Remembering Elinor Ostrom
HER WORK AND ITS CONTRIBUTION TO THE THEORY AND PRACTICE OF CONSERVATION AND SUSTAINABLE NATURAL RESOURCE MANAGEMENT
REMEMBERING
ELINOR OSTROM

HER WORK AND ITS CONTRIBUTION TO THE
THEORY AND PRACTICE OF CONSERVATION AND
SUSTAINABLE NATURAL RESOURCE MANAGEMENT

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Acknowledgements

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In addition to the chapter authors we thank members of CEESP and IASC who agreed to act as peer reviewers for the chapters including Drs. David Bray, Catie Burlando, Nathan Deutsch, Rosie Cooney and Jose Furtado along with some who preferred to remain anonymous. We also thank Mr. Marcel Morin of Lost Art Cartography for reproducing maps (pgs. 51, 52, 81, 96) for the volume and Ms. Patty Nelson of Nelson Architects for graphic design and layout. Along with photos provided by chapter authors we are also grateful to those members of CEESP who responded to Aroha’s request to include photos of Lin in the volume.

Plate 1: Elinor Ostrom with Aroha Mead, Grazia Borrini-Feyerabend and Taghi Farvar at the CEESP Sharing Power Conference, Whakatane, Aotearoa (New Zealand), January 2011. (Photo credit: CEESP)
My lasting memory of Elinor Ostrom is of us sitting together at a picnic table outside the shop/garage in Taneatua (Bay of Plenty, New Zealand) waiting for a bus. This was in January 2011. Elinor had cut short her time at the meeting of the International Association for the Study of the Commons (IASC) in Hyderabad, India, an Association of which she was a founding member, to travel to Whakatane, New Zealand to participate in another conference, Sharing Power: A New Vision for Development. The Sharing Power Conference was organised by the Ngati Awa tribe, Te Whare Wanangao Awanuirangi, and the Commission on Environmental, Economic & Social Policy (CEESP) of the International Union for Conservation of Nature (IUCN). Elinor was a founding member of the Commission’s Theme on Governance, Equity & Rights.

By the time she travelled to New Zealand, Elinor was already feeling poorly. Yet she insisted on joining the Conference participants for a field-trip as soon as she arrived after her long journey from Hyderabad. I therefore had the task of picking her up at the airport and driving to the Taneatua shops to wait for the field-trip bus that was taking participants for a tour of the lands of the Tuhoe people in the heart of the Urewera ranges. The topic of the day was ‘Sharing Power—indigenous governance of conservation areas’ and the ‘shared power’ part of the discussion was centered around the ability or inability of those with power to transfer lands back to indigenous peoples unfettered.

As we waited for the bus I briefed her on our tribal hosts for the day, Tuhoe, and mentioned that of any tribe in New Zealand, they had the best chance of having the lands of a National Park located within their territories returned to them and that there was widespread support across New Zealand society for this to happen. In turn, Elinor spoke of her work and the eight “design principles” of collective action for commons management discussed in her 1990 book, Governing the Commons—the work that was instrumental in earning her the 2009 Nobel Prize in Economic Sciences. We began trying to match the design principles to the situation of Maori in general and the Tuhoe people in particular. I struggled to get beyond the principle of having clearly defined boundaries and the ability to exclude others. The bus arrived and we both tucked our discussion away.

Our guides for the day were Tuhoe artist and activist Tame Iti and actor and activist Patrick ‘Onion’ Orupe. From Taneatua we visited the burial place of the Maori prophet, faith healer and land rights activist Rua Kenana at Tupou Marae in Waimana and later drove through the blockade that had been put in place to keep government officials out of the Urewera National Park. The return of Urewera National Park to Tuhoe was part of the Treaty of Waitangi Settlement negotiation process that was currently underway. We stopped and talked to the Tuhoe people guarding the blockade and as the bus drove away we passed a number of police cars heading for a stand-off with the protestors—a day in the life of many indigenous peoples and part of the struggle to have those with power relate to communities as fellow citizens rather than protestors or marginalised peoples (names used to diminish their status and integrity). We then visited Te Rewarewa Marae in Ruatoki to hear from a range of Tuhoe people about their plans and aspirations post-Treaty settlement.

Throughout this time Elinor was quiet. She didn’t ask any questions in the open forum, she didn’t speak. After the Marae visit I drove her back to the place where all of the conference participants converged for dinner after field-trips into four different tribal areas (Ngati Awa, Te Arawa, Ngati Tuwharetoa and Tuhoe). As soon as the car door closed we resumed our discussion.

Whereas I had thought the design principles for common pool resource management would be problematic in the NZ Maori situation because of the fluid nature of many tribal
boundaries, she saw this as a reinforcement of what truly constitutes common pool resources. What I mean by ‘fluid nature of tribal boundaries’ is that while many tribes can and do confidently assert authority over their central territories, they tend to adopt a diplomatic inter-tribal relations approach to the outer boundaries they share with other tribes. It is not uncommon for neighbouring tribes to have common areas within their respective tribal territories, each one claiming the area as part of their own territory based on a spiritual or cultural historical association.

As we explored the principles of defined territories, mechanisms of conflict resolution, a graduated scale of sanctions for resource appropriators who violate community rules, self-determination recognised by higher authorities and the opportunity for resource appropriators to participate in decision-making, I questioned their applicability to Maori. Elinor on the other hand was more interested in what self-determination really means for Maori. She wondered if there was a bottom line that guided Maori in their Treaty settlement negotiations. A line that they would never cross because to do so would significantly compromise their ability to manage their heritage in the future as commonly held and managed resources.

As one can imagine neither of us answered each other’s questions to a satisfactory level. We were both left with more questions than answers. However, what I did gain from our discussion was an understanding that the design principles she identified are not meant to be interpreted literally but rather expansively. “Defined territories” doesn’t have to mean fences and signposts. It can also be recognised through customary laws and practices that demonstrate the historical and cultural association a community holds with a place that continues to this day and beyond. The principles, however, should be understood within an overall context of community self-determination and not be co-opted to mean other things. Her ideas came from a place of optimism that people can and should work things out and that communities can successfully manage common resources sustainably over time. Elinor was also very clear in her talks with me, and in the Keynote presentation she delivered to the Sharing Power Conference the following day, that there is no quick-fix panacea, there is no one simple solution and nor is there one solution for all contexts throughout the world. Rather the key to effective long-term sustainability in using and managing natural resources is communication—treating nature as a shared resource—sharing access, use and decision-making. In other words, sharing power.

Elinor Ostrom was an accomplished, secure, positive and unassuming person who had great loyalty to the individuals and networks that helped form her perspectives and career. It was a truly generous gesture on her part to travel to Whakatane, to be with CEESP, Ngati Awa and the other neighbouring tribes and conference participants at the Sharing Power Conference. CEESP members Janis Alcorn, Grazia Borrini-Feyerabend, Taghi Farvar and Michel Pimbert who knew and worked with Elinor over a long period of time were instrumental in securing Elinor’s visit to New Zealand. It is with pleasure that IUCN’s Commission on Environmental, Economic & Social Policy (CEESP) devotes this special edition of the peer reviewed journal Policy Matters to the influence and legacy of her work.

Thank you Elinor for inspiring so many with your ideas, vision and belief in a just world.

No reira, haere, haere, te rangatira Haere ki te wa kainga Go to the home of all time
Haere ki te kainga tuturu Go to the true home
Hoki atu ki te Kaihanga Return to the creator

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Remembering Elinor Ostrom
Her Work and its Contribution to the Theory and Practice of Conservation and Sustainable Natural Resource Management

James P. Robson1, Iain J. Davidson-Hunt2, Alynne Delaney3, Gabriela Lichtenstein4, Lapologang Magole5 and Aroha Te Pareake Mead6

The Commission on Environmental, Economic and Social Policy (CEESP)—Theme on Sustainable Livelihoods (TSL)—of the International Union for Conservation of Nature (IUCN), in partnership with the International Association for the Study of the Commons (IASC), is delighted to present this special issue of Policy Matters, which focuses on the outreach and impact of Dr. Elinor Ostrom’s groundbreaking research on common property (or commons) theory. Lin was a supporter and friend of CEESP and a founding member of the IASC, and we were all deeply saddened by her passing in 2012.

Lin Ostrom’s work has been instrumental in shaping contemporary analyses of resource management and conservation, especially at a local level. A ‘commons’ can be considered any resource subject to forms of collective use, with the relationship between the resource and the human institutions that mediate its use an essential component of any management regime. While conventional wisdom has long assumed that the sustainable management of common resources is best achieved through centralized government or private control, Lin led the way in challenging this assumption—showing how alternative forms of property can work effectively if well matched to the “attributes of the resource and users, and when the resulting rules are enforced, considered legitimate, and generate long-term patterns of reciprocity” (van Laerhoven and Ostrom 2007:19).

In recognition of her many achievements, we wanted to invite and publish a series of commentaries that build upon her work and, where possible, provide case studies demonstrating the practical application of her theoretical contributions. A Call was sent out in late 2012, soliciting expressions of interest and abstracts from those keen to be involved. Room was made for both traditional articles and more creative print presentations in any of IUCN’s official languages (English, French, Spanish). We received an excellent response, and after embarking on a long peer-review and editing process, we were able to whittle the submissions down to the collection of research papers, essays, commentaries and songs that follow.

Encapsulating voices from academia, indigenous communities, government agencies, development agencies and non-governmental organizations (both local and international), they all make clear the connections between Lin’s work and the authors’ own scholarship and/or practice. We briefly introduce each in turn.

Preceding our introduction was a preface by CEESP Chair, Aroha Te Pareake Mead, who provided the impetus to develop this volume following Lin’s participation in the Sharing Power Conference of CEESP. Aroha provided a personal testimony of Lin’s tireless efforts...
to bridge the worlds of activism, policy and academia—a mixture reflected in the contributions.

While Lin’s work has had an impact globally, it is through focusing on individual countries that one really begins to appreciate the depth of that impact. Nagendra, Ghate and Puppala, who represent the mélange of academia, practice and activism that commons scholarship so readily evokes, report on the different ways in which Lin’s work has impacted the governance of India’s extensive natural resource commons, taking in both rural and urban environments. Similarly, the two papers that follow, by Pacheco-Vega and Merino-Perez respectively, show how Mexico’s commons scholars and practitioners, and environmental and conservation policies, have been influenced by Lin’s thinking. Pacheco-Vega looks at multiple resource types (water, forests, irrigation systems, small-scale fisheries) to highlight the range of empirical research from Mexico that has drawn on Lin Ostrom for inspiration. Merino Perez, current President of the IASC, provides a brilliant analysis of how Lin’s work has challenged the way we view nature-society relationships, and does so with an eye on changes to indigenous territorial management in the south of the country.

While a number of the articles in this Special Issue are written by senior scholars and practitioners, as well as alumni of the Workshop in Bloomington that Lin founded with her husband Vincent, we were also keen to include contributions from recent students and younger scholars who represent a new generation of researchers interested in the broad area of natural resources and environmental management. Two case studies from Africa—Bereket’s assessment of woodland conservation in the Eritrean highlands using the Design Principles from Ostrom’s seminal Governing the Commons, and Gachenga’s paper from Kenya that explores how Lin’s thinking on the commons meshes with customary law systems of natural resource governance—showcase nicely the continued relevance of Lin’s work to those beginning their careers as commons scholars.

