

Full Proposal Submission

Section 1: General Project Information

Project Title: Empowering Indigenous Peoples and Knowledge Systems Related to Climate Change and Intellectual Property Rights

Duration of Project: 24 months

Countries included in this project: South Africa, USA.

Regions included in this project: Sub-Saharan Africa

Research Themes: Theme 4: Potential Impacts (Positive and Negative) of Open and Collaborative Science

Justification of Research Themes:

This project examines processes of open and collaborative science related to indigenous peoples' knowledge, climate change, and intellectual property. It assumes and challenges practices of open and collaborative science as a process, one that should involve modes of being both open and closed. The notion of science as "open" and nature as "freely accessible" has historically been used to exploit countries in the global south such as South Africa. British and Dutch colonial scientists, for example, characterized land and resources in South Africa as "belonging to no one" under the doctrine of *terra nullius* in order to take biodiverse plants and produce botanical science. The notion that knowledge and resources should be open and accessible has therefore been historically used to construct South Africa as a mere supplier of raw material, rather than producer of scientific knowledge. In particular, indigenous peoples' knowledge, resources, and heritage have been cast as free for the taking.

This project takes this history into account when considering how indigenous peoples' are producing knowledge related to climate change and how such knowledge may be characterized as indigenous peoples' intellectual property and/or impacted by dominant intellectual property regimes. Through participatory action research, it considers how the production of such knowledge likely involves some closed practices involving only the indigenous community. Yet, it also considers how indigenous communities determine protocols through participatory action research for what and how such forms of indigenous knowledge related to climate change will be (or won't be) more openly and collaboratively shared with the public. This project thus challenges what is meant by "open and collaborative science" by examining its dynamic processes, revealing the ways in which it sometimes requires simultaneous modes of practice as open and closed.

Total Budget Cost (CAD): 79, 981.00

Section 3: Proposed Study Information

Research Project Abstract

WORD LIMIT: 250.

This project engages in participatory action research (“PAR”) with indigenous KhoiSan peoples to assess the following: (1) how climate change has impacted their communities; (2) how they have produced indigenous knowledge related to addressing climate change and alternative strategies; (3) how such knowledge is characterized (or not) as indigenous intellectual property and openly shared (or not) with the outside public; (4) and what types of laws and policies (including intellectual property rights) promote and/or hinder these strategies and open collaboration with the public? This goes towards re-conceptualizing climate change, intellectual property, and indigenous knowledge not as inevitable environmental changes, natural property rights, or traditional (i.e. less valuable) ways of knowing. But rather to understand them as structured by political, economic, and socio-cultural histories pertaining to indigenous peoples. KhoiSan youth will be encouraged to participate in the research process to learn more about their communities and represent them as future leaders.

This project also enables KhoiSan to develop their own protocols through PAR for mitigating climate change through practices of open and collaborative science that may also involve closed practices (e.g. non-sharing, ownership). PAR enables indigenous communities to determine protocols for what and how such forms of indigenous knowledge related to climate change will be (or won’t be) more openly and collaboratively shared with the public. This project thus challenges what is meant by “open and collaborative science” by examining its dynamic processes, revealing the ways in which it sometimes requires simultaneous modes of practice as open and closed.

Research Problem, Significant and Justification

WORD LIMIT: 1,000. Please provide a brief overview of relevant literature and highlight the knowledge gaps that this project will address. Indicate the size and scope of the problem, as well as how the problem relates to the purpose and goals of OCSDNet; broader national development priorities, and the research and capacity needs of the countries involved.

There is a strong consensus among scientists that humans are interfering with the climate system (e.g. Oreskes 2004, Anderegg 2010, Doran & Zimmerman 2009), and climate change is recognized as one of the world’s greatest human development challenges (UNDP 2009, Hawking 2012). The changing climate and its adverse effects were acknowledged as a common concern in 1992 with the establishment of the United Nations Framework Convention on Climate Change (UNFCCC) (UN 1992).

In recent decades, climate change has impacted on natural and human systems (IPCC 2014), and many indigenous peoples who are reliant upon natural resources are experiencing

climate change impacts earlier than the general population (McLean 2010). Climate change impacts and vulnerability vary between regions and social groups, and people who are marginalized are especially vulnerable (IPCC 2014). Furthermore, inappropriate adaptation actions can result in undermining a communities' adaptive capacity (UNFCCC 2013).

