

Geographies of Inequalities

Indigenous Knowledge



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Table Of Contents

01

Foreword

Pia Bäcklund & Vivi Niemenmaa

02

Law-based Regulation in Using and Recognizing Indigenous Knowledge in Governmental Practices: Comparative Case Study of Canada and Finland

Liisa Ahokas, Erwann Berny, Jonni Heikkilä, Ilona Manninen & Tristana Schmiedel

03

Governing Climate Policy in Relation to the Role of Indigenous Knowledge: Comparative Case Study of Canada and Finland

Siina Klar, Katariina Kuusikero, Ronja Wagner & Anders Haugskott

04

Law-based Regulation in Using and Recognizing Indigenous Knowledge in Land Use Rights and Government Bureaucracy: Comparative Case Study of Australia and New Zealand

Alex Naumanen, Elmeri Anttalainen, Gangotri Chattopadhyay, Helmi Savolainen & Lotta Puodinketo

05

Governing Climate Policy in Relation to the Role of Indigenous Knowledge: Comparative Case Study of Australia and New Zealand

Dishni Akaratiya Gamage, Haikku Arosuo, Vilma Kaukavuori, Santeri Ruonavaara & Veeti Sihvola

06

Rising Waters: Indigenous Flood Management Experiences and Solutions in Canada, Nigeria and Bangladesh

Antti Paakkari, Arpa Aishwarya, Elena El Founti & Sampo Muinonen

Foreword

Pia Bäcklund & Vivi Niemenmaa

For the fifth time, the University of Helsinki's Department of Geosciences and Geography, in collaboration with the INTOSAI Working Group on Environmental Auditing (WGEA), organised a course on Geographies of Inequalities. For the University of Helsinki, collaboration with an international organisation consisting of a network of eighty-six countries' external audit organizations, provides an outstanding opportunity to practice its third core duty, community relations. The collaboration presents one way of how the University interacts with surrounding society reaching global networks.

For the INTOSAI WGEA and the National Audit Office of Finland, which currently chairs the WGEA, the course offers a terrific opportunity to gain new perspectives on topics we work with. This time, following one of the INTOSAI WGEA focus areas in 2024, we adopted Indigenous knowledge as the main topic of the course. Consequently, this publication supplements the final report from the 22nd INTOSAI WGEA Assembly.

Besides collaborating with a global network, the course is international also in another way. The participants of this course always include exchange students. This provides an opportunity to share experiences from around the world also concerning the assignments students conduct during the course.

This publication includes the short reports from the assignments of five groups. In addition to writing a report, each of the groups produced an infographic summarizing the results of their work. Visual communication tools, such as infographics, are currently trending in communication. Thus, on the one hand, they conveyed a message from the world of practice to the world of Academia. On the other hand, visualisations are connected to the tradition of cartographic presentation, the core competence of geographers.

As in previous years, students presented their group assignments in a final seminar, where we invited the representatives of Supreme Audit Institutions of Canada, Finland, and New Zealand, as well as the Audit Office of New South Wales in Australia. Students always highly value the opportunity to present their work to real-world experts. We warmly thank seminar participants, the course assistant Vivi Tarkka, as well as the students. As always, we learned a good deal from you!

15 March 2024 in Helsinki

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Law-based Regulation in Using and Recognizing Indigenous Knowledge in Governmental Practices: Comparative Case Study of Canada and Finland

Liisa Ahokas, Erwann Berny, Jonni Heikkilä, Ilona Manninen & Tristana Schmiedel

Introduction

This paper is part of the final project of the course “Geographies of Inequalities” at the University of Helsinki during the 2024 spring period. In this paper, we are conducting a comparative case study between the legal framework of Canada and Finland regarding Indigenous knowledge and language preservation. The study focuses especially on how Indigenous languages are recognized and used in governmental practices since language is one of the key factors ensuring the generational continuum of Indigenous knowledge within and outside of Indigenous communities (Chiblow & Meighan, 2021). Moreover, researching how Indigenous languages are utilized and recognized in formal governmental practices can reveal how Indigenous people's rights are practiced in the legal framework, and to what extent Indigenous people's ability to self-identify and practice in the regulation and recognition of Indigenous knowledge is ensured.

Our approach

Our study strives to answer two key research questions: 1) How do the cultural and linguistic rights of Indigenous people manifest in the legal systems of Canada and Finland? 2) How is Indigenous knowledge recognized in formal government practices? To get a comprehensive understanding of the current state of Indigenous people's linguistic rights in Canada and Finland, we have gathered data from government documents, and research articles and applied the knowledge we have learned during the course from lecturers and experts.

In Finland, there are 3 groups of Indigenous peoples (Inarinsaamelaiset, Kolttaasaamelaiset, and Pohjoissaamelaiset) constituting approximately 0.2% of the total population and speaking 3 Indigenous languages. For Canada, the Canadian constitution recognizes 3 groups of Indigenous peoples (First Nations People, Métis, and Inuit) constituting 5% of the total population and speaking over 70 indigenous languages. When comparing Canada and Finland, we must keep in mind that these two countries are difficult to compare on a comprehensive scale due to differences in history, legal systems, population size, and the number and diversity of Indigenous peoples as well as languages. Thus, there is no feasible way of comparison, although both countries are in similar climates, handling similar environmental issues. In the study, we strive to do our best to find the similarities and differences between Canada and Finland when it comes to Indigenous governance and linguistic rights.

Indigenous language and cultural rights in Canada

Language protection in Canada

The history of Canada reveals a dualistic landscape made up of Aboriginal societies and European colonizers. Canadian law does not acknowledge self-determination rights for linguistic minorities, leaving them without provisions for norm-setting political bodies or membership regulation.

Language policies have historically been aimed to unify the people around a single language, which often led to pressure on minorities to assimilate it. Modern Canadian bilingualism takes account of powerful linguistic minorities to maintain national stability. Nevertheless, it only gives priority to English and French in political decision-making. As English increasingly became dominant in French-speaking areas, significant improvements were recommended by the Royal Commission in the 1960s. In the early 1970s, the government strengthened the use of the French language through the Official Languages Act. Though, English is the preferred language in many provincial jurisdictions, including Quebec. The Yukon, Northwest Territories, and Nunavut are all covered by federal legislation on language policy. The NWT and Nunavut officially recognize Indigenous languages, reflecting demographics and political choices; the Yukon strengthens French language rights and recognizes Indigenous languages - but does not give them official status. All in all, a lot of effort is put into the protection of the French. Though it is not an Indigenous language, so what protection measures are being implemented relating to them?

Constitutionally, First Nations, Métis, and Inuit are recognized under section 35, encompassing aboriginal and treaty rights (Government of Canada, 1982). Treaty rights cover agreements such as land claims, ensuring gender equality. However, the Constitution lacks a clear definition of "Indigenous rights," leading to ongoing discussions and legal proceedings to clarify the nature and extent of Indigenous jurisdiction over their lands and resources, including the right to self-determination. Concerns arise from the Constitution's omission of explicit recognition and protection for Indigenous languages and knowledge, essential components of their cultures and identities (Grammond, 2009).

The Northwest Territories recognizes 11 languages (French and English, combined with 9 Aboriginal languages), making it the most linguistically inclusive jurisdiction in Canada. Yet the switch to English is not being prevented, so it is more of a symbolic measure. The Aboriginal population still represents a small percentage of the NWT population, which poses significant practical challenges to effectively implementing official languages. Given that the population of Nunavut is predominantly Inuit, the linguistic inclusion agenda is more promising, as it focuses on the development of a single Indigenous language (Inuktitut) divided into two dialects. In addition, the legacy of Inuktitut is stronger than in the NWT, creating a more suitable environment for development initiatives, such as the incentive policy for the use of the Inuit language. However, Nunavut is experiencing a recruitment and retention problem for qualified Aboriginal staff to implement the Inuit language in its public education and administrative sector, due to limited funding, in addition to accessibility to be fully inclusive.

In 2020, Smylie et al. proposed a new framework for the inclusion of First Nations, Inuit, Métis, and Aboriginal peoples in academic research. The proposal requires that any scientific project dealing with FNIM issues must answer three questions during the submission process:

1. Are FNIMA central to this submission?
2. Has FINMA been involved in the study or preparation of this submission?
3. If so, how were they involved individually and collectively?

It also highlights their under-representation and proposes submission criteria for studies concerning them. Lastly, it clarifies the terms 'Aboriginal', 'First Nations', 'Métis', and 'Inuit' in Canada, while noting the lack of use of Aboriginal languages in Canadian policy.

Progress

Efforts to preserve these languages include the UN Declaration on the Rights of Indigenous Peoples Act (UNDRIP), initially voted against by the Government of Canada in 2007 and implemented in 2021. The act aims to address injustices, discrimination, racism, and violence against Indigenous people (Government of Canada, Department of Justice, Electronic Communications, 2021). UNDRIP also safeguards Indigenous children's right to language-based education (Article 14, Section 3). The Indigenous Early Learning and Childcare (ELCC) Framework, established in 2018, underscores the importance of language-based education, aligning with UNDRIP's protective measures (Boulanger, 2018). Additionally, the Indigenous Languages Act, enacted in 2019, ensures the recognition and implementation of Indigenous language rights (Government of Canada, Legislative Services Branch, 2019).

Challenges

While progress is evident, challenges persist, including the endangerment of 75% of Canada's Indigenous languages due to historical assimilatory policies like the Indian Act (1878) and residential schools, perpetuating a stigma around speaking Indigenous languages (Boulanger, 2018). Such historical trauma impacts trust in the government today (Mishna et al., 2021). The lack of recognition of basic Indigenous rights, such as self-determination, economic development, land and resource management, and nationality, coupled with political restrictions limiting access to education in Indigenous languages, is considered a violation of UNDRIP (GRAMMOND, 2009). In the broader context of Indigenous reconciliation in education, addressing challenges like regional funding inequalities and implementing measures such as language nests for immersive childcare, free language programs, and increased publicly funded childcare spaces is crucial for revitalizing Indigenous languages (Boulanger, 2018). Administrative challenges may arise in representing 70 languages at the federal level (Government of Canada, 2022).

Indigenous language and cultural rights in Finland

Why study the recognition of indigenous people from a language perspective?

According to the definition of the Sámi Parliament, a Sámi is defined as a person who considers themselves as Sámi and if they or at least one of their grandparents has learned

Sámi as their first language (Arola, 2021). When language skills are the defining factor of “Sáminess”, the question arises of how to promote the preservation and development of language skills at the state level, through for example providing education. Moreover, the preservation of endangered languages can be seen as an act of protecting Indigenous culture and knowledge (UNESCO 2010).