Remaining with the academic research community, we continue with a piece by Derek Kauneckis, a graduate of Lin’s program at Indiana University, who expertly traces how her substantial body of work is informing current efforts to develop research tools and techniques of institutional analysis for understanding the governance of commons as complex systems—concluding that her work represents the beginning of a “new science of governance” that others are working hard to develop.

Our final three papers move away from academia to focus on the applied nature of Lin’s work; how it is being used, in very practical ways, to guide and inspire change in the way people relate to and manage their natural environments. They report on local, national and global efforts respectively. First we head to the boreal forest of northern Quebec, Canada, where Van Schie, Economic Development Officer for Wolf Lake First Nation, tells the story of the community’s fight to ensure that forestry on their customary lands is not only environmentally sustainable but allows for their active involvement as part of a new forest commons framework. From Canada we shift focus to Central Asia, where Ykhanbai and Vernooy talk about their experiences developing a co-management process in Mongolia that aims to improve pasture management for that country’s nomadic herders. Ten years in the making, it draws heavily upon Lin Ostrom’s work on commons institutions and institutional diversity. Lastly, we hear from Pablo Pacheco, current Head of the Bolivian delegation at the Convention on Biological Diversity (CBD), who shows how Lin’s scholarship inspired Bolivia to argue (successfully) for local and indigenous collective action to be recognized by the CBD for the role it affords biodiversity conservation efforts—opening the door for local-level commons institutions to become a more integral player as part of national and international policy processes.

We bring our Special Issue to a close with two pieces. The first, written by leading commons scholars Arun Agrawal and Jesse Ribot, builds upon the lessons of our earlier contributions.
to acknowledge the power of Ostrom’s analyses and the tools that she developed—which have helped us to better understand the governance of shared resources. Yet, as with all scholarly endeavours, the major advances that Lin made are not without their limitations, and Agrawal and Ribot offer a most useful critique of her design principles for commons institutions so that a key area of her legacy can be carried forward and strengthened.

The second is a song, written and performed by Caña Dulce y Caña Brava, a musical quartet from the Tuxtepec region where the Mexican states of Oaxaca and Veracruz meet. The group plays in the regional folk style known as Jarocho, and wrote this song in celebration of Lin’s life and work. They were able to perform for her on her final visit to Mexico in 2012. It is a very fitting way to end this special issue.

In providing a platform for such a wide array of voices, and offering cases from so many different geographical and cultural contexts, this special issue of Policy Matters showcases just how important and far-reaching Lin’s work has been (and continues to be). As these diverse contributions highlight, from her early PhD work to the final presentations she gave in 2012, Lin exhibited a quality of thought, an ability to convey complex ideas in understandable and entertaining ways, and an optimism that enabled her ideas to make their mark in classrooms, local communities, and on the most important of policy and legislative stages. Our current understanding of natural resources management and conservation would not be what it is without her input, and the prospects for improving environmental policy at local, national and global levels that much poorer.

We are very happy to be able to share in some of her achievements with CEESP, IUCN and IASC members.

Enjoy!

REFERENCES

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Governing India’s Commons
The Influence of Elinor Ostrom’s Ideas

Harini Nagendra, Rucha Ghate, Jagdeesh Rao
Abstract

Elinor Ostrom's research on the commons has fundamental implications for the governance of commons in India. Research from the International Forestry Resources and Institutions (IFRI) network, coupled with remote sensing analyses conducted by Ostrom and colleagues, has been fundamental in demonstrating the importance of self-governance for the sustainable management of the commons in Indian forests and cities. Recent field experiments conducted in two predominantly tribal communities in central India further demonstrate that communities with strong previous traditions of shared norms and mutual trust, tend to be non-exploitative, non-commercial, and cooperate towards the sustainable harvest of forest resources. Forests and other commons form critical components that supplement and support rural communities dependent on agriculture, livestock, water and other types of natural resources in large parts of India, providing stability and security in an unpredictable environment. In addition to rural commons, urban commons such as lakes play a very important role in Indian cities. Recent studies on lakes in the rapidly growing incipient megapolis of Bangalore demonstrate the importance of polycentric arrangements, involving local citizen groups along with Government agencies in monitoring, restoration and protection. Yet, institutional apathy has led to the neglect of traditional institutional arrangements and the customary rights of people in the solutions proposed under different Government policies and programmes. Currently, common and public lands cover almost a fifth of the geographical spread of India. Such land, if brought under the ambit of local self-governance institutions, could contribute significantly to the rural economy, providing critical ecological functions besides meeting livelihood needs. Recent initiatives by the Supreme Court, coupled with State government and national policy changes are promising, but much remains to be done. Large scale changes are needed while keeping in mind the pillars of Ostrom’s vision—the need for self-governance of the commons at a local level that permits flexibility, adaptation and innovation, with the ultimate goal of ensuring equitable and sustainable access to the commons for all citizens.

Keywords: Collective action, sustainable use, self-governance, rural and urban commons, India
GOVERNING THE COMMONS: ELINOR OSTROM’S IDEAS

Born in 1933, Elinor Awam Ostrom’s perspective of the world was shaped in an era impacted by economic depression and global war, resulting in a life-long, deep awareness of the limited nature of the earth’s natural resources, as well as the capacity of communities to come together in times of difficulty, to cooperate and provide a helping hand to those in need. These beliefs were purposeful in shaping a career of path-breaking research that demonstrated the importance of collective action for the sustainable use of natural resources.

Ostrom strongly believed in the power of the local. Yet her impact and influence was global. She had a special attachment to South Asia, working for decades on issues of irrigation and forest management in Nepal (personally conducting field work there), and on collective action in urban and forest contexts in India (Plate 1). Her research on the commons has fundamental implications for the governance of common property resources in India.

Ostrom’s analysis of long-term local institutions for the commons was done with a view to identifying the conditions that shaped how “a community of citizens can organize themselves to solve the problems of institutional supply, commitment and monitoring” (Ostrom 1990). Impatient with a predominant focus that searched for “simple” solutions, she argued for the need to distinguish between complexity and chaos, often pointing to the importance of complexity in biological systems and challenging political scientists to go beyond the formulation of simple, one-size-fits-all rules. Thus, rather than develop a set of rules that presumed to dictate how communities would respond in all contexts, she articulated her famous set of Design Principles—both elegant in their simplicity and yet profound. For instance, one design principle—often ignored by policy makers—states the importance for communities to have a “Minimal Recognition of Rights to Organize”, i.e. to ensure that the rule-making rights of a local community are respected by external government authorities. Unless this is provided, any group—such as a polluting industry—who wants to break the rules on sustainable use created by local user groups, only has to turn to the government to be able to bypass or overturn these community rules.

This Design Principle has profound implications for the long term sustainability of Indian commons—as is obvious from the many recent clashes between industry and indigenous communities across the country, and discussions between the Indian Minister of Environment and Forests and the Minister of Finance about setting up a fast-track National Investment Board to provide rapid clearances to mega-infrastructure projects, even in environmentally critical forests where indigenous communities are located.

Commons are of immense importance to issues of environmental sustainability, equity and democracy in India. Currently, common and public lands cover an estimated 45 to 60 million hectares—almost a fifth of the country’s geographical spread. Such land, if brought under the ambit of local self-governance institutions, could contribute significantly to the rural economy, providing critical ecological functions besides meeting various needs such as fodder, food, medicine, firewood, etc. This would benefit large rural populations.

In this article, we discuss a number of applications of Ostrom’s research on Indian commons, and the applications of her far-sighted analyses to governance of those commons.

OSTROM’S RESEARCH ON INDIAN COMMONS

A key factor in Ostrom’s research was the development of the Nepal Irrigation Institutions and Systems (NIIS) database, which collated and organized information on farmer-managed irrigation systems in Nepal. Following a request from the Food and Agricultural Organisation (FAO) of the United Nations to prepare a similar database to study forest governance, Ostrom and her colleagues
at The Workshop in Political Theory and Policy Analysis at Indiana University initiated
the International Forestry Resources and Institutions (IFRI) program, which would
provide over-time data on peoples forests to link information on socio-economic,
institutional and ecological aspects. Now active in a number of countries across multiple
continents, IFRI was founded and tested using a small set of sites that included locations
in India and Nepal, and continues to contain active programs in these two countries.

Research from IFRI locations in India has been fundamental in demonstrating the importance
of self-governance and local monitoring for the sustainable management of community
forests in critical wildlife habitats in central India (Ghate 2004; Ostrom and Nagendra
2006; Ghate, Ghate and Ostrom 2013) and the eastern Himalayas (Agrawal and Chhatre
2006). Local monitoring, sanctioning and enforcement of rules seem to be important
predictors of forest condition in several IFRI studies (Ghate and Nagendra 2006). A
complete reliance on government monitoring through forest guards is difficult in the Indian
context, where guards have to cover large areas, are lightly armed, and have to deal with
social challenges that make it difficult for them to enforce rules. In fact, as Agrawal and
Chhatre (2006) conclude from IFRI studies in India and elsewhere, government involvement
may be negatively associated with forest condition in some contexts, while community
managed forests may be better suited to cater to local needs (Agrawal and Chhatre 2006;
Chhatre and Agrawal 2008). Thus, warning against a mis-interpretation of the need for
monitoring, Ostrom and Nagendra (2006, 19230-19231) stated that “We do not advocate
using fences and guns to protect government forests... Unless one ensures the livelihoods
of those living around or within a forest, a major investment in monitoring alone is not a
sufficient, long-run management strategy and may even be counterproductive”.

Through a careful examination of forest change in the Tadoba Andhari Tiger Reserve
in Maharashtra, the Mahananda Wildlife Sanctuary in West Bengal, and the Chitwan
National Park in Nepal, Ostrom and Nagendra (2006) found that the official designation

Plate 1: Elinor Ostrom at a community forest group meeting organized by the Foundation for Ecological
Security in Karnataka State, India, in February 2012 (Photo credit: Harini Nagendra)
of a forest as government, community, or co-managed did not appear to impact forest conservation as much as the legitimacy of ownership and degree of local monitoring. Corroborating this, data from 42 forests in multiple countries established that the type of ownership did not have a statistically significant impact on forest quality as measured using assessments of tree density or tree size. What emerged as most significant was the involvement of communities in regular monitoring, with this study concluding that “when users are genuinely engaged in decisions regarding rules affecting their use, the likelihood of them following the rules and monitoring others is much greater than when an authority simply imposes rules” (Ostrom and Nagendra 2006, 19224). Local forest users can also provide reliable, low cost assessments of changes in forest density that can be significant inputs for monitoring ecological change (Nagendra and Ostrom 2011).

The research of Ostrom and colleagues holds great significance for Indian forest policy, in particular to the discussions of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act (FRA) of 2006, which provides traditional forest dwellers with rights over forest land that is customarily used and managed by them. Presently, debates around implementation of the FRA are centred on questions such as: Are communities capable of monitoring and managing such a valuable resource? Will the transfer of authority result in large-scale deforestation? Are traditional norms of sustainable harvesting and equitable benefit sharing effective in traditional communities?

