris Decision serves the purpose of consensus to the detriment of precision. As Stone notes, ambiguity “[h]elps create alliances around a common policy or rule by blurring disagreements over more specific meanings” (2012, p. 181). Bolivia might have had a clearer idea

of what the Platform should be; however, the absence of such a body under the UNFCCC was a source of ambiguity. The head of the Bolivian delegation pointed out, in this respect, that the Platform was thought of as something different from the conventional bodies under the UNFCCC:

I think it was somewhat more intuitive, to say it is not a mechanism, it is not a working group, it is not a work program, so what can it be? Well, the idea of the platform came out, which gives you a sense of broad participation, it gives you a sense of interaction, it has an interesting level. So, then it was thought of as a platform, from the beginning it was thought of as a platform and when we negotiated this and raised the issue we already did it as a platform, at that level, because otherwise it was lowering the level too much. (Government official 11, personal communication, May 13, 2020)

Beyond its ambiguity, paragraph 135 of the Paris Decision did set a basic scheme for the body that would be constituted under the UNFCCC. First, it is understood that the Platform follows from the recognition of the knowledge of local communities and indigenous peoples. Hence, as far as its substantive content is concerned, the platform would revolve around the integration of indigenous peoples and local communities as knowledge holders in the UNFCCC. Second, the Platform is set for the purpose of exchanging experiences and best practices. This seems to imply that it is neither a negotiating nor an advisory body. Third, the Platform is intended for local communities and indigenous peoples. All these elements were less the result of a careful collective design than a surprising outcome of the COP21 negotiations.

The wording of paragraph 135 was surprisingly successful in producing immediate consensus. However, there were a number of elements, especially those that were in some way deriving from the biodiversity convention, that would produce confusion in future negotiations. The Paris Decision acknowledges indigenous peoples as a people and not as “indigenous communities”, which is the wording used in the biodiversity convention. Another difference is that the Paris Decision speaks of local communities *tout court*, whereas the biodiversity convention speaks of “local communities *embodying traditional lifestyles*”. Referring to this, one state delegate noted that the fact that the text was “omitting the important ‘traditional lifestyles’” brought some difficulties for the identification of local communities (Government official 8, personal communication, November 29, 2019). A last difference is the fact that the order in which these are mentioned is inverted: local communities appear first and indigenous peoples second. An NGO and indigenous representative called attention to what might seem a minor detail:

In the end, the text was “indigenous peoples and local communities”, you see, but the text reads “local communities and indigenous peoples”, which is very strange for anyone who works on

issues of indigenous peoples. But the Bolivians put it [in that order]. So, there is a message in there. (NGO representative 7, personal communication, March 8, 2019)

If the biodiversity convention is taken as a point of reference, then it is true that the common use is “indigenous [peoples] and local communities”. The change in order might, in that sense, indicate a relegation of indigenous peoples, although these were officially recognized as a constituency by the UNFCCC as opposed to local communities who do not have any form of recognition as a collective group within the UNFCCC (see Chapter 4). The paradox indeed is that, lacking a collective voice, local communities were virtually absent from the negotiations. To be sure, the tie-up of indigenous peoples and local communities is common use in the language of the United Nations, particularly in the biodiversity convention. However, inverting the order in which these appear seem to point to the fact that this was, after all, a state-driven process.

The Bolivian proposal to include local communities along with indigenous peoples was based on the purpose not to exclude other non-indigenous communities with a strong presence in the negotiations and to “avoid divisions between the two” (Government official 11, personal communication, May 13, 2020). However, the consequences were arguably the opposite to the initial intention. Indigenous peoples were not necessarily willing to be appended to local communities. To the contrary, for some indigenous representatives this was a way of neglecting the status of indigenous peoples as peoples with the right to self-determination. Indigenous peoples did not choose to use this language. It was imposed upon them. One indigenous representative and legal scholar from the Arctic put this emphatically:

I think it is really important – I will go back to what I said earlier – that if I had been involved in the negotiation of it [LCIPP] I would have argued for no reference to local communities at all, that indigenous peoples, their status, their rights, are unique and distinct and separate from local communities. It's not my problem or the problem of indigenous peoples, that a government doesn't recognize indigenous peoples within certain communities in their national or domestic context. That's the government's problem... they need to pay attention, they need to pay attention to the development of the international human rights norms that have been affirmed in the UN declaration and I think that it is wrong to kind of shackle us with this approach. (Indigenous representative 11, personal communication, June 16, 2019)

At COP21, traditional knowledge was a priority for the indigenous caucus, who made a call on governments to establish an “Indigenous Peoples’ Experts and ‘knowledge holders’ Advisory body elected by indigenous organizations and ‘indigenous territorial governments’ with regional balance” (IIPFCC, 2015c, p. 3). The proposal appears as a reformulation of earlier claims that were drawing on organizational templates from the biodiversity convention and the UNPFII. The

indigenous caucus was asking for the creation of an advisory body with full participation of knowledge holders who would be elected by indigenous peoples organizations from the seven socio-cultural regions. The advisory body would work as a consultative resource for all indigenous-related issues under the UNFCCC (IIPFCC, 2015c, p. 3). However, the proposal did not have follow-through among Parties. The proposal that did come through was the Platform.

Despite being a state-driven initiative, the Platform was seen by indigenous peoples as something they could build upon to obtain a more effective representation for indigenous peoples and knowledge holders in the UNFCCC process. A representative from indigenous peoples from the Pacific put it in these terms:

When it comes to the Platform itself, it was not really one of our major priorities in Paris, it was actually introduced by Bolivia. At least that is what we've learned. So when it came in, it was not necessarily a surprise, but something like we thought "oh okay, it's in there now", so we have to work with it. So and then we started, we saw that there is some reference to indigenous peoples and our knowledge in the agreement and in the decision text which was okay, it was not perfect, of course, not what we wanted but it is something that we can live with. (Indigenous representative 8, personal communication, June 26, 2019)

The Paris Decision establishing the Platform was, in that sense, a sort of unintended outcome of transnational indigenous advocacy. Indigenous organizations were asking for an institutional channel of participation within the climate convention at least since 1998. The Platform was a partial response to these demands by states. As a result, a new phase of advocacy would begin in which indigenous peoples would have to bring their demands of participation in the phase of operationalization of the Platform.

#### *7.1.4 Setting the pace of the negotiations*

The Platform came into the Paris Decision through the intervention of Bolivia. However, the establishment of the Platform itself would be the outcome of the post-Paris negotiations. The current form of the LCIPP is the result of several rounds of negotiations that took place during the COPs and the intersessional meetings of the subsidiary bodies, specifically the Subsidiary Body for Scientific and Technological Advice (SBSTA). Between COP22 to COP24 the Platform went from being an ambiguous reference in the Paris Decision to becoming a constituted body under the UNFCCC through the establishment of the Facilitative Working Group (FWG).

The formal negotiations were punctuated by informal meetings, in the format of dialogues or workshops, that were organized and attended by a loose group of "friendly states", indigenous



organizations and other stakeholders that came to be known as the “friends of LCIPP”. There were four informal meetings in total (Figure 16). The first Informal Technical Meeting was held by the EU in Brussels in February 2017. The second gathering was the Informal Dialogue on Operationalizing LCIPP, hosted by Canada in Ottawa in September 2017. The third one was a workshop on LCIPP, which was set up by the Nordic Council of Ministers in Helsinki in February 2018. The fourth and last informal gathering was the *Tinku*<sup>48</sup> or Meeting of Indigenous Peoples and Friendly States on LCIPP, which was hosted by Bolivia in Cochabamba in October 2018.

These informal meetings took place between the COPs and the intersessional meetings of the subsidiary bodies. The importance of these informal meetings was that they provided the occasion to overcome eventual deadlocks in the negotiations by bringing together friendly states and representatives of indigenous peoples organizations as well as other stakeholders. Without these informal meetings a timely operationalization of the Platform would have not been possible. As one EU delegate who took part in the negotiations explains:

So those were like the four [informal meetings] that gave some extra space in-between negotiations to see where we were at and to explore these ideas. Because at COPs you barely have the time. You have sometimes six time slots and then you need to get things moving. But if you have an exchange on the ideas or principles in advance... it's hard to do that. So these workshops have allowed that. (Government official 8, personal communication, November 29, 2019)

The core steering group of friendly states is discernible in the political and financial support for the establishment and operationalization of the Platform. Bolivia figures prominently among developing countries as initiator of the process and organizer of one of the informal meetings. Ecuador, another developing country, was an important ally of Bolivia and thematic coordinator of the G77 & China. The European Union, the Nordic Council of Ministers<sup>49</sup> and Canada figure prominently among developed countries, as organizers of informal meetings and voluntary contributors to the initial activities on the operationalization of the Platform<sup>50</sup>. Further financial

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<sup>48</sup> *Tinku* comes from the Quechua language and it means “encounter” (Allen, 1988, p. 262).

<sup>49</sup> The members of the Nordic Council of Ministers are Denmark, Finland, Iceland, Norway and Sweden, as well as the autonomous areas of Åland Islands, Faroe Islands and Greenland.

<sup>50</sup> Belgium and New Zealand provided financial support for the participation of indigenous peoples organizations in the Open Multi-stakeholder Dialogue on the Operationalization of LCIPP in 2017 (FCCC.SBSTA.2017.6, p.20), while Canada and the Nordic Council of Ministers provided support for the Open Multi-Stakeholder Workshop on Implementation in 2018 (UNFCCC, 2018c, p. 27).

support for the work of LCIPP has been provided by Australia, Canada, Finland, Germany, Luxembourg, Norway and Sweden (UNFCCC, 2019e, para. 7).

