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RESEARCH ARTICLE

Knowledge action repertoires and the outcomes of collective action: local community action for environmental protection

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ABSTRACT: The article uses the knowledge practice repertoire approach, combined with an integrated opportunity approach, to investigate the role that local community knowledge based on holistic worldviews plays in the formation of collective actors, action and outcomes. This is argued to be crucial given that environmental governance is shaped instead by knowledge based on a worldview of a nature/culture divide, and that local community knowledge is key to responding to the planetary crisis and subject to this potential ontological clash. Attention to local community collective action using this lens can shed light on whether and how spaces can be made for different approaches, giving a fresh view to how outcomes matter. The article presents two case studies of local community collective action through community protocols from South Africa and Argentina. Community protocols are documents, recognised in international environmental law, where local communities set out their worldviews, their traditional knowledge and practices in support of environmental protection, and link these to rights and protections in national and international law as a basis for collective action. They are thus ideal sites for investigating knowledge practices and ontological politics. Focusing on different types of knowledge practices and opportunity contexts helped to untangle the complex question of how outcomes mattered to the local communities in these cases.

KEYWORDS:

Repertoires of knowledge practices, collective action, environmental activism, local communities, community protocols.

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1. Introduction

Understanding and harnessing local and indigenous communities' unique knowledge of their lands and their collective action for the environment matters for efforts geared towards more democratic environmental governance. This has been recognised across arenas of global environmental governance, beginning from the 1992 Rio Declaration on Environment and Development, and in more concrete ways in the United Nations Convention on Biological Diversity (CBD) and Framework Convention on Climate Change (UNFCCC) (Parks 2020; Savaresi 2018). Literature on environmental governance also underlines the need to be sensitive to the specificities of local contexts (Jasanoff and Long Martello 2004), and to heed local community knowledge (Murphree 2004), but this is far from being achieved. Collective action can bring local knowledge, including traditional knowledge, to the attention of environmental decision-makers, contributing eventually to an 'ecological democracy' (Stevenson and Dryzek 2014) or at least to the legitimacy and efficiency of policy (Bäckstrand and Lövbrand 2006). In this view, local community knowledge about the environment is of global interest, yet where it is based in worldviews with different roots to those that underpin global governance bringing such knowledge to bear on decision-making is particularly challenging, and faces issues of 'ontological politics' (Ulloa 2019:68). This article investigates how such knowledge, rooted in non-dominant worldviews, is used in the formation of collective actors and action, and shapes our understandings of outcomes. In that sense, it aims to bring together insights about the importance of locally-rooted knowledge in environmental decision-making discussed extensively in scholarship on environmental politics with those of studies of collective action and its outcomes. It draws on della Porta and Pavan's idea of repertoires of knowledge practices (2017) to bring a clear focus to community-rooted knowledge beyond more strategic questions of framing in a study of two specific cases in Argentina and South Africa. The communities in these cases both built collective action on the basis of traditional knowledge.

The experiences of environmental governance of local communities, including indigenous peoples, have a chequered history (put it mildly). Environmental protection has often been imposed from above with little understanding of local knowledge and expertise, specificities, needs and traditions, and has thus failed to achieve objectives (Robbins 2012). Critical literature on environmental politics locates the root of this problem in the diverse types of worldview or ontologies that underpin approaches to environmental protection and stewardship (e.g. Adger et al. 2001; Escobar 1995; Ulloa 2019). International and national approaches are underpinned by the current dominant discourse which places market capitalism and economic growth high on the agenda (though seeking to make growth 'green') and separates nature and culture, conceiving of 'nature' as separate from society and as a set of resources (Uggla 2010). In many places in the world, local community and traditional knowledge about nature and the environment rests instead on worldviews that are holistic in outlook and include the planet and other species and in a single community, with no link made between nature and economic growth (e.g. Bavikatte 2014). The critical literature argues that the dominant discourse of the nature/culture divide has ultimately produced the current planetary crisis, and cannot form the basis for resolving it (e.g. Natarajan and Khoday 2014). Making space for other worldviews, contained in local community knowledge, is crucial in this view, and this is why environmental politics and governance has long been subject to discursive contestation (Escobar 1998).

This article contributes to this key debate about how local community knowledge rooted in holistic worldviews can impact environmental politics and governance by drawing on work on collective action and its outcomes. It also speaks, albeit indirectly to the debate about how genuine politicisation can be introduced into environmental politics and activism by addressing the question of underlying worldviews or ontologies. Because of the focus on a particular question of knowledge rooted in ontologies and thus acquired through epistemologies that are different to those that shape knowledge in much of the globe (de Sousa Santos 2014),

the repertoire of knowledge practices approach is used (della Porta and Pavan 2017). Framing approaches are of course the most tried and tested approach in studying how knowledge and ideas are presented in collective action so as to achieve certain outcomes. They focus on the strategic presentation of knowledge. To understand how worldviews shape the formation of collective actors, action and outcomes requires a shift in focus from how actors frame and towards how their worldviews shape knowledge and thus action. Framing is an important part of the story, but is not the focus of this piece. The knowledge practice approach, which concentrates on how social movements use knowledge about the world and how it should or could be, about action networks, and about alternative solutions compared to the status quo appears to fit the bill for this aim. Knowledge practices intersect to define a movement by describing a concern which may then form the basis for collective action, and was developed precisely to explore how collective actors emerge in contexts of crisis where knowledge is central and contested (della Porta and Pavan 2017:299).

Understanding outcomes thoroughly also requires attention to relevant contexts however, since collective actors are strategic in their interpretations of opportunities and threats (Meyer 2004). Political opportunities have long been established as central to understanding how collective action unfolds in given contexts (ibid), and discursive opportunities were later added to this view precisely in order to capture the opportunities and constraints offered by the ontologies underpinning political contexts (Koopmans and Statham 1999). The case studies that form the basis of this article also warrant attention to legal opportunities (Giorgi 2018; Vanhala 2018), since both feature the adoption of community protocols. Community protocols are ‘charters that set out or codify the rules and procedures by which a community normally manages its resources and associated TK [traditional knowledge], and regulates access to them’ (Rakotondrabe and Girard 2021:3). They are intended to serve as a ‘legal interface’ between external actors and a community’s ‘space within’ (Bavikatte, Robinson, and Oliva 2015:4) that articulates local knowledge in order for it to be properly considered in environmental decision-making. Community protocols are included in the legally binding Nagoya Protocol to the Convention on Biological Diversity, which addresses the fair and equitable sharing of benefits deriving from the uses of genetic resources, and are thus referred to in national law in various states (ibid). As protocols have become more recognised, they have come to be used by communities beyond the scope of benefit-sharing, despite not having formal legal value, as they can be used to express local knowledge and positions in various processes where local participation and consent is foreseen (Parks 2020).