Two-thirds of the estimated 10,000 Sámi live outside the Sámi homeland region. According to reports, the implementation of the language law deteriorates as the distance from the home region increases, implying spatial inequalities in the implementation of the Sámi language Act (Arola, 2021).

Sámi rights and knowledge in Finland's constitution

In Finland, the assurance of Sámi people's cultural and linguistic rights is upheld through self-governance, overseen by the Sámi Parliament, which wields authority in the Sámi homeland as mandated by the Constitution (Constitution of Finland, 1999/731). The Sámi Language Act, established in 2004, serves the purpose of preserving and fostering the Sámi people's entitlement to preserve their language and culture, as mandated in the Constitution (Sámi Language Act, 2003/1086). The Language Act is followed by the authorities of the municipalities of Enontekiö, Inari, Sodankylä, and Utsjoki, as well as the authorities of the joint municipal authorities in which one of these municipalities is a member, the authorities of the Lapland Welfare Area, and the authorities of the joint welfare groups in which the Lapland Welfare Area is a member of. The Sámi Language Office, together with the Sámi Language Council submits a report to the Sámi Parliament on the application of legislation concerning the Sámi language, as well as on the realization of the Sámi linguistic rights and the development of language conditions, as further specified by Government decree. The Government Report on the Application of Language Legislation is provided for in the Language Act. Each authority in its own field monitors compliance with this law. The Sámi Parliament monitors the application of this Act and can make recommendations on issues related to language legislation and take initiatives to correct any shortcomings it finds. The linguistic rights of the Sámi are also regulated separately in other legal articles, e.g. the right to education in Sámi. Indigenous knowledge or indigenous ways of knowing are not recognized by law.

Realization of the Constitution and the Sámi Language Act

On the global scale, Moyers (2005) suggests that Finland is very progressive in terms of contributing to the preservation of Indigenous languages and argues, that “*the Sami*

Language Act goes beyond protecting an individual's language rights to promoting those of the entire group of speakers. 115 The key is not simply that persons in Finland can speak Sami or that they have that right, but rather that the legislation encourages them to speak their language in different settings...". However, the Sámi parliament has criticized Finland for not ratifying the ILO Convention No. 169, which is the major binding international convention concerning Indigenous peoples and tribal peoples, and a forerunner of the Declaration on the Rights of Indigenous Peoples.

In principle, the Sámi Language Act ensures the preservation of the language, but the reports show not only an indifferent attitude but also a lack of compliance with the law in the public administration sectors (Niska, 2017). The most recent survey about the implementation of the Language Act reflects its' inadequate implementation in the public sector. Results revealed that employees lacking Sámi language skills were generally uninformed about the Sámi Language Act or felt unaffected by it, while proficient individuals expressed dissatisfaction with its implementation. Challenges included maintaining language readiness, lack of employer guidance, and minimal standards of law implementation. Suggestions included improved language education opportunities during work hours and enhanced motivation for law enforcement.

The lack of adequate Sámi teachers and the difficulty of pursuing a master's degree in Sámi languages are seen as a threat to Sámi languages (Arola, 2020; Elstad 2023). Without qualified Sámi language teachers, school and kindergarten services cannot be arranged in Sámi. Challenges persist in securing adequate Sámi language education and preserving linguistic heritage, especially in ensuring effective communication and education in culturally appropriate contexts. The Report on the availability and training paths of Sámi teaching and early childhood education staff (Arola, 2020) gives suggestions on how to improve the state of Sámi languages in education. Suggestions include, for example, concrete support for the learning and obtaining of language skills of staff. Already the municipalities in Sámi homeland region offer a bonus for Sámi speaking staff, but the opportunities for further language education of existing staff need to be improved. In addition to the Sámi Language Act, Jahr (1996) points out that continuing traditional Sámi activities, such as reindeer herding, are vital for preserving Sámi languages.

While efforts have been made to revitalize Sámi languages, including language nests (child-care services in Sámi), expanded educational offerings, the sustained revitalization of Sámi languages necessitates further measures, including enhanced language education,

increased cultural support, and active promotion of Sámi language use across various sectors, Sámi languages remain endangered (Arola, 2020).

Conclusions

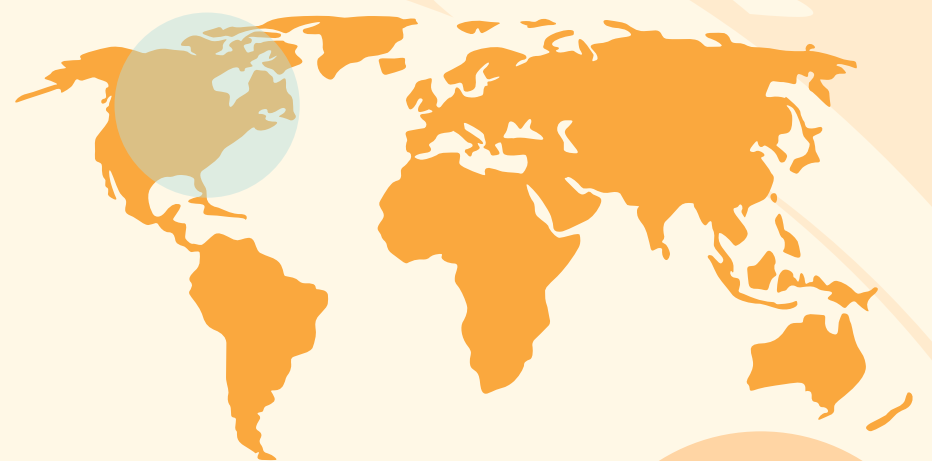
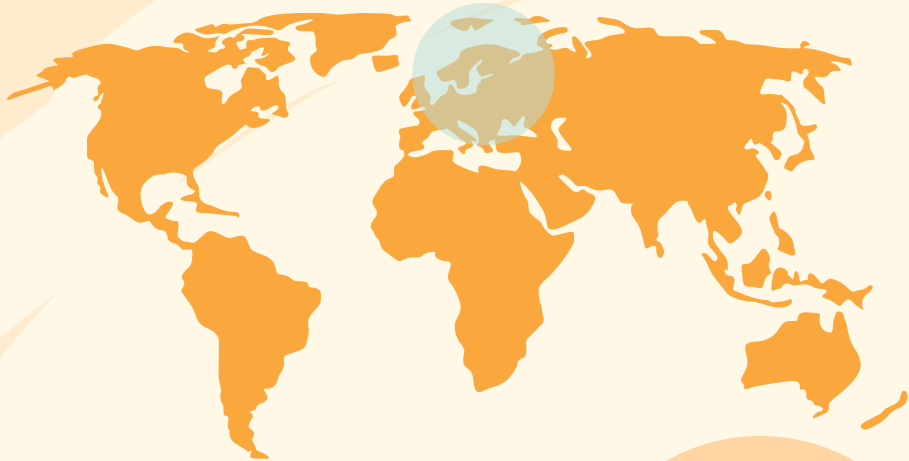
In conclusion, linguistic hierarchies in Canada and Finland suppress multilingual diversity and mirror the socio-political and economic disparities faced by Indigenous peoples. They contribute to systemic inequalities that violate human rights and can lead to loss of culture and identity.

INDIGENOUS KNOWLEDGE AND LANGUAGE PRESERVATION:

FINLAND

&

CANADA



INARINSAAMELAISET
KOLTASAAMELAISET
POHJOISSAAMELAISET

0.2%



NUMBER OF INDIGENOUS LANGUAGES:

3

RECOGNITION BY CONSTITUTION



The Sámi parliament has cultural and linguistic autonomy in Sámi homeland region that is recognized by the Constitution

FIRST NATIONS PEOPLE
MÉTIS
INUIT

5%



NUMBER OF INDIGENOUS LANGUAGES:

70

RECOGNITION BY CONSTITUTION



Section 35 of the Constitution Act (1982) affirms Indigenous rights, including treaties and land claims

METHODS OF LANGUAGE PRESERVATION

Sámi Language Act est. 2004

PROGRESS

Number of people reporting Sámi as their first language has grown, however this can be due to a number of factors.

CHALLENGES

Laws do not use or recognize the term Indigenous Knowledge.

Internal contradictions in Sami parliament about the definition of Sami people

Unwillingness due to lack of awareness and resources to implement the Language Act

METHODS OF LANGUAGE PRESERVATION

Indigenous Languages Act (2019)

UN Declaration on the Rights of Indigenous Peoples Act (2007)

PROGRESS

237,420 individuals speak an Indigenous language

Certain provinces recognize Indigenous languages through legislation.

CHALLENGES

Policy Limitations

Administrative Challenges

Language Endangerment

Historical trauma leads to trust problems in Canadian government

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Governing Climate Policy in Relation to the Role of Indigenous Knowledge: Comparative Case Study of Canada and Finland

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Introduction

The following analysis examines the integration of Indigenous knowledge in climate laws and policies in Canada and Finland. Conducted within the “Geographies of Inequalities” course at the University of Helsinki, our study reviews laws, strategies and implementation plans in Canada and Finland to identify any explicit references to Indigenous perspectives and Indigenous knowledge in climate governance. We begin by examining the Canadian case, followed by the Finnish case and conclude with a comparative analysis and our key findings, offering insights for more inclusive and effective climate governance. In the United Nations, Sámi and Inuit represent *Indigenous Peoples in the Arctic*, one of the seven Indigenous regions recognized by the UN (Saami Council, 2023). The Canadian Constitution acknowledges three distinct groups of Indigenous Peoples: First Nations, Inuit, and Métis. Each of these groups possesses unique histories, languages, cultural traditions, and spiritual beliefs. As of the 2021 Census, over 1.8 million individuals in Canada self-identify as Indigenous, comprising approximately 5% of the country's total population (Government of Canada, 2024a).

There are around 10 000 Indigenous People in Finland, all belonging to one distinct group, the Finnish Sámi peoples. The rights of the Finnish Sámi were amended as constitutional rights in 1995, and the roots of the group are connected to the Sámi Homeland, located in the norther regions of Finland. The Sámi have inhabited the Arctic region for centuries, developing a deep connection to the land and its ecosystems. Due to this connection, the Sámi people have a deep connection to the natural environment, and possess significant Indigenous knowledge regarding climate patterns, biodiversity, and sustainable resource management. As Finland, alongside other countries, attempts to navigate the complexities

of various climate change related challenges, the inclusion of Sámi voices in decision-making processes should be understood as a crucial aspect of holistic and effective climate legislation and policymaking.