Indigenous peoples organizations, through the IIPFCC, were an integral part of the negotiating process, albeit after great efforts to gain a voice in the negotiations. The UNFCCC is a state-driven process with limited involvement of observers. However, indigenous peoples were successful in securing a place at the negotiating table through the support of friendly states:

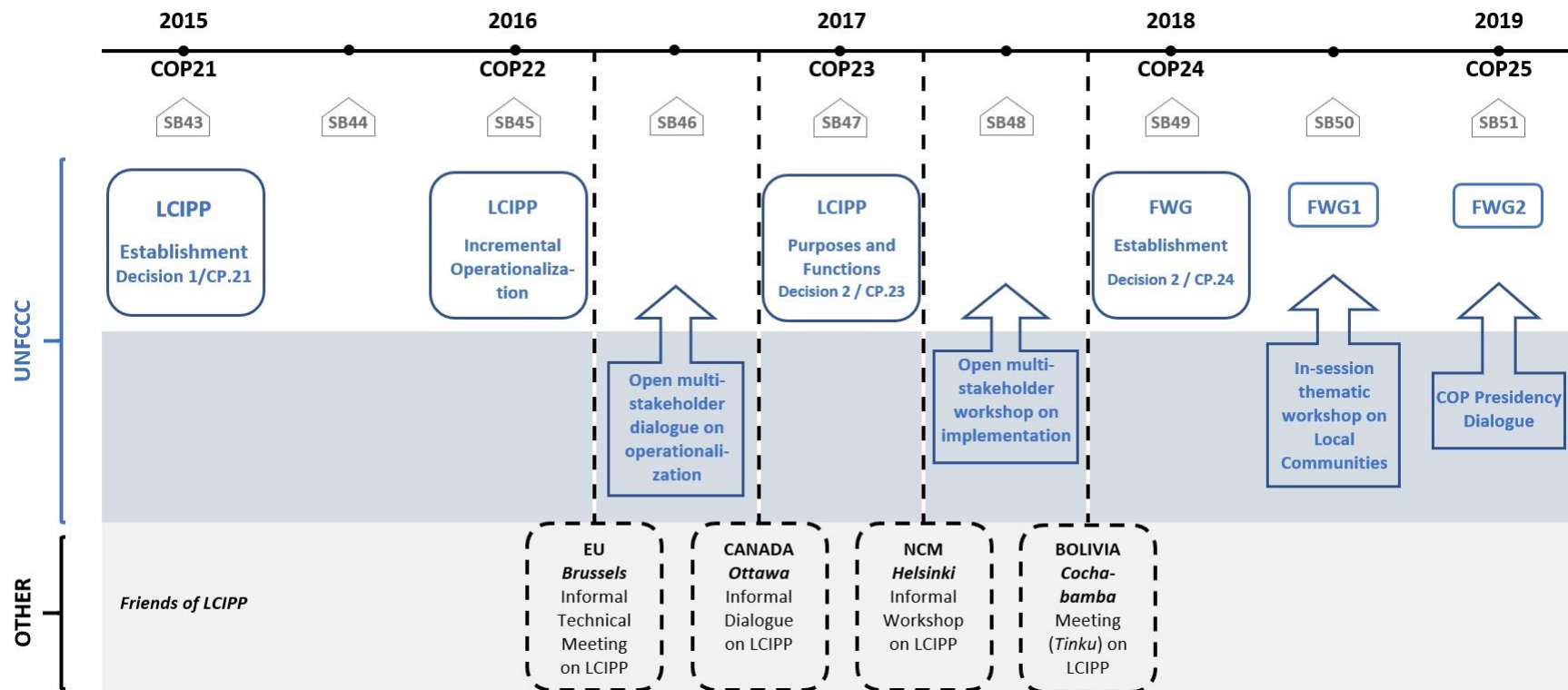
... some states they even gave up their seats for us. At the very first meeting, that was in Marrakesh in COP22, Guatemala gave up their speaking time for us because they were like, "what do you mean like a meeting of the Platform and not allowing indigenous peoples to speak? That's not right". And we were about to go like bananas, I mean like very furious that we were not allowed into that meeting. So Guatemala and some other countries said "yeah you should be allowed in, Guatemala said, you know what? we will give you our voice, so like whenever. So when we will ask for the floor you will sit at the table and when they give us the floor we will divert, yield our time for you". So that's how some states were like very positive, you know, like enforcing and enabling, empowering us to be at the table, so that you build upon that. (Indigenous representative 8, personal communication, June 26, 2019)

At COP23 indigenous peoples were allowed to attend informal meetings and "informal informals", which are closed meetings among Parties without the presence of the UNFCCC co-facilitators (Belfer et al., 2019, p. 22). Through this process of inclusion indigenous peoples could engage in open discussions with Parties on what the Platform should be. The increasing participation of indigenous representatives in the negotiations to set up the Platform was extremely important to re-orient the state-led initiative towards its original purpose, i.e. providing an institutional space for indigenous knowledge holders (representatives). Reflecting on this, one indigenous representative spoke of a form of appropriation of the Platform by indigenous peoples, despite the fact that the process was mainly state-driven:

It's exciting for us to see actually a brainchild, something that is not even what we wanted in the Paris Agreement, but we went with it, we made it our own; not our own, we work now with states of course, but like we shaped it in the best way possible, given the current political climate of course. (Indigenous representative 8, personal communication, June 26, 2019)

This reflection and its numerous caveats point to the entanglement of agency in the establishment and operationalization of the Platform. The Platform was not the priority of indigenous peoples at COP21. It was introduced by Bolivia, a state that was seeking to speak in the name of indigenous peoples and social movements in international arenas. The engagement of indigenous peoples was the result of a series of negotiating practices, most prominently, the

formation of a group of friendly states, the organization of informal meetings parallel to the formal negotiations, formatting these informal meetings as multi-stakeholder dialogues and transgressing formal rules of participation under the UNFCCC to allow indigenous peoples to have a sit at the table. In the following section, I analyze how through the interaction between states and indigenous peoples organizations, the Platform was made to fit in the governance architecture of the UNFCCC.



**Figure 16** Timeline of the establishment and operationalization of the Local Communities and Indigenous Peoples Platform under the UNFCCC. Source: own elaboration.

List of abbreviations used in the figure: Conference of the Parties (COP#); Subsidiary Bodies (SB#); United Nations Framework Convention on Climate Change (UNFCCC); Local Communities and Indigenous Peoples Platform (LCIPP); Facilitative Working Group (FWG); European Union (EU); Nordic Council of Ministers (NCM).

## 7.2 Operationalizing the Platform

### 7.2.1 *The Platform after Paris: an array of alternatives in disarray*

After Paris, it was still uncertain whether the Platform would come to fruition. The vague formula of paragraph 135 of the Paris Decision was open for negotiation and there were marked differences as to how to set up a platform. The array of alternatives were oscillating between two extremes. On one end of the spectrum was the proposition of creating a web-based platform with the purpose of exchanging experiences and best practices. On the other end was the proposal of creating a *negotiating* body with equal status for indigenous peoples and states, an arrangement that would in principle include the possibility of giving voting rights to indigenous representatives. Between these two extremes there were a range of possibilities beyond a web portal and short of a negotiating body, including a dialogue platform or an expert group, among others (Riedel & Bodle, 2018).

At COP22 in 2016 the Moroccan presidency of the Conference of the Parties began informal consultations with Parties. The consultations were marked by a misunderstanding on the interpretation of paragraph 135 of the Paris Decision. It was unclear whether the Platform already exists or if it was yet to be established. As the former head of the Bolivian delegation explains:

The Paris Decision comes out with this resolution on the platform but it does not say when the process is going to start. So we assumed that actually, as the Platform was already in the resolution, it was already established and that it should immediately start its work. But for other countries, well, there was simply a mention that the platform was there but did not exist, that there had to be a formal process of constitution. So that was the debate on the interpretations. (Government official 11, personal communication, May 13, 2020, p. 11)

The outcome of the informal consultations was a minimal agreement on the adoption of an “incremental approach” to the operationalization of the Platform (UNFCCC, 2017a, para. 167a). The predominant interpretation of paragraph 135 was that a formal process of constitution was necessary. As an EU delegate remarked, “back then the mandate didn’t say a lot [and] there were different range of proposals on the table” (Government official 8, personal communication, November 29, 2019). The incremental approach was, in that sense, a way out of a lurking impasse given the array of contrasting interpretations.

The first step of this incremental approach was to initiate discussions on what should be the functions and structure of the LCIPP. With this purpose, the Secretariat of the UNFCCC set out to organize an Open Multi-stakeholder Dialogue on the content, purpose and structure of the Platform. Ahead of the dialogue, Parties and other stakeholders were asked to submit their views. Six state delegations made submissions: Australia, Brazil, Canada, Ecuador, New Zealand and Malta on behalf of the European Union. The submissions from state delegations made the contrasting positions vis-à-vis the Platform explicit.

The Brazilian delegation was putting forth a web portal as the cornerstone of the Platform: “Brazil envisages an easy to access, interactive web-based platform that is open for Parties and accredited organizations that represent indigenous peoples and local communities and observer organizations” (Brazil, 2017, sec. 9). Brazil added that the content of the online platform would be defined by an “informal steering group” with balanced representation of states and indigenous peoples. Australia, for its part, contended that “the most suitable avenue to allow exchange of information and inform decision-making is through dialogue and sharing information through online portals” (Australia, 2017). In addition to the web portal, Australia proposed a mandated annual event in the format of a dialogue. Yet, the main thrust of the Brazilian and Australian submissions was the establishment of a *web-based* platform or a platform that would have an online portal as its cornerstone.

Other state delegations were challenging the proposition of a web-based platform. The submission from the Canadian delegation was explicit about this: “In Canada’s view, the Platform: - Should be more than a repository for Indigenous Knowledge (e.g. website or electronic database)” (Canada, 2017c). This caveat was attuned to the demands of indigenous peoples. According to indigenous representatives the proposal of a web-based platform was premised upon a reductionist and problematic understanding of indigenous knowledge, which presupposes that knowledge can be kept in databases or, for that matter, in an online portal. An indigenous representative from the Arctic, put it in these terms:

We realized we need more than a website, because... you cannot write down indigenous knowledge, you can write down elements of it, but that’s not the knowledge, you know, the knowledge is tied to people and in the land, and you cannot write that down or explain it. It is also how you apply that knowledge [...] So having a website would not be enough to fulfil those functions. (Indigenous representative 5, personal communication, May 4, 2018)

The submission from the indigenous caucus or IIPFCC was calling for a rights-based approach that guarantees the full and effective participation of indigenous peoples in UNFCCC processes.

Building on and extending the earlier proposal that was put forth at COP21, the IIPFCC was asking for a permanent advisory/facilitative group with the following membership: seven indigenous representatives and two to four state representatives, as well as the Chair of SBSTA. This body would provide advice and make recommendations directly to the COP. Other elements that were proposed included expert meetings of indigenous knowledge holders and the creation of a division for indigenous peoples within the Secretariat of the UNFCCC (IIPFCC, 2017).

The submissions from Canada and Ecuador were the ones that came closest to indigenous views of what the Platform should look like. In one of its two submissions Canada was proposing that the Platform should ensure a balanced representation for all participants, in particular states, indigenous peoples and local communities embodying traditional lifestyles. The Platform would have two co-chairs, one for states and one for indigenous peoples organizations, as well as an advisory/facilitative group to support the co-chairs (Canada, 2017b). The advisory/facilitative group was the main thrust of the Canadian proposal and it was attuned to the submission from the IIPFCC in that it endorsed the principle of equal status for Parties and indigenous peoples.

Ecuador, for its part, was proposing the most ambitious structure: a permanent body with equal representation for states and organizations of indigenous peoples and local communities; an expert advisory group; and an Open Ad Hoc Working Group to develop the structure of the Platform under SBSTA (Ecuador, 2017). In the words of one of the Ecuadorian delegates, “the general idea of the working group, which was our proposal, we got it from there, from 8(j), from Article 8(j) of the CBD because we saw that it has also been well received there” (Government official 4, personal communication, February 28, 2019). Ecuador was to some extent drawing on the same organizational templates that indigenous peoples were using in their declarations in the early 2000s to be included in the UNFCCC process.

To discuss the views and proposals coming from the submissions a Multi-Stakeholder Dialogue was held in conjunction with the forty-sixth meeting of the subsidiary bodies in May 2017. The major outcome of the dialogue, however, was not to define the structure of the Platform but to detail its functions beyond the general formulation of paragraph 135 of the Paris Decision. Three core functions were identified (Table 9). The first function was about knowledge, in specific the sharing of experiences and best practices. The second was to build the capacity of indigenous peoples to engage with the UNFCCC. The third and last function was about the integration of different knowledge systems to inform climate action and policies at the national and international levels. By the end of the dialogue, it was clear that a web-based platform would

not suffice to fulfill the newly defined functions of the Platform. The online portal would remain as one of the elements or components – and not the cornerstone – of the Platform. However, there was uncertainty as to what kind of governance structure would be acceptable for all Parties.