Community protocols can thus also be understood as tools for collective action in themselves that seek to aid communities in upholding their rights by asserting the worth of their roles in environmental protection, and claiming and contextualizing rights in international, national and customary law. They also allow communities to outline their future visions and solutions for perceived threats (Jonas, Bavikatte, and Shrumm 2010). Knowledge is at the heart of community protocols, as communities use them to describe their worldviews, institutions, contributions to environmental protection, perceived threats, ideal solutions, and more. In this work attention is paid to the processes of drafting community protocols, because it is during these processes that knowledge rooted in holistic worldviews meets with collective action. In other words, they are sites of knowledge action repertoires. The community protocols themselves are considered as receptacles of these knowledge practices that define a concern for collective action to coalesce around. In working out the content of community protocols, local communities are in some sense becoming or redefining themselves as collective actors. How knowledge practices unfold when drafting community protocols is thus considered important for reflecting on the outcomes of subsequent collective action.

Community protocols have not been studied in a collective action perspective, yet bringing collective action approaches to bear on actors that are not mass social movements is argued to be important to a better understanding of the field (McAdam and Boudet 2012). They have been discussed with regard to the implementation of environmental policy (Jukic and Collings 2013), as tools for legal pluralism (Bavikatte

2014; Bavikatte et al. 2015; Jonas et al. 2010; Tobin 2013) and the protection of traditional knowledge (Rakotondrabe and Girard 2021), and as sites for translating community understandings about environmental protection (Delgado 2016; Parks 2020). The processes of negotiating community protocols have been discussed with regard to addressing power asymmetries, and it has been hypothesised that the inclusivity of discussions has some bearing on this (Parks 2018).

The article proceeds as follows. The following section on the theoretical framework sets out the repertoires of knowledge practices approach in detail in the context of arguments about hegemonic discourses of knowledge from the literature on environmental politics. The integrated opportunity approach is also outlined. A brief section on methodology and methods comes next, followed by an in-depth discussion of the community protocol case studies. The case studies comprise the two editions of the Biocultural Protocol of the Traditional Health Practitioners of Bushbuckridge in South Africa, and the Tracks in the Salt community protocol of the communities of Salinas Grandes and Laguna de Guayatayoc in Argentina (Comunidades indígenas de las Salinas Grandes y Laguna de Guayatayoc de Jujuy y Salta 2015; Traditional Health Practitioners of Bushbuckridge 2010, 2017). These illustrative cases are not intended to lead to any general claim about the role of knowledge practices in collective action and outcomes. Instead, they reveal how attention to knowledge practices adds to understandings of action and outcomes in context, and how outcomes matter to communities. The approach to outcomes is thus to focus on the role of the constitution of the collective actor, albeit without abandoning the crucial work of reading outcomes in context (Bosi, Giugni, and Uba 2016), to uncover how outcomes matter.

2. Theoretical framework: worldviews, repertoires of knowledge practices in context, and community protocols as the basis of collective action and outcomes

To motivate the choice of a knowledge practices approach to understand how community protocols can be read as moments of the constitution of a collective actor, action and outcomes, it is first helpful to situate the distinct role of holistic worldviews as the anchor of local knowledge in questions environmental politics and governance.

Critical scholars from a range of social scientific disciplines argue that a hegemonic worldview rooted in capitalism and colonialism underpins the development of global environmental governance. A capitalist or market-based worldview is understood to shape policies in ways that privilege economic gain above other goals. Market-based relations between States, and among communities, are argued to damage local approaches to social organisation that do not privilege economic gain (Ribot and Peluso 2003; Svarstad and Benjaminsen 2020). Colonialism is understood as intertwined with capitalism as a strategy for market expansion, and to continue to shape relations between countries in the global North and South on the basis of exploitation (Choudry and Kapoor 2013; Natarajan and Khoday 2014). These discourses comprise an understanding that ‘nature’ or ‘the environment’ is separate from ‘society’ or ‘culture’. ‘Nature’ is considered to be a resource at the service of humankind, which threatens systems that regard humankind and nature as one (Uggla 2010). Ironically, these holistic views have tended to produce social systems that are better for environmental protection and create ‘goods’ that global environmental governance seeks to protect (Vermeylen 2017). The nature/culture divide also characterises understandings of what knowledge is in this worldview. Knowledge is linked to culture (separate from nature) and the scientific method originating in Enlightenment thought traditions. International environmental law and governance is argued to have developed within the boundaries of this discursive structure (Natarajan and Khoday 2014). Discourses of sustainable development, green economy, and ecological modernisation are argued to falsely promise that economic growth can continue in environmentally respectful ways; the nature/culture divide and

certain definitions of knowledge are reflected in the fragmentation of environmental regimes and in technological answers to environmental problems (Dryzek 2005; Marion Suiseeya 2014; Stevenson 2018).

Many local knowledges, or traditional or indigenous knowledges, are argued to have grown from different worldviews. Although these are varied, it has been argued that many local and indigenous ontologies have a holistic view of nature and culture in common (Bavikatte 2014; Uggla 2010; Ulloa 2019). This means that understandings of approaches to resolving environmental problems are similarly holistic rather than fragmented, are not oriented to treating economic growth as fundamental and, crucially for this article, are based on knowledge that is not rooted only in the scientific method. Ulloa argues that ongoing difficulties in reconciling local knowledge in climate change politics can be attributed to such reasons (2019). Representatives of indigenous and local communities thus argue that “Overcoming dualism, separation and imbalances in relationships between humans and nature is central to addressing the biodiversity and health crises, including the rise of zoonotic diseases and pandemics. Sustained interactions and partnerships between sciences and indigenous and local knowledge systems— inclusive of women, men, elders and youth—are enriching contemporary problem-solving with holism and reciprocity. Indigenous ways of knowing and being evoke and inspire new narratives and visions of culture and nature working together within a living and sacred Earth” (Forest Peoples Programme 2020). This is why the role of local communities and their knowledge has been underlined, as highlighted earlier, as crucial to the fight against climate change and biodiversity loss.

