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Five paradigms of collective action underlying the human dimension of conservation

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Theory is itself a practice, no less than its object is. It is no more abstract than its object. It is a conceptual practice, and it must be judged in terms of the other practices with which it interacts.

Gilles Deleuze, quoted by François Cusset as the apposite quotation to head his book on *French Theory*, University of Minnesota Press, 2008

Introduction

Conservation of biodiversity rests on changing some human activities, projects, plans and policies, so as to stop or limit negative impacts on valued ecosystem features, and foster positive ones (Mascia et al. 2003). It has to be based on an effective understanding of ecosystems, of the ecological consequences of damaging activities, and of the ways these can be alleviated and positive benefits enhanced through conservation. This first imperative gives biology a pivotal role in conservation research. But achieving changes in human behaviour entails a second

imperative: an understanding of what kind of societal actions (economic, legal, political, educative, etc.) can bring about specific desired changes. Conservation biologists work to meet this 'human dimension' imperative in three ways:

- *reflection*: they actively reflect on the accessibility and relevance of their own, essentially biological work, to society (Robinson 2006)
- *involvement in practice*: they collaborate directly with conservation practitioners involved in the field
- *involvement in interdisciplinary collaboration*: they work with social scientists.

Since the beginnings of conservation biology (see for instance Soulé's (1985) founding paper or Ehrenfeld's (1987) editorial for the first issue of *Conservation Biology*), there has been a vivid perception both of the centrality of biology to research on conservation and of the need for biologists to collaborate with disciplines dealing with human choices and activities.

Twenty-five years later, neither the reflection of conservation biologists on how to achieve a higher impact on society nor their collaboration with social scientists has yet reached a level and a relevance that most of them would consider satisfactory. As stated by Meffe (2006), 'we are facing a fundamental problem relative to human behaviour, and the solution ultimately will need to take human behaviour into account. This is the great challenge that confronts us in the next decades'. This challenge is felt by many in the conservation field with a mounting sense of urgency, but not because little has been done: many efforts have been made to reach out to the public and to decision makers, and there has been growing, often fruitful, collaboration between conservation biology and various disciplines of social sciences. Nevertheless, biodiversity loss continues to accelerate and despite increasing conservation knowledge and efforts, the threats are larger than ever. Conservation biology remains a 'crisis discipline' and the passing of time continually challenges its very goal – 'to provide principles and tools for preserving biological diversity' (Soulé 1985). The sense that society is 'knowing but not doing' (Knight et al. 2008) leads conservationists and conservation biologists to feel that they are 'doing their part but not getting there'.

There is a pressing need for new concepts and methodological resources to improve the three approaches by conservation biologists to connect more with society: (1) to feed the reflection of conservation biologists, (2) to guide more effective involvement with practitioners, and (3) to orient and enrich interdisciplinary collaboration.

In addressing this need, a dual question plays a central role: *who* acts for conservation, and

how, i.e. of what does such action consist? This is essentially a question of agency: who has a capacity to act, and what kind of activities does that action entail? In conservation issues, individual action *per se* is usually not enough and, even though the role of individuals is important, the most effective action is collective – that is, it involves forming groups, networks, organizations or institutions that will exercise some capacity to act. In this chapter, we will propose a clarification centred on the question of collective action in conservation. When 'we' say that 'we' should act for conservation and sustainability, who is 'we'? When stating that 'society' should act, what is our understanding of how society is organized to act? Whom do we see as the definer of goals? Whom do we see as taking action? Whom do we see as accountable to whom?

The question of collective action – who has the right to act and how can they act? – is at the centre of the practice of conservation. When debating on *how* to act, or choosing a strategy, conservation operators explicitly or implicitly choose one or another model of collective action. But the question is also very important for researchers, in particular conservation biologists, because it conditions how ecological knowledge can translate into conservation action. To give just a single example, if conservation biology research indicates what would be an optimal size and location for protected areas, who is going (or supposed) to take action on whom with that information? In other words, the relevance to society of conservation biology as a whole, or of a given conservation biology project, can be conceived of in very different ways, depending on how one sees collective action operating in the conservation field. Throughout the chapter, we will have both conservation practice and conservation research in mind, as appropriate in different sections.

Although we will focus here on the question of collective action, we are well aware that addressing the human dimension of conservation raises other, very different but also essential questions: ethical (what obligations do we

have to conserve?), cultural (what concepts of nature underpin management of ecosystems, and how do they differ between societies?), and social (who benefits and who suffers from conservation policies?). They each deserve in-depth investigation and debate in their own right, but here we will focus on the question of agency, and especially on collective action as a core dimension of the gap between knowledge and action in conservation research.

The first part of the chapter will explain the five fundamental paradigms of collective action that, in our view, underpin both lay and academic discourses on action for conservation. Each one offers a very different answer to the question of collective action (Who defines goals? Who takes action? Who is accountable to whom?). In the course of this chapter, it will become increasingly clear that deep differences in the way these questions are answered underpin both the theoretical and the practical debates about conservation, and that making such differences explicit can contribute greatly to clarifying such debates.