CORE FUNCTION	DESCRIPTION
<b>Knowledge</b>	“the platform should promote the exchange of experience and best practices with a view to applying, strengthening, protecting and preserving traditional knowledge, knowledge of indigenous peoples and local knowledge systems, as well as technologies, practices and efforts of local communities and indigenous peoples related to addressing and responding to climate change, taking into account the free, prior and informed consent of the holders of such knowledge, innovations and practices;”
<b>Capacity for engagement</b>	“the platform should build the capacity of indigenous peoples and local communities to enable their engagement in the UNFCCC process and the capacity of Parties and other relevant stakeholders to engage with the platform and with local communities and indigenous peoples, including in the context of the implementation of the Paris Agreement and other climate change related processes;”
<b>Climate change policies and actions</b>	“the platform should facilitate the integration of diverse knowledge systems, practices and innovations in designing and implementing international and national actions, programmes and policies in a manner that respects and promotes the rights and interests of local communities and indigenous peoples. The platform should also facilitate the undertaking of stronger and more ambitious climate action by indigenous peoples and local communities that could contribute to the achievement of the nationally determined contributions of the Parties concerned;”

**Table 7** Core Functions of the Local Communities and Indigenous Peoples Platform. Source: UNFCCC (2018a, Decision 2/CP.23, para. 6)

One of the suggestions that came out from the dialogue was to learn from other governance arrangements that were working on diverse knowledges as well as indigenous peoples participation. In the domain of knowledge and policy, the following organizations were mentioned: Convention for Biological Diversity (CBD); the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES); UNESCO Local and Indigenous Knowledge Systems program (LINKS); and the Intergovernmental Panel on Climate Change (IPCC) (UNFCCC, 2017b, para. 44). All of these were organizations with a trajectory of working on indigenous and local knowledge (see Chapters 3 and 4).



In the domain of participation the examples were the UNPFII; the Arctic Council; and the Sami Parliament (UNFCCC, 2017b, para. 45). In the UNPFII indigenous peoples have the same number of representatives as states. In the Arctic Council indigenous peoples organizations are permanent participants with consultative status (see Chapter 5). The Sami Parliaments of Finland, Norway and Sweden are forms of self-government for the Sami people with specific policy competences depending on national legislations (Josefsen, 2010). All these governance bodies were pointing to a structure in which indigenous peoples, in accordance to their right to self-determination, could participate on a par with states. The indigenous caucus developed this demand in four principles: full and effective participation of indigenous peoples; equal status for indigenous peoples and Parties, including in leadership roles; self-selection of indigenous peoples representatives in accordance with indigenous peoples' own procedures; and adequate funding from the secretariat and voluntary contributions to enable the functions of the Platform (Riedel & Bodle, 2018, p. 32).

In sum, the adoption of an incremental approach was key in avoiding gridlocks and opening channels of negotiation. The UNFCCC Secretariat set the incremental approach in motion by opening calls for submissions and organizing multi-stakeholder dialogues. In parallel, friendly states were responsible for organizing informal meetings to advance on the negotiations. The negotiations were mainly about different interpretations of paragraph 135 and proposals about how to make it operational. In general, the proposals were at once building on previous organizational templates and advancing innovative ways of operationalizing the Platform. The ambiguous consensus around paragraph 135 was on its way to become a concrete institutional space for the knowledge of indigenous peoples and local communities.

### *7.2.2 Design by bricolage: the Facilitative Working Group*

At COP23 the three functions of the Platform, as defined by the multi-stakeholder dialogue, were officially established (UNFCCC, 2018a, Decision 2/CP.23, para. 6). More importantly, the decision adds a specific provision on the structure of LCIPP as it requests SBSTA to consider "the further operationalization of the platform, including the establishment of a *facilitative working group*, which would not be a negotiating body under the Convention... with balanced representation of local communities and indigenous peoples and Parties" (UNFCCC, 2018a, Decision 2/CP.23, para. 10). In addition, the COP23 decision includes as a recommendation the four principles that were put forth by the indigenous caucus (UNFCCC, 2018a, Decision 2/CP.23, para. 8). Thus, the COP23 decision provides a first indication of what elements could be

considered to set up the Platform and puts forth the option of establishing a facilitative working group.

The invention of the Facilitative Working Group (FWG) was a compromise among alternatives that were first discussed in the informal meeting in Ottawa in September 2017. Here is where the main ideas on the governance structure of the platform were put on the table ahead of COP23. What came out of this informal meeting among the friends of LCIPP was the initiative of appointing a “small group” to lead the work of the Platform. Three alternatives were taken into account: (1) an expert/advisory group or panel; (2) an open ad-hoc working group; and (3) a facilitative group led by two co-chairs (Canada, 2017a, pp. 11–12). A key difference among these options was that a working group would arguably involve the creation of a negotiating body, whereas an advisory or facilitative group would be a governing body but not a negotiating body.

Given this array of alternatives a political compromise was achieved by combining different proposals. The compromise found in the COP23 decision was an invention stemming from design by bricolage: a Facilitative Working Group. Up until then, there was no such thing as facilitative working groups under the UNFCCC. The COP23 decision was introducing new language. The word Facilitative Working Group was the merger of two alternatives: a facilitative group and a working group. The caveat, however, was that the Facilitative Working Group would not be a negotiating body. As a scoping report on the operationalization of LCIPP published by the Nordic Council of Ministers explains:

The decision text defines the FWG as “not a negotiating body”. This text was added at the request of a number of Parties in the negotiations. They wanted to clarify that although the term “working group” is part of the name “facilitative working group”, the group is not to be a body in which all Parties negotiate on a specific agenda. (Riedel & Bodle, 2018, p. 40)

The combination of different proposals, in that sense, was more rhetorical than factual. Here, again, we see the use of ambiguity to produce consensus. As Stone, quoting Murray Edelman, explains “[a]mbiguity allows policymakers to placate both sides in a conflict by ‘giving the rhetoric to one side and the decision to the other’” (2012, p. 180). The decision was not to create a negotiating body such as a working group; however, the term working group was kept to give the rhetoric to both sides. Paradoxically, this is how the original organizational template of indigenous peoples, namely a working group, traveled from the biodiversity convention to the UNFCCC. As for the other template, the UNPFII, its element of “balanced representation” did become part of the FWG albeit with one important alteration: the inclusion of local communities who are not members of the UNPFII, but they form part of the biodiversity convention.

The decision not to establish a negotiating body was to some degree a trade-off. The IIPFCC was asking for equal status for indigenous peoples and states in the Platform, especially referencing the UNPFII. However, to implement this principle in a negotiating body, it would have been necessary to revise the modalities of participation of non-Party stakeholders under the UNFCCC. The status of non-Party stakeholders is determined by the rules of procedure. To change the status of indigenous peoples within the UNFCCC it would have been necessary to change the rules of procedure or to adopt different rules of procedure for the LCIPP – assuming that it was a negotiating body. As Riedel and Bodle (2018, p. 42) note, this was legally possible, but extremely unlikely. In short, the consequence of establishing a negotiating body (under the rules of procedure of the UNFCCC) would have been to sacrifice the principles of equal representation. A non-negotiating body as the FWG, in contrast, was amenable to enshrine the principle of equal status.

### *7.2.3 Lost in translation: the local communities affair*

The negotiations to set up the FWG began at the forty-eighth meeting of SBSTA in April-May 2018. It was agreed that the FWG would work to further operationalize the Platform and facilitate the implementation of its functions (UNFCCC, 2019a, Decision 2/CP.24, para. 2). It was also agreed that the FWG would not be a negotiating body and that it would work on the basis of consensus (UNFCCC, 2019a, Decision 2/CP.24, para. 15). However, there was a core issue that remained unsettled. The main issue on the table was how to set up the membership of the FWG. The decision from COP23 was to ensure the “balanced representation of local communities and indigenous peoples and Parties” (UNFCCC, 2018a, Decision 2/CP.23, para. 15). However, while the representation of indigenous peoples was expounded in detail, the representation of local communities was a point of contention.

The underlying issue with the representation of local communities was that it was unclear who were local communities or who they represent in the context of the UNFCCC. There is no constituency of local communities under the UNFCCC. The use of the formula “local communities and indigenous peoples” in the Paris Decision was, as the previous section explains, an extraneous reference to the biodiversity convention with inversions and omissions. The principle of “balanced representation”, for its part, was an element taken from the UNPFII. Local communities were brought from the biodiversity convention with no further specification. The negotiations that began at the forty-eighth meeting of SBSTA in April-May 2018 were about making sense of this bricolage including elements from the UNPFII and the biodiversity

convention, especially how to guarantee balanced representation not only for indigenous peoples but also for local communities.

The first draft conclusions of the negotiations were proposing a total of fourteen representatives: seven representatives from indigenous peoples organizations and seven government representatives. Government representatives would comprise the five UN regional groups (Africa; Asia-Pacific; Eastern Europe; Latin America and the Caribbean; Western Europe and Other States), plus one from a least developed country and one from a small island developing state. As for indigenous peoples, representatives would come from the seven sociocultural regions identified by the UNPFII. The leadership roles of the FWG would be given to two co-chairs, one from Parties and one from indigenous peoples organizations. The issue then was how to integrate local communities in this arrangement.

The draft conclusion put forth two options to solve the problem of the representation of local communities. The first option was to lump together indigenous peoples and local communities by specifying that the seven non-Party representatives would come from “[local communities [embodying traditional lifestyles] and ]indigenous peoples organizations[, one from each of the seven United Nations indigenous sociocultural regions] and indigenous peoples organizations” (UNFCCC, 2018b, para. 3d). The second option, which was thought of as an interim solution to avoid a lack of representation of local communities, was to split the membership so that the seven non-Party representatives would be four indigenous representatives and three local communities representatives nominated by Parties (UNFCCC, 2018b, para. 3d alt).

The alternative of merging the representation of local communities and indigenous peoples was unacceptable for a number of state delegations. A major point of contention was that a number of states do not recognize the existence of indigenous peoples in their countries. China and Indonesia are cases in point (Erni, 2008; Hathaway, 2016). If the Platform were exclusively for indigenous peoples, it would not concern these countries. However, the inclusion of local communities on a par with indigenous peoples was problematic for these states because it was interpreted in the sense that whoever identifies as a local community would now have the possibility to participate in the Platform and even claim the same status as indigenous peoples.

Acknowledging that local communities do not have a representation mechanism under the UNFCCC, their nomination would be subordinated to Parties or indigenous peoples organizations. The self-selection of local communities representatives was, in the first instance, unforeseeable given the absence of an official local communities constituency under the UNFCCC. The negotiating practice that came to the fore at this moment was “holding a bracket”,

i.e. differing the agreement on the wording of a formal text, with brackets containing alternatives to the representation of local communities. Because this impasse was not overcome at the intersessional meetings of April-May 2018, it was agreed that the negotiations would continue at the forty-ninth session of SBSTA that would take place at COP24 in Katowice, Poland.