Case study: Canada

In 2007 Canada was one of four countries voting against the UN declaration on the Rights of Indigenous Peoples (UNDRIP), claiming the provisions for several important topics were unclear such as land use policies and resources (Fraser-Kruck, 2009, p. 9). Since then, the country has turned around and voted in favor of it in 2016, and the Trudeau government has tried strengthening their relationship with Indigenous Peoples with nations-to-nations, Inuit-crown, and government-to-government relations (Reed et al., 2021, p. 6). However, a lot of these terms are vague and not clearly defined (Clark, u. d.).

Several climate plans and targets have been established in Canada. The first national climate plan, with a target of 30% reduction of emissions below 2005-level by 2030, was the Pan-Canadian Framework (PCF) on Clean Growth and Climate Change (Reed et al., 2021, p. 3). The PCF was followed by A Healthy Environment and a Healthy Economy, a strengthened climate plan. In 2020, Canada's first National Adaptation Strategy was developed, and Canada's 2030 Emissions Reduction Plan (ERP) was added in 2022 (Government of Canada, 2024b).

The PCF has been under critique for violating the Indigenous' "rights to self-determination and to free, prior and informed consent" as they were not included in the policymaking for this plan (Reed et al., 2021, p. 3). A trend is that Indigenous Peoples are seen as stakeholders and only consulted afterwards (Ibid., p. 6.). Reed claims Indigenous rights are acknowledged rather than integrated. Indigenous knowledge plays an important role, however, it is only superficially considered and tried to fit in within existing hierarchical and colonial structures (Ibid., p. 8). Indigenous knowledge needs more prioritizing as well, Indigenous Peoples stated as a critique of the PCF (Ibid., p. 3). Despite greater acknowledgement of Indigenous Peoples, commitments for both the climate and for Indigenous Peoples are not being met and Canada is yet to make their climate targets and policies related to Indigenous rights (Reed et al., 2022, p. 516).

The following Emission Reduction Plan incorporates the input of Indigenous Peoples and the plan acknowledges Indigenous rights and commits to the UNDRIP. The plan also refers to Indigenous knowledge systems as “cornerstones of Canadian climate policy” (Government of Canada, 2022). A whole chapter is designated to Indigenous partnership in the ERP, stressing the needs for changes and collaboration. It is repeatedly stated that Indigenous Peoples’ leadership is fundamental to Canada’s climate goals. In 2016 three Tables on Clean Growth and Climate Change were established between the Prime Minister of Canada and the national leaders of the Assembly of First Nations, Inuit and Métis to establish a partnership where Indigenous Peoples can raise their climate priorities and their climate action plans. In addition, Canada has provided 1.3 billion dollars since 2020 to support Indigenous communities towards climate transition. The plans also include greater involvement of the Indigenous Peoples in terms of own-led projects and direct discussions related to land-use approaches (Government of Canada, 2022). However, Indigenous Peoples have criticized that the time to contribute to the 2030 ERP was insufficient. In addition, the Indigenous Peoples stressed the urgency of protecting their territories, languages, traditions and knowledge systems (Environment and Climate Change Canada, 2023).

What is also important in the case of Canada is the diversity of Indigenous Peoples within Canada. Especially urban Indigenous Peoples comprise 60% who are not living within their communities (Reed et al. 2021, p.9), which therefore arises challenges as different Indigenous knowledge systems and perspectives meet. Challenges especially emerge when Indigenous-specific priorities originate from a different ontological and epistemological view (Reed et al., 2022, p. 526). Indigenous Peoples have therefore demanded a framework for the combination of mainstream and Indigenous knowledge systems (Government of Canada, 2022).

As it stands, Canada is moving towards increased partnerships with the Indigenous Peoples and integrating Indigenous knowledge systems and Indigenous climate leadership. However, it remains ambiguous whether the steps between words and action are truly fulfilled, as Indigenous Peoples have repeatedly claimed, they are not entirely included in the processes of the climate plans. The same concerns that stalled the adoption of the UNDRIP in 2007 persist in discussions around partnerships between the official governments and Indigenous Peoples.

Case study: Finland

The Sámi people are Europe's northernmost Indigenous people. As climate in the north of Finland continues to heat up faster than the rest of the country, the Sámi will be faced with the impacts of climate change sooner than the rest of the country. There are already effects on the Sámi populations, for example, in traditional Sámi reindeer husbandry, as snow arrives later which impacts the main source of reindeer, lichen, causing there to be a lack of nourishment and difficulties in nutrient supply which weaken the reindeer and may cause financial losses to those Sámi who herd reindeer (Kaczmarek, 2021). Additionally, climate change impacts hunting and picking berries, as sudden changes in weather conditions endanger, for example, the berry crop. Moreover, changes in weather conditions have already impacted the ways in which traditional experiences and knowledge can be used; as weather conditions can change suddenly and be more unstable, traditional signs can no longer be used to predict weather cycles, et cetera (Kaczmarek, 2021).

As an EU member state, the climate and energy related targets are in line with those of the EU, and Finland implements the related EU-level legislation. Moreover, EU legislation is an integral part of the Finnish national legislation, also in the climate change and energy policy area. It can be stated that the EU legislation acts as the starting point to the more narrowed, nation-level Finnish implementation. On a UN level, there are actors such as the LCIPP, the local communities and Indigenous people's platform, which was established after the 2015 UN climate conference in Paris, known for the Paris agreement. This organ focuses on recentring Indigenous people, respecting their rights, and enhancing participation in climate change policy. On this level too, Finland shares the goals of this as an EU member state.

The climate law of Finland is based on the new Climate Act, that entered into force in July of 2022, and it lays down the new emission reduction targets for 2030 and updates the reduction target for 2050. Alongside other key elements and targets, the Act lays down provisions for two different independent expert bodies, the Finnish Climate Change Panel, and the Sámi Climate Council. Additionally, the act states that the rights of the Sámi people and climate justice are "taken into account" (Ministry of the Environment, 2022a). As discussed in Section 2 of the Climate Act, one of the principles that the Act and the climate policy planning system is based on, is to "contribute to ensuring the prerequisites for the Sámi people to maintain and develop their own language and culture".

As outlined in Section 21, the Government shall appoint a Sámi Climate Council for a fixed term, in order to “include persons in possession of traditional Sámi knowledge and persons representing the key fields of science”. Moreover, the article states that the primary task of the Sámi Climate Council is to submit opinions on the climate policy plans with regard to the promotion of the Sámi culture and rights. Similarly, section 13 outlines the Sámi Climate Council and the Finnish Climate Change Panel as two key authorities that are requested to submit their opinions on the draft plans and preparations.

Another important pillar highlighting Indigenous rights and knowledge, is the National Climate Change Adaptation Plan 2030 (KISS2030, Ministry of Agriculture and Forestry), and the target 15, which underlines the protection of cultural heritage. The KISS2030 Climate Change Adaptation Plan, which was established after the new Climate Act, highlights Sámi people in the context of cultural heritage, cultural environments, and different forms of knowledge in adaptation related solutions and plans.

The Sámi Climate Council is composed of scientist and representatives of the traditional Sámi culture and knowledge, and the council supports the preparation and planning system by identifying key issues regarding the rights of the Sámi people in order to ensure that the measures taken are fair and just, and promote sustainable development (Ministry of the Environment, 2022b). In collaboration with the Sámi Parliament in Norway, the Sámi Council has produced a report on climate change in Sápmi which aims to provide an overview of climate change and its effects on Sámi culture, livelihoods, and society. The “Climate Change in Sápmi – an overview and a Path Forward” report from 2023 gives recommendations for future action to ensure Sámi inclusion in climate policy. The recommendations call for the recognition, protection, and safeguarding of the rights of the Sámi people for climate action moving forward. The recommendations call for national states to uphold their international obligations to human rights and the rights of Indigenous Peoples when designing and implementing climate action. This includes the Sámi people in shaping climate policies and including Sámi representatives in national delegations within intergovernmental forums. They also suggest the possibility of developing an Arctic regional climate platform.

Conclusions

Both countries in the research are located in the northern hemisphere and are both experiencing the consequences of shortened winters and temperature rises.

A key point of contrast between Canada and Finland lies in the presence of the Sámi council, which grants the Sámi a greater say in matters concerning them or their territories. Through the Sami council experts can articulate the specific implications of decisions for the Sami community, such as potential windmill parks. In this way the Sámi will also experience a larger recognition and elevate their status beyond mere “stakeholders”-position, a role they historically have been recognized with. It’s worth noting that Canada has analogous bodies for various Indigenous groups, though they seem to lack the same level of recognition. However, Indigenous Knowledge is a topic of thorough discussion in Canada but is not prominently addressed in Finland.

Both countries have developed climate acts and climate plans for 2030 and beyond, with the implementation currently underway. Therefore, justified critique might be challenging at this point. However, retrospective analysis reveals that Canada's latest plans have been rooted in previous iterations, which have faced criticism for neglecting Indigenous inclusion in decision-making processes. The main issue, as indicated by the findings, lies in effectively integrating Indigenous knowledge systems, which could satisfy Indigenous communities while aligning with governmental concerns about land use policies and territorial disputes.

INCLUSION OF INDIGENOUS PEOPLES IN CLIMATE POLICY

A comparative study of Canada and Finland

Examining climate legislation, strategies and implementation plans to seek the inclusion of Indigenous Peoples and mentions of indigenous knowledge



	Acknowledgement of Indigenous Peoples' rights and Indigenous Knowledge Systems	Constitutional rights	
	Referred to as "partnership" with Indigenous Peoples	Sámi climate council referred to as an "expert body" in the Climate Act 423/2022	
	Indigenous climate leadership	Sámi climate council, inclusion of Sámi parliament in decisionmaking	
	Mentions of indigenous knowledge	No direct mentions of indigenous knowledge	

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Law-based Regulation in Using and Recognizing Indigenous Knowledge in Land Use Rights and Government Bureaucracy: Comparative Case Study of Australia and New Zealand

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Introduction

This report explores the importance of acknowledging Indigenous knowledge on government websites for law-based regulation. The report also focuses on land use regulations in Australia and New Zealand regarding Indigenous rights and participation. It explores the historical context and current challenges surrounding Indigenous land ownership.

Why acknowledge Indigenous knowledge in government websites for law-based regulation?