There is thus good reason to investigate how this ‘clash’ of ontologies and their corresponding knowledges could be resolved. Though the picture painted in the critical literature is bleak, some argue that there are spaces for the potential disruption of these discourses. The contributions of indigenous and local community actors to environmental protection have been acknowledged in sites of environmental governance since the 1992 Rio Declaration on Environment and Development. This creates spaces for different types of knowledge according to Jasanoff and Long Martello, who argue that the increasing understanding of the complexity of environmental problems as affecting entire ecosystems has led global actors to appreciate the need for local knowledge (2004). This is particularly true for the CBD, which is argued by Schabus to provide an ‘unprecedented space for indigenous participation’ (2017:26). Article 8(j) of the CBD refers to the need to ‘respect, preserve and maintain the knowledge, innovations and practices of indigenous and local communities’ where these are useful for conservation. Although there are clear limits to the effects of this recognition since the CBD is a framework treaty implemented by States party to it, CBD decisions represent some challenges to the discourses of capitalism and colonialism when referring to indigenous peoples and local communities (Parks 2020). The CBD, as already discussed, is particularly relevant for community protocols which are cited in its Nagoya Protocol (Convention on Biological Diversity 2010). Indeed, this was the result of efforts by advocates and representatives of indigenous peoples and local communities (Bavikatte et al. 2015).

To really focus on local knowledge, understood as based in holistic ontologies and linked epistemologies that differ significantly from the knowledge and discourses that shape environmental governance, the knowledge action repertoire approach suggested by della Porta and Pavan is appropriate (2017). The aim of the knowledge action repertoire approach is to map three different types of knowledge practices which intersect to define a collective actor (and thus action choices and outcome aims). These involve concepts but also spaces: the knowledge practices which constitute collective actors concern the ways they understand the world, its problems and possible solutions, and organisation and action. The authors tie these to dimensions described in the work of Eyerman and Jamison: the cosmological, technological, and organizational (1991). The cosmological dimension concerns worldviews and attitudes to these. The technological dimension is more selective, concerning which specific aspects within a worldview, how these aspects should be changed and how. Here, this refers to how the dominant worldview should change to accommodate holistic knowledge. Finally, between these two, is the organizational dimension which concerns spaces for producing, transmitting

and experiencing knowledge (della Porta and Pavan 2017:304–5). These three dimensions interact to form a concern that can then lead to collective action.

As knowledge practices are at the basis of how a collective concern is formed in cases where knowledge is central to resolve a crisis, understanding them is argued to be key to reading how subsequent collective action matters. Studies of the outcomes of collective action generally argue that uncovering causal paths requires a contextualized and complex view of the different resources (cultural and structural) actors mobilize. Knowledge that falls into Eyerman and Jamison's (1991) technological dimension is one such resource that has been studied with regard to outcomes in collective action for the environment, often defined as 'expertise' (Chesta 2020)Click or tap here to enter text.. Recent work has also reflected on how far the deliberative quality of knowledge plays a role in convincing decision-makers (Uba 2016). On the cosmological dimension, studies also consider how different worldviews translate into collective action (Dunford 2016; Méndez Cota 2016), while a rich body of work concerns the organizational dimension and discusses the role of networks (Hadden 2015; della Porta et al. 2006). The idea that different types of knowledge matter when investigating collective action and its outcomes is thus well established. Here, the repertoires of knowledge practices approach allow a focus on how knowledge rooted in holistic worldviews feeds into the definition of actors and action, and how outcomes makes spaces (or not) in arenas underpinned by the dominant worldview.

To operationalise these knowledge dimensions, della Porta and Pavan build on the concept of repertoires of contention and outline 'practices of knowledge production' with reference to three types of knowledge practices: about the collective self, about the action network, and about the production of (political) alternatives (della Porta and Pavan 2017). Knowledge of the collective self involves both the cosmological and organizational dimensions and addresses processes of self-reflection by a collective actor. The self-reflections that took place in the camps of the Occupy movement are offered as one example that illustrate how these knowledge practices encompass both cosmology (what does the collective actor believe about the world) and organization (how should we act with respect to how we believe the world should behave) (ibid 2017). This is certainly about collective identity and the perception of discursive opportunity structures, but the knowledge practice approach shifts the focus to the process and its inherent value for the constitution of a collective concern. It is thus useful to examining the processes that lead to the adoption of community protocols.

Knowledge practices about the action network concern all three dimensions: cosmological, technological and organizational. They involve the ways that collective actors build themselves strategically by using knowledge about 'diverse agendas, competences, and resources' (2017:306) and forming networks for action based on that knowledge. Again, this is certainly tied to the concept of strategic action networks, but the focus is on how knowledge practices guide the formation of those networks in service of the collective self. In the case studies discussed below, this allows attention to the careful choices of allies and support by the local communities. Avoiding networks that would compromise their knowledge-based collective action was a clear aim in both. Finally, knowledge practices about the production of (political) alternatives concern the technological dimension. These knowledge practices might involve the construction of knowledge by the collective actor, or the combination of local and 'expert' or scientific knowledge. This underpins critiques of current ways the world is governed and suggest alternatives. The collective actor is seen as a knowledge producer in a way that sits more comfortably in a resource mobilization approach: the collective actor builds or engages in bricolage to produce new knowledge and suggested alternatives which guide strategic action. The strength of the knowledge practices approach is to consider how these practices intersect in the ongoing constitution of a collective actor, leading to a deeper understanding than might emerge from a resource-oriented view or a focus on any single knowledge practice. In the cases here, practices about the production of (political) alternatives

allow a consideration of how community protocols and related collective action try concretely to make spaces for the alternative knowledges held by local communities in decision-making on environmental issues.