Here, once again, the momentum of the negotiations could be kept thanks to the informal meetings of the friends of LCIPP. This time the meeting or *tinku* (in Quechua) was organized by the Plurinational State of Bolivia in the city of Cochabamba in October 2018. After introducing paragraph 135 to the Paris Decision Bolivia was renewing its commitment to the Platform. The input from Bolivia came from its own national experience of establishing an indigenous and peasant platform in the fight against climate change (Government official 10, personal communication, November 30, 2019). The way out of the impasse was to invoke the incremental approach to the operationalization of the Platform and postponing the issue to COP27.

The COP24 decision goes back to the initial arrangement of fourteen representatives: seven government representatives and seven indigenous peoples representatives. The decision over the representation of local communities was deferred to a later stage in the following terms:

4. Requests the Subsidiary Body for Scientific and Technological Advice to consider, in the context of the review referred to in paragraph 27 below and taking into account progress related to the representation of local communities, the addition of at least three additional representatives to represent local communities, as well as a process for the appointment of such representatives and an equal number of Party representatives, with a view to recommending a draft decision on the representation of local communities on the Local Communities and Indigenous Peoples Platform for consideration and adoption by the Conference of the Parties at its twenty-seventh session (November 2021); (CP.24, Decision 2, para. 4; emphasis added)

As the text indicates, the process of appointment of the representatives of local communities is left open for further discussions and consideration at COP27. It is also worth noting that the COP24 decision adds a disclaimer arguably to reassure those states that were suspicious about the whole process of establishment of the Platform with equal representation for indigenous peoples and local communities: “none of the activities should authorize or encourage any action, which will dismember or impair, totally or in part, the territorial integrity or political unity of sovereign and independent States” (UNFCCC, 2019a, Decision 2/CP.24, preamble). However, this passage is somewhat redundant as it was taken from the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP, 2007, Article 6).

In November 2019 an in-session thematic workshop on the participation of local communities was held in conjunction with the fiftieth meeting of SBSTA (UNFCCC, 2019c). In the workshop there was input from other organizations working with the concept of local communities or similar concepts, including the International Labor Organization (ILO), the Food and Agriculture Organization (FAO); the Convention on Biological Diversity; and UNESCO's Local and Indigenous Knowledge Systems Program. Among the various topics, there was input on the concept of tribal peoples in the ILO, FAO's work with small farmers in Latin America, as well as the attempts to define local communities in the CBD. However, the key point that came out of the discussions is that the representation of local communities should follow the principles of self-identification and self-mobilization (UNFCCC, 2019c, p. 4). This principle would exclude the option of giving Parties with the task of identifying and nominating representatives from local communities. At the same time this requires a process of mobilization on the part of local communities to ensure that they form a constituency within the UNFCCC.

The workshop on local communities was attended mostly by indigenous peoples organizations. However, there were some representatives from local communities who signaled their interest to participate in the Platform. One of these was a smallholder farmer from Germany speaking on behalf of La Via Campesina. The speaker referenced the recently adopted UN Resolution on the Rights of Peasants and other people working in rural areas (UNDROP). Another representative from local communities who expressed interest in participating in the Platform was a member of the Mexican Network of Peasant Forestry Organizations (Red MOCAF). The presence of these local community organizations was signaling the prominence of a *campesino* identity as one of the ways in which local communities could be understood. However, the *campesino* identity works in the context of Latin America, but not necessarily in other regional contexts. It remains to be seen whether local communities will self-mobilize and self-organize to form a constituency and participate in an autonomous manner in the LCIPP.

### 7.3 The LCIPP as a knowledge-policy interface

#### 7.3.1 *The onion*

The LCIPP embodies a dual role as a body for the political representation of indigenous peoples (and local communities) on a par with state Parties *and* a knowledge interface for indigenous peoples (and local communities) under the UNFCCC. As the previous sections explain the design of the LCIPP and the FWG were the outcome of institutional layering through practices of

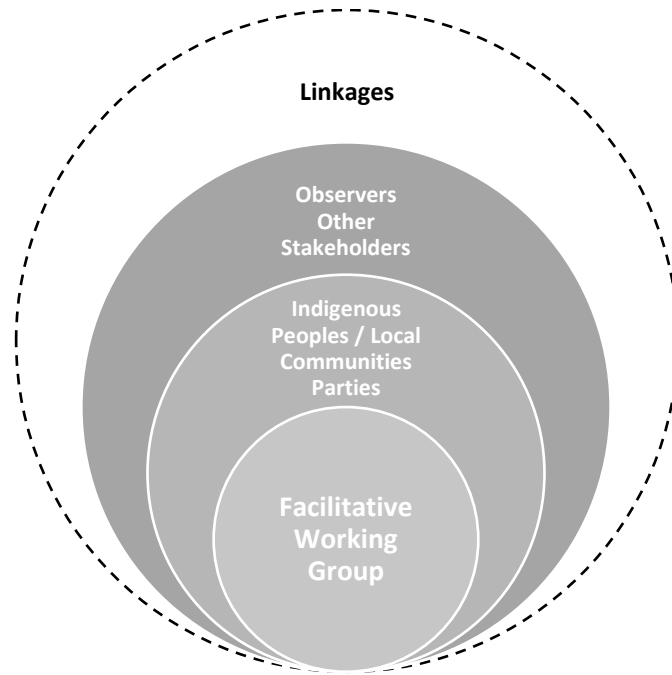
translation and bricolage. The political representation model aiming at equal status for indigenous peoples and states was mainly a component found in the UNPFII, whereas the knowledge interface components were mainly found in the biodiversity convention – including the reference to indigenous peoples and local communities as knowledge holders. These disparate components were brought together under the LCIPP-FWG and were grafted onto the institutional architecture of the UNFCCC.

Under the incremental approach, the FWG steers and facilitates the process of implementation of LCIPP and its core functions. As a constituted body under the UNFCCC, the FWG meets twice per year in conjunction with the sessions of the subsidiary bodies and the COPs (UNFCCC, 2019a, Decision 2/CP.24, para. 17). To initiate its work the FWG was mandated to prepare an initial two-year work plan and, upon completion, a second three-year workplan (UNFCCC, 2019a, Decision 2/CP.24, para. 18 and 24). The Subsidiary Body for Scientific and Technological Advice reviews the outcomes of the workplan and makes recommendations to the Conference of the Parties as the highest decision-making body of the UNFCCC (UNFCCC, 2019a, Decision 2/CP.24, para. 27). To summarize, the FWG lies at the core of the LCIPP as a constituted body that is set to further operationalize the Platform under the guidance of the SBSTA, which in turn is in charge of reviewing the outcome of its work and making further recommendations to the COP.

The Facilitative Working Group and its position in the Platform was described by one of the LCIPP government representatives as an onion. “In that onion idea or peel, as it were... we must have a circle of trust and the Platform must have an expanded moment, that is, the circle of trust is like layers” (Government official 10, personal communication, November 30, 2019). Understood in this way, the core or inner circle of trust is the FWG, which works as a steering committee, with two co-chairs and fourteen representatives. The middle circle of the onion are indigenous peoples and local communities, as well as Parties, who are not members of the FWG, but provide input to the FWG or participate in other activities of the Platform. These may also become members of the FWG as the positions rotate. The outer circle of the platform is where observers and other stakeholders appear. Finally, there is the network of linkages with other organizations inside and outside the UNFCCC that form the ecosystem of the Platform (see Figure 17).

The physical space in which the Platform convenes reflects this concentric or onion-like organization. The meetings of the Facilitative Working Group display an arrangement of chairs consisting of various circular rows. The first row of chairs is reserved to the co-chairs and the representatives of the FWG, while the outer circles are for all other attendees, including indigenous peoples and local communities (see Figure 18). The dynamics of interventions follow

this order too. In the first instance, the co-chairs and representatives report and discuss the agenda and in a second instance, the floor is open for all other participants. In online sessions the concentric dynamic remains in so far as co-chairs and representatives keep their videos on while other participants turn off their videos. The order of interventions remains the same as in in-person meetings.



**Figure 17** The Local Communities and Indigenous Peoples Platform governance structure as an onion diagram. Source: own elaboration.



**Figure 18** UNFCCC Executive Secretary Patricia Espinosa addressing the second meeting of the Facilitative Working Group of the Local Communities and Indigenous Peoples Platform, 28 November 2019, Madrid-Spain. Source: Photo taken by the author.



The metaphor of the onion highlights the legitimation challenges that the FWG faces as a recent institutional innovation. The inner circle of trust among state and non-state members of the FWG is set to provide an interface for the wider Platform, especially indigenous and local knowledge holders as well as other representatives of these groups. In other words, given its dual remit, the FWG is set to provide at once political representation and knowledge brokering for indigenous peoples and local communities. The work of the FWG as seen in its specific activities throws light on this dual remit of political representation and knowledge brokering.

The outcome of the first round of biannual meetings of the FWG was the adoption of the initial two-year workplan consisting of twelve activities: three on the “knowledge” function; three on the “capacity for engagement” function; and six on the “policies and actions” function (UNFCCC, 2019b, Annex 1). In the following, I analyze the work of the FWG in its initial two-year workplan, especially by zooming in on specific episodes of the meetings of the FWG. The sections follow the thematic areas of the three core functions of the Platform.

### 7.3.2 *Knowledge holders*

A lingering question in the establishment and operationalization of the LCIPP has been how to incorporate indigenous knowledge holders or “elders” in the design of the Platform. In the Ottawa informal meeting on LCIPP, for example, one of the options under consideration was to conform an expert or advisory group that “could be informed by an Elders Advisory Committee at the regional level” (Canada, 2017a, p. 11). The idea of an Elders Advisory Committee, however, did not materialize. The FWG, as the constituted body of the LCIPP, is not specifically an interface between knowledge holders and decision makers. The indigenous representatives who are members of the FWG are not necessarily knowledge holders, although in a way they fulfill a role of *representation* of knowledge holders.

The inclusion of knowledge holders is a complex question, among other things, because indigenous elders or other knowledge holders are not as other scientific experts working in international organizations. This was eloquently put at the fourth meeting of the FWG by Hindou Ibrahim, an indigenous representative of the FWG from the Mboro pastoralist community in Chad:

I wanted more clarification, maybe I misunderstood, when you say the participation of our knowledge holders, are they participating? Like are they at the next FWG meeting face-to-face or at the regional meetings or at the national meetings? I do not understand because I do not see that my grandpa or, I don't know, my grandma or I do not see my uncle or auntie or whatever that they leave their cattle and then just come to Germany or fly somewhere just to say “oh, look

out guys, I do have the knowledge on doing... how the cattle work and how I can grass or how I can protect this one". I do not see them doing this kind of things, so when we talk about knowledge holders, is it going to be a representative of our governance or of our organization or how does it work? (LCIPP, 2020a, 1:04:04 -1:04:54)

To close her intervention, Hindou Ibrahim made a call to look beyond the rules and procedures of the UNFCCC and think about ways of doing things differently. Her remarks highlight the fact that a Mboro cattle-herder cannot act as a scientific expert in climate negotiations; hence, the necessity to introduce alternative criteria and approaches to knowledge brokering, especially to incorporate indigenous knowledge holders in institutional spaces that would serve as interfaces.