Key principles in building resilience to climate change include recognizing adaptation as place- and context-specific. However, a recent report on best practices for the use of indigenous knowledge (IK) for adaptation highlighted that existing tools may not appropriately incorporate IK into adaptation, that communities face risks and challenges regarding sharing IK in adaptation, and that IK holders also have rights over the use of their knowledge especially when that knowledge is sought or accessed by external parties (UNFCCC 2013).

The relationship between intellectual property (IP) laws and policies and indigenous knowledge-based strategies is a complex one and worth investigating further. On the one hand, it remains highly controversial whether conventional forms of IP are generally suitable for appropriately protecting and managing indigenous knowledge. New research suggests, that the IP approaches that can best allow for African inventors to leverage and optimise their communal power, while also permitting a degree of protection from outsiders, are often not the formal IP modes. Instead, it is often *sui generis* IP models, tailored to specific innovative and creative activity in specific contexts, which are most suitable in African settings (De Beer et al. 2014). In spite of these findings, South Africa's new Intellectual Property Laws Amendment Act (Act No. 28 of 2013) strives to recognise and protect manifestations of IK as a species of conventional intellectual property.

Yet, even if one favoured conventional modes of IP protection over *sui generis* models, it is another question altogether whether IP protection facilitates or instead restricts the development and implementation of IK-based strategies such as the ones developed by the KhoiSan people to mitigate the impact of climate change. Very little empirical evidence on this topic exists and many influential actors promote opposing views about the effect of IP protection in this context. One view is that IP protection is a necessary incentive for those developing innovative strategies and, incidentally, a just reward for exerting time and effort in the process. The opposite view, is that IP protection is not a key driver for developing innovative strategies and, that it can be an impediment to free and open exchanges of culture and knowledge and therefore a stumbling block for innovative activity (Heller and Eisenberg 1998).

This research project responds to the problem that climate change, IP, and IK have each been normatively constructed through mainstream "naturalized" discourses that prevent more meaningful understanding of them individually and how they relate to one another. Such an understanding is imperative for developing more just responses for addressing

climate change and its impact on indigenous peoples. Climate change has been historically characterized as a set of environmental changes that are perceived as “natural” and inevitable. The political, economic, and socio-cultural histories that contribute to climate change have only recently begun to be addressed.

Intellectual property has been constructed in similar ways through “naturalized” discourses that portray IP rights as a set of “natural” property rights. This prevents a more complex understanding of how assigning intellectual property rights to biodiverse resources can contribute to the exploitation of resources in ways that exacerbate climate change. It also hinders a broader discussion of how intellectual property rights relate to other legal orders such as land ownership, biodiversity legislation, and climate adaptation policies. Furthermore, it prevents a larger discussion of how indigenous peoples’ knowledge is itself interpreted as a form of intellectual property and what are the implications of doing so.

Likewise, IK have been historically characterized as “natural” and fixed forms of knowledge production that are static and unchanging. Such historical constructions have hindered a more complex understanding of IK as dynamic and flexible (i.e. adaptive) to local and environmental conditions. Thus, little attention has been paid to IK as providing a valuable form and practice of knowledge production that may provide insights into contemporary problems such as climate change. Furthermore, science often views other forms of knowledge as belonging to lesser hierarchical domains, and when something of value is noticed it is often appropriated without the epistemologies that generated it (Visvanathan 2009). Rather the plurality of knowledge systems needs to be recognised, so that cognitive justice and social justice can be attained (Meneses et al. 2007).

In response to these normative conceptions, this research project re-conceptualizes climate change, IP, and IK as products of political, economic, and socio-cultural histories. This allows for a more robust examination of their relationship to one another in order to develop more complex strategies to address the effects of climate change on indigenous peoples.

The challenges of recognising and integrating IK into local climate change adaptation strategies in South Africa and internationally relate to several key issues relevant to OCSDNet. These include examining ways that the Research Life Cycle can be opened up to rural communities, reducing power inequalities between researchers and communities, and examining tensions between openness and IPR issues. South Africa adopted an Indigenous Knowledge Systems Policy in 2004, and this project will contribute new knowledge and lessons from a climate change adaptation perspective. Furthermore, the National Research Foundation of South Africa has identified that new epistemologies and research methodologies on IK are required.

Research Questions and Objectives

WORD LIMIT: 500. Outline your project's central research question(s), sub-questions, and objectives. There must be congruency between the questions, objectives, research design and methods. You should highlight how the study's questions and objectives will contribute to the research themes of the OCSDNet.