The second part of the chapter will provide an illustration of such clarification. It will introduce current controversies about community-based conservation in Africa – more particularly, in East Africa's Maasailand – and show how the five-paradigms model proposed here can shed light on them.

The chapter will end with a discussion of some possible misunderstandings hindering the effort to work on collective action across conservation biology and social sciences, and offer some suggestions for further learning and research.

Divided we must act: five paradigms of collective action on environmental issues

Robinson (2006) observes that conservation biology should 'derive conclusions and generalizations in a context that is more accessible

and more relevant to society'. Conservation biology produces findings that have an intention and a potential to be relevant to human interests. Much of its work bears on indicators to identify the problems and their extent, on the precise goals that could be pursued in given cases, on the consequences of various human activities and thus on who is responsible for various aspects of biodiversity loss and on the means and action plans that could be effective. Problems, goals, responsibilities, action: this is, *prima facie*, knowledge ready to be picked up by 'society'.

But who exactly can speak for society in the discussions the conservation biologist needs to have in order to bridge the 'knowing to doing' gap? Many different answers are possible. Not only are they extremely diverse, but they often contradict one another. In practical debates, as the example of community-based conservation will illustrate, what is seen by some as the solution, others see as being the problem. In theoretical debates, for instance, there is little common ground between those (like environmental economists) who study optimal 'instruments' that governments may use to control biodiversity loss and those (like Latour 2004) who see environmental action as a vast system of negotiations in which even 'non-humans' play an active political role. Rarely are these differences in our concepts of agency ('who is the subject of conservation action?') and collective action ('what is the basic organizational pattern of our action for conservation?') clearly explicit. Rather, they express themselves as puzzlement, irritation or even anger when we make little progress in discussing how "we" might act to conserve biodiversity or evaluate past and current actions.

Therefore, it is important to map out the various fundamental concepts of action underlying such debates. To do so, one has to realize that 'society' is fundamentally divided. The utopian view held implicitly by many, that we 'are all in it together' and thus ought, as it were, to act in unison, is an illusion. There is no unity of aims, no close coincidence of interests, no

consensus on responsibility, and there is no such thing as action that would be literally 'collective action' if that were to mean that we all act together. What we do have is a set of partial, contradictory concepts and tools for organized joint action. How can we map them beyond the bewildering variety of scales, disciplinary languages and practical controversies?

If one examines the controversies, the practical and theoretical discourses on how 'society' could or should manage the environment, one can identify five distinct paradigms underpinning what is seen to be the main organizational source of the problem, how the discussion of aims should be organized, and who should lead the action (Mermet 2013). Each paradigm is like a fundamental cultural perspective on collective responsibility and action, with its likes and dislikes, its heroes and its tools, its buzzwords and its particular feeling of what can be both right as well as effective in a practical sense (Table 3.1).

Government paradigm

The *government* paradigm rests on the conviction that to overcome the innumerable, intense divisions and conflicts in a human group, power has to be handed over to a single legitimate actor whom all should obey: a government (national or local). However this delegation is established (democratic or otherwise), it provides the basis for an authority to set goals, identify responsibility and carry out action on behalf of society. Here, the buzzwords are decision makers, official targets, legitimacy, implementation, policy instruments. If one focuses straight away on the instruments of action – on what kind of 'carrots, sticks and sermons' (Bemelmans-Videc et al. 1998) may be used to alter behaviour in favour of conservation – the general assumption is that one knows in advance who is in charge of the action, and this is usually some kind of public authority. A commercial summary of Sterner's book *Policy Instruments for Environmental and Natural*

Resources Management (2002) eloquently expresses where the problems lie and who is really looking for solutions in this paradigm: '[the author] is careful to distinguish between the well-designed plans of policy-makers and the resulting behaviour of society' (quote from Amazon). The government paradigm is familiar to conservation biologists, who tend to be convinced that if we can really show what must be done for the common good, then it ought to be converted by 'political will' into appropriate regulations and economic tools. Here, the relevance to society of conservation research depends on providing convincing and solid advice for the use of authorities – and then crossing fingers.

Co-ordination paradigm

In the *co-ordination* paradigm, the problem is not seen as susceptible to solution by a purposeful power, but as a set of differences and misunderstandings to be addressed and discussed directly by the stakeholders themselves. These actors do differ on how to manage the resources, so they end up with severe problems. But potentially they have the capacity to solve such problems by themselves if they can only co-ordinate better. The main obstacle to overcome is a lack of the sort of communication that can allow them to realize their joint interest in co-operating. What is required here are procedures for such communication, for negotiation, for joint action. A reference book written from that perspective would be Elinor Ostrom's *Governing the Commons* (1990). Ostrom provides examples of how this has been repeatedly achieved in managing a range of common resources, explores in depth the rationales and conditions for success, and warns how government intervention often makes the problem worse instead of better.