The interface with knowledge holders is found not in the FWG per se, but in the activities of the FWG. The initial two-year workplan of the FWG envisages the organization of annual meetings and regional gatherings featuring the participation of indigenous and local knowledge holders<sup>51</sup> (LCIPP, 2021a, 2021b). The global annual meetings are set to take place in conjunction with the COP and “will feature indigenous knowledge holders and indigenous elders sharing their experiences and good practices in regards to climate change” (LCIPP, 2021a, p. 2). Four knowledge holders or practitioners from each of the seven socio-cultural regions would participate in these global meetings (LCIPP, 2021a, p. 3). The regional gatherings, for their part, “will aim to gather 50-75 knowledge holders and practitioners from various eco- and food systems within each region” (LCIPP, 2021b, p. 2). The regional gatherings stand out as the key interface with knowledge holders given a broad focus and scope of participation.

What global meetings and regional gatherings reveal is that the interface with knowledge holders put forth by the LCIPP is not modelled on science-policy interfaces, but instead it is an interface that underwrites an alternative approach that aims at creating sites of encounter among indigenous and local knowledge holders. These are not entirely new practices – after all global meetings and regional gatherings are part and parcel of global governance. What is new about these activities is that they revolve around indigenous and local knowledge holders – something that has never been done in global climate governance. Besides, the format of these activities, especially the regional gatherings, is reminiscent of the Bolivian conferences in the run-up to COP21 following the diplomacy of the peoples.

Beyond the direct engagement of knowledge holders, a key area of representation relates to the protection of the rights of indigenous and local knowledge holders. As one indigenous

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<sup>51</sup> These Activities have been postponed due to the COVID-19 pandemic.

representative from North America put it: “from a human rights perspective you can’t have protection of indigenous knowledge unless you have protection of the peoples who hold it” (Indigenous representative 2, personal communication, May 2, 2018). Another indigenous representative from the Pacific noted in the same vein that “when you talk about knowledge, you need to have rights to protect it” (Indigenous representative 8, personal communication, June 26, 2019). Indigenous representatives, therefore, have been adamant in advancing a rights-based approach to knowledge. Prominent among these rights is the right to free, prior and informed consent as the COP decision on the FWG notes (UNFCCC, 2018a, Decision 2/CP.23, para. 6a). Working together with knowledge holders, the LCIPP is producing a compilation of rights, safeguards and knowledge-sharing protocols as part of Activity 1 of the initial two-year work-plan. The rights-based approach highlights the point that the status of indigenous peoples as knowledge holders is inseparable from that of rights holders.

A less prominent point in the role of the LCIPP and the FWG as an interface is that of co-production. There is only an indirect reference to co-production in the decision establishing the FWG: “the platform should *facilitate the integration of diverse knowledge systems, practices and innovations* in designing and implementing international and national actions, programmes and policies” (UNFCCC, 2018a, Decision 2/CP.23, para.23). The FWG membership does not include representatives from scientific bodies, although these participate sometimes as observers. The global meetings and regional gatherings revolve around indigenous and local knowledge holders, not scientists or experts. However, the indigenous members of the FWG, especially those representing the Arctic region, have been adamant in highlighting the importance of co-production. One of the approaches that the LCIPP is advancing in this matter is to create synergies with scientific bodies such as the IPCC and IPBES.

### **7.3.3 Capacity for engagement**

The Platform and its Facilitative Working Group aim at enhancing the participation of indigenous peoples and local communities. In the making of the FWG, this was achieved through the enshrinement of equal representation for Parties and indigenous peoples – and eventually local communities. However, the issue remains as to how the FWG may enhance the participation of the outer circles of the Platform, above all other indigenous peoples and local communities organizations. The LCIPP constitutes a different form of representation for indigenous peoples, who were up until then organizing in an autonomous manner through the indigenous caucus and its constituency under the UNFCCC. In contrast to the indigenous peoples constituency, the FWG is a constituted body with a mandate and a workplan. More importantly, the FWG features

the membership of government representatives and local communities alongside indigenous peoples.

The Platform with the FWG at its core is fundamentally different from the indigenous caucus. Whereas the FWG is a constituted body under the UNFCCC, the caucus is a constituency of observers under the UNFCCC. However, these operate in the same space of representation for indigenous peoples within the UNFCCC. This was a matter of concern for indigenous peoples in the first meeting of the Facilitative Working Group. The point of contention was that the FWG should not undermine the existing channel of representation of indigenous peoples which is the indigenous caucus. The report of this meeting took note of these concerns and sought to clarify this point in the following terms:

41. It was noted that the practice of inviting engagement and participation by the IPO [indigenous peoples organizations] constituency and the IIPFCC Caucus in the UNFCCC process should continue, in a complementary manner and in parallel with the FWG process. The FWG was not established to supersede engagement with indigenous peoples through the IPO constituency. (UNFCCC, 2019b, para. 41)

The report introduces the practice of inviting the indigenous caucus and its constituency to the FWG meetings. More importantly, it clarifies that the FWG is not meant to supersede the indigenous caucus. The UNFCCC Secretariat was thereby seeking to reassure indigenous peoples organizations. The quandary of representation shows that the FWG finds itself in a process of legitimation not only vis-à-vis Parties, but also vis-à-vis indigenous peoples. These issues might be exacerbated by the future inclusion of members from local communities in the FWG.

The process of legitimation of the Platform, and the FWG in particular, has been marked by challenges to its authority and legitimacy. An essential point in this respect is the engagement of the outer circles of the Platform. If we go back to the image of the onion, the main issue would be the inclusion of the second layer, that is, of indigenous peoples and local communities who are not members of the FWG. An episode at the second meeting of the FWG illustrates this issue. Following a discussion on how to enhance the coherence of the FWG with other bodies under the UNFCCC, an indigenous representative from New Zealand made the following statement:

You know, these processes have developed a culture and a language of their own and it is no language that I understand. All that X, Y, Z, F, D, C, F, G, sounds like alphabet soup to me. I don't understand what half of that means. So I want to support what my brother here was saying about we need some kind of standard literacy to understand the language. I'll ask you to realize that when you're speaking that language it is alienating a lot of us that don't speak that language. (UNFCCC, 2019d, 1:37:58-1:38:28)

Whereas the caucus seems to provide a more open space for indigenous peoples to get acquainted with the negotiation process and reach consensus positions, the FWG appears as a more arcane space for the outer circles of the Platform. The sense of alienation for newcomers reveals the limits of the Platform when it moves beyond the circle of trust of the FWG. In contrast to the indigenous caucus, the FWG is a constituted body of a more technocratic nature, with a mandate and an official membership. The intervention of another indigenous representative from New Zealand went on to challenge the FWG:

I am going to challenge the Facilitative Working Group. That plan is a good plan to start with, I do not refute the effort made, the portal is important, I agree that we need to communicate more effectively, but to continue to follow a linear process in a nonlinear crisis is bound to fail and our ancestors have all survived too much for us to leave a legacy of failure. We are going to fight with everything we've got and we invite you all to join us. If you don't, that's fine. There will be millions that die in the proceeding years. (UNFCCC, 2019d, 1:18:21-1:18:56)

Immediately after this intervention, the indigenous representative from New Zealand went on to invite indigenous peoples to join them in the indigenous caucus. The invitation was pitting the FWG against the indigenous caucus. The response from Andrea Carmen, one of the indigenous representatives of the FWG, was rejecting false distinctions: "I don't think that there is a distinction... between those that are working here and those that work on the ground or those that participate in this body, that was created by the indigenous caucus and those that participate in the caucus" (UNFCCC, 2019d, 1:20:58-1:21:26).

This episode evidences the difficulties that the FWG faces in engaging the outer circles of the Platform. The co-chairs of the FWG have been, therefore, insisting that the LCIPP is there to enhance the engagement of indigenous peoples as its second function indicates. The workplan of the FWG reflects this endeavor as it includes the organization of training workshops to build the capacity of indigenous peoples and local communities to engage with the UNFCCC (LCIPP, 2020c) as well as an outreach plan on this topic (LCIPP, 2021c). The workplan also includes developing recommendations for SBSTA on the engagement of indigenous peoples and local communities (LCIPP, 2021d).

Other indigenous representatives have been reminding the members of the FWG that the FWG is not the Platform. Andrea Carmen, an indigenous representative and co-chair of the FWG at its fourth meeting, said that this point was made at the last meeting of the indigenous caucus. The FWG is officially responsible for further operationalizing the Platform but it is not the Platform per se. In the words of Andrea Carmen, "we're paving the way, we're not carrying out the Platform, but we are creating it and creating that space... in a way that will ensure

participation” (LCIPP, 2020a, 00:17:04-00:17:22). At the fifth meeting of the FWG some indigenous representatives reiterated this point. Under the incremental approach, the work of the FWG will come under review upon accomplishment of its two-year or three-year workplans. It remains to be seen whether the FWG becomes a permanent body or whether it gives way to other governance arrangements to operationalize the Platform. However, the FWG was the result of a hard-won compromise reflecting a delicate balance between Parties and indigenous peoples organizations. Seeing the FWG as a transient body risks jeopardizing this institutional achievement.

#### *7.3.4 Climate policies and actions*

The LCIPP is global in so far as it is an offshoot of the UNFCCC. However, the *raison d'être* of the Platform is to generate impact on the ground. The core function in this respect consists in embedding the knowledge, practices and innovations of indigenous peoples and local communities in policies and actions that are designed and implemented mainly by national and local authorities. As one indigenous representative from the Igorot people in the socio-cultural region of Asia put it, the global agreement is only the beginning when it comes to seeing policy changes on the ground:

They are very good in global policies, they have agreed on all of this, they are signatories of all of this, but if there is no strong indigenous peoples movement pushing for its implementation in the national government, nothing is implemented. (Indigenous representative 4, personal communication, May 4, 2018)

In its workplan, the Platform includes a number of activities that seek to ensure that the work of the Platform provides input to the UNFCCC and other sites of governance beyond the United Nations. Here I distinguish two sets of activities in this area. The first set of activities consists in providing advice, expertise and technical output. In essence, this is the role of all constituted bodies under the UNFCCC. The second set of activities, however, seeks to render the Platform into a modular institutional form that could be replicated in other sites of governance in national, regional and local scales. In consider these in turn.

The first set of activities consists in mapping, compiling, producing and disseminating information. In practice, it is about putting together guidance documents, synthesis documents, toolkits and recommendations. The Platform sets out to do this in all matters that fall within its scope of action: knowledge; capacity for engagement; and climate change policies and actions. These activities bring the LCIPP closer to other constituted bodies under the UNFCCC. After all this is what constituted bodies do, namely provide advice, expertise and technical input. To

develop these activities the LCIPP recurs to a repertoire of conventional practices in the UNFCCC process: issuing open calls for submissions; carrying out online surveys; organizing dialogues; and compiling this input in reports and other technical documents that would later translate into a set of recommendations.