FIELD EXPERIMENTS IN INDIGENOUS INDIAN COMMUNITIES

Generally assumed in these discussions is the fact that access to markets and commercialisation has affected local communities’ attitudes and behaviour regarding forests, making them less inclined to cooperate, and more likely to engage in destructive practices of over-harvesting. Ostrom and her colleagues examined this issue in detail using field experiments conducted in predominantly tribal communities in the Indian State of Maharashtra. From eight experiments conducted in four forest/tribal rich areas of the state, Ghate, Ghate and Ostrom (forthcoming) found that communities that have had strong previous traditions of shared norms and mutual trust tend to be non-exploitative, non-commercial, and cooperate towards prioritising, planning, and sustainably managing forest resources. Thus, human beings are not always “Homo economicus”, they can be “Homo reciprocans” and even “Homo cooperatus” in the case of common-pool resources. The study confirms Ostrom’s (1998) observation that it is also possible for individuals to achieve results that are “better than rational” in certain conditions.

Another study that used evolving field experiments (Ghate, Ghate and Ostrom 2013) indicates that indigenous communities can be trusted with forest management responsibilities, and policies such as Joint Forest Management (JFM) and the FRA are moving in the right direction. In one of the experiments, participants adopted plantations of fast-growing trees for fuel wood and fodder, which, they argued, helped them protect high-value timber trees. It was also clear by their behaviour during the experiments that communities are able to address the issue of equity while sharing the benefits from collective forest protections measures. The study concludes that if forests collectively managed by communities are not degraded below the critical minimum, communities are capable of successfully protecting and regenerating the resource. However, at least in the initial period, some failures of community management should not be generalized, because “once altruist and reciprocal motivations are crowded out, it takes some time to re-establish trust and reciprocity” (Vollan 2008: 563).

RESEARCH ON URBAN INDIAN COMMONS

Ostrom argued it was time to really pay attention to urban commons. The Social-Ecological Systems (SES) Framework she developed provides a useful common
language that can be used to understand the patterns of interactions and outcomes occurring in complex urban systems (Ostrom 2007). Ostrom recommended that the SES framework be used as the initial organizing language by scholars, citizens, and officials who are trying to understand a complex system so as to achieve effective, fair, and sustainable policies over time (Ostrom 2009). This framework provides a common analytical language to identify the broad characteristics of a Resource System and related Resource Units, a Governance System, and Actors that together impact on the structure of Action Situations, leading to specific Interactions and Outcomes. During the last year of Ostrom’s life, she and one of the authors of this paper (HN) had initiated research applying the SES framework to an urban context in the south Indian city of Bangalore, to examine the effects of diverse structural variables on interactions and outcomes achieved related to seven of the city’s lakes (Plate 2).

Bangalore, a city in a semi-arid region of south-central India, was formerly dependent on numerous artificial lakes that have witnessed tremendous encroachment and pollution in recent years (D’Souza and Nagendra 2011). Once managed as commons by local communities, these lakes are now governed by a number of government departments with overlapping jurisdictions. While many lakes continue to be severely polluted, a few lakes have been effectively restored in recent years and managed collaboratively by local citizen groups working with the city municipality (Nagendra 2010). Nagendra and Ostrom applied the SES framework to investigate the conditions that may shape the ecological and social outcomes associated with these lakes. Collective action was high in six out of the seven lakes studied. Yet, only in two of these lakes were citizens able to successfully translate collective action into positive ecological outcomes.

The Bangalore example highlights the challenge of protecting and cleaning up urban lakes in a setting of continued pollution, which is very difficult without the involvement of citizens (to closely monitor and manage local challenges) and government organizations (to solve large scale technical problems and deal with social challenges such as sanctioning major polluters). Contrary to the trend of increased centralization in the country’s urban areas, a polycentric structure seems most effective for solving the numerous environmental challenges plaguing Indian cities (Nagendra et al. 2012)—especially through the explicit provision of opportunities for local communities to work effectively with governmental agencies.

**TRANSLATING OSTROM’S IDEAS ON THE COMMONS INTO PRACTICE: THE INDIAN CONTEXT**

Though the Indian economy is growing at a rate of 9% annually, the geographies in which this development is located and the constituency it benefits, remain narrow. Commons or common pool resources form critical components that supplement and support rural communities dependent on agriculture, livestock and forests in large parts of India, but especially across dryland and tribal areas. The role of land and water resources commons in strengthening the viability of the agro-pastoral production systems and the resilience of household livelihoods has been insufficiently recognized so far.

A recent study by the Foundation for Ecological Security (2012) further documented the importance of the commons for rural livelihood support. Conducted in seven states—Rajasthan, Gujarat, Madhya Pradesh, Maharashtra, Karnataka, Andhra Pradesh and Odisha—the study spanned 3000 households in 100 villages in arid, semi-arid and sub-humid parts of the country. Dependence on the commons was very high, with 98% of households accessing the commons for different types of use, with 69% using the commons for grazing, 30% for fodder collection, 53% using the commons for agriculture and 38% for food, 74% deriving fuelwood, and 38% collecting non-timber forest products. In sub-humid areas, people
largely utilized the commons for meeting agricultural needs, while in arid and semi-arid regions, the commons were critical for livestock grazing. Dependence on community sources of water, such as tanks, ponds, rivers was also high, as was dependence on forests for timber, fuel wood and non-timber forest products. Resources from the commons contributed to a substantial proportion of household income, about 25%—and an even higher proportion of 31% of net income for the landless, who were highly dependent on fuel wood from the commons. This study indicates that India needs to strengthen its information databases on common land and water resources, along the lines of the databases developed by Ostrom and her colleagues on forest, irrigation and marine commons across the world. Such databases could help to dispel myths related to their 'residual' character and thereby their degradation, by assessing the actual extent and status of resources that are generally considered as common pool in nature as well as the nature of property rights governing the same.

The studies described above clearly demonstrate that continued access to the commons helps provide stability and security in an unpredictable environment. Although especially critical for landless households, commons are also very important for large rural land-owners. Yet, land use data from Indian states demonstrates that common lands have seen an overall reduction in area, with a marked decline in grazing lands and cultivable "wastelands". The crisis is a manifestation of institutional apathy, following neglect of traditional institutional arrangements and the customary rights of people in the institutional solutions proposed.
under different Government of India and State policies and programmes. Programmes for decentralization, based on a prescriptive top-down approach without understanding local social-cultural dynamics or the economic and ecological conditions, have failed to meet expectations. Although there has been a shift in the policy paradigm towards more participatory forms of development and natural resource management since the 1990s, as reflected in the 73rd amendment of Constitution enabling a greater role for Panchayati Raj Institutions, JFM arrangements, and recent Acts such as Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) and Forest Rights Act, several challenges remain in the institutional arena level in order to realize the potential of this shift.

The Supreme Court of India, in a recent landmark ruling (Jagpal Singh and Others vs State of Punjab and Others (Civil Appeal No. 1132/2011 @ SLP (C) No. 3109/2011), recognized the importance of the commons, stating that “Since time immemorial there have been common lands inhering in the village communities in India.... These public utility lands in the villages were for centuries used for the common benefit of the villagers of the village such as ponds for various purposes e.g. for their cattle to drink and bathe, for storing their harvested grain, as grazing ground for the cattle, threshing floor; maidan for playing by children, carnivals, circuses, ramilla, cart stands, water bodies, passages, cremation ground or graveyards, etc. These lands stood vested through local laws in the State, which handed over their management to Gram Sabhas/Gram Panchayats. They were generally treated as inalienable in order that their status as community land be preserved.”

This ruling clearly recognizes the diversity of Indian commons, a finding supported by Lin Ostrom’s deep appreciation of institutional diversity (Ostrom and Nagendra 2011).

Indeed, at a meeting in Delhi in early January, India’s then Minister of Environment and Forests, Jairam Ramesh singled out the most powerful insight that he thought Lin’s research had to offer Indian policy—that institutions are diverse, and that institutional monocultures are to be avoided (Foundation for Ecological Security 2011).

India has a rich diversity of traditional and indigenous institutions for commons management, including Van Panchayats, gramya jungles and community forestry. Van Panchayats are long standing village forest institutions in Uttarakhand, with a documented history of existence over a century, that have been very successful in the protection and sustainable management of village forests in the Kumaon hills. Gramya jungles are village forest institutions recognized in the state of Odisha, consisting of village forest areas managed for communal and developmental purposes within the village boundary. Similarly, there are a variety of long standing indigenous community institutions that have evolved locally to manage forests in different parts of the country, such as the Mundari Khuntkatti in Chotanagpur, indigenous Community Forest Management in Odisha and Maharashtra, sacred groves (Devara Kaadus and Gunda Thopus) in Karnataka.

In most instances, these indigenous institutions have been insufficiently recognized by formal administrative rights, with national programs largely focused on approaches such as JFM. For instance, in parts of the Aravalli hills in north India, an important ecoregion which harbours highly biodiverse forests critical for ground water recharge, forests have been traditionally protected by local communities through...
their belief in sacred spirits and yet are now threatened by urbanization spreading outwards from the Indian capital, Delhi. Ostrom believed that in a country like India, with a federal system of governance, polycentricity was critical for effective management of the commons, combining the greater fiscal and administrative capacities of the government with the local knowledge and monitoring capacity of local communities (Narayanan 2012).

A major challenge for polycentricity in India is that effective formal and informal institutions have not been crafted to protect, develop and manage common lands. For instance, Joint Forest Management (JFM) has largely failed in providing access to non-timber forest products for local communities. Panchayati Raj Institutions have, on the whole, shown limited capacity to manage and develop common lands and to prioritize MGNREGA and other developmental funds for restoration and protection of the commons. At times, these have also come into conflict with community-led initiatives. In Orissa, south Gujarat and south Rajasthan, for instance, Foundation for Ecological Security (2012) found that access to forest lands seems to have improved as a result of informal claims and contestations with the forest department, rather than through formal institutional recognition.

In the Indian context, differences in policies at the federal (national), state and local levels are also critical, with land-related policies strongly influenced by state interventions. Further, even when state policies are in place, bridging the gap between legal policies and field programmes is critical to achieve actual impact on the ground. The key, therefore, is to move from a piecemeal approach towards the management of natural resources to long-term policy and programmatic action. Progress is slowly being made in a number of states. A collaborative arrangement between the Rural Development Department of Government of Andhra Pradesh and NGO networks has been established in 2009 for strengthening the efforts to conserve, develop and protect common lands through community involvement under the National Rural Employment Guarantee Scheme (NREGS). The Government of Rajasthan was the first to formulate state-specific commons legislation, ‘The Draft Rajasthan Common Land Policy (2010)’, which it followed up by developing ‘Operational Guidelines on the Implementation of Grazing Land Development under MGNREGA’, both with the involvement of the Foundation for Ecological Security. The Supreme Court of India, as a result of the Jagpal Singh and Others vs State of Punjab and Others decisions mentioned previously, directed the state governments to draw up schemes to evict encroachments on common lands and restore them to Panchayats and Gram Sabhas (village institutions). Following the apex court’s direction, there have been five high court orders either admitting cases against the taking over of village commons or rescinding such takeovers. Twenty-nine judiciary pronouncements and twenty-nine government orders on commons have been issued since the apex court order last year (Mahapatra 2012). The 12th Plan of the Planning Commission of India has also recognized the importance of the commons, creating a working group on ‘Natural Resources Large scale changes are needed, whilst keeping in mind the central pillar of Ostrom’s vision— self-governance of the commons at a local level that permits flexibility, adaptation and innovation, with the ultimate goal of ensuring equitable and sustainable access to the commons for all citizens.'
Management and Rainfed Farming’ and sub group on ‘Institutions and Commons’ for the 12th Plan preparation, in which the need for favourable land tenure arrangements, institutional design and programme architecture was highlighted for effective governance and management of commons. Following direction from the Lok Adalat (people’s court) of Karnataka, two districts in Karnataka have also embarked on a programme to improve their commons management.