Bringing everyone to the negotiation table, mediation and co-construction, and replacing management by an administration with

Table 3.1 Five paradigms of collective action for conservation

Paradigms	Who is the main operator of conservation action?	What does collective action essentially consist of?	Typical buzzwords	Conservation research is relevant if ...
Government	A government that has a delegation to act for the collective	Intervention to modify behaviour through various tools and policies	Decision makers, official targets, legitimacy, implementation, policy instruments	... it provides government with reference goals, indicators, objective choice of tools
Governance	A complex set of government and stakeholders	Complex procedures combining policy and stakeholder participation	Participation, participatory planning, stakeholders involvement, public-private co-operation	... it provides information to and participates in complex, multilevel decision-making processes
Co-ordination	Stakeholders themselves	Co-ordination and direct collaboration between stakeholders	Actors around the table, co-construction, mediation, collaboration, community	... it engages all stakeholders in a collaborative way
Minority action	An actor focused on a specific conservation goal and acting to reach it	Strategic action to obtain changes from specific actors whose activities impact biodiversity	Environmental groups, activism, innovators and advocates, legal or political challenging of decisions	... it provides compelling facts and arguments to support environmental advocacy confronting other interests
Revolution	Masses and their leaders in opposition to 'the system'	Mass action for wholesale systemic change addressing a whole range of societal and environmental issues	Globalization, commodification, capitalism, ecological crisis, colonialism, growth as the systemic cause of environmental problems	... it participates in the overall efforts of the vast coalition of those who oppose 'the system' because of the whole set of its negative effects on society and nature

management by a community are important concepts here. In conservation research, this has been a rising paradigm for the last two or three decades. Here, relevance to society may mean, for instance, research that engages all stakeholders in a collaborative way.

Revolution paradigm

The approaches of the *revolution* paradigm, far from expecting conservation action from the powers that be, consider them to be the very cause of the ecological crisis and loss of

biodiversity. The key concept here is that we are all entangled in a system (political, economic and/or cultural) which both destroys nature (and many other human concerns) and hides the process behind a constant barrage of ideological rhetoric. The title of Joel Kovel's book *The Enemy of Nature: The End of Capitalism or the End of the World* (2002) summarizes in a nutshell one such revolution-oriented diagnostic. In revolutionary approaches, the main issue for action is to bring the masses to a renewed awareness that would allow them to be conscious of their entanglement and its consequences. This would lead to such a massive shift in values and practice that the 'system' would become untenable and the major obstacles to ecologically sound lifestyles would be overcome.

This is an important but troubling paradigm for conservation biology. Should conservation be mainstreamed in a fundamentally unchanged mode of development? Or is it part of a wider environmental and sociopolitical agenda for deep change? Are the more radical movements of political ecology possible allies or are they a threat? And what could bring about the 'global change in worldview' (Meffe 2006), the massive shift in priorities for which many conservation biologists think the current accumulation of conservation projects can be only a temporary, transitional substitute? Here, relevance to society means research that goes beyond government framings and contributes to a much wider shift in society.

Governance paradigm

The *governance* paradigm is a hybrid between 'government' and 'co-ordination'. Here, government is seen as both overambitious and insufficiently effective. The key to more efficient action is then to be found in reinforced co-operation between government and civil society, i.e. both public and civil society organizations, including NGOs and the private sector. In a governance perspective, government must open its decision-making

processes to stakeholders – the discussion on goals, the allocation of responsibility, the choice and implementation of means – and, conversely, the initiatives taken by civil society have to be gradually taken up to become forms of government. Here, relevance to society means conservation research that finds its niches and provides the right types of information, packaged in the right way, at the right moments among the multiple stages and scenes of multiscale, multiactor, semi-open, complex decision-making processes that have proliferated over the last two decades.

Minority action paradigm

The *minority action* paradigm assigns responsibility for biodiversity erosion not to society as a whole, or to 'the system', but to some clearly identifiable human causes, specific powerful actors, activities or sectors. The question then is how actors committed to conservation can act to obtain changes from other actors in behaviours that threaten biodiversity (Mermet 1992; Mermet 2011). Since conservation actors usually start from a minority position, and want to obtain changes in the behaviour of powerful actors, action is fundamentally strategic. *Silent Spring* (Carson 1962) is an emblematic book here, an outstanding example of how powerful one single voice and a civil society movement starting from a minority position can be in the face of overpowering social, political and economic forces. The issue is not seen as revolution but as transformation. The system is not to be toppled over wholesale, but to be transformed from the inside by minority actors. The process is not co-ordinated 'around a table', but is both pluralistic and strategic. The many examples of conservation struggles that have finally become conservation successes show the importance of this model in the practical experience and culture of conservation experts on the ground. Here, relevance to society means research that contributes to the ongoing

struggle of the conservation and environmental sector, confronting specific biodiversity damaging industries and policies.

**Illustrating the five paradigms
of collective action for conservation:
community-based conservation in
East Africa's Maasailand**

The intense debate about community-based conservation in Africa, and in East Africa's Maasailand in particular, illustrates how these different perspectives conflict with and complement one another, and how their recognition may form a first step towards 'change we can believe in' (Lund et al. 2009).