At the intersection of knowledge practices, we also gain a deeper understanding of a collective actor's perception of barriers and opportunities. The knowledge practices approach can thus shed light on how opportunities are perceived – which is central to any explanation of collective action as a strategic response in a given context (Tarrow 1998). Nevertheless, a full understanding of the outcomes of collective action also requires attention to contexts themselves. The political process or opportunity approach, first adopted in social movement studies to understand why and how social movements mobilize, has also been found important in the study of influence and outcomes (ibid). Political opportunity approaches generally concern opportunities and threats stemming from structural conditions determining how 'open' or 'closed' a polity or other relevant political context is to different types of collective action, as well as describing various aspects that help identify more dynamic factors in political contexts that facilitate or hinder action, and thus shape outcomes (Meyer 2004). Political contextual factors found to have particular relevance for understanding outcomes include features of governments and opposition, openness to dialogue with civil society, the resources held by administrations, protest policing styles, the presence of elite allies and enemies, the presence of intra-elite conflict, and the proximity of elections (Kolb 2007). Nevertheless, political opportunity approaches have been criticized for excluding non-political factors that mediate the outcomes of collective action to political variables at the expense of others, which contradicts the established finding that paths to outcomes are multiple and conjunctural (Amenta et al. 2010; Giugni 2007).

For this reason and to mirror the different knowledge practices discussed thus far an integrated opportunity approach that considers a wider range of factors is adopted here (Giorgi 2018). One prominent criticism of the political process or opportunity approach concerns its lack of attention to cultural factors, which gave rise to the discursive opportunity approach (Koopmans and Statham 1999). Essentially, this draws attention to the discursive contexts within which movements seek to make their messages resonate. It bridges scholarship on movement framing with the opportunity approach (2018). Considering discursive opportunities is clearly related to the question of how local community knowledge-based collective action can make spaces in contexts defined by a different ontological base. It can help interpret knowledge practices by identifying the opportunities and barriers posed by the discursive context. Finally, legal opportunities are also key to understanding the context of knowledge practices in cases of community protocols. Existing work focuses on the structural features of legal stock (the body of law applicable in a particular context), rules on legal standing (access to courts) and rules about legal costs (Vanhala 2018). Legal contexts are particularly relevant for community protocols, since they were originally conceived as tools for legal pluralism (Jonas et al. 2010).

In sum, the knowledge action repertoire approach is chosen here as appropriate for a discussion of how ontological politics (Ulloa 2019) play out in cases of community protocols. This is because community protocols are drafted to express the local knowledge, based in holistic worldviews, of communities. This local knowledge is argued to fit with difficulty into decision-making which is underpinned by a dominant worldview rooted instead in the nature/culture divide. How subsequent collective action seeks to negotiate this situation, and make spaces for different kinds of knowledges in the dominant discursive context, is crucial for a full understanding of outcomes and their impacts. The knowledge action repertoire approach unpacks the practices in these processes where ontology, epistemology and resulting conceptions of knowledge are key. This is not to argue against other approaches to tracing outcomes: the knowledge action repertoire approach is appropriate to cases where contested knowledge is central, and can also be combined with other approaches. Here, it is complemented by an integrated opportunity approach.

3. Methodology and Methods

The aim of the two case studies presented in this article is to investigate the drafting processes of community protocols in context, and to summarise collective action and outcomes in light of these using a knowledge action repertoire approach combined with the integrated opportunity approach. This can give an idea about how a knowledge practices approach might provide a deeper understanding of how local communities come to form a common concern as the basis for collective action. The case studies were originally part of a selection made for the purposes of a project that sought, among other things, to explore local community framings of issues linked to benefit-sharing (Parks 2020).¹ The case selection and methods employed to gather data nevertheless focused on community protocols and their outcomes, and the project departed from a constructivist view about how communities build meaning through interaction that is appropriate to a knowledge practices approach.

The first case study is the community protocol of the Kukula Traditional Health Practitioners from the Bushbuckridge area in South Africa. This community protocol was drafted in 2009, and updated in 2017 (Traditional Health Practitioners of Bushbuckridge 2010, 2017). The main theme in this protocol is access to medicinal plants. The second case study is a 2015 community protocol adopted by a group of 33 small communities from the Salinas Grandes and Laguna de Guayatayoc area in the north east of Argentina entitled ‘Tracks in the Salt’ (Comunidades indígenas de las Salinas Grandes y Laguna de Guayatayoc de Jujuy y Salta 2015). This protocol focuses on consultation procedures for actors wishing to access the communities’ lands. The two cases vary in terms of subject matter, geography, and the stage of development of the community protocol. In that sense they are not discussed in a formal comparative perspective, but as providing different sites for investigating the complex ways that knowledge practices shape the formation of concerns for collective action in different contexts. The aim is not to make general claims about how knowledge action repertoires shape action and outcomes, but to explore how they can inform accounts of specific episodes and how outcomes mattered to the communities concerned.

Both communities were approached through NGOs engaged in long term projects with them. The NGOs were aware of the potential disciplining consequences of their work with communities (Choudry and Kapoor 2013).² It should however be noted that to the extent that the case studies were assisted by these NGOs, the research findings are shaped by their perspectives. Chosen methods sought to address this possible bias and respond to ethical questions raised by research with marginalized communities by remaining as ‘hands off’ as possible (Parks and Morgera 2019). Methods were chosen in consultation with both NGOs and in line with the consent of communities. Participant observation of meetings that had already been scheduled was a primary source of data in South Africa. Unstructured group and individual interviews were used in Argentina, as communities did not give consent for their meetings to be observed. Instead, individuals spoke about their experiences and views of the community protocol process. The community protocols themselves, which are in the public

¹ Benefit-sharing is a concept that continues to evolve in international environmental law: it concerns how to achieve equity in environmental governance by rewarding efforts for environmental protection. This may involve different inter-State arrangements (payments, technology transfer etc.) or intra-State agreements between private actors and communities, or State authorities and communities, for example via profit-sharing, job creation, the recognition of customary practices and more. It is rare and much criticized in practice, and tied to the importance of traditional knowledge and genetic resources in the most established regime on ‘access and benefit-sharing’ in the Convention on Biological Diversity. It can be understood in that view as an attempt to address problems linked to biopiracy. See Morgera (2019) for a detailed discussion.

² In South Africa, the NGO partner was Natural Justice, <https://naturaljustice.org/>. In Argentina the Foundation for the Environment and Natural Resources (Fundación Ambiente y Recursos Naturales), <https://farn.org.ar/>.

domain, are another important source of data, alongside notes from conversations with NGO partners and semi-structured interviews with representatives of relevant authorities, and other relevant publications.