This project proposes four central research questions, they are:

1. How is climate change impacting indigenous KhoiSan communities?
2. How are indigenous KhoiSan communities producing indigenous knowledge related to addressing climate change and offering alternative strategies?
3. How do indigenous KhoiSan characterize their knowledge as indigenous intellectual property (or not) and decide to openly share their knowledge (or not) internally or with the outside public?
4. How and what types of laws and policies (including intellectual property rights) promote and/or hinder these indigenous strategies and open collaboration with the public?

This project proposes a political, ecological approach to understanding the relationship between climate change, intellectual property, and indigenous peoples (Stonich and Bailey, 2000). What is meant by this approach is a way of understanding the relationship between these three facets and how they are structured by political, economic, legal, historical, and socio-cultural processes. A political, ecological approach is thus an interdisciplinary approach. In particular, this project focuses on these facets as they pertain to KhoiSan peoples in South Africa.

When intellectual property rights are discussed, the problem is that they are often considered distinct from issues of climate change and IK. Intellectual property rights, in particular patent rights, however can have a critical impact on the exploitation of biodiverse resources. Patent ownership gives certain entities control over how biodiverse resources are developed and used. Assigning ownership can enable such entities to exploit resources in ways that contribute to negative impacts of climate change. The problem is that we understand very little though of how intellectual property rights relate to issues of climate change, this includes understanding how intellectual property rights relate to IK. Indigenous peoples are greatly impacted by climate change, but may have developed their own forms of knowledge to address these impacts. Yet, intellectual property may prevent indigenous peoples from using their resources to mitigate climate change. Intellectual property rights are an inherently closed system, by restricting access to certain resources such rights may hinder the more open and collaborative practices needed towards developing more robust climate change science involving indigenous peoples' knowledge. Furthermore, indigenous peoples themselves may characterize their own indigenous knowledge as indigenous intellectual property in order to justify keeping it from the public and not openly sharing it. It thus

becomes important to develop new approaches to the study of intellectual property (and climate change and indigenous knowledge) in ways that get at the complex relationships between environment, law, and indigenous peoples to inform the making of better laws and strategies for addressing climate change that benefit indigenous peoples.

This study will mainly contribute towards OCSDNet thematic areas Theme 4. The project will critically examine how KhoiSan develop their own protocols through participatory action research methods to address the effects of climate change through practices of open and collaborative science that may also involve some closed practices.

Stakeholders

WORD LIMIT: 250. Identify and briefly describe your project's stakeholders. How will your project respond to their needs and interests?

The primary stakeholders are the KhoiSan community, collectively the First Indigenous Peoples group in South Africa. They have a range of socio-cultural-economic lifestyles and this project will focus primarily upon the Nama and the Griqua. These communities have been selected because the Nama are one of the few that still practice traditional pastoralist livelihoods, while some members of the Griqua community practice stock-keeping. Natural Justice has existing connections with community leaders through the National KhoiSan Council and they have voiced their support for this project as they feel it is asking very pertinent questions and that the knowledge and experience gained can feed into their wider work on identity and land reclamation issues.

Additional stakeholders in South Africa include:

- The Department of Environmental Affairs' Climate Change and Air Quality Branch;
- The South African Adaptation Network;
- The Department of Trade and Industry.

Regionally, key stakeholders include:

- the African Commission on Human and Peoples' Rights (ACHPR) and the Working Group on Indigenous Populations/Communities in Africa. The Commission has highlighted the lack of human rights safeguards in climate change policies.
- The African Regional Intellectual Property Organisation;
- The proposed Pan African Intellectual Property Organisation under the African Union.

Internationally, the main stakeholders are;

- The United Nations Framework Convention on Climate Change (UNFCCC), specifically the Nairobi Work Programme, which includes a database on case studies for the use of IK in adaptation.
- The World Intellectual Property Organisation, a key global stakeholder in terms of IP.

Research Design & Methods

WORD LIMIT: 1,000. In this section, applicants should clearly indicate and justify the proposed study design. You should discuss how you intend to collect the data that you will need to achieve the study's objectives and answer the project's research questions. You should clearly outline how each data collection activity will contribute to the study objectives.

Participatory action research ("PAR") design and methods aim to reduce the power relations within and between researchers/researched and hierarchies of knowledge production by involving marginalized groups within the design, implementation, and outcomes of the research. Early incantations of PAR flowed out of civil rights and grassroots social movements (Freire 1968). Such movements challenged how research on marginalized groups has historically committed violence against marginalized communities through positivist assumptions of a disinterested researcher producing "objective" findings (Chambers 1983, Fals-Borda 1991).