These new directions for commons regimes, while focusing to date on land, hold promise for other commons of importance to India such as fisheries, water (and ground water in particular), genetic sources such as agricultural seeds, and patenting of traditional knowledge systems, traditional health practices and medicines. However, while the direction taken by the Indian Supreme Court, the policy and programmatic level decisions of the Central Government, many State Governments, and the Planning Commission all provide ways forward, there remains a lack of integration in efforts to address the issue of commons governance at a national level. In this context, a Model Common Lands Bill or such like could provide important direction for State Governments. One approach could include tethering the MGNREGA with a ‘commons regime’, such that the institutional dimensions currently found wanting would be filled. The right to employment and the right over resources combined together can have a significant impact in protecting ecological resources and creating robust institutional regimes.

CONCLUDING THOUGHTS

In conclusion, the ethics and value systems espoused by Elinor Ostrom, and her pathbreaking insights into the commons, as well as her research on the principles governing their effective, equitable and sustainable management, has tremendous implications for the governance of shared resources in India. India is home to a grand diversity of common pool resources ranging from forests to grazing lands, from fresh water to marine areas, with both rural and urban communities exhibiting widespread dependence on these resources for meeting

Plate 3: Elinor Ostrom with the authors of this manuscript (and Harini Nagendra’s daughter) in Bangalore in February 2012, on the last day of her final visit to India (Photo credit: Venkatachalam Suri).
a range of economic, social, cultural and spiritual needs. Ostrom’s theoretical and empirical observations of the commons provide a framework for governance that respects diversity and rights to local self-governance, while at the same time recognizing the need for multi-level governance that require governments to fulfil their social responsibilities towards equity and sustainability. India has a long standing diversity of traditional common property systems, with new forms of innovative commons governance evolving in areas such as patent rights, and in urban commons. Recent initiatives by the Supreme Court of India, coupled with various Indian State Government initiatives in some states, and the national policy changes brought about by the Forest Rights Act, indicate signs of progress that are promising. Yet much remains to be done. Large scale changes are needed, whilst keeping in mind the central pillar of Ostrom’s vision — self-governance of the commons at a local level that permits flexibility, adaptation and innovation, with the ultimate goal of ensuring equitable and sustainable access to the commons for all citizens.

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THE IMPACT OF ELINOR OSTROM’S SCHOLARSHIP ON COMMONS GOVERNANCE IN MEXICO

An Overview

Raul Pacheco-Vega
The Impact of Elinor Ostrom’s Scholarship on Commons Governance in Mexico

An Overview

Raul Pacheco-Vega

Abstract

Professor Ostrom’s work has been extremely influential worldwide, and this includes important contributions to Mexican commons scholarship and governance. From water and forest stewardship to small-scale fisheries management, her institutional approach to analyzing commons problems and uncovering opportunities for self-organization, where solutions to complex resource issues are far from straightforward, has been successfully applied to case studies across the country. This paper summarizes lessons learned from such cases, which cover a broad range of resource areas and issues, and offers insight into the degree of impact that Ostrom’s work has had, and continues to have, on Mexico’s efforts to more sustainably manage its extensive natural resource commons.

Keywords: Governance, Mexico, commons, neo-institutionalism, water governance, polycentricity, complex adaptive systems

Plate 1: Mountain Stream, humid montane forest, communal territory of Santiago Comaltepec, Oaxaca, Mexico. (Photo credit: James Robson)
INTRODUCTION

Professor Lin Ostrom's work has been extremely influential worldwide, and her scholarship has been applied across the sphere of Mexican commons governance. From forest stewardship to water governance to small-scale fisheries management, Lin's institutional approach to analyzing commons problems and uncovering opportunities for self-organization, especially where solutions to complex resource issues are far from straightforward, has been successfully applied to cases around the country. This paper summarizes the lessons learned from a number of Mexican studies, which cover a broad range of natural resource commons, in order to highlight the influence of her work. I begin by summarizing the intellectual history of Mexican interactions with Lin's scholarship, before conducting a review of how her work has been used to research and better understand multiple types of resource commons and their management across the country. Using water governance as a major focus, I then describe how Lin's thinking has influenced policy and offer a number of potential avenues for applied scholarly research to build on.

I may come across as a little biased in my writing. There is a simple reason for that—I had been an avid student of Lin's and her husband, Vincent, when they came to visit the University of British Columbia as Green College Residential Visiting Professors. I spent hours listening to their lectures and having long scholarly conversations outside of the lecture hall and cherished their subsequent friendship, mentorship and guidance. It was Lin and Vincent who encouraged me to engage in water governance scholarship, and it is in their memory that I now undertake scholarly work on these issues in Mexico. While it was those personal interactions with the Ostroms that led me to the study of neo-institutionalism and commons governance theories, it has been the applicability of their work that has kept me in this field since then. Lin Ostrom's research has left an indelible mark on environmental policy, and I hope this article showcases some of the ways by which her thinking has advanced our understanding of self-governing resource systems in a Mexican context.

OSTROM AND MEXICO

Before delving into the application of Lin Ostrom's work to Mexican cases of shared resource management, it is worth outlining the intellectual history of her involvement with the country's scholarly endeavours in the field of common pool resource theory. Lin came to Mexico several times during her life, as her scholarly collaboration with Dr. Leticia Merino from UNAM's Institute for Social Research (IIS-UNAM, Instituto de Investigaciones Sociales de la Universidad Nacional Autónoma de México) blossomed. Professor Merino's scholarship has been integral to how we view forest governance in Mexico (Merino Perez, 2004), and Merino used Lin Ostrom's work extensively to document the institutional arrangements that have enabled Mexico's community-based forest sector to develop, and flourish in some instances, and compare these with experiences from other countries.

Merino was also involved in some of the watershed moments that punctuate Lin Ostrom's influence on Mexican commons scholars more broadly. In 2004, Professor Merino helped to organize, in addition to chairing, the Tenth Biennial Conference of the International Association for the Study of Common Property (IASC, held in Oaxaca in southern Mexico. This exposed many Mexican scholars to Lin Ostrom's scholarship, who then applied the frameworks and theoretical lessons of her work more readily to case studies around the country. As Robson and Lichtenstein's (2013) recent study shows, the IASC's Oaxaca conference led to a significant increase in peer-reviewed published articles from both Mexico and Latin America more generally. Then, more recently in 2012, and just a few months before her passing, Lin was invited by Dr. Lourdes Amaya Ventura to give a seminar in Mexico City. On the back of this, a number of additional events were organised, including one at the Universidad Autónoma Metropolitana Cuajimalpa where numerous Mexican scholars presented draft conceptual and empirical papers for Ostrom to provide feedback on. While limited space precludes a review of the papers presented at the event, it was clear that interest in commons governance, neo-
in institutionalism and polycentricity had risen greatly since Lin’s earlier visits to the country.

**A REVIEW OF OSTROM’S INFLUENCE ON MEXICAN COMMONS SCHOLARSHIP**

There appear to be four broad categories of scholarly output from Lin Ostrom that apply to Mexican commons governance. The first one is perhaps the most popular; the concept of common pool resources (CPRs) and the idea that self-organizing communities can build institutions (understood as the rules and norms that regulate agents’ interactions) for resource self-governance. Taken from her 1990 book, *Governing the Commons*, Ostrom’s Design Principles for commons institutions have been widely used as an analytical lens by which Mexican scholars examine the robustness of resource governance systems.

The second category concerns the framework that evolved partially from Susan Kiser and Elinor Ostrom’s grammar of institutions and partially from an evolutionary process of understanding how institutions emerge: the Institutional Analysis and Development (IAD) framework (Gibson, Andersson, Ostrom, & Shivakumar 2008; Olivares & Sandoval 2008; Ostrom, Gibson, Shivakumar, & Andersson 2001; Ostrom 2011; Pacheco-Vega 2005). IAD is both an analytical framework and a set of heuristics that enable scholars to study how resource governance systems function, through the identification of structural variables that affect institutional arrangements (Ostrom 2010, 2011; Pacheco-Vega & Basurto 2008; Pahl-Wostl, Holtz, Kastens, & Knieper, 2010). I have been among the main proponents of IAD applications to Mexican water governance, using the Lerma-Chapala river basin as the case study of choice (Pacheco-Vega & Vega 2008a, 2008b; Pacheco-Vega 2005, 2007a, 2007b, 2012a, 2012b, 2012c). This work has found that institutional reforms for water governance in Mexico such as river basin councils are not robust enough to facilitate proper sanitation policy. More recently, Briseño Ramírez followed a similar strategy in undertaking an institutional analysis of water management in the metropolitan area of Guadalajara in Mexico (Briseño Ramírez 2012), finding that the structures of resource governance at the local, state and regional levels are weak, and that the dilution of jurisdictional responsibilities lead to deficient institutional structures that further undermine water management at the regional level. These findings are consistent with my frequent criticisms of the river basin council as an arena for water management in Mexico (Pacheco-Vega 2012b).

The third category deals with Ostrom’s work on polycentricity. Milman and Scott (2010) used Ostrom’s work in this area to examine the shared Santa Cruz Aquifer that runs alongside the US-Mexico border. Their findings confirm what we already knew thanks to Lin’s research: that a non-polycentric approach can lead to overlapping authority and blurred jurisdictional boundaries, thereby weakening resource governance regimes and limiting proper binational groundwater management. Yet by exploring the degree to which Mexican water governance is moving towards more polycentric models (Pacheco-Vega 2013a, 2013b), my own work – comparing the geographies of wastewater in the central cities of Leon and Aguascalientes and analyzing a dataset of 26 river basin councils in Mexico—finds that such governance arrangements in Mexico are still in their infancy and remain poorly understood.

The fourth category concerns the broader decentralization of natural resources governance and how devolving decision-making power to lower levels of organizational structures can contribute to building better,

Beyond the field of water governance, Ostrom’s influence has been equally apparent in the study of other natural resource commons in Mexico. In the forest sector, for example, the aforementioned Leticia Merino is among a group of Mexican scholars to have made use of Ostrom’s work, having spent many years studying the country’s self-organizing forest communities. The country’s community forests offer an excellent opportunity to empirically apply Ostrom’s thinking given that they function as something of a laboratory for researching how self-organization affects forest conditions over time. Merino-Perez and Hernandez-Apolinar (2004), for example, analyzed forest conservation initiatives within the Monarch Butterfly Biosphere Reserve, Michoacan, from 1986 to 2000, focusing on the experiences of two ejido communities: Cerro Prieto and Donaciano Ojeda. In the former they found that pernicious self-reinforcing negative incentives led to illegal timber extraction, while in the latter, nested formal and informal institutions had helped to generate incentives for forest conservation and the regulation of timber extraction.

Other stand-out case studies include Lujan Alvarez’s (2003) work that argues for the creation of participatory multi-stakeholder roundtables to empower forest communities to properly manage their timber resources. He used Ostrom’s work to set the stage in highlighting the need for community participation mechanisms in the governance of Mexico’s forest resources. Among the many non-Mexicans working in the country, several studies inspired by Ostrom have influenced Mexican natural resource policy. Antinori and Bray (2005), for example, contributed to our understanding of community-based forest enterprises in Mexico, which drew on insights from the common property literature with regards to self-organization and community engagement. Ostrom’s work has also demonstrated that strong cooperation by all actors is necessary to achieve good governance—something Barsimantsov (2010) picked up on when identifying non-governmental organizations (NGOs) as key actors in implementing sound resource management strategies. In his comparison of forest governance in the Mexican states of Oaxaca and Michoacán, Barsimantsov (2010: 62) found that “unless communities can internalize timber extraction and community development activities, external non-governmental actors will be critical in community forestry and therefore must be considered in creating development strategies.”