Present-day Maasailand straddles the Tanzania/Kenya border. This ~150,000 km² area of semi-arid rangelands has strong ecological continuities, with dryland, wetland and higher, more mesic montane rangeland and forest habitats repeated either side of the border. Migratory wildlife and livestock species move around the system seasonally. The rural population is predominantly made up of a single, relatively cohesive ethnic group of people all speaking the same language, sharing a common demography distinct from national patterns (Coast 2002) and practising the same age-set customs and land use. However diversified their livelihoods, most rural Maasai remain semi-sedentary, mobile transhumant agropastoralists (Homewood et al. 2009).

In both Kenya and Tanzania, tourism is among the top three contributors to GDP, accounting for nearly 1 billion USD annually in each. In both Kenya and Tanzania, the highest-earning protected areas are situated within, and effectively excised from, Maasailand, as is a high proportion of the two countries' conservation estate overall. Yet poverty is widespread and severe within Maasai communities in both Kenya and Tanzania, as measured against national rural poverty thresholds, let alone international datum lines (Oxfam 2006; Thornton et al. 2006;

Tenga et al. 2008). Thus Maasailand is of particular relevance to the three dimensions of conservation, poverty and community-based conservation (CBC) initiatives.

Across Maasailand, CBC initiatives are expanding quickly. Amboseli in southern Kenya Maasailand is considered by many to be the birthplace of community conservation, with early initiatives established as far back as 1975 (Western 1994), leading up to the present proliferation of community conservation and conservancy models across the region. The promotion of these models followed a variety of motivations: pragmatic conservation concerns seeking to enlist the support of reserve adjacent dwellers, in the context of structural adjustment and the loss of public enforcement capacity; social justice, human rights, and poverty alleviation imperatives; green development. The overall intention was to deliver both conservation and development as 'balanced', 'sustainable', 'win/win' outcomes (Hughes & Flintan 2001; Roe et al. 2009). Principles of rational choice pointed to collective action solutions and to working examples of sustainably managed commons (Ostrom 1990). Initial evaluations tended to be uncritical endorsements, often by people heavily involved in the process. More recently, evaluations of CBC initiatives based on detailed and independent datasets have emerged (e.g. Western et al. 2006; Homewood et al. 2009), including systematic reviews of the growing numbers of case studies available worldwide (Bowler et al. 2010; Waylen et al. 2010).

Overall, most authors and actors look back on CBC initiatives with a sense of disillusionment about their actual ecological and economic outcomes. But the grounds for such disillusionment and the proposed remedies are quite different from one author, actor or school of thought to the next. Frustration with the results of CBC has driven some conservationists 'back to the barriers' (Gartlan 1997; Oates 1999); that is, back to less participatory and collaborative practice in protected areas management. Another outcome in East African rangelands has been a shift to private conservancies where land tenure and

market revenues favour conservation-friendly choices by landowners (Western et al. 2006). Some political ecologists and social scientists documenting such trends in decentralization and devolution increasingly express disappointment with the way that elite members of a society can capture resources or influence and dispossess others in the name of community conservation (Blaikie 2006; Peet et al. 2010). Others, aware of the complex and long-term nature of the processes involved, expect positive ecological and economic outcomes to be slow to emerge, recognizing that the evolution of institutional structures fostering more sustainable and legitimate collective action mechanisms is an oft-overlooked but essential part of the process (Brechin et al. 2002).

Increasingly, those who support the potential of CBC for positive change adopt a more qualified defence of it, for instance by exploring the qualitative dimensions of meaningful as opposed to token participation (Lund et al. 2009). Overall, there is a vague consensus across most schools of thought that CBC has had disappointing outcomes to date. There remains, however, a 'dialogue of the deaf' between different contradictory interpretations of the current situation regarding conservation in Maasailand and the respective implications of these interpretations for further conservation action.

We ask, can a clarification of the underlying collective action paradigms help move analysis – and maybe action – beyond this stalemate?

The government paradigm discussed above precisely captures official attitudes and practice in northern Tanzania. Tanzania has numerous, high-profile national parks and reserves (conferring total protection across 25% of the national land surface area, and partial protection to ~40%: Homewood et al. 2009). In response to donor pressure to move towards decentralized natural resource management and conservation and to share revenue with local people, the Tanzanian state slowly and reluctantly developed the Wildlife Management Area (WMA) model, with considerable support

from international conservation scientists (Leader-Williams et al. 1996). Under this model, groups of registered villages would come together to set aside land, and to negotiate contracts with tourism entrepreneurs who would pay for access to the set-aside. The government established criteria for eligibility and procedures, which were complex and hard for poorly literate village leaders to navigate. Even so, a number of WMAs were established with the aid of NGOs such as the African Wildlife Foundation (AWF). Conflicts arose between villages, but also between game viewing and hunting enterprises. The Tanzanian state, which had always retained central control of hunting licences and revenues, supported hunting enterprises, and in 2007 issued a ministerial decree criminalizing any deals between WMA villages and game-viewing entrepreneurs (TNR 2007). Such arrangements are now negotiated centrally. This development illustrates how from a government perspective, direct co-ordination between actors, such as the management by Maasai communities without state interference, or direct deals between communities and game-viewing companies, are part of the problem, not of the solution.