Rather than studying communities from the "top-down," PAR takes a "bottom-up" approach by developing partnerships with communities to identify key issues of importance and develop ways of doing research, interpret results, and take action on the findings (Smith et al, 2010). This enables the research to better respond to the interests and needs of the community in ways that benefit the community (Maguire, 1996). PAR will be conducted through techniques of qualitative research, involving semi-structured interviews, participant observations, and document review. Collaboration between researchers and KhoiSan will occur through individual face-to-face meetings, community consultation meetings, and/or by phone, electronic mail, and Skype. Community consultation meetings will enable KhoiSan members to design, conduct, and participate in the research process by meeting and working together as a larger, collective group in collaboration with the researchers.

Researchers will initially meet with KhoiSan leaders (See Proposed Timeline - Activity 2) to consult on the scope of the project. Initial community meetings with leaders will focus on finalizing a date for the first community consultation meeting, determining meeting participants, establishing researcher guidelines, and designing activities for community consultation meetings. The first community consultation meeting (Activity 3) will engage approximately 25-30 KhoiSan within the larger research process. KhoiSan will be asked to engage in small and large group activities to discuss the above-mentioned research objectives. Activities will encourage open-ended discussions to facilitate a broad discussion of the relationship between climate change, indigenous knowledge, and intellectual property. During the community consultation meeting, KhoiSan will also work with researchers to design interview questions related to the research objectives. KhoiSan will conduct interviews in collaboration with researchers. Researchers anticipate a strong preference will be

given by KhoiSan towards designating members of KhoiSan youth. Plans will be discussed for how to implement the interview process and possible limitations. Researchers will be in attendance at community consultation meetings. KhoiSan will lead the meetings, but researchers will serve as facilitators. Researchers will also engage in extensive note-taking during meetings, which will serve two purposes: participant observation research related to the research objectives, and for record keeping. All notes will be transparent and openly provided to KhoiSan for their own records as well.

After the meetings, over a set period of time to be determined by KhoiSan, the KhoiSan designated as interviewers will then interview other KhoiSan community members, deploying the research questions they previously designed during the community consultation meetings. Interviews will be conducted with researchers in attendance, but KhoiSan will primarily be conducting the interviews themselves. KhoiSan may choose to use tape recorders provided by researchers to conduct the interviews or take hand-written notes. Researchers will provide additional note taking if appropriate and given permission by KhoiSan.

Once interviews are completed, researchers will compile, transcribe, and code all interviews. After interviews have been coded and analyzed for underlying patterns, researchers and KhoiSan will meet during a second community consultation meeting (Activity 4) to discuss results and common themes. KhoiSan will be encouraged to question results and develop additional themes if appropriate. Considerable time will also be spent during this meeting having KhoiSan develop guidelines and protocols for what and how information gathered should or should not be shared with the public. KhoiSan and researchers will also begin to discuss and outline plans for research outputs in the form of written reports and/or publications, which may be shared and reviewed during a third meeting (Activity 5).

This project deploys PAR, but it is not without its limitations (Cooke and Kothari 2001, Hickey and Mohan 2004), and requires continual and ongoing reflexivity on the research process itself and on the positionality of participants in ways that attend to the relative structures and hierarchies of power at issue (Kesby 2005, Nagar 2003). To ensure more meaningful PAR methods, feedback loop sessions will be incorporated into the research design and implementation, to assess whether PAR is meeting its goals and what factors and relations of power may be constraining the project. These sessions are planned to occur in conjunction with and as key components of planned community consultation workshops. These sessions will invite participants (co-investigators and community collaborators) to assess the manner in which the research is being carried out, whether it meets its stated goals, and what factors and relations of power may be constraining the project. Sessions will include activities that facilitate discussion, rather than reduce feedback to a mere

survey form. This will include brainstorming sessions, small and large group discussions, and opportunities for anonymous feedback to be shared with participants. Feedback loop sessions are thus meant to enable the grappling with power relations and reflexivity that is needed to make PAR more meaningful.

In parallel to the PAR process, the principal researchers will conduct desktop research to examine what types of laws and policies (including intellectual property rights) promote and/or hinder community adaptation strategies. The researchers will also analyze the results of PAR, the policy analysis and community responses to it, and author papers synthesizing these elements and reflecting on the findings.