4. Community protocol case studies

This section discusses each of the community protocol case studies in turn. For reasons of space, the discursive context discussed in the theoretical framework, where environmental governance was described as shaped by a dominant worldview rooted in the nature/culture divide, the fundamental need for economic growth, and a view of knowledge in line with the scientific method of the Enlightenment, is taken as common to both cases. Each discussion begins with a general introduction followed by a description of the relevant context based on the integrated opportunity approach. Reflections on the three different types of knowledge practices: the collective self, the action network, and the production of (political) alternatives, follow. Each case study concludes with an overview of collective action taken by the community or communities in question, on outcomes, and on how knowledge practices informed their identification and meaning.

4.1 South Africa – the Biocultural Protocol of the Traditional Health Practitioners of Bushbuckridge

The Kukula Traditional Health Practitioners' Association is a community of interest gathering practitioners of different ethnic and linguistic backgrounds. It began with about 80 members, and was formed because of problems in accessing medicinal plants that were becoming scarce in lands the practitioners could access, outside of protected areas. The Bushbuckridge area adjoins the Kruger National Park as well as other Provincial and privately owned protected areas. The scarcity of plants was attributed to over-harvesting using non-sustainable methods. The Association's practitioners instead used sustainable traditional methods (harvesting small amounts from living plants). The practitioners also wanted to record and claim recognition for their work in local communities. In mid-2009, at a workshop involving the Association's executive committee, representatives of the management of the Kruger2Canyons (K2C) biosphere which comprises the Bushbuckridge area, and the NGO Natural Justice based in Cape Town, the method and main goals of a community protocol were decided. The protocol was published in 2010 (Traditional Health Practitioners of Bushbuckridge 2010). In 2015, given new aims, partnerships and challenges, the Association decided to update the protocol, publishing a second edition in 2017 (Traditional Health Practitioners of Bushbuckridge 2017).

The context in this South African case presents various challenges to the discourses argued to underpin global environmental governance. The South African Constitution includes the right to the environment and environmental conservation, to ecologically sustainable development and the use of nature for socially and economically justifiable development. Economic development is important, but must be sustainable and dependent on attention to other factors. This is tempered by the political opportunity structure, which is characterised by overlapping layers of authority and ambiguity about the powers held by different local authorities in South Africa. Traditional leadership has a complex recent history in South Africa given its exploitation under the Apartheid regime and resulting mistrust (Findlay and Twine 2018). Traditional and municipal authorities co-exist, and ambiguity about their specific roles and powers persists (Hauck, Mbatha, and Wynberg 2014): these authorities control local land use, yet the division of responsibility is not clear. In the Bushbuckridge area a further layer of complexity comes from the different types of protected areas: Provincial, privately owned, and the Kruger National Park. Management models and rules for community access and harvesting differ for provincial and national parks, and also vary with the conservation status of particular plants. In a political perspective there is on occasion tension about overlapping authority, for example around rival claims for land restitution. At the time the community protocols were under discussion, political tension and restrictions to access were also present due to the rhino poaching crisis.

Legal opportunities at the national and local level are numerous: Constitutional rights are relevant here too as they are implemented in rules about neighbouring community involvement, access and benefit-sharing in provincial and national protected areas. Local traditional knowledge is also subject to legal protection, and the Nagoya Protocol has been implemented in national law, foregrounding the protection of biodiversity. Overall, there is clear political and legal commitment to local community rights and environmental protection, but the complexities of governance structures, political tensions and conservation crises complicate this.

As for knowledge practices, the decisions to form an Association and draft a community protocol were taken after a group of practitioners established a medicinal plant nursery. Some practitioners had thus already begun to take collective action on the basis of a commonly perceived problem of access to medicinal plants. This was not easy: traditional healers in the area do not usually work together. Each has their own specialities and methods of treatment. The decision to form an Association and to draft a community protocol thus already involved reflections on the collective self along the cosmological and organizational dimensions. The aims in drafting the protocol were to ‘Build credibility, trust and mutual respect among traditional healers. Identify the healers’ concerns and values and ensure that they are fully understood by asking probing questions and reflections. Facilitate consensus among the healers by ensuring that all opinions are heard and considered. Make sure all participants are part of the process and ensure they feel part of a shared vision for the BCP.³ Capture and reflect to the group decisions that are owned by the healers. Ensure participatory and fair practices throughout the process. Encourage all members of the association to express their views and be involved.’ (Sibuye et al. 2012:104–5). The process of developing the community protocol followed these aims, and can be understood as a knowledge practice about the collective self. The community protocol published in 2010 details how the group decided to create a common pool of their knowledge with the aim of protecting and perpetuating it. This did not mean sharing knowledge amongst members, but rather deciding shared rules for external actors to access knowledge and for training new healers (Cocchiaro et al. 2014; Sibuye et al. 2012), which shows how the collective actor was defined.

The drafting of the first edition of the protocol also involved knowledge practices about the action network and the production of alternatives. Regarding the action network, members of what became the Kukula group were approached by the management of the K2C because of their work to establish a plant nursery. The K2C was working on access and benefit-sharing – the subject of the Nagoya Protocol to the CBD – and had contacted the NGO Natural Justice, which was involved in campaigning for community protocols to be recognised in Nagoya as well as working with local communities. While exploring how to promote and protect traditional harvesting and stewardship in the reserve, K2C first learned of the healers and their nursery. The community protocol process, and the foundation of the Kukula Association, developed from this. This initial action network was thus formed to develop the community protocol. After the first edition of the protocol was finalised, knowledge practices about the action network developed further in collective action. Before describing these a discussion of knowledge practices about the production of alternatives is necessary however.

The first edition of the community protocol focused on issues linked to access to plants. Intertwined with practices about the collective self, which produced different views about the causes of problems in access, knowledge practices about alternatives involved the combination of members’ knowledge, the knowledge of Natural Justice about legal frameworks, and the knowledge of the K2C management about biodiversity issues and protected area management. The community protocol process was the site where the work of the practitioners was linked to the legal and political opportunity landscape, by highlighting their sustainable

³ Biocultural community protocol. Community protocols were initially intended to speak to biocultural rights (rights linked to environmental stewardship inherent in a local culture) (Bavikatte 2014).

practices as preserving biodiversity, and describing their contributions in the language of their rights, duties, and stewardship. The results of these knowledge practices are clear in the protocol, which sets out ‘their biocultural values; how they connect their communities through their culture to biodiversity; some detail of their traditional knowledge; the threats to their livelihood posed by biodiversity loss and the taking of their TK without the sharing of benefits; how the community plans to improve conservation and sustainable use of medicinal plants; information for people wanting to access their TK and medicinal plants; and the links between their values and concerns and the rights the healers have under national and international laws.’ (Sibuye et al. 2012:105).