Acknowledging Indigenous Knowledge within the framework of law-based regulation is not merely a procedural requirement; it represents a pivotal step towards rectifying historical injustices and promoting equity. By examining various parameters, we can grasp the multifaceted significance of this acknowledgment. Firstly, language and inclusion are paramount considerations. Indigenous knowledge must be presented comprehensively and made easily accessible on government websites, reflecting a commitment to linguistic diversity and ensuring equitable access to information for all stakeholders. Secondly, user-friendly interfaces are indispensable in fostering meaningful engagement with Indigenous communities. Navigating government resources, particularly those related to Indigenous knowledge, should not feel like traversing a labyrinth but should instead empower users to explore and contribute to the collective understanding. Thirdly, while legislation provides a legal framework for recognizing and safeguarding Indigenous knowledge, it is essential to

scrutinize its practical implications. Policies must not remain confined to paper but must be translated into tangible actions that respect and protect Indigenous knowledge systems. Moreover, incorporating Indigenous community perspectives into decision-making processes is essential for ensuring that government efforts align with the diverse needs and aspirations of Indigenous Peoples. Finally, aligning with international standards and frameworks for Indigenous rights not only underscores a commitment to fairness but also strengthens global solidarity in the pursuit of justice. In summary, recognizing and acknowledging Indigenous Knowledge within bureaucratic frameworks and government websites is essential for effective law-based regulation. It fosters inclusivity, respects Indigenous perspectives, enhances information accessibility, promotes meaningful engagement, and contributes to the ongoing journey towards reconciliation and equity.

The representation of Indigenous peoples on official parliament sites

If people want to find information about regulatory frameworks, they usually find themselves looking for parliamentary websites. This is why we focused on exploring the official parliamentary websites of New Zealand and Australia to examine the availability of regulatory framework information. More specifically we concentrated on how easy it is to find information about Indigenous peoples, what kind of language is used and how Indigenous peoples are acknowledged on the websites, in bills, articles, and statements.

The first look on *The Parliament of Australia* (<https://www.aph.gov.au/>) shows that their website is in English and there is no possibility to change language settings. This seems natural because English is Australia's de facto official and national language, but still they have hundreds of Aboriginal languages that aren't used regularly, and many have actually become extinct (Britannica). *The New Zealand Parliament* (<https://www.parliament.nz/en>) uses also English, but they combine the Māori language with English very naturally and also have the option to change language settings to Māori. This shows the general improvement and revitalization efforts the Māori language has had since the early 1980s (King, 2018). However, the Māori language's improved status could face challenges from current government policies (National Party, ACT, New Zealand First).

New Zealand has Te Pāti Māori Party and Māori affairs committee, and Australia has a Joint Standing Committee on Aboriginal and Torres Strait Islander Affairs. Visitors to both websites can easily access information on these committees, including their duties, members, inquiries, and reports, providing insight into their significance within the parliament and their acknowledgment of Indigenous peoples. Using the search term 'Indigenous', we explored

the websites for relevant information. We used only 'Indigenous' because we didn't want to exclude any results, but this then required some time to find the relevant results. The Parliament of Australia provided different kinds of posts about Indigenous knowledge, laws relating to Indigenous peoples, and research publications. Most of the results that were found were relevant for a person looking for information about Indigenous peoples and law-based regulation. New Zealand Parliament provided information regarding current and past bills and media releases. The info that was found wasn't as comprehensive as Australia had, but this might depend on the search term. A better search term for New Zealand would be 'Māori'.

Overall, both parliaments use respectful language when talking about Indigenous peoples. The tone is positive for example on the bills and research publications, and the idea is to work "with" Indigenous peoples rather than only recognizing that Indigenous peoples exist. To conclude it is important to acknowledge that both countries might have better websites for information regarding Indigenous knowledge and we might get different results if we analyze different governmental websites and different search terms.

Regulatory framework and land use in Australia

In Australia, a century-long debate has persisted with acknowledging Indigenous land rights, stemming from British settlers' disregard for Indigenous sovereignty. Colonial and federal governments historically ignored Indigenous rights, perpetuating a legacy of mistreatment and ongoing legal injustices. This has led to persistent disadvantages and discrimination faced by Indigenous peoples, distinct from challenges experienced by other members of society (Parliament of Australia; Lacovino, 2010). Land retitling, as interpreted by Altman & Markham (2015), occurred in two phases: Dispossession until the mid-1960s and repossession, with 22 percent of the land repossessioned for Indigenous use by 2014. Currently, approximately 50 percent of Australia's land recognizes Aboriginal and Torres Strait Islander land rights and interests according to the National Indigenous Australians Agency.

A significant legislative change was the Native Title Act (NTA) of 1993, acknowledging the rights and interests of Aboriginal and Torres Strait Islander peoples in lands and waters based on their traditional laws and customs. The AIATSIS website highlights that while the law acknowledges the potential existence of native title, the evidentiary requirements are substantial and onerous (Parliament of Australia; AIATSIS). Prior to this, the Aboriginal and Torres Strait Islander Heritage Protection Act (ATSIHP Act) of 1984 allowed Indigenous

peoples to apply for protection of culturally significant places and objects (Australian Government). Indigenous peoples participate in biodiversity and cultural heritage management through programs like the Indigenous Protected Area (IPA) program. Biodiversity management is based on legislative mechanisms and policies, including the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), which regulates environmental assessment and approvals and protects significant biodiversity (Lynch et al. 2010; Power 2019).

A notable advancement is the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), adopted in 2007 (though Australia initially opposed it, they reversed their position in 2009). This comprehensive international instrument establishes minimum standards for indigenous survival, dignity, and well-being, extending existing human rights standards to encompass indigenous peoples. Importantly, Indigenous communities were actively involved in its drafting. In Australia, the National Indigenous Australians Agency (NIAA) is responsible for ensuring Indigenous peoples are heard, recognized, and empowered. The NIAA collaborates with communities to tailor policies, programs, and services to meet their unique needs (NIAA; Australian Government).

Australia operates as a constitutional monarchy, where states and territories form the second tier of administration. States enjoy partial independence through their own constitutions, legislative bodies, and judicial systems. Territories are legally subordinate to the federal government. The country comprises six federal states and ten territories, each with its governance structure. State and territory governments enact laws within the framework of the federal constitution. The Australian Capital Territory uniquely combines responsibilities of local and state governments, highlighting the complexity and variation in laws among states and territories (Parliament of Australia, Parliamentary Education Office).

Despite the legal framework for Indigenous people, there are challenges regarding land usage and the native title. While significant portions of land have been formally recognized for Indigenous peoples, issues surrounding proof of continuous traditional systems and limitations on self-governance persist. The native title system, although acknowledging Indigenous rights, imposes significant burdens of proof and may not guarantee exclusive land rights, particularly when conflicts arise with other stakeholders' interests (Altman & Markham, 2015; Short, 2007).

Regulatory framework and land use in New Zealand

In New Zealand, the regulatory framework regarding land ownership rights started with the 1840 Treaty of Waitangi, which was a broad political compact between the Maori people and the Crown. The treaty was also the starting point for the debate about landownership of New Zealand's Indigenous people, as it was interpreted differently by the two parties involved. From the 1840 Treaty to 1939, the Crown had confiscated or inequitably purchased 73 percent of the North Island and almost entirely the South Island (Rowe, 2021), which was addressed in 1975 with the Waitangi Tribunal Act after activism and actions over Maori rights had steadily grown stronger. The act enabled the Waitangi Tribunal's establishment and acknowledged the importance of interpreting the treaties more in favor of Maori culture. The Waitangi Tribunal is a standing commission that makes inquiries and recommendations of land claims regarding the promises made in the Treaty of Waitangi. In 1985 the parliament allowed the Tribunal to investigate even the events dating back to 1840 (New Zealand Ministry of Justice). Another important legislative measure was the 1993 Te Ture Whenua Maori Act (Maori Land Act) which acknowledged the meaning of land for the Maori, and created a legislation that supports land retentions and offers fairness in dealings of landownership (Te Ture Whenua Maori Act 1993; New Zealand Parliamentary Counsel Office).

The Maori land court is an important legislative institution in the New Zealand legal system. After the 1993 Te Ture Whenua Maori Act, the role of the Maori land court has been to promote the retention of Maori land, facilitate the occupations and development of Maori land, ensuring the fair decision making over the land dealings (Ministry of Justice, Maori Land Court). Maori landownership of the freehold land was traditionally owned collectively by the iwi (tribes) and today the collective ownership consists of a shares system, where whanau (basic extended family group) with recognized interests have shares of the block in the whenua (land). The land is owned collectively by the stakeholders. (Ministry of Maori Development). The Maori land court has had difficulties with lengthy land claim processes, identifying the rightful owners and recording the basis of settlements (Kingi, 2008).

Even though these Acts and governmental structures are aiming to provide opportunities for land retention, these negotiations and settlement processes have faced some criticism. For example, Maori activists have criticized that New Zealand's government sets the terms and parameters for land settlements. Also, the privatization of Maori land has made the reclaiming of land beyond a cash payment or crown jurisdiction, which hampers the process even further. (Rowe, 2021). Another issue lies in the decision-making. As the opportunities

to participate in decision-making on the national level is established with Maori representation, this opportunity does not always exist at the local governmental level. In practice, the New Zealand Parliament is run by majority and at the national level Maori participation in decision-making can be seen vulnerable. (Anaya, 2015).