Jacinta Palerm is another leading Mexican scholar to frequently use Ostrom’s scholarly work to provide context to analyses of irrigation systems management in Mexico (Palerm Viqueira, Rivas, Ávalos Gutiérrez, & Pimentel Eqihua, 2004; Palerm Viqueira 1999, 2000, 2003). With frequent reference to Ostrom, the work of Palerm typically focuses on organizational structures and the hierarchy of division of labor in irrigation management in central Mexico. Nevertheless, in some key work (particularly those involving

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**The country’s community forests offer an excellent opportunity to empirically apply Ostrom’s thinking given that they function as something of a laboratory for researching how self-organization affects forest conditions over time.**
the Cuautla and Nexapa Rivers) Palerm and collaborators explore the relevance of formal and informal institutional arrangements within river basins and associated irrigation districts.

Ostrom’s work has also been applied to the study of fisheries management worldwide, and Mexico is well represented here (Basurto et al., 2012; Cinti, Shaw, Cudney-Bueno & Rojo 2010; Ibáñez de la Calle, Becerra Pérez & Brachet Barro 2004; Morán-Angulo 2012; Ortiz Paniagua 2004; Zepeda Domínguez 2010). Basurto’s work, in particular, is relevant as it draws directly from the Ostrom school of institutional analysis (Professor Basurto was a student of Lin’s). In his studies of two Mexican small-scale fisheries in the Gulf of California, Mexico, he found broad divergences in how communities access and govern fish as a resource. While one community used a CPR regime approach, the other continued to rely on permits as a policy strategy (Basurto et al., 2012), showing that both formal and informal rules and institutions both have a direct effect on the effectiveness of the resource governance regime.

Beyond these more resource-specific fields of scholarship (water, fisheries and forestry), Ostrom’s work on the commons (particularly her study of rules and institutions in self-governing systems) has also been applied more broadly to the governance of Mexico’s extensive resource commons. Her early 1990s work, which dealt with agrarian issues, is well suited to the study of Mexican ejidos—land-based tenure systems managed by small-scale resource appropriators that share characteristics of both common and private property. For example, Schroeder Gonzalez undertook an applied study of ecosystems within the Chamela-Cuxmala ejidos (Schroeder Gonzalez 2006), and reported that institutions for resource conservation were lacking and indicative of a loss of social cohesion and social capital in the communities under study—a finding that resonated strongly with Ostrom’s view that self-governing communities need to develop long-range, robust, and cooperative institutional arrangements to ensure resources are not degraded by the actions of narrow-minded, short-sighted appropriators.

Finally, any review of Ostrom’s impact on Mexican commons scholarship is incomplete without reference to the Mexican social science journal Relaciones, which dedicated a entire volume in 2002 to the application of Ostrom’s work to understanding local self-governance and the commons in Mexico (Roth Seneff 2002). This was something of a pioneering move, given that Ostrom’s 2005 Understanding Institutional Diversity book was yet to be published, and she was still 7 years away from being awarded the Nobel Prize. The volume summarized mostly theoretical work but did include some empirical studies on water allocation in Izucar de Matamoros in northern Mexico, and forestry management in the Monarch Butterfly Biosphere Reserve in Michoacan, comparing governance of forest resources there with those found in Oaxaca, southern Mexico. The standout piece, however, was written by Silvia Bofill Poch, who explored community forestry in the indigenous community of San Juan Parangaricutiro in the Purhepecha altiplano (Bofill-Poch, 2002). In her article, Bofill Poch looked at the articulation (or lack thereof) and nesting of political institutions, social norms and power struggles that have reinforced class struggles and conflicts between governments at multiple scales and forestry community users. In the same vein as Ostrom’s work on self-governing irrigation units, Bofill Poch shows the myriad conflicts that can stem from perverse incentives and a lack of robust institutional structures tend to perpetuate negative effects on resources governance.

HOW OSTROM’S WORK HAS INFLUENCED POLICY: THE CASE OF WATER GOVERNANCE

Within the context of setting new regulatory standards for water governance in Mexico, bureaucrats and scholars alike have used Ostrom’s common pool resource (CPR) theory as an all-encompassing framework to allow for innovative institutional reforms to be implemented in a relatively straightforward fashion. In addition, because the vast majority of Mexican scholarship on water governance focuses on water allocation, redistribution and equitable sharing, Ostrom’s research
findings are easily applied to Mexican case studies dealing with access to water. In my own research, I have departed from analyzing water access to focus more on the rules and institutions governing wastewater generation, distribution and treatment (Pacheco-Vega & Basurto 2008; Pacheco-Vega, 2005, 2009, 2012c). Using a comparative analysis of the sanitation policies of five Mexican States, Ostrom’s work has helped me to demonstrate that when institutional reforms such as river basin councils are not robust enough, they can be detrimental to building a potentially sustainable basin-wide sanitation policy.

Lin Ostrom’s teachings were much broader than just a mere list of 8 design principles for good commons governance. Unfortunately, the recent popularization of her scholarship (following her 2009 Nobel Prize for Economics) have sprouted hundreds of notes, newspaper and magazine articles on her research that tend to narrow her major achievements down to these very principles. As others papers in this special issue show, doing so negates the many contributions of Lin Ostrom’s intellectual heritage. This is no less the case with water governance in Mexico. In reviewing how her contributions have been used by scholars to understand water governance in the country, three insights in particular should be considered. First, Lin Ostrom’s research demonstrated that communities are indeed capable of self-organizing for sustainable water governance. Taking her previous empirical work on Spanish huertas, and applying it to Mexican cajas de agua, Palerm and collaborators have shown that communities are capable of self-organizing to improve conditions in their irrigation systems. Second, Ostrom’s insights on rule and norm design have helped improve Mexican water governance by highlighting the importance of robust institutions designed from the bottom-up. As an example of this, my work demonstrates how Mexican river basin councils can fail when institutional erosion occurs because of a conflict between policy objectives and overlapping jurisdictional attributions (Pacheco-Vega 2013a). And third, Lin Ostrom’s contribution to our understanding of the notion of resource governance itself has been extremely influential in Mexican water policy. As an example, the past couple of years have seen a flurry of works published that stressed the need to devolve control to communities as one of the necessary pillars of future water governance in Mexico (COLMEX, CONAGUA, IMTA, & ANEAS 2012).

Taking Ostrom’s insights on decentralization as a main tenet of resource governance, Mexican water policy is slowly but surely moving in this direction. Her research has been influential in the design of the Mexican National Water Law (LEY DE AGUAS NACIONALES), where changes have seen greater emphasis placed on community participation in order to build resilient and robust institutions for water governance. Similarly, Ostrom’s work on institutional diversity and her emphasis on multi-layered forms of governance have opened up policy discussions at the national level to increase the perceived value of polycentric arrangements and to test their feasibility at the sub-national level. Last year, Mexico’s National Water Commission (Comisión Nacional del Agua, CONAGUA) convened a policy workshop sponsored by the OECD (Organisation for Economic Cooperation and Development) where discussions around polycentricity and water governance in Mexico were held. These constituted important conversations involving the country’s policymakers, and they were informed, in part, by Ostrom’s thinking.

Officials at all three levels of government are now looking to improve the institutional design of river basin councils and river basin organisations. The results to date have been mixed, with both successful (the Lerma-Chapala river basin), and not-so-successful
... while Ostrom’s legacy is beginning to yield fruit in policy circles around water governance in Mexico, it is no more than a beginning—

While the country’s scholars, practitioners, and now policy-makers, have begun to delve more deeply into the long-term implications of institutional change for water resource governance, new areas are set to be explored. One is the application of Lin Ostrom’s institutional analysis framework to study rules and norms in non-traditional resource management contexts (Pacheco-Vega 2013b). Others include the impact on water governance of the climate as a global commons, adaptation to changes to climate across Mexico’s diverse geographical regions, and the emerging idea of anticommons (Osorio & Lara 2012). Thus, while Ostrom’s legacy is beginning to yield fruit in policy circles around water governance in Mexico, it is no more than a beginning—the onus is now on others to follow in her footsteps and build upon her foundational work.

CONCLUDING REMARKS

Lin Ostrom’s scholarship on the commons has, without doubt, had a significant and positive impact on Mexican resource governance scholarship and policy. This paper summarizes a number of those scholarly and applied contributions. Lin was passionate about the potential of commons research to improve the lives of Mexicans. During her visits to Mexico, she always kept an ear to the ground, to think about new ways in which her work and thinking could inform, and be informed by, the country’s experiences. Perhaps of most importance, her research sparked an increased awareness among Mexicans of the role that local communities could and should play in natural resources management and conservation. Examples abound not only in the governance of water resources, but for other resource types also—how institutional innovations can secure sustainable fisheries management in coastal zones in Mexico, or how local communities can make use of and adapt existing customary governance institutions to help develop their own forest enterprises.

Yet beyond Lin’s obvious contributions to Mexican commons scholarship, it is critical that we strive to explore new avenues for scholarly research on the commons—work that can further the intellectual heritage she provides. My hope with this paper is that other scholars and practitioners with an interest in Mexican resource commons can be inspired to build a strong research programme that increases our understanding of their governance and, in doing so, builds upon the work and achievements of the indomitable Lin Ostrom.

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ROMPIENDO PARADIGMAS
Gobernanza de los bienes comunes y ciudadanía en las políticas forestal y de conservación Mexicanas

Leticia Merino Pérez
Rompiendo paradigmas: Gobernanza de los bienes comunes y ciudadanía en las políticas forestal y de conservación Mexicanas
Leticia Merino Perez

Síntesis

Retomo en el texto algunas de las aportaciones más relevantes de la obra de Elinor Ostrom, considerando el contexto en que emergieron: la polémica con la tesis de la universalidad de la “Tragedia de los Bienes Comunes”. Reviso diversas rupturas de la obra de Ostrom con los paradigmas sobre la relación sociedad naturaleza, dominantes en las ciencias sociales y en las políticas de conservación y manejo de los recursos naturales: el paradigma de la propiedad privada o pública como panaceas, la visión de los derechos de propiedad acotados a los derechos de alineación; el paradigma de la elección racional y las posiciones neo-malthussianas sobre la relación sociedad naturaleza. Analizo las implicaciones políticas y conceptuales de estas rupturas y de propuestas: el potencial de la propiedad colectiva como base de arreglos institucionales para la conservación, la propiedad vista como “conjunto de derechos” que generan incentivos y responsabilidades con la sustentabilidad de los bienes; la posibilidad de cooperación, gobernanza y sustentabilidad en contextos de recursos naturales utilizados, incluso en condiciones de densidad demográfica relativamente alta. Busco aplicar este esquema al análisis de la gestión de recursos forestales en el Sur de México, área con fuerte presencia indígena

Palabras Clave: Gobernanza, bienes comunes, acción colectiva, comunidades, panaceas, paradigmas, derechos de propiedad, políticas públicas

Abstract

I reflect on what I consider to be some of the key contributions of Elinor Ostrom’s work, taking into account the scholarly context in which it emerged – the debate over the validity of Hardin’s “Tragedy of the Commons” argument. I also review diverse ruptures of Ostrom’s work with some of the traditional paradigms with regards to Nature-Society relationships, still dominant in the social sciences and frequently referenced in policy discourses—privatization and state control as institutional panaceas for nature’s conservation; the concept of property and property rights reduced to alienation rights; and, “rational choice” theory and neo-Malthusian conservation proposals as self evident givens. I analyze some of the policy and theoretical implications of Ostrom’s conceptual proposals, such as: the potential for collective property and associated institutional arrangements to enable conservation; property as a “bundle of rights” that create incentives and responsibilities towards sustainable resource uses; and, the viability of cooperation, governance and sustainability in contexts where natural resources are used, even under conditions of relatively high population density. I try to apply these lessons to the analysis of the experience of use and governance of forest in Southern Mexico, with its significant indigenous populations.