Turning back to knowledge practices about the action network in discussions of the second edition of the protocol, the Kukula group undertook collective action on the basis of their protocol by opening dialogues with authorities including protected areas managers, traditional authorities, health authorities, and a local cosmetics firm. Some led to outcomes discussed later, but also fed into continued knowledge practices about the action network and alternatives in the discussions on updating the protocol from 2015. As the practitioners developed dialogues with protected area managers, the knowledge of the latter about biodiversity protection and rules about the involvement of local communities in protected area management fed into knowledge practices about alternatives. Practitioners were able to explain their practices and difficulties, as were protected area managers. Combining this knowledge, practitioners redefined their alternatives and expanded their action network to include protected area managers. Understanding the difficulties faced by protected area managers thus allowed for new alternatives to be defined in knowledge practices about the action network. For example, it was in these dialogues that it became clear that the names practitioners used for plants could not be readily understood by managers. Protected areas managers, university researchers and practitioners took ‘veld walks’ together to combine their knowledge, which also revealed that some of the plants sought were difficult to access in protected areas due to conservation law, and scarce outside it because of local land use designations. New alternatives were developed and reflected in the new edition of the protocol, which emphasises the ‘inter-related factors that are hindering our ability to manage and harvest the medicinal plants we require’ (Traditional Health Practitioners of Bushbuckridge 2017:6) and underlines the importance of meaningful dialogue with a range of actors to negotiate different solutions to access problems ranging from access to protected areas, access to land, and access to plants to propagate and renew biodiversity in communities outside protected areas.

The collective action and outcomes of the Kukula community protocol came after the adoption of the first edition and can be linked to the knowledge practices that shaped it. On the benefit-sharing aim, the group reached an agreement to sell traditional knowledge to a local cosmetics firm (though this did not come to fruition). As mentioned, they also began various channels of dialogue with health ministry officials, traditional leaders, and protected areas managers. These led to the involvement of Kukula members in the mentioned veld walks, but also to their involvement in projects linked to the rhino poaching crisis with protected area managers, and a project for the planting and propagation of pepper bark trees outside protected areas. These outcomes mattered to the group to the extent that they provided a perspective to resolve their core issue of access to plants, while the outcome on benefit-sharing turned out to be short-lived. As discussed, these outcomes from dialogues fed into the second edition of the community protocol. Outcomes from this included: an invitation to attend a workshop of the South African National Biodiversity Institute to discuss endangered plant species and the possibility of their involvement in the Steering Committee, an invited presentation by the group at a CBD workshop, and dialogues about other local projects for ecosystem restoration in South Africa, all of which were linked to dialogues with protected area managers; and the identification of a piece of land for the Kukula

to use in their activities from dialogues with traditional and municipal authorities.⁴ These outcomes mattered to the group in a longer term perspective: as they underline in the second edition of the protocol, they had been involved in various research projects without receiving feedback or recognition (Traditional Health Practitioners of Bushbuckridge 2017). Having a seat at the table and seeing how their knowledge is used, which these outcomes imply, is thus important to them.

Understanding these outcomes is closely linked to the discussion of the community protocols through a knowledge practices lens. An interpretation of the groups actions as strategic reactions to a complex opportunity structure alone would not lead to the exploration of dialogues as meaningful outcomes which led to the group's recognition – rather the exploration would stop at the point of understanding dialogues as strategic given overlapping authority in the political context, and the language of the protocol as drawing on discursive and legal opportunities around biodiversity and community rights. The knowledge practices approach uncovers the achievements inherent in dialogues built with different authorities in a contextualised view by drawing attention to how the group was constituted as an evolving collective actor. The relevance of the opportunity structure is also clearly related to outcomes, but the knowledge practices approach also allows an account of how knowledge practices, collective action and outcomes overlap and feed into one another in recursive ways.

4.2 Argentina – Tracks in the Salt, a free, prior and informed consent procedure by the indigenous communities of Salinas Grandes and Laguna de Guayatayoc⁵

The community protocol in this case was drafted by a group of 33 Atacama and Kolla communities from the area of the Salinas Grandes salt planes at the borders of Jujuy and Salta Provinces in Argentina. They decided to take this action after mining companies received permits to explore their lands for lithium. The communities felt they had not been properly consulted, and embarked on legal actions prior to drafting a community protocol. Their 2015 protocol, *Tracks in the Salt*, describes a procedure for consultation and consent (Comunidades indígenas de las Salinas Grandes y Laguna de Guayatayoc de Jujuy y Salta 2015). Since then, the communities have continued to engage in a range of collective action including protest.

Lithium is a particularly interesting case for discourse. In the global push to cut greenhouse gas emissions moves towards electric vehicles have been highlighted. Lithium is a key material in the batteries of electric vehicles, as well as in various computing devices. It is a rare material, and difficult to extract: the most plentiful sources are in salt planes in the Andes in Bolivia, Chile and Argentina. Argentina declared lithium a strategic national interest in 2011. Supporting lithium is thus discursively framed as positive for global environmental governance and Argentina's economy, but this is a discursive threat for local community opposition to mining. In terms of legal context, relevant opportunities derive from the country's 1994 Constitutional reform when supremacy was conferred to international human rights law. This brings some extra weight to some international instruments including International Labour Organization Convention 169, which recognizes indigenous and tribal peoples' right to participate in the use, management and conservation of natural resources pertaining to their lands (Marchegiani, Morgera, and Parks 2020), and the United Nations Declaration on the Rights of Indigenous Peoples, which also mentions consultation and consent. Also linked to the Constitutional

⁴ See Kukula Traditional Health Practitioners present at forest restoration workshop in support of the Aichi Biodiversity Targets (naturaljustice.org).