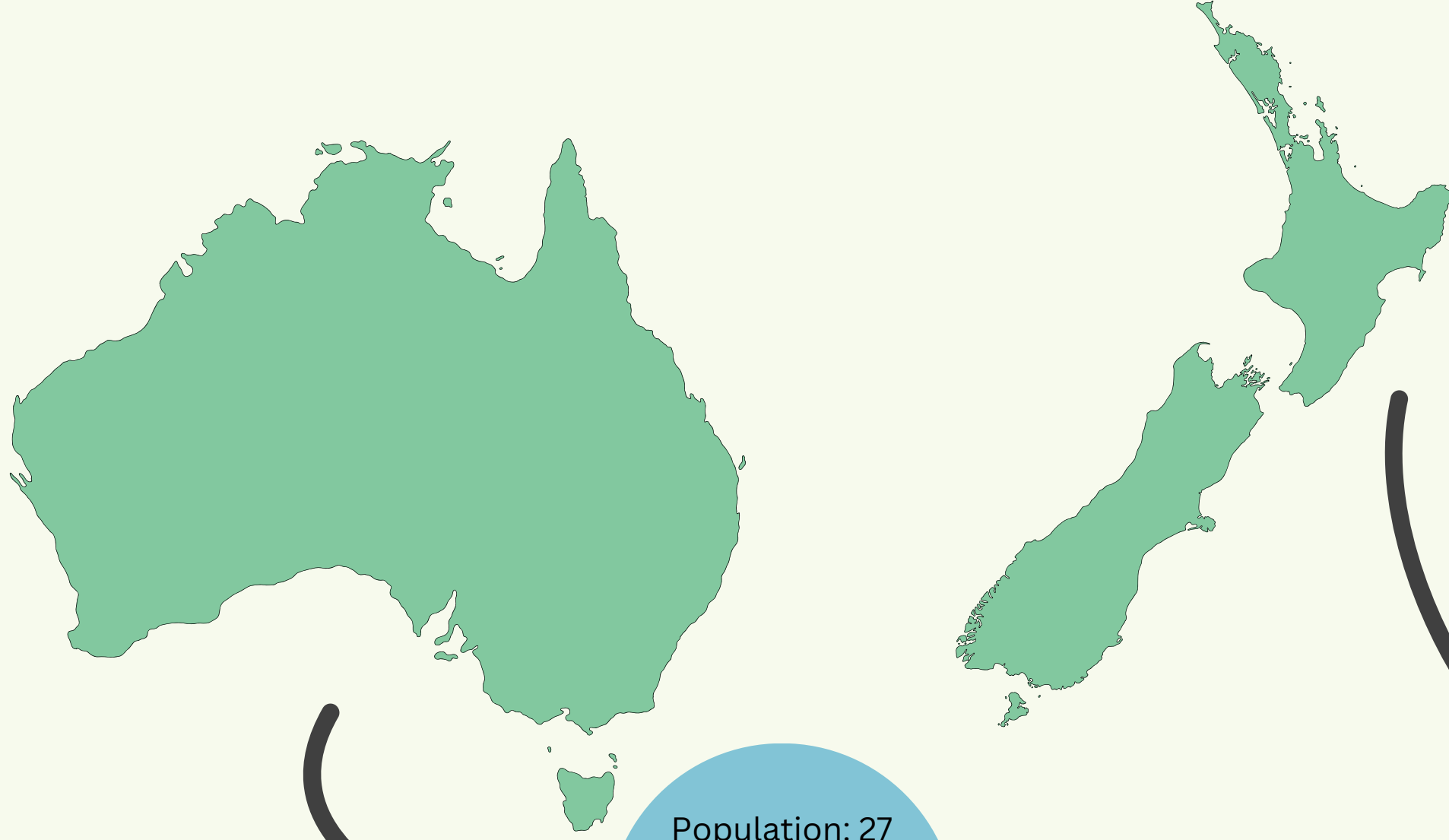
While the Maori land ownership and land rights have progressed quite a bit during recent decades, the institutional actors addressing the Maori matters do not seem to hold enough actual power in decision-making. Acknowledging the importance of Maori culture and the meaning of Maori land has surfaced in the regulatory systems in New Zealand, but because of the history of confiscations and the governmental structures, Maori land retention remains challenging.

Conclusions

Recognizing Indigenous knowledge within legislation is important for rectifying historical injustices and promoting fairness. This requires extensive visibility on government websites and meaningful participation facilitated by user-friendly interfaces. Legislation must respect Indigenous knowledge and consider community perspectives in decision-making. Adhering to international standards strengthens global solidarity in advancing justice. Although Indigenous rights are legally recognized in Australia and New Zealand, challenges persist in land usage, Indigenous rights, and opportunities for Indigenous participation in decision-making processes.

COMPARISON BETWEEN AUSTRALIA AND NEW ZEALAND: INDIGENOUS KNOWLEDGE IN BUREAUCRATIC DOCUMENTATION AND LAND USE

LAW-BASED REGULATION IN USING AND RECOGNIZING INDIGENOUS KNOWLEDGE



Population: 27 million
Indigenous peoples: 3 %

Population: 5,2 million
Indigenous peoples: 16,5 %

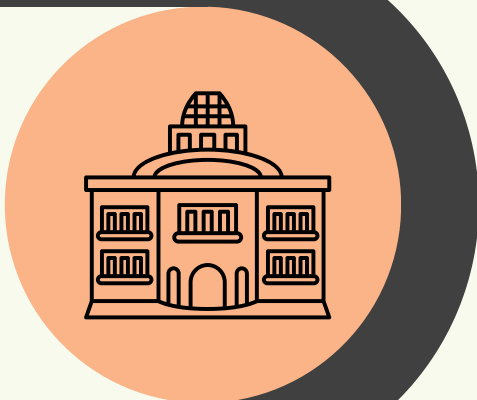
Australia

New Zealand

IMPORTANCE

Acknowledging Indigenous Knowledge in government websites and regulatory frameworks is essential for inclusivity, respecting Indigenous perspectives, enhancing accessibility, and promoting meaningful engagement in decision-making, ensuring more effective and equitable law-based regulation.

Achieving this requires proactive efforts such as prioritizing Indigenous input in website design, simplifying navigation, integrating Indigenous perspectives into legislation, actively seeking community feedback, and aligning with international Indigenous rights standards.



PARLIAMENT WEBSITES

- Parliament of Australia
- Language: English
- Joint Standing Committee on Aboriginal and Torres Strait Islander Affairs
- Website has relevant posts about indigenous knowledge, laws relating to indigenous peoples etc.
- Respectful language when talking about Indigenous peoples

PARLIAMENT WEBSITES

- New Zealand Parliament / Pāremata Aotearoa
- Language: English / Māori
- Māori affairs committee, Te Pāti Māori Party
- Website has relevant information regarding bills, media releases etc.
- Respectful language when talking about Indigenous peoples



REGULATORY FRAMEWORK

- Native Title Act (1993)
- Aboriginal and Torres Strait Islander Heritage Protection Act (1984)
- Environmental Protection and Biodiversity Conservation Act (1999)
- United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP)
- National Indigenous Australians Agency (NIAA)
- State and Territory Legislation

REGULATORY FRAMEWORK

- The Treaty of Waitangi 1840
- The Waitangi Tribunal Act 1975
- The Waitangi Amendment Act 1985
- Te Ture Whenua Māori Act 1993 (Māori Land Act 1993)
- United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP)



LAND USE

- Land rights formally recognized around 50 % of Australia's land mass (AIAA)
- By 2014, some 22 % of the landmass repossessed for indigenous groups (Altman & Markham, 2015)
- Most densely populated areas have in proportion the lowest land ownership among indigenous groups
- Indigenous people govern their land according to their rules, but cannot alter these rules, limiting their self-governance

LAND USE

- 1840-1939 almost entire Southern island and 73% of the Northern island were confiscated or inequitably purchased by the crown.
- Approx. 6% of all land in NZ is Māori freehold land.
- Land ownership: Traditionally land is collectively owned by iwis. Currently a 'shares system' where Māori shareholders own the land.
- Māori Land court and the Waitangi Tribunal govern the land claims and settlement processes' fair implementation.
- Slow process of reclaiming the land. Seemingly self-governed, yet extensive decision-making is mainly in the crown's hands.



CONCLUSION

In densely populated areas, Indigenous land ownership remains disproportionately low, underscoring the need for further action to address their rights and land management challenges. Indigenous peoples often encounter restrictions in changing rules according to their customs and traditions, weakening their self-governance. The evidentiary requirements are significant and burdensome, leading to ongoing challenges, particularly concerning land usage and native title rights

CONCLUSION

The Māori Land Court and the Waitangi Tribunal provide legal protection and oversight, yet achieving true Indigenous self-determination remains challenging due to the slow process and the ultimate authority of the crown. Privatization has complicated the reacquisition of land. Indigenous knowledge is still underutilized in decision-making processes concerning land ownership in New Zealand.

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Governing Climate Policy in Relation to the Role of Indigenous Knowledge: Comparative Case Study of Australia and New Zealand

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Introduction

This report has been compiled for the University of Helsinki course 'Geographies of Inequalities' to understand the role of Indigenous knowledge in the climate governance work of Australia and New Zealand. After a brief review of local histories of Indigenous rights, the climate governance *structures* of both countries are investigated in comparison to each other and in relation to Indigenous representation and participation. Thereafter, the respective countries' climate *laws and policies* are examined regarding their use of Indigenous knowledge. Finally, we present conclusions and recommendations on the inclusion of Indigenous peoples and knowledges in climate change governance.

In Australia, the question of Indigenous rights has long been neglected. The formal political system began recognizing Indigenous rights in the 1970's. With the *Aboriginal Land Rights Acts* of Northern Territory in 1976 and New South Wales in 1983, the federal state granted an "inalienable freehold title to all Aboriginal reserves" (Commonwealth Government, 2007). Notably, land rights have never been granted on the federal state level, and the implementation of existing laws is imperfect. In New South Wales alone, 37 000 Aboriginal land claim cases are jammed in the judicial system – a situation deemed by the critics as emblematic of the "institutional racism" Aboriginal communities frequently face (The Guardian, 2020). Gaining institutional political recognition has been a long-lasting struggle for Indigenous communities throughout the "land down under". In 2021–22, the Australian Climate Change Authority developed a *Reconciliation Action Plan* (RAP) to build mutually beneficial relationships and partnerships with First Nations peoples. The second RAP in

2023–24 is designed to “build on the first plan with a range of new actions to strengthen contribution towards reconciliation in Australia” (The Climate Change Authority, 2023).

The history of New Zealand, a unitary state, differs significantly from that of Australia. In a notably early occurrence, the Treaty of Waitangi of 1840 guaranteed Māori rights to govern ancestral land. Despite early recognition of Indigenous land rights and negotiations with Māori chiefs, the treaty itself has no legal validity. The 1960’s “Māori renaissance”, was characterized by political struggle for formalized land rights (Shearer, 1986; Harmsworth, 1997). While there has been relative progress, Māori values and rights are not adequately recognized, and actions to claim land back continue today (The Guardian, 2021, 2024). However, New Zealand’s political culture has widely adopted elements and formal recognition of Māori knowledge.

Climate governance structures and Indigenous participation

Dubash (2021) emphasizes the importance of studying climate institutions together with climate policies to understand climate governance in general. The author identifies Australian climate institutions as unstable. The efforts are mitigation-centric, but the domestic polarization in politics and the form of national institutions play a more important role than international institutions. Dubash illustrates this with the establishment of the Australian *Clean Energy Act*, which was short-lived.

In Australia, the climate governance structure is layered on the existing institutions, which is the prevalent mode of praxis in most nations (Dubash, 2021). As shown in *Figure 1*, the climate governance structures are largely similar in Australia and New Zealand. Both states are organized under the Crown, with political systems branching out into the judicial, the legislative (*the parliament*) and the executive (*the government*). Auditing of climate-related work in both countries is allocated to independent officers who are formally linked to the parliament and associated with the International Organization of Supreme Audit Institutions.