Key words: Governance, common resources, collective action, communities, panaceas, paradigms, property rights, public policies

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“Ningún problema puede ser resuelto desde el mismo nivel de conciencia que lo creó”

Albert Einstein

**INTRODUCCIÓN**

Un tema seminal en la obra de Elinor Ostrom es la crítica a la tesis que sostiene la universalidad de la tragedia de los bienes utilizados o poseídos colectivamente, planteada por Hardin en 1968, que sostiene que los usuarios de estos bienes nunca son capaces de coordinarse y evitar su destrucción (Ostrom, 1990). Hardin ilustró esta propuesta utilizando el caso hipotético de destrucción de un pasto comunal en Inglaterra Medieval. El análisis histórico de la enorme tragedia de las comunidades rurales a partir del “cercado” de los “commons” quedó fuera de su horizonte. Entre los siglos XIII al XVII miles de “commoners” fueron expropiados de los medios de vida con que tradicionalmente contaban. Su expulsión masiva de las tierras ancestrales, sin más opciones que la ocupación como mano de obra sobre-explotada, incluso semi-esclavizada que requerían la industria, el comercio marítimo y las colonias inglesas en Norte América, y la violenta represión a su resistencia han sido calificadas como uno de los “grandes crímenes de la modernidad” (Linebaugh and Rediker, 2001).

El discurso de búsqueda de eficiencia como justificación de la expropiación, acumulación y concentración de antiguos bienes comunes, acaecidos en distintas latitudes, se convirtió en prontamente ideología que identifica a lo comunitario con lo obsoleto y a la privatización de los bienes comunes con el progreso; para la que los dramáticos costos sociales de esa exclusión son el precio necesario de la modernidad. Fuera de Europa esta ideología y las políticas consecuentes se nutrieron de abismales inequidades sociales y en el racismo imperante en las sociedades coloniales. En México del siglo XIX las reformas liberales de privatización de las tierras comunales permitieron una enorme expansión de las haciendas dedicadas a plantaciones orientadas al mercado mundial2 sobre las antiguas milpas3 dedicadas al consumo de los pueblos. La concentración de la tierra y la riqueza generaron niveles de miseria mayores que los existentes durante la colonia (Warman, 2003). La recuperación de las tierras comuna les fue el redondo más sentido del movimiento social que sacudió al país durante la primera década del S.XX. El reparto de tierras durante 1930-1970 fue eje de estabilidad política. En los 1980 más de 60% de las tierras del país y más de 65% de sus áreas forestales eran propiedad de comunidades locales4. Las tierras de comunidades forestales—en muchos casos indígenas—se encuentran en áreas montañosas y de selvas, de difícil acceso y valor agrícola marginal que por siglos fueron regiones de refugio para los sobrevivientes y prófugos de la colonización europea y más tarde de la expansión del capital nacional e internacional.

El planteamiento de Hardin extendió el ámbito del discurso sobre los bienes comunes del campo de la economía al de la ecología, sumando una nueva culpa a lo comunitario: la responsabilidad de destruir la naturaleza. Este postulado hacía eco con la percepción del acelerado deterioro ambiental, emergente en los 1960 y 1970 entre el público de los países industrializados, luego de la publicación de los textos de Carson (1962), Ehrlich (1968) y del Informe “Los límites del crecimiento” (1972). La pérdida de los bosques tropicales del mundo es uno de los temas ambientales que desde los 1970 ha recibido mayor atención global. Desde la perspectiva de la TBC las causas del deterioro forestal son la ausencia y/o inestabilidad de los derechos de propiedad en los países “en desarrollo”, donde se ubican la mayoría de las selvas del planeta; asociado a la pobreza allí prevaleciente. La aceptación paradigmática del diagnóstico de Hardin se funda en gran medida en su simplicidad. En contextos académicos disciplinarios donde

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2 Henequén, caña de azúcar, algodón, café, tabaco.
3 Cultivo tradicional de maíz, frijol, calabaza y vegetales semicultivados.
4 Comunidades agrarias y ejidos (Warman, 2000)
impera la dificultad de asumir la complejidad de los procesos socio-ambientales, la tesis de Hardin pareciera auto-evidente: “cuando los recursos son limitados, las decisiones racionalmente para cada individuo dan lugar a un dilema irracional para el grupo… por lo que todos los recursos poseídos en común son, o serán eventualmente sobre-explotado,… las causas… son la libertad y el crecimiento de la población” (Hardin, 1968).

PARADIGMAS Y PANACEAS

Dos décadas después de la publicación de la Teoría de los Bienes Comunes (TBC), E. Ostrom (1990) reconoce la relevancia del problema plantead: gran parte de los recursos de los que dependen las sociedades contemporáneas enfrentan riesgos de tragedias similares a la de la metáfora de Hardin, aunque de mayor trascendencia. Sistemas naturales clave del medio ambiente global, numerosos bienes culturales y de conocimiento e importantes medios de información y comunicación dependen de acción y gestión colectiva, sujetas a potenciales fallas. Ostrom no niega la realidad de estas faltas sino el carácter inevitable que Harin les atribuye. Señala el error metodológico y conceptual de construir modelos explicativos universales con sustento empírico endeble, manejando los modelos como realidades, generalizando excesivamente condiciones y explicaciones particulares, sobre-simplificando los procesos que se pretende comprender: Considera la tesis de la ”TBC” más como una ideología sobre esquemas de derechos y toma de decisiones ideales, que como un marco explicativo. Una ideología a partir de la cual se han impuesto alrededor del mundo esquemas de control estatal y de privatización como panaceas institucionales.

Ostrom comparte con Hardin el interés por la resolución de problemas. Sus empeños académicos buscan contribuir a generar elementos para comprender y evitar tragedias de los bienes comunes y de las comunidades que dependen de ellos. Desde la perspectiva de Ostrom, el supuesto de que la mayoría de los usuarios de bienes comunes están siempre atrapados en la imposibilidad de cooperar, mientras los funcionarios gubernamentales y agentes de mercado son omnipotentes para solucionar los retos de gestión de los más diversos bienes, resulta autoritario y excluyente (Ostrom, 1990; Ostrom, Janssen and Anderies, 2007). La valoración de las capacidades de gestión de sociedades auto-organizadas y la crítica a los esquemas de gestión totalitarios, son centrales en su axiología, influída por su larga colaboración con Vincent Ostrom y por la tradición Tocquevilliana de valoración de la cooperación ciudadana como base de la gestión pública. Esta axiología fue para Ostrom una rica fuente de preguntas de investigación e hipótesis, no generadora de respuestas dogmáticas.

Al tomar distancia de los discursos basados en el sentido común y las panaceas académicas y políticas, insiste en la necesidad de que la construcción teórica y política estén basada en investigación empírica rigurosa y multi-método, comprometida con el reconocimiento de la complejidad y la inter-disciplina (Ostrom, 2009; Poteete, Janssen and Ostrom, 2010). Contra lo que puede suponerse, el extenso análisis de experiencias de éxitos y fallas de cooperación a partir de fuentes históricas, de campo y de experimentos económicos (Cárdenas, 2009; Poteete, Janssen y Ostrom, 2010) no condujo a Ostrom a proponer lo comunitario como una nueva panacea; sí a reconocer el peso de los actores locales en los procesos de apropiación y protección de los bienes comunes, en el éxito o fracaso del gobierno de los bienes comunes, aún en los casos de bienes o procesos de gran escala como la regulación climática, vista como resultado del ”anidamiento” de sistemas de distintas escalas.

PARADIGMAS, PANACEAS, PROPIEDAD Y CONSERVACIÓN

A partir de la crítica de la universalidad de la ”TBC”, Ostrom problematiza otros paradigmas prevalentes en los análisis sobre las relaciones sociedad-naturaleza. Cuestiona la noción de propiedad y la falla inevitable de la propiedad colectiva, que se percibe a menudo como ausencia de propiedad y sinónimo de acceso abierto asociados con frecuencia, al deterioro
de los bienes. Su concepción cuestiona las nociones de propiedad de los distintos polos del espectro político. Define a la propiedad colectiva como "propiedad privada colectiva", en la que—a diferencia de la propiedad pública—existen titulares reconocidos de derechos y responsabilidades respecto a los bienes, y bajo la cual al igual que en regímenes de propiedad privada individual—los titulares poseen derechos de excluir a los no propietarios, impidiendo el libre acceso abierto.

En la crítica de Ostrom a Hardin, se señala la confusión generada por el uso indistinto de las categorías de "bienes comunes" y propiedad colectiva. (Schlager y Ostrom, 1992; Ostrom et.al., 2001; Ostrom, 2009; Potetee, Jansen, Ostrom, 2011). Los tipos de bienes se definen: por los costos de excluir usuarios potenciales del acceso a los bienes y por el nivel de "rivalidad" (implicaciones que el uso de los bienes tiene en el uso potencial de nuevos usuarios), (Ostrom 1990). Reconoce cuatro tipos de bienes: públicos, de uso (acceso, o acervo) común, tarifa y privados. Esta tipología permite visibilizar los retos que enfrentan el gobierno y uso sostenido de distintos bienes. Estos retos derivan de las formas en que la apropiación (uso) de los bienes se lleva a cabo y de los costos de su mantenimiento y protección (provisión). Las presiones de apropiación tienden a ser más importantes para los bienes de alta rivalidad: privados y de uso común. Las presiones de provisión resultan más relevantes para la conservación de bienes de difícil exclusión: públicos y de uso común. De ahí que los bienes de uso común, como la mayoría de los sistemas y recursos naturales, sean los bienes potencialmente más vulnerables. Por otra parte los regímenes de propiedad se refieren a los titulares de la propiedad: los individuos y el Estado.

Ostrom cuestiona la noción generalizada que reduce los derechos de propiedad a los derechos de alienación, destacando la importancia de los derechos de acceso, exclusión, uso y capacidad de participar en las decisiones sobre el uso y control de los bienes. Asume plenamente el valor de la certeza de los derechos de propiedad para generar perspectivas de largo plazo en el uso y protección de los recursos, pero identifica a la propiedad colectiva como un régimen de propiedad capaz de generar certeza. Encuentra que en muchos contextos los derechos de uso y decisión crean sentido patrimonial, perspectivas e incentivos de largo plazo; mientras que los derechos de alienación no resultan indispensables en todas las formas para crear compromisos con la sustentabilidad de los bienes, sino que en algunos contextos generan incertidumbre y vulneran la gestión colectiva de bienes de "acceso común".