⁵ Kachi Yupi – Huellas de la Sal / Procedimiento de Consulta y Consentimiento Previo, Libre e Informado para las Comunidades Indígenas de las Salinas Grandes y Laguna de Guayatayoc.

reform are legal moves at the Provincial level to transfer land rights to indigenous communities. Though stalled for a host of reasons, the idea that lands are owned by indigenous communities remains important since national law on mining underlines that the landowner's permission is required for exploration (Anaya 2012:11).

Another relevant legal opportunity is linked to the right to a healthy environment. This led to the 2002 General Environmental Protection Law which included the adoption of minimum national standards for environmental impact assessments (EIA), including about public participation and information, which should then be supplemented and implemented by provincial governments. However significant gaps exist between rules and reality, bringing the discussion towards political opportunities. In Jujuy province, a lack of resources to implement rules translated into political threats. Specifically, this lack meant that scientific studies about the impacts of lithium mining were produced by mining companies rather than a provincial or independent body. Thus, while the province had appointed a committee with a range of independent actors as members to evaluate this information, it was perceived as biased by local communities. A final legal opportunity is that indigenous communities have standing in courts, and brought legal complaints as discussed below. Moving back to political opportunities, these included a 2011 visit to the area by the UN Special Rapporteur on the rights of indigenous peoples, who listened to the communities' concerns (Anaya 2012). The case also spans national elections in late 2015, which returned a new provincial government in Jujuy whose campaign included promises about indigenous rights issues including lithium mining.

Before reflecting on the knowledge practices underway in the drafting of the community protocol it is important to note the communities' prior collective action. The communities began to organise around mining issues from 2010 when explorations began. They formed the Roundtable of the Indigenous Peoples of Salinas Grandes and Laguna de Guayatayoc (the Roundtable). Supported by locally-based lawyers working for an NGO, they brought a complaint to the Supreme Court of Justice in 2010 about the failures of the EIA process (Ferradás Abalo, Lobo, and Lucero 2016). This case was rejected, and the communities filed another complaint at the Inter-American Commission on Human Rights (Ibid 2016). In late 2011, the group spoke about the issue with UN Special Rapporteur Anaya, whose report discussed mining, consultation and consent in the country, including international and national legal bases in line with the communities' claims (Anaya 2012). The communities were thus already a collective actor on mining before the community protocol. The communities share a cosmology of Buen Vivir, which they define in their protocol as 'the process of full communal life on our land. It is being one and the same with the communities from its very roots. To achieve Buen Vivir means knowing how to live and thus how to live with others' (Comunidades indígenas de las Salinas Grandes y Laguna de Guayatayoc de Jujuy y Salta 2015).

Thinking through the community protocol drafting process from a knowledge practices perspective nevertheless helps uncover the dynamic development of the communities as a collective actor. This is important given the aforementioned dangers that derive from assumptions about indigenous communities as homogenous and static collective actors. Legal opportunities provide an initial explanation for the communities' decision to draft a community protocol: the Supreme Court had rejected their case, arguing that because no detailed rules on consultation and consent existed at the provincial level they could not be broken. Drafting a community protocol detailing such rules is a clear strategic response to this. Yet the decision was not so straightforward. The communities reflected on the possibility of a community protocol on the basis of knowledge provided by their action network, which included the community lawyers and the Foundation for the Environmental and Natural Resources (FARN), an NGO based in Buenos Aires. Some Roundtable representatives felt that outlining rules for consultation could be construed as indicating that these processes would necessarily end in consent – in other words that consent would become a foregone conclusion. Others felt that clear rules and information about the communities' principles would ensure that the right to refuse

consent say no would remain clear. The decision to draft a protocol thus involved knowledge practices about the collective self that reveal how different cosmological and organizational views were discussed.

Knowledge practices can also be traced in the drafting and the content of the community protocol. The key aim of the protocol was to describe a consultation procedure respectful of the communities alongside an explanation of their worldview and a clear statement of their rights, including the point that consent would not necessarily follow from consultation. A series of workshops were held in communities where members of the action network shared expert legal knowledge about the existing rules on consultation, and ideas about an alternative consultation process were gathered. A smaller group of community members was chosen to work up a draft text. This group held regular discussions with communities, met with the community lawyers, and held workshops on specific themes as well as on the draft text. This included an event where the NGO Natural Justice shared expertise on community protocols. The drafting process ended with a consensus-based approval process.

The drafting process took about two years to complete. It can be viewed as a site of knowledge practices about the collective self where the communities reflected on how their shared worldview should shape their organisation and collective position. The process also included knowledge practices about the action network, as the communities identified needs for input about ‘diverse agendas, competences, and resources’ from others, such as the NGO Natural Justice (della Porta and Pavan 2017:306). Finally, the protocol included practices for the production of an alternative, as visible in the text itself, which combines external, expert knowledge with the communities’ own. The protocol begins by describing the communities’ experiences of oppression in the colonial history of Argentina, before explaining their cosmology and relationship with their lands including the salt planes, and underlining that their rights are protected in law at the national and international levels (Comunidades indígenas de las Salinas Grandes y Laguna de Guayatayoc de Jujuy y Salta 2015). It concludes with a procedure for consultation and free, prior and informed consent presented in a comparison with the natural cycle of salt formation. The protocol ties the communities’ history and cosmology to legal contexts and what would normally be considered a bureaucratic procedure. It situates the communities’ cosmology as the basis for an alternative, describing salt not as an economic or nutritional good, but as a living thing, and making the case for consultation to be a similar living, dynamic process. The ways in which knowledge practices shaped the communities as a collective actor in the drafting process is clear in the text:

“Why did we think of tracks in the salt? Because this document is rooted in the essence of our identity, in the heritage of our grandparents, in the tracks left by their struggle for our territory, in the marks left by their feet, in the signs left by history, in the remains of their teachings and wisdom; in the deep and lasting impression of their culture.