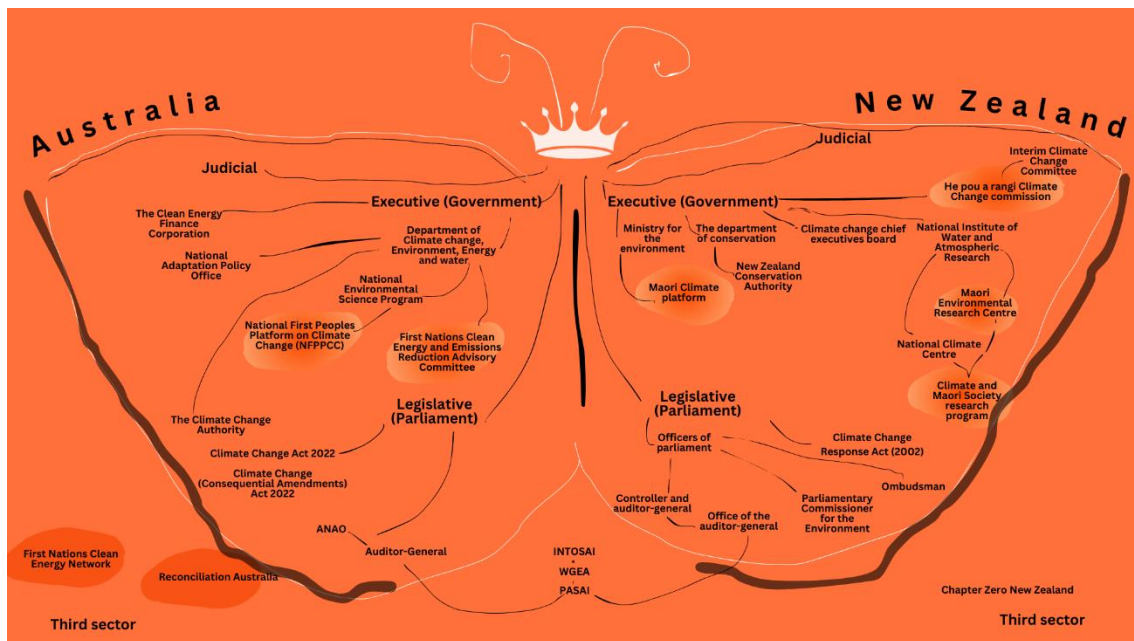


Figure 1. The Climate change governance butterfly illustrates the institutional structure of climate governance in Australia and New Zealand, highlighting the organs where Indigenous participation is significant. Graphics: Vilma Kaukavuori; compilation: Vilma Kaukavuori & Haikku Arosuo, 2024.

Key functions of climate governance are focused under environmental ministries in both Australia and New Zealand. However, the latter has, in addition to its independent Climate Change Commission He Pou a Rangī (n.d.), the dedicated interdepartmental board Climate Change Chief Executives Board to facilitate climate work between the ministries of different sectors (The Treasury, 2023).

In Australia the role of the Climate Change Authority (CCA), appointed by law, is mainly advisory, and the degree of power granted to their advice is unclear. The Climate Action Tracker (CAT), which investigates countries' efforts to meet the Paris Agreement targets, has noted that despite having an extensive climate-related knowledge infrastructure, Australia has long been ignoring advice from CCA and other independent or non-governmental bodies (CAT, 2019; CAT, n.d.). Furthermore, the CAT has pointed out Australia's ineffective coordination across different governmental bodies. These findings align with Dubash's (2021) remark on *unstable climate institutions*.

In both Australia and New Zealand there are government-related independent research institutions, which also include dedicated programmes to study and provide knowledge to governing bodies on issues concerning climate change and Indigenous populations (NESP, 2023; NIWA, n.d.). The Australian federal-level participation of Indigenous peoples in climate change issues is thus mainly organized through their provision of knowledge in the National

Environmental Science program, along with a special committee under the Department of Climate Change, Environment, Energy and Water (DCCEW).

Overall, it is relatively challenging to decipher the concrete forms of engagement and power of the different climate governance organs in Australia and New Zealand – that is, how binding the say of each institution is. The general ambiguity extends to determining whether the participation of First Nations is sufficient, and whether government bodies truly listen to and incorporate the perspectives of those consulted – and even when they do, whether this genuinely reflects Indigenous knowledge in climate change governance and policy.

Beyond incorporation into governance structures, it is important to consider how much Indigenous perspectives ultimately affect the ‘governance of governance’ in climate matters, and on what conditions. For instance, while there are allocated seats for Indigenous representants in the New Zealand parliament, the representants have to perform an oath of allegiance to the King, formally surrendering one’s power (Oaths and Declarations Act 1957; The Guardian, 2023).

Use of indigenous knowledge in climate laws and policies

The country-level climate change legislations in Australia and New Zealand present largely similar approaches to tackling climate change. However, there are many differences especially concerning the inclusion of Indigenous peoples and Indigenous knowledge.

The current climate change legislation in Australia is divided into two acts: ***Climate Change Act 2022*** (Cth) and ***Climate Change (Consequential Amendments) Act 2022*** (Cth.). The *Climate Change Act 2022* sets Australia’s greenhouse gas emission reduction targets for 2030 and 2050. The framework in this Act is high-level and widely supported across most industry organizations and environmental groups (Prest, 2022). The Amendments were added to represent the interests of rural and regional Australia, but there are currently no amendments relating to Indigenous Australians and climate change. Furthermore, the situation is similar in Australia’s states and territories’ own climate legislations.

In New Zealand, the ***Climate Change Response Act 2002*** is in effect. The Act itself, again, provides a clear outline for how New Zealand is to reduce climate change and its effects. In the Act Indigenous peoples and societies (Māori and iwi) and the Treaty of Waitangi are recognized in multiple sections. For example, regarding the Climate Change Commission “particular attention is required to seeking nominations from iwi and Māori representative organisations” and “[Climate Change] Commission to have members who have technical and

professional skills, experience, and expertise, and innovative approaches, relevant to the Treaty of Waitangi (Te Tiriti o Waitangi)" (Climate Change Response Act 2002, s. 3A). The Climate Change Commission in addition needs to have sufficient knowledge about *mātauranga* (traditional Māori knowledge), *te ao Māori* (Māori world), *te reo Māori* (Māori language) and *tikanga Māori* (Māori custom and protocol) (Climate Change Response Act 2002, s. 5H). The same Act also notes the need to recognize and plan to mitigate climate change effects on iwi and Māori and to ensure that iwi and Māori have been adequately consulted on the emissions reduction plan (Climate Change Response Act 2002, s. 3A).

Australia's DCCEEW **Corporation Plan 2023–2024** has recognized the essentiality of achieving their vision by incorporating Indigenous knowledge; hence the 65 000 years of knowledge that Aboriginal and Torres Strait Islander peoples hold as custodians of Australia's land and natural resources is identified as a vital factor. The plan discusses the areas in which they are considered to have Indigenous knowledge of climate change-related policymaking, such as land and sea management and conservation, water management, and clean energy. Furthermore, the document discusses the significance of the First Nations Clean Energy Strategy, and they are expected to establish a First Nations Clean Energy and Emissions Reduction Advisory Committee by including Indigenous people to assist in the development of clean energy and provide guidance on emissions reduction measures.

The Australian **National Climate Resilience and Adaptation Strategy 2021–2025** provides four main recommendations for utilizing Indigenous knowledge of climate change scenarios. First, it suggests maintaining an ongoing dialogue between scientific and traditional knowledge of climate change. Second, it recommends supporting Indigenous-led projects that are based on two-way knowledge of climate risks. Third, it emphasizes the importance of creating opportunities for peer-to-peer learning between traditional owners as the most effective means of strengthening the application of their traditional knowledge. Fourth, it encourages providing traditional owners with the chance to shape the forms of communication and engagement that will offer the best value for their communities. Further, the document stresses the significance of traditional knowledge for the natural environment's resilience to future climate change, particularly concerning land and fire management.

Australia's **National Energy Productivity Plan** does not adequately discuss the incorporation of Indigenous knowledge into climate policymaking. It merely recognizes Indigenous people as a group in need of additional support beyond Measure 3 of the

National Energy Productivity Plan Measures. This guideline aims to facilitate the engagement of vulnerable consumers with energy productivity measures and services.

The **National Bushfire Management Policy for Forests and Rangelands** has integrated Indigenous knowledge by setting 'Promote Indigenous Australians' Use of Fire' as one of its key national goals. The policy recognizes the significance of incorporating traditional practices into fire management strategies and the invaluable role Indigenous fire practices play in maintaining healthy landscapes and mitigating bushfire risks. Further, it emphasizes collaborative engagement with Indigenous communities to develop more effective and culturally appropriate fire management plans. The policy aims to enhance the resilience and sustainability of bushfire management efforts nationwide by supporting the integration of traditional knowledge into decision-making.

Aoteroa/New Zealand's Emissions Reduction Plan 2022 actively seeks to promote "partnership" and "Māori empowerment". The policy document adopts Māori language, concepts and principles and emphasizes how a sustainable transition is reliant on Māori knowledge. Māori communities are portrayed as important actors in emission reduction, "providing information about our land, water and biodiversity" (ibid., p. 51). The government commits to Māori-led environmental politics and "supporting Māori-led problem solving, evidence and outcomes that respond to the Māori worldview and the experiences of Māori" (ibid.). Māori knowledge is recognized as challenging the "business-as-usual", offering an alternative view to climate policy. Reviewing the reduction plan in their **Advice on the direction of policy**, the Māori-led Climate Change Commission He Pou a Rangi (2023) sees that while Māori knowledge has been recognized, resources allocated to Māori communities are inadequate. The Commission argues that the Crown does not adequately recognize Māori "climate leadership". As an emissions reduction strategy, the Commission calls for wider resource and information access to Māori communities, including more funding to overcome land rights issues and to allow proactive adaptation "on their terms" (He Pou a Rangi, 2023).

Conclusions

Indigenous peoples in Australia and New Zealand have a deep understanding of the land, environment, and climate systems, accumulated over thousands of years. Exemplifying the different historical trajectories of the two countries, Indigenous knowledge is significantly better respected and more institutionally recognized in New Zealand than in Australia. While Māori knowledge leaves a clear imprint on the climate policy and political culture of New

Zealand, fundamental issues of land and resource governance remain critical and obstruct emission reduction efforts in the country.