Alternative approaches, based on the co-ordination paradigm, advocate and put into practice precisely the opposite. The example of two villages in North Tanzania, documented by Yann Laurans (in Laurans et al. 2011), shows the relative (ecological and social) success of such a direct deal. The case shows clearly the importance of the simplicity of the negotiation and of the agreement, as well as their vulnerability to potentially counterproductive government interference. Indeed, in the government-run scheme, revenues theoretically trickle down via central state, regional, district and WMA governing bodies to individual village governments. In practice, however, with a proportion being legitimately retained at each stage, and more being corruptly diverted, *no* revenues flow to participating villages or households. People have effectively

given up about half of the farming and grazing lands on which their central livelihoods depend, for no return, creating hardship and conflicts (Homewood & Thompson 2010).

Another example from Maasailand, the intervention by the Tanzania Natural Resources Forum (TNRF), provides a further illustration of the co-ordination paradigm, this time in the form of conflict resolution, rather than direct payment for ecosystem services. TNRF was constituted with support from the US-based Sand County Foundation as a forum where all stakeholders – government, civil society and entrepreneurs – can meet to discuss and hopefully resolve potential conflicts between conservation and development. The TNRF intervenes, for instance, to defuse the clashes that have escalated in Loliondo, Northern Tanzania, since recent legislation has rendered incompatible two land-use categories that formerly overlapped without serious conflict: Game Controlled Areas (GCA) and Village Land. The interests of hunting companies now align with the former, and those of the 20,000-strong local community of Maasai agropastoralists with the latter.

The TNRF promotes a compromise through designating as Wildlife Management Areas (a more flexible statute than the GCA) the remaining Village Land. The TNRF's approach in this case reflects its wider strategy of pursuing 'a long-term, innovative and adaptive process of advocacy and capacity-building, based on collaboration and collective interests' (www.tnrf.org). Favoured means of action are (1) 'increasing the flow of information' and (2) 'facilitating collective action'. This approach reflects the view that 'members see the need to come together of their own accord to work on key issues that affect the way they are able to use, manage and conserve natural resources. Working groups collaboratively develop rounded and innovative solutions...'

Although TNRF's approach clearly espouses the vocabulary, philosophy and methods of the co-ordination paradigm, it also touches on the governance paradigm when describing its third

means of action: 'Being effective advocates – in compellingly communicating our ideas and solutions to government ... Very often they need our support, and we need theirs. Without government support and better governance, we simply won't succeed in realizing our vision'.

In this example, the hybrid or ambiguous nature of the governance approach is evident in the arduous, top-down/bottom-up negotiations between the Tanzanian government and TNRF.

The minority action paradigm, so forcefully articulated by Gartlan (1997) and Oates (1999) against CBC in west/central African forest ecosystems, is less prominent in East African rangelands. Norton-Griffiths (2007; see also Norton-Griffiths & Said 2010) exemplifies the lone champion seeking to achieve conservation through changing the behaviour of a few powerful actors responsible, as he sees it, for the catastrophic decline observed in Kenya's wildlife populations from the mid-1970s to the present. Norton-Griffiths attributes this decline to the fact that economic returns from wildlife per unit area are consistently lower than returns from livestock, and returns from livestock are themselves lower than returns from commercial cultivation. This creates an overwhelming incentive to convert rangeland habitat to commercial cultivation. Norton-Griffiths argues for economic incentives to landowners, potentially through allowing consumptive use of wildlife (including hunting, currently banned in Kenya) and through ensuring better distribution of profits along the tourism commodity chain, which currently leaves landowners bearing the risk and capturing little of the profits (Norton-Griffiths 2007). His argument segues into a case for private conservancies, in practice the preserve of wealthy landowners, often international investors, and increasingly the best remaining strongholds of Kenyan wildlife.

Most conservation organizations try to work out positions that link together co-ordination, minority action and governance models of action, while presenting themselves in a light that potential donors (but also the

governments whose approval they require) will find favourable. A good example is the African Wildlife Foundation (AWF). This international conservation organization portrays itself as promoting working from the bottom-up by local actors themselves:

'Who better to protect their land and resources than Africans themselves? Living on the land we strive to protect, Africans are in touch with both its potential and its challenges. They have witnessed the draw of tourists to their land. And, they have come face-to-face with the sometimes destructive consequences of sharing land with Africa's wildlife. Empowering Africans to be Africa's stewards is at the core of our strategy'. (www.awf.org/section/about).