Centering the work of the LCIPP on producing technical advice and expert knowledge, however, is something that indigenous peoples have come to challenge. Focusing the work of the Platform on this sort of activities would amount to turning the Platform into another expert body which was neither the intention of Bolivia nor the demand of indigenous peoples. An intervention by the indigenous representative Hindou Ibrahim at the fourth FWG meeting illustrates this point. The intervention came after the presentation of the ongoing elaboration of a technical paper that would be the main output of Activity 7 (LCIPP, 2021e), which consists in mapping existing policies and practices of participation inside and outside the UNFCCC:

Excuse my ignorance, but I am really a practical person, I wanted to see how this changes the lives of my people [...] but when I see the outcome or the delivery of the Activity 7 it is all going around the report or the technical paper. I do not see a concrete action or a concrete recommendation that can enhance the participation of indigenous peoples. (LCIPP, 2020b, 2:13:14-2:13:54)

These and other activities that consist in mapping and reporting, however, are set to provide input to Activity 6 whose objective is to develop recommendations for SBSTA and the COP (LCIPP, 2021d, p. 6). In a way, this is the single most important channel of influence for the LCIPP and the FWG as it is a direct connection to the decision making process at the UNFCCC. A key issue in this area is how to promote the inclusion of indigenous peoples and local communities in key policy instruments under the UNFCCC, most prominently, nationally determined contributions and national adaptation plans (LCIPP, 2021f).

Another way to generate impact on climate policies and actions is by enhancing the outreach of the work of the LCIPP. To reach out to the wider public, a web-based portal has been put in place (UNFCCC, 2019a, Decision 2/CP.24, para. 21). Here is where reports, technical documents and all the output that the Platform produces is made available to the wider public. Ideally the web portal should work as a “knowledge hub” that states and other actors would consult to develop climate policies and actions that protect and enhance the knowledge of indigenous peoples and local communities. The idea of a web portal that works as a knowledge hub is similar to the Adaptation Knowledge Portal of the Nairobi Work Program, which was the first to include indigenous and local knowledge in the work on adaptation within the UNFCCC (see Chapter 4).

One of the issues of concern in the discussions was what kind of information can be shared in the web portal without impinging on the rights of indigenous peoples. Another important issue was how to make the web portal more accessible to grassroots organizations of indigenous peoples and local communities.

The second set of activities seeks to render the Platform into a modular institutional template to be replicated in regional, national or local sites of governance. The promotion of the LCIPP at the national and regional levels is part of the workplan of the FWG. Activity 12 (LCIPP, 2021b) consists in the compilation of good practices for developing national and regional platforms, as well as the elaboration of briefing note on the LCIPP. While the LCIPP was made to fit in the global architecture of the UNFCCC, it might nonetheless serve as a template for initiatives occurring in other scales of governance. The importance of replicating the Platform in national or local sites of governance was emphasized by the delegations of EU and Bolivia:

... we are struggling with the fact that we here are at the global level... and the main challenges are at the national and the local level. So the challenge... is to find out how we can give incentives to the national level [...] We have this global Platform and there is kind of a spin off to start building national Platforms which is very important, I think. (Government official 9, personal communication, November 29, 2019)

... we know that a global platform cannot function without platforms that are more local, more regional, etc. Because they have to be articulated to the own dynamics of indigenous organizations. And this is something that we have already seen in the participatory mechanism of IPBES, although we may have a global mechanism, that global mechanism must necessarily be articulated to all the organic decision-making bodies that indigenous peoples have. (Government official 11, personal communication, May 13, 2020)

A crucial development in this direction has been the creation of national platforms that are similar to LCIPP. An early attempt to create a national platform emulating LCIPP was put forth by the Bolivian government at the same time as the operationalization of LCIPP was taking place. The Bolivian platform was thought of as a forum for indigenous peoples and campesino communities to fight climate change. Hence, the input from Bolivia to the operationalization of LCIPP was building on the national experience of constituting a platform. As the Bolivian government representative of the FWG put it, the Bolivian platform was a local or national “mirror” of the LCIPP (Government official 10, personal communication, November 30, 2019). In other words, the Bolivian platform was not precisely a spin-off of the global Platform in so far as its process of establishment was parallel to – or even ahead of – the operationalization of the LCIPP.



Another national platform that resembles the LCIPP was established in Peru, the *Plataforma de Pueblos Indígenas para enfrentar el Cambio Climático*. In contrast to the Bolivian platform, the process of establishment of the Peruvian platform began after the main steps towards the operationalization of LCIPP were concluded. The Peruvian platform is, in that sense, a spin-off of the LCIPP. The membership of the Peruvian platform consists of the seven national indigenous peoples organizations and government representatives from the ministries of environment and culture (Peru, 2020). Reconstructing the national contexts in which these spin-offs of the LCIPP came into being is beyond the scope of the present research. However, there is an important observation regarding the articulations between the global process and national trajectories. The Bolivian and Peruvian platforms show that these institutional innovations only happen on the basis of a wide state recognition of the collective rights and culturally specific ways of knowing of indigenous peoples and other groups.

#### 7.4 Global institutional change towards epistemic diversity

The establishment of the LCIPP under the UNFCCC marks a process of institutional change towards the diversification of knowledge-policy relations in global climate governance. As a *sui generis* institutional innovation, the LCIPP confronts us with the fundamental question of change in historical institutionalism. Here, I draw on practice theory to explain how institutional change was the outcome of a layering process involving practices of *translation* and *bricolage*. In specific, the analysis shows that the LCIPP and its Facilitative Working Group were the product of a design by bricolage, i.e. a recombination of disparate elements that were mainly taken from the biodiversity convention and the UNPFII, and translation i.e. reinterpretations of these elements to make them fit into the new institutional context.

The final institutional form of the LCIPP revolves around the FWG as a steering body that facilitates the implementation of the functions of the Platform. The design of the FWG combines a dual role of knowledge brokering and political representation. Knowledge brokering, on the one hand, is observable in the design of the FWG as an advisory or expert body providing technical input and, only secondarily, as an interface for indigenous and local knowledge holders. Political representation, on the other hand, forms a fundamental part of the membership of the FWG as it establishes equal representation for indigenous and state representatives. Beyond the FWG, there are other components and activities of the Platform that draw on participatory practices, most prominently multistakeholder dialogues, as well as

knowledge brokering practices, especially through the creation of a web-based portal that sets out to work as a “knowledge hub”.

There are, however, some loose ends and incongruences that result from the design of the LCIPP and its FWG. The membership of the FWG involves the thorny question of how to include local communities – who are not a constituency under the UNFCCC – in the current arrangement of equal representation for indigenous and state representatives. Another issue relating to membership is how to combine the political representation of indigenous leaders with the inclusion of knowledge holders in the activities of the LCIPP and the FWG. Interestingly enough, including scientific experts in the membership of the FWG was never considered as an option. As for the functions of the Platform, there is a tension between its role as an expert or advisory body, and its role as an interface for diverse knowledge holders and policymakers. These discussions connect to the issue of how the Platform could make a difference on the ground and avoid the remoteness of other global expert bodies.

The design and the initial work of the Platform has been about figuring out alternative ways to connect knowledge and policy in a manner that embodies epistemic diversity. In a way, the UNFCCC is an intricate landscape of science-policy interfaces. The LCIPP is an institutional innovation that produces heterarchies in this landscape by creating an interface for indigenous and local knowledge holders whose knowledge was hitherto not seen as valuable or policy-relevant in the climate field. The LCIPP incorporates an alternative approach and reconfigures knowledge-policy relations in so far as it combines the political representation of indigenous peoples with the knowledge brokering of indigenous knowledge holders. The dual role of the Platform might not fit into the image of science and politics as discrete spheres. However, as indigenous leaders point out, self-determination is a *sine qua non* for epistemic diversity and co-production. In a sense, knowledge self-determination is for indigenous peoples the equivalent of scientific autonomy.

As the Amazon and Arctic trajectories in the previous chapters show, the self-organization and mobilization of indigenous peoples along with scientific groups and other actors was of critical importance to reduce the blind spots of global climate research and policies that ignored the diversity of ways in which people on the ground value and know the climate and the natural milieu. The LCIPP, as the institutional embedding of epistemic diversity, could play a critical role in this process at a global scale. Ultimately, a transformative change of knowledge-policy relations in the field of global climate governance cannot happen merely by providing “expert” advice or technical input on indigenous issues. There is always a political struggle underlying

policy changes. The imperative of self-determination as a basis for epistemic diversity and co-production confirms that an interface between indigenous peoples and decision makers cannot separate knowledge brokering from political representation.

## 8 Conclusion

The empirical starting point of the present dissertation was the increasing recognition of other culturally specific ways of knowing, alongside scientific knowledge, in the field of global climate change governance. Climate change assessment reports, intergovernmental agreements and other official documents have come to recognize the increasing importance of other “knowledge systems” (traditional, local, or indigenous) for adaptation and mitigation. This is a striking development considering the centrality of science in the climate field. I conceive this as a process of diversification of the knowledge basis of global climate change governance. In the present dissertation, I have sought to account for this process by addressing the politics of *epistemic diversity* as a research problem. The guiding questions address the issue of why and how epistemic diversity gains visibility and recognition in a field of governance, as well as how these translate into changes in the discourses, practices and institutions that undergird the connection between diverse forms of knowledge and policy.

The theoretical starting point of the present research was the critique of the “diversity gap” in the study of epistemic authority in global or transnational political spheres. The diversity gap refers to analytical perspectives that focus on science-policy(-society) interactions and the unequal *distribution* of knowledge and expertise. The focus on the epistemic authority of scientific knowledge and expertise, as well as the emphasis on knowledge inequality, fails to account for the external plurality of science and the recognition of *epistemic diversity* in specific fields of governance. To address the diversity gap, the theoretical approach of the present research begins with the assertion that *epistemic authority* is always a political response to *epistemic diversity*. In the different chapters, I have sought to examine the mutual construction of authority and diversity through the *ordering* of epistemic diversity and the ensuing *reconfiguration* of knowledge-policy relations.

Against the backdrop of a historical narrative of global science and intergovernmental cooperation, the analysis sheds light on the less-known historical process of recognition of diverse categories of knowledge (holders) in the discourses, practices and institutions of global climate science and policy. I have sought to trace this large process through the juxtaposition of

three trajectories of change. The global trajectory, on the one hand, looks into the IPCC and the UNFCCC against the backdrop of the historical recognition of epistemic diversity in the broader field of environmental governance. The Arctic and Amazon trajectories, on the other hand, follow these developments by zooming in on the mobilization of indigenous peoples and the deployment of climate science and policy in specific socio-cultural contexts and local sites of governance.

This concluding chapter presents the main findings of the study by presenting theoretical contributions in light of the empirical analysis of trajectories of change. The first section (8.1) discusses how diversity comes about through the ordering process that underwrites the production of (official) categories of epistemic difference. The second section (8.2) discusses the reconfiguration of knowledge-policy relations through the production of heterarchies of epistemic diversity. The third section (8.3) concerns itself with the entanglements of trajectories and the interlinkages between sites of governance across global, regional, national and local scales. The fourth section (8.4) discusses the broader theoretical and methodological contributions of the present study. Lastly, the fifth section (8.5) presents avenues for future research building on the limitations of the current research.