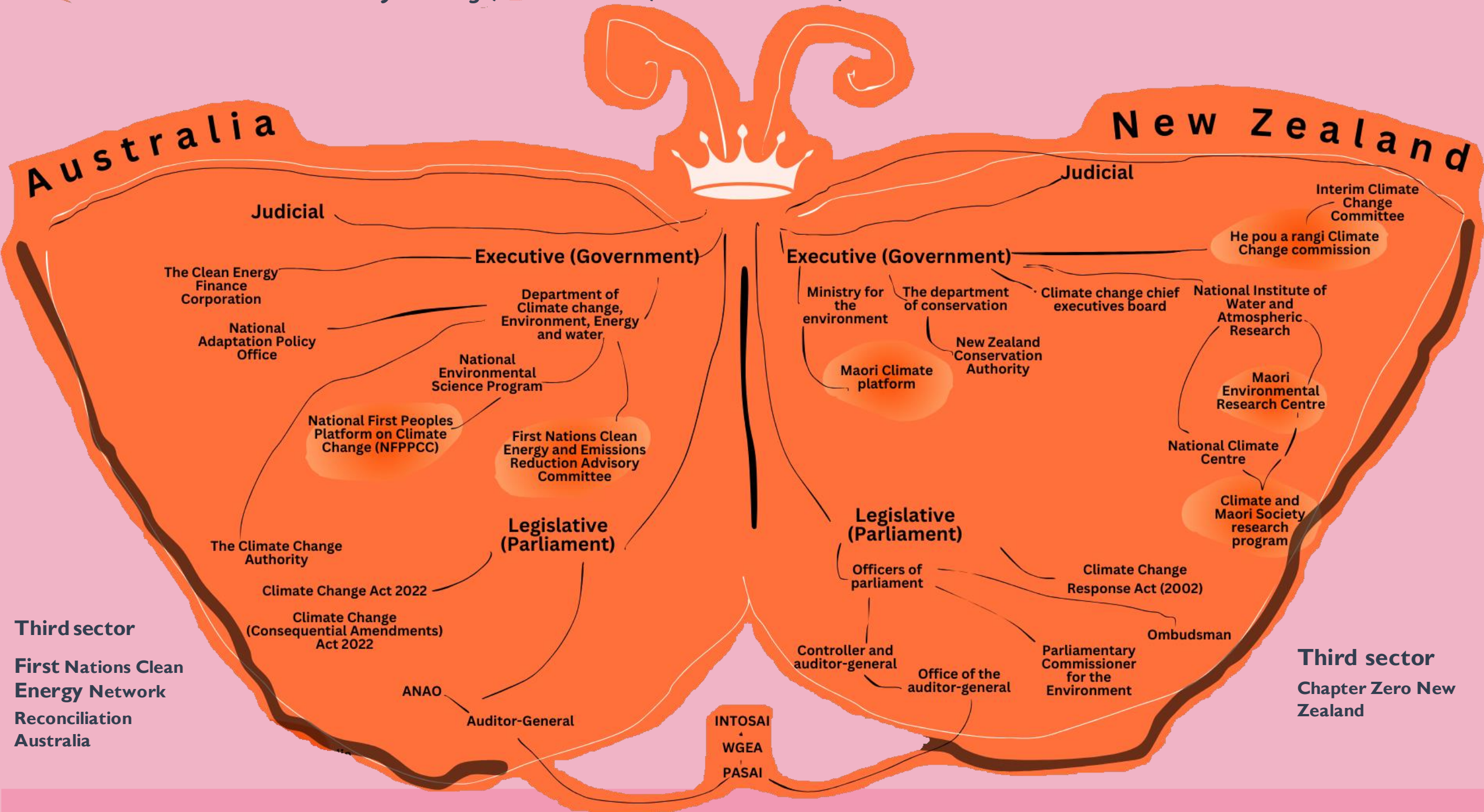
The New Zealand approach of having a specified interdepartmental ministry coordination body may be conducive to tackling *wicked problems* – which “go beyond the capacity of any one organisation to understand and respond to” (Australian Public Service Commission, 2007) – such as climate change. In Australia and New Zealand, publishing on the exact forms of engagement between – and the levels of ‘bindingness’ assigned to – different climate change governance actors could be advantageous. Providing clear information on the institutional structures and actors related to climate governance and Indigenous people may be beneficial also to citizens and for promoting public transparency of governance.

The degree to which Indigenous knowledge has been incorporated into mainstream climate policies in Australia varies. There are initiatives and partnerships aimed at incorporating Indigenous perspectives into adaptation and mitigation strategies, and simultaneous challenges related to the recognition, respect, and inclusion of Indigenous knowledge systems in decision-making processes. One significant barrier to a better integration of Indigenous knowledge into climate change policy and action is the broader political landscape in Australia, where there are differences in opinion and policy approaches regarding climate change. The Australian government's stance on climate change and environmental policies has fluctuated over the years, with varying levels of support for climate action and emissions reduction targets.

Along with horizontal, concrete initiatives for collaborating with Indigenous peoples, Indigenous representation in the Australia and New Zealand state apparatuses remains important due to the deep-rooted power imbalances over which frameworks are being prioritized in the official actions of the colonizing state. Parliamentary requirements on Indigenous representants to express allegiance to the Crown present a pitfall in terms of truly transformative and just climate work. Such requirements run the risk of reinforcing hierarchies and undermining possibilities for working together on tackling climate change.

CLIMATE GOVERNANCE BUTTERFLY AND INDIGENOUS KNOWLEDGE

Dishni Akaratiya Gamage, Haikku Arosuo, Vilma Kaukavuori, Santeri Ruonavaara & Veeti Sihvola



Challenges

1. Varying integration of Indigenous knowledge in climate policies.
2. Indigenous knowledge not as well represented in Australia.
3. Fluctuating political climate hindering climate governance in Australia.
4. Structural barriers, such as Crown allegiance requirements for Indigenous representants.

Opportunities

1. Initiatives striving for inclusion and calls for integration signaling potential progress.
2. New Zealand's model offering integration solutions.
3. New Zealand's coordination model suiting complex climate challenges.
4. Research enhancing transparency and credibility, fostering genuine collaboration.

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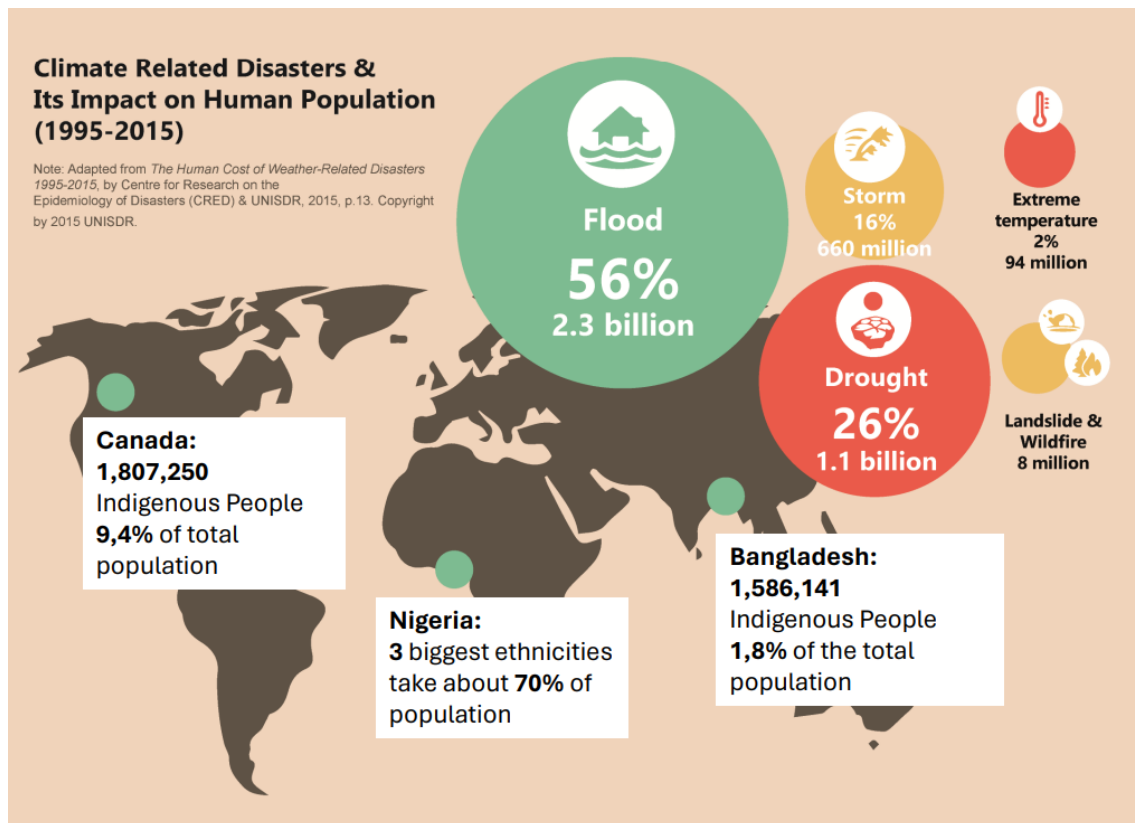
Rising Waters: Indigenous Flood Management Experiences and Solutions in Canada, Nigeria and Bangladesh

Antti Paakkari, Arpa Aishwarya, Elena El Founti & Sampo Muinonen

Introduction

In this short report we will be presenting the key findings from our groupwork on Indigenous flood management experiences and solutions in Canada, Nigeria and Bangladesh, based on a literature review. In our research we were looking for answers to two main questions related to our topic. How indigenous people use their knowledge in the flood management and what kind of flood management experiences they have? Could this knowledge also be used outside indigenous communities? This work was part of the course "Geographies of Inequalities" in the department of geography in University of Helsinki in early 2024. In our group we thought that flood management is an important topic today and especially in the future when climate change is bringing new problems related to weather phenomena. Extreme weather phenomena are getting more common, and floods are affecting around 2.3 billion people worldwide making them the most significant natural hazard compared to storms, drought, extreme temperature changes and landslides and wildfires (CRED & UNISDR 2015). Before our literature review, we didn't know if the Indigenous knowledge is considered outside Indigenous communities and what kind of methods Indigenous people use in flood protection? That's why the topic aroused our interest.

We studied our topic based on three different countries Canada, Nigeria and Bangladesh, because we wanted to find out how Indigenous knowledge in flood management differs in different parts of the world in very different cultures and societies. We wanted to include one western country and Canada which also has very different climate compared to Nigeria and Bangladesh which are both located close to the equator. Bangladesh (1 301 people/km²) is one of the most densely populated countries in the world compared to Canada (4 p/km²) in the other end and Nigeria (234 p/km²) in the middle of the spectrum (The World Bank 2021). The amount of people that are considered Indigenous is also very different in these countries.



Picture (1) © Antti, Arpa, Elena & Sampo 2024. References: CRED & UNISDR (2015)

In Nigeria the government doesn't count the amount of Indigenous people because it has sparked controversy before and basically all Nigerian people are part of different ethnicity group with three biggest ones taking about 70% of the whole population and in total there is over 300 different ethnicity groups in Nigeria (Embassy of Nigeria Sweden). There's three groups of Indigenous people's in Canada that the Canadian constitution recognizes: First Nations, Inuit and Métis (Government of Canada). In Bangladesh there is at least 54 Indigenous people's groups, but the rights of these people is mostly ignored by the government (IWGIA).