The AWF also participates in coalitions opposing mainstream development projects, for example, by opposing the proposal of the Tanzanian government for a road across the Serengeti national park. At the same time, it puts forward as part of its mission 'Working with governments at every level to shape and support conservation policy' (www.awf.org/section/people). Clarifying such variable positions towards government is an essential element of the five-paradigm framework. When conservation action is seen as supporting those parts of government that act for conservation and/or opposing other parts of government that act *de facto* against conservation, the underpinning model is minority action (including minority action within the government, e.g. by an environment ministry on other ministries). When conservation action is seen as best conducted without government intervention, this signals the co-ordination paradigm. When conservation action is presented as best served by intense dialogue and joint action of all stakeholders, governmental or not, from all activity sectors involved, the underpinning model is governance. Many conservation organizations today, whether strategically pragmatic or simply opportunist, switch between models or combine them.

However, observers with a more radical view interpret such positions very differently. In the case of AWF, Sachedina (2008) sees it as having focused on fundraising and rewards to its directors and staff at the expense of any downward accountability to the people and wildlife of the areas where it supposedly supports community initiatives. This revolutionary perspective is strongly articulated by political ecologists analysing events in Tanzania Maasailand. Igoe (2007), Igoe & Brockington (1999), and others point to the systematic marginalization of Maasai, the blanket failure to acknowledge their ecological knowledge as a valid and vital part of understanding and managing the landscapes created by millennia of pastoralist use (Goldman 2003), and an unholy alliance between conservation, international investors and celebrity figures in the progressive alienation of pastoralist rangelands to outside investors. From this perspective it is hard to see the history of conservation in Maasailand as anything other than progressive accumulation by dispossession (Nelson et al. 2009; Peet et al. 2010) as predicted by political economy and political ecology theory (Jones 2006). Where analyses based on other paradigms claim that considerable benefits flow to communities from CBC, livelihoods studies suggest otherwise for the great majority of reserve-adjacent dwellers and CBC participants (Homewood et al. 2009). Garland (2008) presents the African-mediated component of such conservation as operating through the purchase or co-opting of loyalties by what remains a very colonial form of conservation.

Discussion

Deeply held, incompatible perspectives ... that complement each other

The example of Maasailand illustrates how identifying the five paradigms of collective

action can help to map the different perspectives that underpin significant disagreements and ambiguities in debates over conservation action. Such disagreements and ambiguities can be found in both the practice of and academic debate about conservation action. In-depth discussion of the theoretical issues involved in this five-paradigm model is beyond the scope of this chapter, but we will flag some possible misapprehensions.

First, these five paradigms should not be taken as superficial tools and perspectives between which we could jump back and forth at will from some all-encompassing position. They reflect deeply held worldviews and convictions that organize both lay and scholarly thinking about conservation action or the relevance to society of conservation research. They can sometimes be combined, or one can sometimes move from one to the other, but only to a limited extent, and this involves important tensions and generates problems of coherence (both in practice and conceptually). As for an all-encompassing position, it does not exist. However difficult this may be to accept, there is no sense of progress between or through the five paradigms: they simply co-exist. Their respective detailed contents, as well as their scientific and political weight, vary over time but none is the silver bullet that would make the others obsolete. Progress in one direction is often seen as damage in another: these are discontinuous and often contradictory perspectives. However, they play a complementary role in developing the democratic processes of acting on public issues.

Since its very birth in ancient Athens, democracy itself can be seen as the tense co-existence of antagonistic political models and forces, none of which has the ability to overcome the others (Ober 1991). In this context, a broad acceptance of co-existing contradictory paradigms, of the fact that the conservation community is moved not only by shared but also by divisive viewpoints, is essential. Here, deep reflection about one's own position and some literacy on the positions of others are essential. The five-paradigm framework helps to reveal

deeply rooted differences. They need to be heard and accommodated, but not in the sense of the 'governance' paradigm which seeks to reconcile or, better, overcome what it sees as essentially the misunderstandings of others. Rather, they should be perceived as the basis of a political process which acknowledges that, while differences may not be reconcilable, mutual recognition is a positive step in the pursuit both of action and of academic debates about conservation.

Second, the concepts used in analyses of the human dimension of conservation are dynamic, not stable. Moreover, they cannot be stable, because these analyses and the concepts themselves (and thus the very words they use) are moves in the political games they describe and so are subject to frequent changes as the proponents of each view strategically use evidence and argument. In the example of Maasailand, narratives centering on ecosystem degradation, for instance, underpin justifications for governments or international agencies to take control of contested resources, while stewardship narratives underpin justification for co-ordination and/or governance paradigms, and so on. A more general example is the multiple meanings of 'governance'. Many authors and actors use the concept with a specific meaning, describing a collective action model where state and other actors work together, as in Floranoy's definition:

'Environmental governance can be defined ... as multi-level interactions ... among, but not limited to, three main actors, i.e. state, market, and civil society, which interact with one another ... in formulating and implementing policies in response to environment-related demands ...'. (<http://ecogov.blogspot.com/2007/04/>)

But other authors employ an all-inclusive notion of governance as 'the act of governing – it relates to decisions that define expectations, grant power, or verify performance' (<http://en.wikipedia.org/wiki/governance>). With that definition, governance encompasses the entire field of collective action for conservation.