## 8.1 Ordering and re-ordering epistemic diversity

The analytical approach starts with the *ordering* of epistemic diversity understood as the transformation of a “strange multiplicity” of claims to knowledge into official categories of epistemic difference. The study finds that the ordering of epistemic diversity was a fundamental process in the making of global environmental governance leading to knowledge diversification. This process is usually not taken into account in historical renderings that focus on the transnational organization of scientific and expert knowledge. The ordering process led to the recognition of official categories of epistemic difference, which came about through discursive practices that blurred the “boundaries of science”. Blurring the boundaries of science made it possible to see the intellectual activities of the Other not as ignorance, myth or superstition, but as culturally specific forms of knowledge that are, at once, akin to science (e.g. as empirical and experimental) and different from science (e.g. as practical, adaptive, inter-generational or experiential). The attributes of these “other” forms of knowledge and the attribution of these to “knowledge holders” are an underlying point of contention in the categorization of epistemic diversity.

The encounter with epistemic diversity gave way to a proliferation of categories of epistemic difference or what I call “knowledge with adjectives”. While the plurality of culturally specific ways of knowing is potentially inexhaustible, the ordering of epistemic diversity turns this incommensurable diversity into a few categories of epistemic difference. The most prominent among these are “traditional knowledge”, “indigenous knowledge” and “local knowledge”, as well as variations of these. These became official categories of climate governance – and environmental governance at large – as they were gradually included in the official language of organizations, including policy documents, scientific reports and legal provisions. The analysis of this process reveals that the ordering of epistemic diversity through the production of categories of knowledge goes hand in hand with the constitution and legitimation of authority in emerging or evolving fields of governance.

The ordering of epistemic diversity led to the recognition of diverse knowledge holders, especially indigenous peoples and local communities. The transnational organization and mobilization of indigenous peoples and other groups to (re)claim their own knowledge was a turning point in the global politics of epistemic diversity. In the early phases of global environmental governance, the intellectual and political discussions about the knowledge of “primitive” peoples, small peasants, rural communities, and other groups took place in the absence of these diverse peoples, that is, without the intervention of those who were thought to be the knowledge holders. The recognition of an official status as knowledge holders, which is originally found in the biodiversity convention from 1992, made it possible for indigenous peoples to stop being the passive receivers of knowledge attributions and start actively claiming their own knowledge. These claims would gradually enter the official discourse of global organizations and evoke categorization struggles involving the attributes and attribution of traditional or indigenous knowledge, especially in relation to its value in specific fields of governance.

In the climate field, epistemic diversity was initially invisible in so far as there was no consideration whatsoever of other ways of knowing in the UNFCCC and the IPCC until the turn of the millennium. I refer to this as “climate exceptionalism”, given that the invisibility of epistemic diversity in the climate field contrasts with its broad recognition in the wider fields of environment and development, especially since the Earth Summit from 1992. The study finds, however, that the end of climate exceptionalism led to a re-ordering of epistemic diversity in the climate field. Re-ordering, as conceived here, describes the process through which already existing categories of epistemic difference came to acquire climate-specific attributes as these became embedded in the climate field and its distinct configuration of science-policy

interactions. The IPCC, in specific, ushered in a new understanding of the attributes of traditional knowledge through a series of conceptual innovations that link it to the policy domain of adaptation, especially community-based adaptation. In the UNFCCC process, there is a concomitant recognition of traditional knowledge in COP decisions on adaptation and a gradual acknowledgement of its value in some areas of mitigation, most prominently within the framework of REDD+. Especially in the UNFCCC, the organization and mobilization of indigenous peoples was of pivotal importance for the recognition of epistemic diversity.

The re-ordering of epistemic diversity in the climate field, however, introduced an unequal recognition whereby adaptation became virtually the only policy domain where traditional knowledge is valuable. Moreover, the recognition of epistemic diversity is unequal also because its value for climate policy is left to the discretion of decision makers, given that official documents and decisions repeatedly introduce caveats and qualifications, such as “where appropriate” or “as appropriate”. The unequal recognition of traditional knowledge and cognate categories remains in the Paris Agreement despite the struggle of indigenous peoples to gain equal recognition in the policy domains of adaptation and mitigation, and to eliminate all the caveats or qualifications from the final decisions. The study finds, however, that the Paris Decision accompanying the Paris Agreement introduces a broader recognition of the knowledge of indigenous peoples and local communities, including both in the policy domains of adaptation and mitigation. In the Paris Decision, indigenous peoples and local communities gain full recognition as knowledge holders including a provision for the creation of a global platform within the UNFCCC revolving around indigenous and local knowledge.

All in all, the process of diversification of the knowledge basis of global climate change governance points to the (re)ordering of epistemic diversity through the transformation of a multiplicity of claims to knowledge into official categories of epistemic difference. These transformations appear as changes in the discourses, practices and institutions of climate governance. These changes, in turn, appear as the outcome of evolving scientific understandings, as well as political and social struggles. Analyzing different responses to epistemic diversity in a specific field of governance makes it possible to see how epistemic authority conceals the recognition or misrecognition of other culturally specific ways of knowing. The climate field constitutes a crucial case in this respect because it shows how epistemic diversity may move from invisibility to visibility and recognition in a field of governance where science is central.

## 8.2 Undone or incipient heterarchies: reconfiguring knowledge-policy relations

The engagement with epistemic diversity involves finding out ways to move beyond a restrictive understanding of science-policy interactions towards a pluralistic approach that includes diverse knowledge holders. In the analysis of trajectories of change, I have sought to focus on the practices and institutions that introduce “heterarchies”, i.e. criteria of epistemic diversity to guide judgements about what counts as valuable knowledge in specific areas of climate research and policy. The different chapters analyze the reconfiguration of climate research and policy through heterarchies by looking into practices of knowledge brokering, policy instruments, and institutional change. Whereas there is a movement towards a more heterarchical approach to climate research and policy by introducing criteria of epistemic diversity, there is at the same time a continuation of previous criteria about what counts as valuable knowledge, especially as usable or policy-relevant knowledge.

The Arctic trajectory reveals that, despite a broad recognition of epistemic diversity, the reconfiguration of knowledge-policy relations remains a challenge. The Sami people, in specific, continue to struggle against what they call “green colonialism”, which includes the fragmentation of reindeer herding lands through hydro- and wind-power infrastructure, as well as geoengineering experiments in traditional Sami lands. The development of policy instruments for community-based adaptation, in contrast, appears as a counterpoint where indigenous knowledge holders, scientific researchers and policymakers are working together to co-produce knowledge for policy. These experiences show how policy instruments for addressing the impacts of climate change can incorporate indigenous peoples as knowledge holder or experts in their own right. However, at the same time there is a continuation of previous criteria about what makes knowledge usable for policy that impede fundamental changes towards heterarchies of epistemic diversity. These continuations are apparent in the imperative to produce scientific data or to “digitalize” traditional knowledge to speak to policymakers and, by the same token, in the process whereby knowledge holders turn into experts of digital technologies.

In the Amazon trajectory, it is possible to see parallel developments in the reconfiguration of knowledge-policy relations. There is historically a broad recognition of epistemic diversity in the Amazon region, especially as part of biocultural diversity. Some Amazon countries, such as Ecuador, go even further to integrate the *Weltanschauung* (*cosmovisión*, in Spanish) of indigenous peoples in the constitutional order. Climate research on forests as carbon sinks and climate policies of forest-based mitigation were originally not integrating any criteria of



epistemic diversity. However, indigenous knowledge holders, scientific groups, advocacy groups and policymakers are working together to co-produce knowledge for policy. These endeavors include practices of knowledge brokering and policy instruments that incorporate criteria of epistemic diversity, including co-authorship of scientific papers with indigenous knowledge holders and community development plans for indigenous peoples. However, moving towards heterarchies of epistemic diversity remains a challenge. Amazonian indigenous peoples confront an imperative to produce hard facts on the carbon stocks of indigenous territories to speak about the value of “indigenous carbon” to decision-makers. Further, policy instruments rely largely on technical and expert knowledge, thereby failing to fully integrate alternative approaches on the basis of indigenous values for the stewardship of nature and to live in harmony with nature.

The global trajectory, in a related way, reveals how the criteria that guide judgements about who may legitimately contribute to the production of a global environmental report or a climate change assessment is increasingly incorporating epistemic diversity. An early example is the Brundtland report which held public hearings to include the voices of indigenous peoples and local communities. The IPCC is also gradually moving towards the admission of indigenous organizations as observers or contributors in the making of reports. Another area in which the emergence of heterarchies of epistemic diversity is clear is in the creation of institutional spaces or “interfaces” between indigenous or local knowledge holders and decision-makers. The Local Communities and Indigenous Peoples Platform under the UNFCCC is arguably the most important development in this direction. These reconfigurations in the climate field, however, are comparatively small and slow if one considers, for example, the field of biodiversity. These initiatives still require adequate political and financial support to continue developing and to bring about transformative change in climate research and policy.

The production of heterarchies through the introduction of criteria of epistemic diversity in existing configurations of science-policy interactions reveals that there is a tension between the drive towards consensual knowledge and participatory governance, on one side, and contentious knowledge and political conflict, on the other side. The former appears usually under the banner of co-production, whereas the latter appears as the continuation of socio-environmental conflicts. The aspiration of co-production is to produce better knowledge to improve decision-making by combining science with other diverse forms of knowledge. In the empirical cases, however, we see that the co-production of “hard facts” is something that fails to incorporate other languages of valuation where indigenous knowledge inheres. Self-determination is a case in point. Indigenous peoples claim that self-determination is an

imperative for indigenous ways of knowing to survive and thrive. In a sense, self-determination is for indigenous knowledge what autonomy is for science.

There is no self-determination without the political struggle of indigenous peoples; therefore, we see that in institutional spaces such as the LCIPP under the UNFCCC, indigenous peoples combine political representation with knowledge brokering as two inseparable dimensions of a same struggle. Indigenous knowledge holders cannot merely adopt a neutral approach by providing decision makers with hard facts or alternative policy options, leaving values and political struggles behind. The challenge of producing heterarchies, therefore, is to reconcile these alternative languages of valuation and underlying political struggles with an overarching order of science-policy relations. Perhaps, the profound transformations that science and society are undergoing in the face of the Anthropocene will bring scientific knowledge closer to other culturally specific ways of knowing (cf. Renn, 2020).

### 8.3 Entangled trajectories

The research design of the present dissertation was driven by the assumption that large processes of change in global or transnational spheres do not follow one single, linear trajectory. On this basis, I put forth a multi-site process tracing by juxtaposing trajectories that follow diverging or converging temporalities and patterns of change. The analytical purchase of a multi-site process tracing is that, first, it allows us to see the different ways and temporalities in which change happens and, second, it does not conceive of each trajectory as discrete wholes but rather it pays attention to the entanglements between these. The entanglements between the global trajectory and the Amazon and Arctic trajectories are sometimes implicit in the text, while other times these appear mainly in the form of cross-references. Here, I briefly discuss these to make these entanglements more apparent.

The entanglements between the Arctic and global trajectories are mainly observable in community-based adaptation and co-production. In the global trajectory, I trace these as conceptual innovations of the IPCC fifth assessment report of 2014. Through these conceptual innovations the IPCC was pointing to the value of epistemic diversity in climate research and policy. Before the IPCC, however, the ACIA report from the Arctic Council was already recognizing the importance of innovative bottom-up and trans-disciplinary approaches to adaptation policy and climate research in general. Likewise, the declarations of the Arctic Council reveal an early recognition of the importance of traditional knowledge for Arctic research and adaptation, thereby foreshadowing the discourse on co-production and the

recognition of epistemic diversity in adaptation under the UNFCCC. By zooming in on local sites of governance, it was possible to see how community-based adaptation works among Sami reindeer herding communities in Sweden. These policy instruments are part of Sweden's national adaptation strategy in line with the country's UNFCCC commitments and, at the same time, these appear as successful experiences of co-production in reports from the Arctic Council.