Furthermore community representatives, will also be trained in climate change and their rights, and facilitated through a process where they will decide how best to utilise the knowledge produced and through meetings with government, experts and practitioners, there will be opportunity to begin to influence climate change adaptation policies and initiatives. These processes and outcomes will also be documented and evaluated to determine aspects such as whether they are altering power relations and deepening the understanding of developmental issues.

Analysis & Synthesis

WORD LIMIT: 1,000. Describe how you intend to organize, examine and model data to arrive at conclusions and insights.

Researchers intend to deploy constructivist grounded theory methods of qualitative data collection, enhanced by feminist sociologists Adele Clarke and Kathy Charmaz, as a guide for coding and interpreting the data. (Clarke 2005; Charmaz 2006) Techniques of grounded theory will be used to code and analyze the interview transcripts, participant observation notes, and legal documents collected. Traditional grounded theory coding methods were first developed by Glaser and Strauss (1967), and then taken in different directions by Strauss and Corbin (2008) The conceptualization of data through coding is the key to producing classic grounded theory (Holton 2007, 266). Coding enables the researcher to examine the data and begin to conceptualize underlying patterns, which eventually reveal a theoretical understanding (Ibid). Researchers will deploy a “situated analysis” form of coding though that takes power and inequality into account (Charmaz 2006, 46). Codes are assigned in a manner that emphasizes the actions and processes going on in the data. In other words, how the data is “situated” within the larger context and meaning of the indigenous community and their own articulations. (Charmaz 2006, 46) This means paying attention to how hierarchies of power within the community, between KhoiSan and researchers, and in relation to the nation-state may arise within discussions over climate change, indigenous knowledge, and

intellectual property.

In other words, this form of qualitative data analysis is aligned with a “decolonizing methodology” (Smith 1999). As Linda Tuhiwai Smith points out, research has historically contributed to the colonization of Indigenous peoples and the positioning of closed models of Western knowledge production as superior by failing to take indigenous peoples’ knowledge into account (Ibid). This project seeks to “decolonize” these historical modes of producing knowledge by positioning indigenous KhoiSan peoples as producers of climate change knowledge through open and collaborative participatory action research processes that simultaneously involve open and closed processes.

Coding and interpreting the data through “situated” grounded theory techniques, aligned with a “decolonizing methodology,” will enable more robust findings and conclusions benefiting indigenous peoples. Findings and insights will be discussed between researchers and KhoiSan as mentioned above during community consultation meetings.

Outcomes & Outputs

WORD LIMIT: 700. Describe the major project outputs and intended outcomes. Your project outputs should creatively reflect the principles of open and collaborative science.

The project will conceptualize climate change, intellectual property, and indigenous knowledge so they are better understood in relation to each other in an interdisciplinary way as structured by the political, economic and socio-cultural histories of the KhoiSan peoples.

The project will produce the following outputs:

Collaborative, open access, peer-reviewed articles concerning:

- The political, ecological approach to understanding the relationship between climate change, intellectual property, and indigenous peoples and in particular the KhoiSan peoples and their indigenous knowledge regards to climate change adaptation.
- The laws and policies including intellectual property rights that promote and/or hinder community strategies regards KhoiSan indigenous knowledge in adaptation.

Popular outputs will include the following:

- A community-accessible resource on the impact of laws and policies on IK.
- A presentation at the annual Southern African Adaptation Colloquium.
- A case study produced for the ‘database on best practices and available tools for the use of indigenous and traditional knowledge and practices for adaptation’, Nairobi Work Programme, UNFCCC.
- A presentation at a joint Side Event, at the twenty-first Conference of the Parties

(COP21) 30 November – 11 December 2015, Paris, France.

Regular project updates via Natural Justice's [Webpage](#), [blog](#), [Facebook page](#), and [Twitter account](#) and via collaborator organisation websites, such as [UCT's Intellectual Property Unit](#), the [Open AIR network](#) (including the network's social media offerings), [Gender Studies](#) and [OCSDNet website](#) and community.

The outcomes of the project will include that the KhoiSan co-researchers and community representatives develop their knowledge, skills and capacity in climate change and IK, and through the identification of opportunities for engagement with policy makers and practitioners, engage and potentially influence dialogues from the local to international level.

The outcomes within the wider KhoiSan community will be an enhanced recognition of the importance of KhoiSan IK and rights in adaptation projects and programmes within South Africa. The discussions on IK and IPR within the context of climate change adaptation will feed into broader discussions in South Africa relating to KhoiSan identity, land rights and the land restitution process.