At the same time, a track represents a path to follow, a guide for the passage of people and animals, a furrow that we must follow. This document then, hopes to serve as a track, as a community conduit to channel our rights to participation, consultation and Free, Prior and Informed Consent and thus continue the legacy of our ancestors of the defence of the land and territories with which we are intimately connected.” (Comunidades indígenas de las Salinas Grandes y Laguna de Guayatayoc de Jujuy y Salta, 2015, p. 6)

The community protocol was publicly launched in the run up to national elections in 2015. It was discussed by the National Ombudsman’s office, which then recommended that all agencies in the Province follow it in consultations with the communities. A dialogue began between the new provincial government and the communities, which also discussed the document and hinted at the possibility of a decree to officially recognise its. In this climate of dialogue, mining explorations in the area halted, an outcome which certainly mattered to

the communities. By late 2018, however, little progress had been achieved. Mining explorations resumed, new permits were issued, and companies showed no sign of engaging with the protocol. The communities moved away from dialogue and into more contentious collective action. They blocked the road crossing their land, and distributed pamphlets to inform travellers about the situation. After a failed attempt to seek a meeting with the governor of the province, police were summoned to clear their road block. The communities had decided, at the time of writing, to abandon dialogues about consultation and to reject lithium mining outright.

The decision to draft a community protocol, its outcomes, and the evolution of the communities' collective action can be understood as strategic choices linked to opportunities. Legal opportunities can explain the original complaints brought before courts, while the rejection of the first complaint underpinned the decision to draft a community protocol. Political opportunities also explain the timing of the protocol's publication, and the structural political commitment to lithium, embedded in an economic discourse of development, helps us to understand why the first outcomes of the protocol petered out. A knowledge practices perspective does bring added nuance to the account, however, and helps to uncover the evolution of the communities as a collective actor and mining as the basis for collective action. It shows how local traditional knowledge was combined with expert knowledge to create a political alternative. Departing from the assumption that the communities were already a fully formed collective actor, with a given and homogenous cosmology and organisation, would obscure this. The knowledge practices perspective also adds to the interpretation of subsequent outcomes and the turn to collective action. The communities' knowledge practices were a long-term and genuine effort to lay the groundwork for meaningful dialogue with mining companies and the provincial government. Their decision to reject mining outright can best be understood in this light, and the responsibility placed with those that failed to take up the opportunity to engage.

5. Concluding reflections

This article sought to explore whether a knowledge action repertoire approach can add to our understanding of the complex ways in which the outcomes of collective action matter to local communities, given that their knowledge can be based in ontologies that differ from the dominant model. It presented cases of community protocols, documents that local communities use to set out their views of the world, their traditional knowledge and practices in support of environmental protection, and link these to rights and protections in national and international law as a basis for collective action. Local knowledge based in holistic worldviews is at the core of community protocols and central to contemporary debates in environmental politics, which means they are suited to a knowledge action repertoire approach.

Two case studies were discussed using this perspective combined with an integrated opportunity approach to pay attention to relevant discursive, political and legal contexts. The Kukula Traditional Health Practitioners Association drafted two editions of their community protocol, published in 2010 and 2017. Using a knowledge practices lens added to an account of these protocols and subsequent collective action. It revealed how the group came to be constituted and evolve as a collective actor seeking better access to plants. The group reflected on shared worldviews, combined traditional and expert knowledge from its action network, and developed alternatives to the status quo in its first community protocol, which created common rules for accessing the group's knowledge and stated its role in biodiversity protection. On that basis, dialogues were opened, in particular with protected areas managers, that led to new knowledge practices that brought managers' expertise in and redefined the action network and alternatives in a new edition of the community protocol. Outcomes in the case involved dialogues, being involved in biodiversity projects, and a seat at the table in different forums for the group. This recognition mattered both in concrete terms of access to plants, but also, as revealed by considering knowledge practices, because it meant the group's knowledge was seen as valuable and that they were valuable to decision-making. This insight would not have been uncovered by a

reading of the community protocols as fixed resources purely strategic actions in light of discursive, political, and legal context.

The community protocol adopted by communities of Salinas Grandes and Laguna de Guayatayoc in Argentina outlined respectful consultation procedures. The reason for this was that communities felt that mining companies exploring for lithium in salt planes on their lands had failed to consult them properly. After a failed legal complaint, the communities decided to draft their protocol. A knowledge practices perspective revealed the complexity of the drafting process, from the initial decision to its content. It showed how the shared worldviews of these indigenous communities did not automatically translate into a shared view of the issue or of alternatives. Instead, these were constructed through knowledge practices including the combination of expert and traditional knowledge in an attempt to underpin genuine communication with both the provincial government and mining companies. The community protocol and subsequent action can certainly be understood as strategic given the opportunity structure in place in the case. Nevertheless, the knowledge practices perspective revealed the dynamic evolution of the communities as a collective actor and the intricacies of their proposed consultation procedure. The communities' decision to engage in protest and an outright rejection of mining takes on a different hue in this view. Rather than a strategic reaction to the failure of dialogue by the communities, this decision appears more as a failure on the part of mining companies and authorities to take advantage of a genuine opportunity for dialogue proffered to them by the communities.

Focusing on different types of knowledge practices and opportunity contexts helped to untangle the complex question of how outcomes mattered to the local communities in these cases. Including knowledge practices in the exploration of the case studies uncovered nuances related to the ontological politics involved when collective action based on alternative knowledge seeks to carve out spaces and responses in contexts shaped by hegemonic worldviews. These would likely have been missed had an approach that considered the community protocols and their content as fixed resources mobilised in strategic ways. A knowledge practices approach brought attention to the dynamic constitution and evolution of the local communities as collective actors, which added nuance and a deeper level of understanding. Applying the lens of knowledge practices to grassroots, small-scale local community collective action also revealed how the communities face complex and sensitive decisions. The complexity and heterogeneity of local communities is often overlooked, in particular where indigenous peoples are concerned, not only by scholars but crucially by the actors that wish to access communities' lands, waters, and resources (Anaya 2012; Murphree 2004; Nelson 2010). Given the crucial role of local communities in environmental protection, paying attention to their knowledge practices thus appears as important.

There are important limits to the knowledge practices approach. It is appropriate where knowledge is central, which by no means applies to all cases of collective action. It is also an approach that, as demonstrated here, uncovers complexity and specificity rather than one that contributes a more generalised understanding of how collective action matters. Nevertheless, it is an approach that can be combined with others. In the cases explored here a knowledge practices approach revealed how meaningful dialogue on the basis of recognition of the importance of local knowledge based on holistic worldviews could lead to better environmental protection. If local community input is key both to democratizing environmental governance (Stevenson and Dryzek 2014) and making it more dynamic and effective (Bäckstrand and Lövbrand 2006; Jasanoff and Long Martello 2004), this kind of approach appears important.

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