Viewed from the perspective of Arctic indigenous peoples, the interlinkages between polycentric sites of governance derive from their cross-scale mobilization in quest for epistemic diversity and alternative approaches to climate change governance. The Arctic Council appears as a transnational institutional space where the Sami people were able to acquire an identity as Arctic peoples and knowledge holders. The Saami Council is a Permanent Participant in the Arctic Council and it represents Sami people in the UNFCCC along with the Sami Parliaments. Through the Saami Council and the Sami Parliaments accompanying state delegations, Sami representatives took part in the negotiations for the creation of the LCIPP under the UNFCCC. The Sami people put forth the Arctic Council and the Sami Parliaments as models of indigenous representation and knowledge brokering for the design of the LCIPP. The Saami Council and Sami Parliaments, in turn, ensure the representation of Sami people as knowledge holders both in the LCIPP and the Arctic Council.

These entanglements are also visible in the Amazon and global trajectories. In Amazonia, the awareness about the value of the knowledge of indigenous peoples appears initially in the discussions about biocultural diversity. Biological diversity and traditional knowledge were already a priority of Amazon countries for the 1992 Earth Summit and an important input for the biodiversity convention. In global climate negotiations, REDD+ was a priority of many Amazon countries and it became a pivotal point in the mobilization of Amazonian indigenous peoples. The mobilization of indigenous peoples through the indigenous caucus under the UNFCCC was of critical importance to revise the REDD+ initiative, in particular to include co-benefits (including biological and cultural benefits) and safeguards (especially for indigenous peoples and other forest-dependent communities). In UNFCCC decisions, safeguards include the respect for the knowledge of indigenous peoples and local communities. REDD+ countries, such as Ecuador, would adopt a participatory approach in line with these safeguards by the establishment of REDD+ roundtables and other policy instruments. The roundtables, in turn, became a key institutional space for Amazonian indigenous peoples to advance their transnational campaign for an indigenous alternative to REDD+ in Ecuador.

Viewed from the perspective of Amazonian indigenous peoples, the interlinkages between polycentric sites of governance derive from their cross-scale mobilization in quest for epistemic diversity and alternative approaches to climate change governance. The creation of COICA was crucial in forging an identity of Amazonian indigenous peoples as knowledge holders, especially as stewards of the Amazon rainforest. Globally COICA leaders were actively mobilizing with the indigenous caucus to change the original REDD+ initiative. In the Amazon region, COICA leaders would develop a transnational campaign with an alternative approach to REDD+ and advocate for it in national REDD+ roundtables. These COICA leaders would further actively participate in the negotiations for the creation of LCIPP under the UNFCCC and become members of the Facilitative Working Group of the LCIPP. In Ecuador, COICA leaders are currently pursuing the creation of a national or subnational platform using LCIPP as a model (Indigenous representative 6, personal communication, February 19, 2019).

The making of the LCIPP, in and of itself, reflects the entanglements between trajectories. While the initial proposal from the indigenous caucus under the UNFCCC was to replicate the working group on Article 8(j) of the biodiversity convention, the idea of creating a “knowledge platform” came from the Bolivian alternative summits in the run-up to COP21. However, once the design of the Platform came into question, indigenous peoples and governments were pointing to the Arctic Council, the Sami Parliaments, the IPCC, the UNPFII and other UN bodies as models. The establishment of the Facilitative Working Group as a steering body of the LCIPP draws on practices and institutions of some of these other bodies where epistemic diversity was central. The LCIPP, in turn, is becoming a model for the development of regional and national platforms for indigenous peoples and local communities. The clearest examples are the Bolivian and the Peruvian platforms, which seek to replicate the LCIPP at the national level. The LCIPP is thus traveling across scales and sites of governance.

#### 8.4 Theoretical and methodological contributions

The research problem that epistemic diversity poses lies at the intersection between research on *epistemic authority* and research on *cultural diversity* in the fields of International Relations and global governance studies (Reus-Smit, 2017; Zürn, 2018b). In a more general way, the present study contributes to the inter-disciplinary field of research that concerns itself with science-policy interactions and science-policy-society interactions, such as science and technology studies or the sociology of knowledge. A fundamental contribution of the present study is to revise these approaches in light of epistemic diversity understood as a core dimension

of knowledge-based authority. The focus on the diversity dimension is all the more important given that it receives none or scant attention in prevalent theoretical approaches whose analytical point of departure are scientific or expert actors (e.g. Haas, 1992) or types of authority that originate in scientific or expert knowledge (e.g. Avant et al., 2010a).

In studying *epistemic authority* as a response to *epistemic diversity*, the present dissertation sheds light on the transformation of claims to knowledge into official categories of epistemic difference. Thus, the present research contributes to a broader understanding of the constitution and legitimation of authority and knowledge in specific fields of governance (see, e.g., Avant et al., 2010a; Barnett & Duvall, 2005; Barnett & Finnemore, 2004; Quack, 2016a; Sending, 2015; Voß & Freeman, 2016; Zürn, 2018b). A critical point, in this respect, is that epistemic authority conceals the recognition or misrecognition of other culturally specific ways of knowing. These insights contribute and extend the research on the “boundaries of science” (Gieryn, 1995, 1999) to encompass epistemic diversity. The study of epistemic diversity, thus, contributes to broadening our understanding of epistemic authority and the underlying configurations of knowledge-policy interactions.

Another key contribution of the present study is that the diversification of knowledge in a field of governance is amenable to produce or sustain “heterarchies” of epistemic diversity, which refer to multiplicity or plurality of criteria to guide judgements about what counts as valuable knowledge. The analysis shows that epistemic authority in the climate field is gradually becoming more heterarchical by incorporating indigenous and local knowledge (holders). The concept of heterarchy thus advances an understanding of epistemic authority that is different from the logic of a zero-sum game, where one group gains authority relative to the losses of another group, or a competition for authority between different scientific or expert groups to gain control over a field of research or policy. Instead, the concept of heterarchy contributes to understanding how the recognition of diversity changes relations of epistemic authority – and the underlying configurations of knowledge-policy relations – by diversifying the criteria that guides judgements about what counts as valuable knowledge in a field of governance.

Whereas prevalent research on science-policy relations emphasizes “usable knowledge” or “policy-relevant knowledge” (see, e.g., Haas & Stevens, 2011; Lidskog & Sundqvist, 2014; Tuinstra et al., 2019), this study sheds light on how epistemic diversity can potentially introduce other languages of valuation that, beyond instrumental or utilitarian approaches, include other social or cultural values in which knowledge inheres. In the climate field and in the wider environmental field, these include values of living in harmony with nature or values for the

stewardship of nature. Thus, the study of actual or potential heterarchies of epistemic diversity is also a promising line of inquiry to analyze how scientists and other diverse knowledge holders come together to produce knowledge in a field of governance. The diversity of forms of knowledge and the underlying languages of valuation, however, also point to the difficulties of reconciling diverging criteria of what makes knowledge valuable in existing configurations of science-policy relations.

The present research also makes specific contributions through the empirical analysis of cross-scale mobilization of indigenous peoples along with scientific and advocacy groups. The mobilization of Arctic and Amazonian indigenous peoples shows how a diversity of actors advancing different forms of knowledge can come together to bring about change in a field of governance. These insights contribute to the research on transnational advocacy networks (Keck & Sikkink, 1998; Khagram et al., 2002) and transnational social movements (Porta & Tarrow, 2005; Tarrow, 2005). These insights also advance a broader understanding of knowledge brokering that encompasses extra-institutional forms of mobilization by indigenous or other knowledge holders (cf. Litfin, 1994, 1995; Turnhout et al., 2013). Another specific contribution relates to institutional change in global organizations. The case of LCIPP under the UNFCCC contributes to the analysis of institutional innovations, especially by broadening the study of science-policy interfaces to incorporate diverse knowledge holders. These insights speak to the literature on science-policy interfaces or “boundary organizations” in global governance, which focuses on scientific and political actors (see, e.g., Gustafsson & Lidskog, 2018; Guston, 2001b; Haas, 2017; Miller, 2001b).

The underlying approach of the present research also makes methodological contributions by incorporating insights from multi-sited ethnography into process tracing methods. The specific approach that I advance here is a multi-site process tracing. The research design consists in juxtaposing trajectories that contribute to understanding the different temporalities and patterns of change in a large process. The approach thus contributes to the analysis of political processes (Tilly, 2008) that occur in polycentric landscapes of governance. By juxtaposing an overarching global trajectory to the Arctic and Amazon trajectories, the present research points to sometimes converging and sometimes diverging patterns and temporalities of change, that is, to the entanglements of these trajectories. By the same token, the multi-site approach sheds light on the connections between sites of governance across global, regional, national and local scales. Last but not least, the multi-site process tracing approach could contribute to addressing the dilemma of the *Gleichzeitigkeit des Ungleichzeitigen* in process tracing research (cf. Mayntz, 2020).

## 8.5 Avenues for future research

The focus of the present study is on epistemic diversity through the experience of indigenous peoples as the main knowledge holders mobilizing and making claims to knowledge in the field of climate governance and in the wider field of environmental governance. There are, however, important limitations in analyzing epistemic diversity only through the experience of indigenous peoples because of the specificity of indigenous politics which is not automatically generalizable to other local communities. A future avenue of research, therefore, could be to study epistemic diversity through the experiences of local communities both in the Global North and in the Global South who, despite lacking representation in global organizations of climate science and policy, are nonetheless facing climate impacts and mobilizing to address the climate and ecological crises.

Another avenue of research could be to conduct more systematic comparisons of the ordering of epistemic diversity in different fields of governance. An advantage of such an approach would be to analyze how the specificities of a field of governance enable or constrain the recognition of epistemic diversity. Likewise, a systematic comparison would potentially throw light on the multiple practices and institutions that are being put in place to incorporate criteria of epistemic diversity in governance processes. Another option for a comparative approach would be to look into different national approaches to epistemic diversity, either in one regional context leading to diverging outcomes or in various regional contexts leading to similar outcomes.

Yet another line of inquiry for future research would be to include the study of epistemic diversity in the analysis of “just transitions” towards low-carbon development. The recognition of epistemic diversity appears as a matter of justice in the claims of the climate justice movement. An important dimension of just transitions, therefore, relates to the recognition of diverse knowledge holders. An analysis of the recognition of epistemic diversity in just transitions would complement the study of distributional effects of climate policies which lies at the heart of the concept of just transition.

A broader agenda for future research could be to analyze democratic transformations in conjunction with the transformation of knowledge itself in the age of the Anthropocene (Renn, 2020). Specifically, a potential line of inquiry could be to analyze how epistemic diversity underpins different democratic cultures in an age of profound technological transformations as well as climate and ecological crises. This would be a way to further explore the tensions between consensual knowledge and participatory governance, on one side, and contentious knowledge and enduring socio-environmental conflicts, on the other side.

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