Lemos & Agrawal (2006) then propose the term 'hybrid governance' for governance in the more specific sense. The issue is that using 'governance' to designate the whole scene covertly generalizes the perspective of governance in its more specific sense and in so doing, promotes a pervasive sense that multi-institution, multilevel dialogue is at the centre of conservation action. This is why we deliberately use the more specific sense here. We wish to underline the fact that although some supporters of each paradigm think that theirs is able to subsume the others, this is really not the case and it is necessary to acknowledge the co-existence of paradigms that are irreducible to one another.

Third, although the mapping of collective action paradigms that we have suggested here can be useful in its own right, it is no substitute for more specific theories and conceptual frameworks. To give just two examples: decisive minority action may be understood through quite different conceptual languages, analyses and practical perspectives, depending on whether one sees it as a matter of innovation (Callon 1986), of advocacy (Sabatier & Jenkins-Smith 1993), of whistle-blowing (Chateauraynaud & Torny 2000) or of strategic action for change (Mermet 1992). Similarly, the co-ordination paradigm leads to contrasting views according to whether one seeks better co-ordination in private-social partnerships (e.g. direct payments for ecosystem services), in conflict resolution (Susskind 2009), in collaboration (Gray 1989) or in the subsidiary construction of institutional arrangements (Ostrom 1990, 2007).

Fourth, as we stated in the introduction, we have covered here only one of the main issues in the human dimension of conservation: agency or the organization of collective action, but others are essential too. For example, there has been much debate regarding the *why* of conservation. Conservation is by no means a moral imperative for everybody, and those who adopt an ethical perspective on conservation must make good arguments for it. Such arguments tend to fall into one of two camps: either

we should conserve nature because it is of some benefit to humans to do so, or because it benefits the animal or plant in question whether there is any human benefit involved or not. In environmental ethics these are called anthropocentric and ecocentric reasons respectively. Each of these very generic terms, however, needs to be further broken down into subcategories. On the anthropocentric side, the most important subcategory is the distinction between 'crude' and 'enlightened' anthropocentrism. The former fails to take the non-human natural world into account when deciding what is in humans' interest, while the latter recognises that human interests can often not be realised without taking the (conservation of) the non-human natural world into account. On the ecocentric side, on the other hand, debates continue between those who argue that the objects of concern should be biotic or abiotic – and whether the focus should be on individuals or on collectives, such as species or ecosystems.

With the exception of crude anthropocentrism, we find virtually all these positions represented in arguments for conservation, whether in a research or a practical context. Thus there will be those who believe that conservation is important because some current human benefit can be derived from it, like income from 'ecotourism', or because it is a form of 'intergenerational injustice' to deprive future generations of humans of the joy of encountering a given species and thereby depriving them of something that can contribute to human flourishing. On the ecocentric side, conservationists might argue that a given species should be conserved because of its intrinsic value, i.e. it has value irrespective of whether it is useful for humans.

Anthropocentric and ecocentric views are often regarded as opposites, in that they appear to pit the interests of the human and the non-human world against one another. This is why, in practice, one version or another of 'enlightened anthropocentrism' tends to hold sway, in that it recognizes an interdependence of human and non-human interests. Important

tensions still exist, though, for not all 'enlightened anthropocentric' reasons for conservation point in the same direction, particularly with respect to winners and losers within the human community itself. Thus ecotourism projects involving conservation (safari parks, for example) are often criticized for not taking sufficiently into account the needs of the human population occupying the same space as the animals.

These conflicts of interest are endemic to the project of conservation. There is no determinate way of resolving them; that is, there is no one objective reasoning, no one set of data that might possess sufficient authority from its own logic to establish an indisputable normative reference (for instance, a biological or human values baseline) that would compel adherence from all stakeholders and establish a universally shared set of goals for conservation efforts. Although the setting of goals, the interests at stake and the means of action are distinct aspects of conservation action, they cannot be separated in an absolute way, as if goals could be established in an objective manner in the arena of science and then action could be turned over to the political sphere (Latour 2004).

This very lack of determinacy points, of indisputable baselines, is viewed very differently from each of the various paradigms presented in this chapter. The governance or the co-ordination paradigms, or some combination between them, are increasingly promoted as providing the appropriate context and method for driving collective action, precisely because their focus on co-ordinating a variety of views seems a reasonable answer to the lack of determinacy points. From such perspectives, the government, minority and revolutionary paradigms all seem inappropriate because they apparently require excessive degrees of certainty in both information and in the value basis for decisions. Advocates of procedural approaches (governance, co-ordination) claim that the range of values is so wide and the knowledge available so provisional that only discursive and contingent processes are best suited to

conservation-related decision making. But seen from a revolutionary or minority action for change perspective, such process-based models of action are themselves a problem because they usually (and covertly) play in favour of the status quo. By providing only a process for co-ordination, they reinforce *de facto* the existing cast of actors and issues and do not alter power balances that are decisive for conservation. Or if they attempt to tilt existing balances of power in favour of given social groups, for instance, poor farmers, they then exhibit just as high a level of very debatable certainty (in the choice of the social interests they choose to defend), and so make themselves just as vulnerable to political manipulation (by interests vested behind the displays of defending this or that social group), as those others whom they reproach for their choices of specific biodiversity baselines and interests to defend.