La aplicación de este marco a un gran número de casos, así como un amplio meta-análisis (Potetee, Jansen, Ostrom, 2011) llevan a concluir que ningún régimen de propiedad es garantía de conservación de los recursos, ni se asocia invariablemente con su deterioro. Existen tanto casos de bienes comunes naturales (y culturales) conservados, como casos de bienes comunes deteriorados en regímenes de propiedad pública, privada individual y colectiva. La explicación del éxito o fracaso de la gestión colectiva y la construcción de esquemas de gobernanza de los bienes comunes requiere atender a la distribución de derechos entre actores, a las desigualdades del acceso a derechos, poder y activos (Ostrom 2009) y a los incentivos para un determinado tipo de uso e inversión en reglas y acciones de protección.

En distintas áreas forestales de África, Asia y América Latina existen altos niveles de deforestación en tierras públicas concesionadas a empresas madereras externas con incentivos de maximizar el uso de los recursos en el corto plazo (White and Martin, 2002). Las tierras de propiedad privada—individual o colectiva—no son inmunes al deterioro en ausencia de incentivos para su uso sustentable y altas tasas de descuento de la conservación. Estos son los motivos de la sustitución de selvas por

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1 *Common pool resources*. 
2 Compra, venta, renta, hipoteca. 
3 Frecuentemente como resultado de políticas públicas y demandas de mercado.
plantaciones de soja en terrenos privados de la Amazonía y el Chaco en Sudamérica y del deterioro de los bosques comunales en Papua-Nueva Guinea concesionados a empresas transnacionales. Durante los años 1970-2000 muchas comunidades mexicanas optaron por deforestar en respuesta a los subsidios a la expansión de la ganadería y agricultura en tierras forestales; en ausencia de incentivos para conservar (en contextos de vedas generalizadas al uso de los bosques). Actualmente la minería de es un factor central de destrucción forestal en América Latina. En México las concesiones mineras en zonas montaña se incrementaron en 30% entre 2006-2012, incluyendo terrenos donde algunas comunidades han establecido áreas de conservación comunitaria.8 Los bosques públicos conservados presentan muchas veces condiciones de baja densidad de población, valoración ciudadana y capacidades financieras de los gobiernos. Son los casos de distintos parques nacionales en los Estados Unidos, Canadá y Europa Occidental, o de las Reservas de la Biósfera de Calakmul y Tikal en las zonas turísticas de la selva maya en México y Guatemala. La conservación de bosques públicos se ha logrado a partir de la participación social con base en prácticas de gobernanza tradicional en los bosques de los cantones suizos en los Alpes, en los bosques municipales del Totonicapan en Guatemala; o en las selvas de propiedad nacional concesionados a comunidades locales para su aprovechamiento y certificados por el Forest Stewardship Council en el Petén Guatemalteco, cuya capacidad para contener la expansión de la ganadería y de cultivos ilícitos9 de enervantes en la selva es hoy mayor que las Áreas Naturales Protegidas en esa región. Las propiedades privadas—individuales o familiares—en Finlandia y Austria, han producido madera de manera sostenida durante generaciones. Las comunidades productoras forestales certificadas por el FSC en México, las reservas indígenas “extractivistas”10 en la Amazonía brasileña, los bosques comunitarios dedicados al uso doméstico en condiciones de alta presión demográfica y pobreza en la India y Nepal y los bosques sagrados del Sahel Africano (Larsson, Barry, Dahal and Pierce Colfer, 2010) hablan del potencial de la propiedad colectiva para la conservación. En estos casos los factores determinantes en las dinámicas de deterioro o conservación han sido la equidad de la distribución de derechos entre actores sociales, la estructura de incentivos a que da lugar y su “anidamiento en los sistemas de gobernanza” locales y nacionales.

Durante la mayor parte del siglo XX, México fue el único país en el mundo donde la propiedad forestal comunitaria contaba con reconocimiento legal, a pesar de que continuamente los derechos de propiedad comunitarios han sido vistos como obstáculos para intereses públicos y de empresas privadas. Entre los 1950 y 1980 los bosques comunitarios fueron concesionados a empresas externas para la extracción comercial de madera, convirtiéndose en importantes activos para las finanzas públicas y fuente de fáciles ganancias para esas empresas. En los años 1980, como resultado de la movilización de las comunidades forestales, concluyeron oficialmente las concesiones. A partir de los 1990 al extenderse la preocupación por los servicios eco-sistémicos de los bosques, la propiedad comunitaria ha sido tratada como causa central del deterioro forestal. Los diagnósticos suelen ignorar los impactos de las políticas que durante décadas promovieron el cambio de uso del suelo o expropiaron a las comunidades de derechos de uso, decisión y exclusión, imponiéndoles concesiones y vedas al uso de los bosques. En muchos casos estas políticas llevaron a las comunidades a percibir los derechos de propiedad forestal como inciertos.

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8 El área de conservación de Capulalpam, Oaxaca, de alta biodiversidad, donde nacen abundantes manantiales fue concesionada en 2005 a una minera canadiense; a pesar de que esta comunidad cuenta con amplio reconocimiento por su compromiso con la conservación y con la certificación de buen manejo forestal del FSC.
9 Mariguana y amapolas utilizadas para la producción de opio y morfina.
10 Donde se recolectan resinas, nueces.
PANACEAS, COOPERACIÓN, GOBERNANZA Y CONSERVACIÓN

La segunda gran ruptura de Ostrom con el pensamiento económico convencional es el cuestionamiento de la universalidad del paradigma de la “elección racional”, de la búsqueda del beneficio económico individual como móvil exclusivo de la conducta social. Las implicaciones del paradigma del individuo como “maximizador racional” rebasan las fronteras de la academia. En diversos análisis Ostrom alerta contra el riesgo de panaceas políticas basadas en el supuesto de la incapacidad de cooperación, que conducen persistentemente a prescripciones de concentración de derechos en manos de unos cuantos. La contraparte de los esquemas de concentración de derechos es la privación de derechos sobre los bienes comunes naturales o culturales, de carácter local o regional para la mayoría de sus usuarios, incluyendo a los grupos que dependan de ellos, valoran su presencia y conocen sus dinámicas.

Sin negar el papel de los mercados y los estados en la vida social, la investigación de Ostrom muestra repetidamente resultados inesperados, incluso perversos de la imposición unilateral de panaceas, que califica como disfuncionales: concentración de poder y de beneficios en élites, inequidad social; toma de decisiones ajenas a las condiciones y necesidades locales, destrucción o “saturación” (Ostrom, 2007; Cárdenas, 2007) de la institucionalidad local y de las formas de cooperación comunitarias, obstaculizando paradójicamente la destrucción de los bienes comunes que se quiere proteger. Panaceas que resultan en actores locales carentes de capacidades y/o incentivos para proteger los bienes y actores externos empoderados, con capacidades de acción local insuficientes e inadecuadas y posibilidad de abuso de los bienes, en casos de los mercados dominados crecientemente por corporaciones internacionales (Dauvergne, 2008).

Para Ostrom los individuos actúan de manera diferente en distintos contextos: tienden a comportarse de manera competitiva y oportunista en condiciones de mercado, pero aprenden normas de interacción, y utilizan racionalidades distintas en diferentes contextos. (Ostrom y Walker; 2003). La acción colectiva no está dada, su construcción implica costos y dilemas significativos. Asumir riesgos de cooperar requiere credibilidad del compromiso de los pares, visiones compartidas sobre los bienes colectivos y las presiones a que están sujetos; acuerdos sobre las reglas que sustentan la cooperación, evidencia del cumplimiento de los otros y de la preservación de los bienes como fruto de esos esfuerzos. Estas no son condiciones espontáneas sino construidas a partir de la interacción, la agencia, los esfuerzos sociales y políticos; que pueden estar ausentes o presentes en distintas medidas en diversos casos. La crítica del modelo del “dilema del prisionero” (Ostrom, 1990) reconoce el valor que tienen para la cooperación el conocimiento previo entre los actores (reputación) y la comunicación al interior de los grupos. Aprender a confiar a partir de la experiencia colectiva, es clave para la superación de los “dilemas de lo colectivo” (Cárdenas, 2007). Ostrom asume que las tragedias de lo colectivo son extensas: “cuando las decisiones que se toman de forma anónima la sobre-explotación es mayor que la prevista por los modelos teóricos” (Ostrom, 2009), sin embargo en su visión hay espacio para el “optimismo racional”: la evidencia muestra que cuando los usuarios tienen posibilidad de diseñar sus propios esquemas de monitoreo y sanción y discutir “cara a cara” sobre sus visiones, conflictos y reglas, los resultados de la cooperación son casi “óptimos” (Ostrom 2009). Otras condiciones que favorecen la acción colectiva en torno a la gestión de los bienes comunes son: un nivel relevante de dependencia de los bienes; de modo que existan incentivos para construir y aplicar reglas colectivas con perspectivas de largo

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11 Junto a la gran concentración creada por los mercados globales y la globalización de la orientación de las políticas ambientales.

12 Que Richard Wilkinson y Pickett propone considerar como un "mal público" (Wilkinson and Pickett, 2010).

13 Estos dilemas derivan de la contradicción entre la búsqueda de beneficios individuales y los posibles beneficios colectivos.
plazo; bajos costos de la cooperación y la conservación, ausencia de abuso de los bienes colectivos basado en inequidad e impunidad que erosionan drásticamente el capital social de los grupos. Los liderazgos y las políticas pueden contribuir a movilizar la agencia grupal y acercar visiones, promoviendo prácticas de comunicación, construcción institucional y espacios de resolución de conflictos. (Ostrom, 1990).

La gestión centralizada impera en las agendas de las agencias multilaterales y en las políticas nacionales, a pesar de la evidencia de su frecuente inviabilidad (Ostrom, 2007). Siguiendo esta inercia, las políticas de conservación, pago por servicios ambientales y mitigación del cambio climático suelen imponer a las poblaciones rurales del "Sur Global" costos desproporcionados de la protección de los bienes "comunes globales", en contextos nacionales donde el desarrollo de incentivos, el aprendizaje adaptativo y la ciudadanización de la conservación son incipientes. En México el gobierno federal mantiene fuertes derechos de regulación sobre los bosques que se traducen en una marcada sobre-regulación, a pesar de las escasas capacidades gubernamentales de vigilancia y sanción de los usos forestales ilegales. Las actividades de producción y vigilancia comunitarias enfrentan fuertes exigencias y costos, mientras que los usos ilegales prevalecen con alto nivel de impunidad (Merino y Ortiz, 2013).

Durante las pasadas tres décadas, en algunas regiones de México, a partir de las luchas contra las concesiones, diversas comunidades forestales han desarrollado experiencias de buen manejo y uso de los bosques. Los bosques y la inversión comunitaria para la producción forestal son hoy nuevos activos comunitarios. En la construcción y consolidación de estas iniciativas el esfuerzo por el desarrollo de capacidades locales técnicas y de gobernanza ha tenido un papel fundamental. En distintos periodos algunas políticas públicas, organismos no gubernamentales y agencias de cooperación y conservación internacionales han apoyado el desarrollo de capacidades comunitarias. Entre las lecciones aprendidas de estas iniciativas destacan: el valor del respeto y apoyo al capital social y gobernanza comunitarias, como sostén de las empresas colectivas y las iniciativas de conservación de los bienes comunes forestales. La importancia de promover visiones compartidas de los territorios y recursos comunitarios y desarrollar reglas basadas en el consenso para el gobierno de los bienes comunes. El reconocimiento de las comunidades locales y sus espacios de organización como interlocutores y contrapartes necesarios de las políticas públicas de sustentabilidad y conservación. Un estudio reciente revela la existencia de estrecha correlación entre las actividades y medida de protección y conservación de los bosques, con el nivel de organización y confianza en las comunidades y el desarrollo de actividades productivas forestales. (Merino y Martínez, 2013; Merino 2012). También se encontró que en comunidades con mayor capital social, con ingresos y empleo forestales, las presiones sobre los bosques son menores.