Flood impacts on Indigenous peoples

Canada

In Canada Spring flooding, caused by snow melting, poses a greater risk of damage and danger compared to open-water floods and is increased by the climate change and some Indigenous lands are located in areas with higher temperature change than elsewhere (Khalafzai et al. 2019). Chakraborty et al. (2021) studied data from 100-year of flood hazards and found out that about 81% of the 985 Indigenous land reserves had flood exposure that

impacted either population or residential properties. Chakraborty et al. (2021) and Thompson et al. (2014) studies indicates that residential property level flood exposure is similar between non-Indigenous and Indigenous communities, but socioeconomic vulnerability is higher on reserve lands, which confirms that the overall risk of Indigenous communities is higher. Findings indicate that the factors influencing social vulnerability in Canadian communities include attributes of race and ethnicity, income, built environment, elderly populations, education, occupation, family structure, and access to resources (Chakraborty et al. 2021). Datasets are based on historical data that do not show future climate change projections. Further research should take account future flood risk by integrating climate change scenarios in flood exposure analysis and climate change vulnerability index development. (Chakraborty et al. 2021)

Because of the severe floods in Manitoba in 2011 officials diverted water to protect urban, cottage and agricultural areas, which led to displacement of Lake St. Martin First Nation community and the community got permanently destroyed (Thompson et al. 2014). Similar situations happened due to hydroelectric dams, displacing Indigenous communities. This reflects the conflict between sustainable energy and social sustainability on Indigenous lands (Thompson et al. 2014). These displacements led also to indirect health issues among Indigenous population who reported premature deaths, increased rates of suicides, miscarriages, mental health issues, and worsening of chronic diseases such as cancer, diabetes, and cardiovascular disease. The impact on indigenous community members is also expected to be more negative and long lasting compared to non-indigenous people because of their deep attachment to their land and loss of subsistence and resource livelihoods (Thompson et a. 2014).

Bangladesh

Bangladesh is hotspot for flooding due to cyclones, multiple rivers and delta areas, monsoon and topographical qualities. In Bangladesh the flooding is not only a risk for minorities, but for most of the population; 1 million households were affected by major floods both in 1998 and in 2017 (Chowdhury, 2000; Kamal et al., 2018). The Indigenous people in the area are used to sometimes even multiple floods in a year, and therefore floods are naturally taken into consideration in Indigenous practices and everyday life (Haque, 2019). Even though the population of Bangladesh is used to floods the climate change is making flooding more intense and frequent (Danladi et al.,2018). Many Indigenous peoples in Bangladesh live in coastal charlands which are shallow bed of land consisting of delta sediment and are prone

to water level changes which could change the charlands rapidly (Hossain et al., 2019). In Bangladesh, the Indigenous population typically faces higher levels of poverty and lower levels of education, rendering them more susceptible to income loss in flooding related catastrophes affecting infrastructure and agriculture (Islam et al., 2013).

Nigeria

In Nigeria the floods are also getting more common due to climate change. Nigeria's coastline is mostly swamplands and river deltas. Floods can occur due to rising sea or rising river water. (Echendu 2023) Big cities are often located in low land areas which are prone to flooding. For example Port Harcourt is a city close to the coastline in Southern Nigeria. Reclamation and development of the wetlands around the city is a big problem because the wetland ecosystem have a very important role in mitigating the floods and that way protecting the city. People live in poor conditions and floods could have huge impact to housing for example and that way cause homelessness. (Echendu 2023)

People who live in Indigenous communities have known to have better flood protection. Urban areas face problems when using Indigenous knowledge in flood protection because the land use is very different compared to small communities and that's why the old knowledge is also lost when cities are growing (Echendu 2023). Due to most devastating floods in decade in the late 2022 over 4,4 million people needed humanitarian help and over 2,4 million people were displaced (Unicef 2023).

Solutions

In this part it is told what kind of flood protection methods Indigenous people use, how Indigenous people forecast floods and why their knowledge might be or might not be useful in some cases. In Bangladesh and especially in Nigeria due to high urbanization preserving wetland ecosystems and mangrove forest is very important, because they act as a natural flood protection system protecting the inhabited areas (Echendu 2023). Also adaptive agriculture is important in both countries for food security like growing plants that could be harvested early and building ditches and tunnels for water (Haque, 2019; Mamun et al., 2014). Also planting certain kind of plants which bind land together to prevent erosion (Nawrotski, 2010 et al.). In Nigeria and Bangladesh the Indigenous communities have many ways to forecast the flooding like behavior of certain animal species moving away from the floods before they occur Certain kind of clouds, changes in rainfall and water current. Housing

should be build to resist the flooding either in high places or stilt houses. (Echendu 2023; Obi et al. 2021; Fabiyi & Oloukoi 2013)

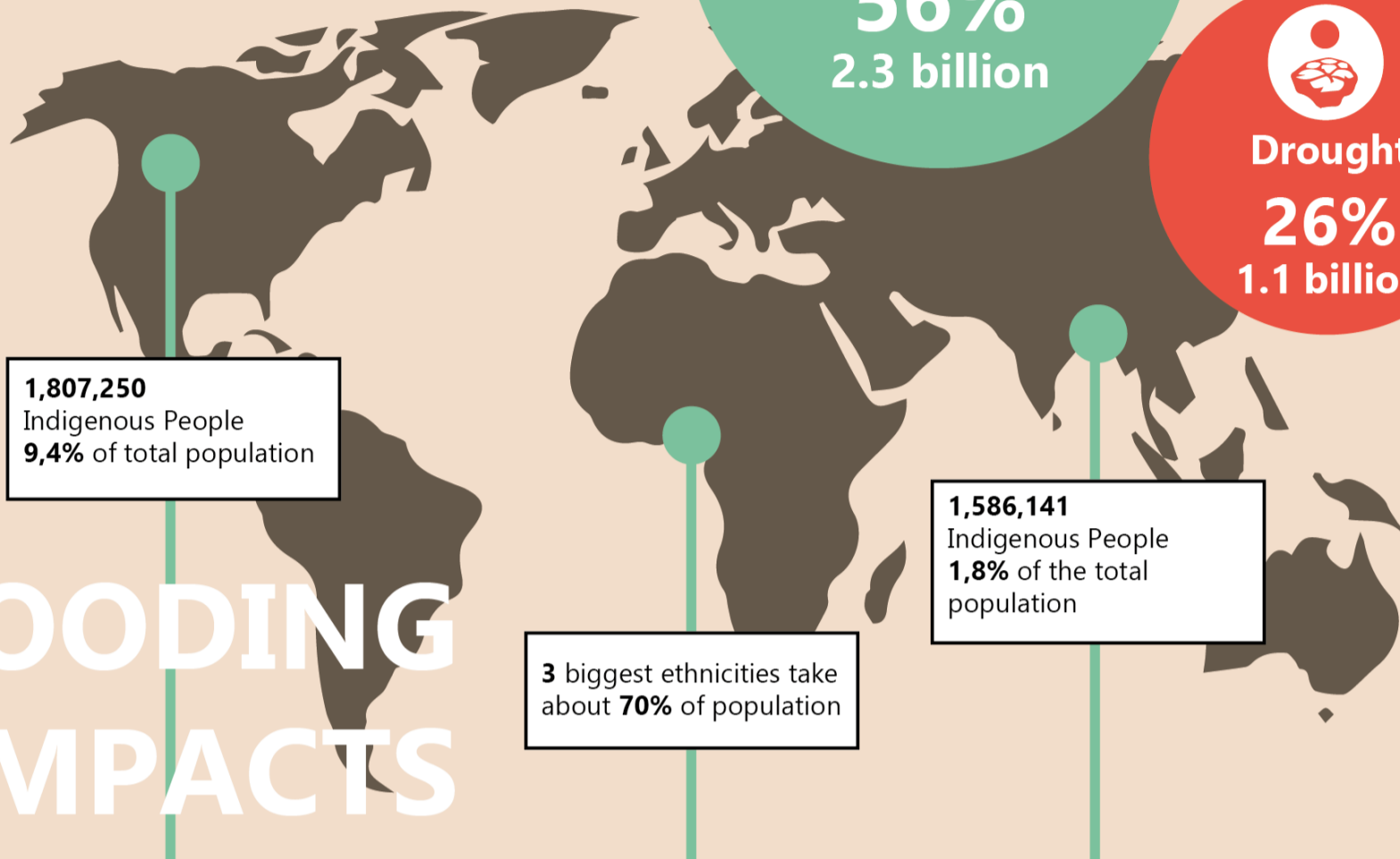
In each of these countries the governments should consider Indigenous knowledge and Indigenous people more. But especially in Canada the problem lies Indigenous based decision making and considering Indigenous people more like in the example of saving urban areas by controlling floods and directing the water elsewhere possibly towards Indigenous communities if it's only choice to save the urban areas (Thompson et al. 2014). In Canada the Indigenous people still have a lot of knowledge that could be used in flood protection (Khalafzai et al. 2019). The problem is that the knowledge is usually only local and cannot be generalized. Because of this there should be for example participatory flood mapping technique to be used in flood monitoring and reducing risk in certain areas and communities and it could be used with different communities experiencing same kind of problems. (Khalafzai et al. 2019)



Picture (2) © Antti, Arpa, Elena & Sampo 2024. References: CRED & UNISDR (2015)

Climate Related Disasters & Its Impact on Human Population (1995-2015)

Note: Adapted from *The Human Cost of Weather-Related Disasters 1995-2015*, by Centre for Research on the Epidemiology of Disasters (CRED) & UNISDR, 2015, p.13. Copyright by 2015 UNISDR.



1,807,250
Indigenous People
9,4% of total population

1,586,141
Indigenous People
1,8% of the total population

3 biggest ethnicities take about 70% of population

FLOODING IMPACTS

Canada

- Green energy & indigenous lands
- Missing voice of First Nation
- Social Vulnerability

Nigeria

- Populated cities affected
- Saltwater & freshwater floods are common
- 250 ethnic group & 255 million people affected

Bangladesh

- Flooding Hotspot
- Vulnerability & loss of livelihood
- Indigenous Reliance

SOLUTIONS



First Nation Led Decision-making



Indigenous knowledge about flood risks



Participatory Flood Mapping



Adaptive Agriculture



Preserving wetland ecosystems



Flood resilient Architecture

Rising Waters

Indigenous flood management experiences and solutions in Canada, Nigeria & Bangladesh

Antti Paakkari, Arpa Aishwarya, Sampo Muinonen, Elena El Founti

Infographic by: Arpa Aishwarya

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