This brief discussion on the 'why' of conservation shows that while it opens a very different discussion space than the 'who can act?' and 'how can they act?' questions, there are also deep links between the two, and the five-paradigm framework can help explore those too.

What orientations for human dimension research in conservation?

The differing paradigms of collective action not only underpin the discussion of each of the many issues in conservation. They also bear strongly on the research agenda in conservation science. A currently influential stream of work (Salafsky et al. 2002; Sutherland et al. 2004) recommends an evidence-based clinical approach to the choice of conservation options and tools. The underlying metaphor is the recent development of evidence-based medicine. Treating a conservation problem is seen as the application of tools that have proven, evidence-based (i.e. empirically proven, usually based on statistics) capacity to counter well-identified threats. Amongst the merits of such an approach are the quest for a larger view

above the multiplicity of cases, an obstinate effort to identify and classify problems, and an ordered review of tools. This approach is typical of the government paradigm: adopting a wide, ostensibly neutral view, choosing rationally from a comprehensive range of instruments, and guiding from above the choice of solutions to be implemented at lower levels of action.

A discussion of the limits of this approach could start, as a first step, with the limits of the evidence-based clinical approach in general. It is not medicine in all its aspects (including, for example, the close relationship of trust between clinical patient and doctor, or the individual's choice of lifestyle and health) that is taken as the organizing metaphor in evidence-based conservation, but one current model of rationalization of medical expenditure by government. Whatever its strengths, this is only one approach to the complexity and ambiguity of real-world, social problems (for an overview of the challenge and of possible alternative perspectives, see Denzin & Lincoln 2005). A second step for a critique would be consideration of the strategic, minority action perspective. Is conservation only about suppressing impersonal threats, or is it about competing or struggling with other stakeholders and policy sectors? If, as Salwasser claims (in Jacobson 1998), 'the business of fish and wildlife conservation is in competition with all other businesses for access to the ... land and water resources', conservation action is not addressing impersonal threats but is strategic. By definition, it rests on interaction with intelligent actors with other interests, who will actively strive, through counter-strategies, to make conservation action fail (or at least, have effects as limited as possible). Those stakeholders who threaten conservation are not microbes or blind forces; some of them employ consultants who may read such books as *Key Topics in Conservation Biology*, to find out what conservation advocates are up to, and how to keep them in check (Rowell 1996). Such strategic interaction is quite different from the neutral, technical or clinical type of action problem addressed

by evidence-based approaches. Each of the paradigms could serve as a basis for enlarging and diversifying the focus in a similar way. Other, more explicitly strategic approaches will have to be considered, alongside evidence-based clinical choice of tools, and they deserve an investment on a comparable scale.

What forums for discussion of the human dimension?

In what arenas are we to discuss tools and approaches to the human dimension of conservation? Redford & Taber (2000) advocate the need for a 'fail-safe' environment of discussion where conservation researchers and experts could openly discuss failures of conservation projects so as to learn from them. They show how the Pollyanna bias of bureaucratic decision processes (for a striking example in another, tragic field, see the classic book on the Vietnam war by Sheehan 1989) stifles much needed open discussion of the raw reality of conservation action. They are right. But other, further impediments are to be considered too. For instance, how does one discuss publicly (that is, in full view of competitors or opponents) the issues of one's own strategies, in a really strategic (that is, competitive, or adversative) context of action? This is an obvious question routinely addressed by parties organizing ways to consider and evaluate strategies in business, in politics, in communication and public relations, etc. It is clearly one that the conservation research community will have to address as well.

A significant part of the current uneasiness in developing work on the human dimension of conservation may be rooted in the difficulty of establishing arenas for cumulative discussion of really strategic issues. It is true that this is difficult to reconcile with the current dominance of the governance and co-ordination paradigms. The two of them exercise considerable pressure towards co-operative views and discussion arenas open to all. The need for, and difficulty of,

designing arenas of discussion that will allow enough room for the various paradigms is reflected by the conflicting metaphors regularly found in the literature, such as when Knight et al. (2008) rightly stress that 'to collaborate with people' (including stakeholders) is central for the conservation planner, and a moment later describe 'real-world conservation activities' as 'trenches', a war-like metaphor which is also used by Jacobson (1998). The tensions implied in all these metaphors reflect the difficult co-existence of paradigms that are both contradictory and complementary. If we want conservation biology both to hold its part in a struggle over conservation and also to invest in trust building and collaborative approaches, to guide government policy and also to participate in revolutionary societal shifts, and to switch from one role to another within complex governance processes whilst also remaining a clear and distinctive voice in academic and public debate, we need to enlarge and differentiate the arenas in which conservation issues are discussed, so that they can more clearly include contradictory perspectives and fruitfully accommodate their momentous relationships.

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