Outcomes at the international level will include enhancing the knowledge base regards appropriate intellectual property rights regimes and practices, and recommendations for developing legislation, guidelines and protocols to protect and recognize indigenous knowledge in climate change adaptation - this has been identified as an important need within the UNFCCC. Furthermore, the advocacy element could lead to more open attitudes towards how IK holders can be effectively engaged in adaptation processes and their rights respected.

Knowledge Translation & Dissemination

WORD LIMIT: 700. Describe how you will disseminate your outputs. To ensure that the results of your study are applied to address development challenges, explain how you intend to package, disseminate and promote the application of your findings amongst relevant stakeholder groups.

This project will utilize a variety of external communications mechanisms to increase its impact. Knowledge products and publications will be produced and disseminated through a diversity of pathways. The scientific manuscripts will be disseminated through open-access, peer-reviewed journal platforms, and links to these will be circulated, for instance, through the [Climate-L](#) email announcement service, online through the collaborative organisations websites, the OCSDNet platform, and through social media. The case study produced for the 'database on best practices and available tools for the use of indigenous and traditional knowledge and practices for adaptation', Nairobi Work Programme, UNFCCC, will be

housed on the UNFCCC web page and links distributed electronically. The policies and legal research will be distilled down into a short community-accessible leaflet and will be available in English and Afrikaans, which is spoken by many rural KhoiSan communities.

The project will utilise public presentation opportunities from local to international levels. Globally, findings of the research will be presented at a Side Event during the twenty-first meeting of the Conference of Parties, UNFCCC in Paris 2015. The Southern African Regional Colloquium will be utilised to share the projects findings regionally. Short presentations will also be offered at one-on-one meetings with key stakeholders, such as national, provincial and municipal government.

To appeal to as broad an audience as possible multimedia mechanisms will be harnessed, and a photo-essay of the research process will be produced to illustrate the projects narrative. Social media will also be used to provide regular updates on the research process and to highlight the key contextual issues related to the project.

The researchers and KhoiSan representatives will also strive to take advantage of different fora where they engage as part of their wider work to promote the project and to reach out to interested persons and organisations. KhoiSan representatives will devise their own advocacy strategies and engage with key stakeholders in climate change adaptation and seek to raise awareness of community rights and IK holders rights issues.

Network Connections & Interactions

WORD LIMIT: 500. Illustrate how you will contribute to the overall OCSDNet framework and themes. Draw on other initiatives and approaches discussed at the OCSDNet workshop, if applicable.

This project will challenge what is meant by 'OCS' by examining its dynamic processes, and thus the project will contribute predominantly to OCSDNet framework theme four (T4). Through PAR and 'Feedback Loop Sessions' this project will consider the positive and negative impacts of 'OCS' in the context of IK and climate change adaptation. The project will also examine the legal and policy situation of climate adaptation IK in South Africa and consider the different models of IP protection and how they may protect not only IK holders rights but also how they would impact upon facilitating or restricting IK-based strategies to climate change. Furthermore, through the PAR process, the community will determine their own protocols for if and how they will share their IK. This research will thus provide insights into the implications of the degree of openness and collaboration in science and impacts upon IK holders rights and also relationships to IPR. In terms of the broader Institutional Analysis and Development (IAD) framework, this project will contribute towards a deeper understanding of the motivation and the process whereby the community engage (or not) with openness.

This project connects with the project entitled ‘open science as a tool of collective empowerment in French-speaking Africa and Haiti: how to build the roadmap’, as both share a common theme of cognitive justice. In our case this relates to the recognition of IK in climate change adaptation strategies at local, national and international levels. Common themes with other projects includes the ‘improving adaptive capacity by combining open collaborative science with innovative landscape governance: a case study in two model forests’ project, as this project shares one of our aims which is to facilitate a process whereby communities themselves decide upon their responses and strategies to climate change, the differences being in the aforementioned project the communities will mainly be engaging in data from traditional scientific approaches and focusing upon producing and testing adaptation strategies, whereas our project seeks to produce new knowledge with the community as part of the process. Whether IK is recognised as valuable in adaptation strategies includes elements concerning how those in power view the legitimacy of IK and IK holders; the legitimacy of knowledge produced through non-traditional science is a theme explored by the project ‘collaborative science for sustainable agriculture: overcoming health, inclusion and environmental challenges in Argentina’ and thus there are commonalities with this project.

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