La sustentabilidad de bienes comunes de importancia regional y nacional (las cuencas hidrológicas) o global (el sistema clima, la biodiversidad, los océanos o la atmósfera) no implica que para su gobernanza basten los derechos y la actuación de los estados nacionales o las agencias internacionales. En tanto se trata de sistemas complejos, cuyas condiciones son frecuentemente resultado de la "anidación" de bienes comunes y de prácticas de menor escala (bosques, pesquerías, prácticas agrícolas y ganaderas en territorios específicos, patrones regionales de consumo de energía y consumo) su

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14 Capital social entendido como: confianza, redes y normas (Ahn y Ostrom, 2003).
15 Destacan el Programa de Conservación y Manejo Forestal Comunitario, el de Conservación Indígena de la Biodiversidad, el Corredor Biológico Mesoamericano y el Consejo Civil Mexicano para la Silvicultura Sustentable entre otros.
16 Con base en entrevistas a 102 comunidades.
17 Se consideraron indicadores de presión: la presencia en las áreas forestales de incendios, plagas, cultivos ilícitos y extracciones ilegales.
gestión requiere esquemas de gobernanza complejos, capaces de responder a presiones y condiciones de bienes de distintos tipos y escalas, cuyo manejo requiere la coordinación de actores, ubicados en distintas escalas, con diversos intereses, percepciones y derechos; sistemas de gobernanza que Ostrom caracteriza como “policéntricos (Ostrom, 2012).

POBLACIÓN, POBREZA Y CONSERVACIÓN

Un tercer paradigma cuestionado por Ostrom se refiere a la supuesta relación unívoca entre el crecimiento de la población y la pobreza y la destrucción de la naturaleza. Uno de los ejes de argumentación de la “TBC” es el riesgo apocalíptico del crecimiento demográfico—que se supone es siempre exponencial. Si bien las poblaciones humanas ejercen presión sobre los sistemas naturales de los que dependen en gran medida los pobres rurales del mundo, en sus decisiones y prácticas de uso y manejo de los recursos naturales influyen los incentivos y las instituciones18, que a su vez dependen de la valoración, percepción y conocimiento local de los ecosistemas por parte de los actores sociales, del nivel de confianza existente entre ellos y de los costos de oportunidad de la sustentabilidad.

Desde los años 1990 la investigación empírica encontró que las relaciones población-pobreza-conservación distan de ser lineares y se caracterizan por su complejidad. Se han documentado experiencias de conservación y sustentabilidad en condiciones de pobreza y alta densidad poblacional: en bosques de India y Nepal; en el Totonicapan Guatemalteco y en la Sierra Nahua-Totonaca de México. Además de la densidad de población y su pobreza, estos casos tienen en común: alta dependencia y valoración de los recursos forestales, clara percepción de su escasez, derechos locales de uso y regulación, y fuertes tradiciones de gestión local. En contextos de densidad demográfica, escasez y pobreza se han generado también experiencias de cooperación para la construcción de nuevos bienes comunes: represas para captar agua de lluvia en la región Nahua de Guerrero; cooperativas rurales de crédito popular19, creación de empresas comunitarias para: la producción orgánica de café, miel, maíz, frijol, madera, muebles, agua de manantial, resinas, artesanías, flores, hongos, para su certificación y comercialización, y para la prestación de servicios de turismo comunitario, construcción de escuelas, bibliotecas y centros de internet financiados con recursos de comunidades campesinas pobres.

El envejecimiento de las poblaciones y el despoblamiento de las regiones—crecientes en el campo en México y Sudamérica—tienen a menudo como consecuencia la debilidad local para proteger y restaurar áreas forestales, cuerpos de agua, fauna silvestre y suelos, recursos que enfrentan ya sean usos ilícitos o presiones naturales20. En algunas regiones de baja densidad demográfica, los bienes comunes han sido deteriorados como resultado de prácticas de ganadería extensiva, agricultura industrial con alto uso de insumos químicos y agua21, de cultivos ilícitos y crimen.22

Dos importantes análisis recientes sobre el cambio ambiental global exponen como patrones de relación población-naturaleza determinantes de este proceso: una fuerte relación entre los altos niveles de consumo y producción globalizados y la destrucción de los bienes comunes globales y locales (Dauvergne, 2008; Merino, 2013), y una fuerte relación negativa entre el nivel de desigualdad social, el capital social y la disposición a asumir compromisos ambientales (Wilkinson and Pikett, 2010). Más allá de cierto nivel de desarrollo, el crecimiento de la economía tiende a incrementar la desigualdad y el consumismo —fuente clave de presiones ambientales. Estas propuestas demandan análisis y

18 Las instituciones se definen como patrones de interacción que a fuerza de repetirse se instituyen.
19 Promovidas por la Asociación Mexicana de Uniones de Crédito en contextos de alta marginación.
20 Cuya magnitud e incertidumbre se han incrementado a partir de los procesos de Cambio Ambiental Global.
21 Los suelos y cuerpos de agua del Valle Central de California se encuentran entre los más contaminados en los Estados Unidos.
22 Frecuente en los estados de Guerrero, Michoacán, Durango y Chihuahua en México.
políticas conservación de mayor complejidad y diversidad que aquellas que consideran el ejercicio de los derechos de los pobres, como opuesto a la conservación, enfocadas en criminalizar o impedir les el uso de los territorios naturales.

Propongo una redacción alternativa para dar mayor claridad: Estas propuestas demandan análisis y políticas conservación de mayor complejidad y diversidad que aquellas enfocadas en criminalizar o impedir el uso de los territorios naturales a los habitantes locales por considerar el ejercicio de sus derechos como opuesto a la conservación.

CONCLUSIONES

La Teoría de la Acción Colectiva busca rebasar los esquemas ideológicos sobre la gestión de los bienes, reformulando las preguntas sobre su gobernanza, reconociendo la complejidad de los sistemas socio-ambientales que analiza. Propone: sustituir los debates sobre las virtudes o lastres intrínsecos a los regímenes de propiedad por cuestionamientos en torno a las condiciones que permiten a los grupos superar los dilemas de la acción colectiva; investigar los factores que favorecen la regulación local adaptada a condiciones socio-ambientales únicas y favorecer la construcción de sistemas de gobernanza policéntricos capaces de asumir los retos de gestión de sistemas complejos. La respuesta no son las comunidades vistas como panacea; los estados y mercados tienen papeles importantes en esta construcción, pero generalmente el peso de la comunidad local es determinante en el éxito o fracaso de la gestión de los bienes comunes.

Coherente con el espíritu de optimismo racional, Lin Ostrom fue practicante convencida de la acción colectiva académica, durante más de 40 años cientos de estudiantes, y académicos visitantes de más de 40 países participamos en el hoy llamado “Vincent and Elinor Ostrom Workshop for Political Theory and Policy Analysis”. En 2009 Lin fue distinguida con el “Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel Nóbel”. Un Premio Nobel de Economía paradigmático que reconoció la importancia global del gobierno de los bienes comunes, con certeza el Premio Nobel de Economía que ha generado mayor alegría alrededor del mundo. Elinor Ostrom falleció el 11 de Junio de 2012 dejando como herencia un impulso formidable de renovación a la investigación socio-ambiental, basado en nuevas formas de práctica académica y de pensar la acción social, así como una extensa comunidad académica y activista comprometida con la continuidad de su legado de búsqueda de equidad y práctica cotidiana de la democracia.

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An Assessment of Community Management of Traditional Woodland Enclosures (Hiza’ti) in the Highlands of Eritrea

Bereket Tsehaye Haile
An Assessment of Community Management of Traditional Woodland Enclosures (Hiza’ti) in the Highlands of Eritrea

Bereket Tsehaye Haile1

Abstract

In rural Eritrea, people’s lives are closely linked to local natural resources. Villages in the highlands of Eritrea have a long-standing tradition of forest and woodlands management. The hiza’ti system (traditional woodland enclosure), which is practiced by systematically restricting grazing and biomass harvesting, is one example. However, efforts to understand such traditions and assess their effectiveness as management systems have been limited. This research explores how communities manage their traditional woodland enclosures (hiza’ti) and assess their effectiveness, through qualitative research conducted in the village of Lamza. Four focus group discussions were conducted in addition to several key informant and household-head interviews. Ostrom’s Design Principles for commons management were then used to analyse the robustness of the management regime. The study found that the village held a strong attachment with their natural resources and traditions of managing the local woodland. The community played a major role in protecting and monitoring their enclosure, with a mutual monitoring and sanctioning system that was commensurate with the benefits that villagers drew from the woodland enclosure. Analysis shows that the hiza’ti system fulfills most of Ostrom’s design principles through a robust set of institutional arrangements. However, the study identified potential threats to Design Principles three and seven, particularly in relation to interference from lower level government institutions that may affect collective choice among the villagers, as well as other actors that threaten to weaken the autonomy of the village assembly (baito) and their right to organise.

Keywords: Traditional woodland enclosure (Hiza’ti), Common Pool Resources (CPRs), Ostrom, Design Principles, Eritrea

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INTRODUCTION

Eritrea is an agrarian state located in the horn of Africa. From a total population of 6.2 million people (July 2013 estimate), 80% of Eritreans depend on traditional agriculture, characterised by rain-fed subsistence farming and a pastoral livestock system relying primarily on family labour (NSEO and ORC Marco, 2003; Sibhatu, 2006). In rural areas, people interact daily with their natural environment, and have acquired significant knowledge in the use and management of their shared (communal) resources. If such resources are utilized without regulation, they are exploited on “a first-come, first-served” basis (Gebremedhin et al. 2003), possibly resulting in their eventual depletion. Communities tackle the problem of overexploitation by crafting local institutions to regulate and ensure the sustainable use of these communal resources.

Several villages in the highlands of Eritrea have a management system in place for their forests and woodlands called hiza’ti (traditional woodland enclosure). The hiza’ti system is practiced by systematically restricting grazing and biomass harvesting. The main objective is to enhance the natural regeneration of those native species that contribute to sustaining local community livelihoods. The hiza’ti system is believed to have started when a shortage of firewood and pastoral resources began to impact rural communities, and rules were established to ration their use (FAO 1997). Hiza’ti are managed and monitored by local communities, with monitoring taking place either through a rotational scheme that each household is obliged to participate in, or by hiring permanent guards whose salaries are paid collectively (Sibhatu 2006).

Despite the rich tapestry of grassroots forest management practices evident in Eritrea, government policymakers have, on the whole, ignored them. The top-down approach of deploying government-appointed forest guards and enacting strict regulation is still the predominant management approach in the country, with minimal efforts to understand traditional practices and evaluate their effectiveness. This study thus looks to assess the current role played by local communities in managing woodland enclosures and to appraise the effectiveness (robustness) of their management using the criteria developed by Nobel Laureate, Elinor Ostrom. While Garrett Hardin (1968) suggested that communal resources will inevitably suffer overexploitation unless transferred to private or government ownership, he failed to recognise that commons can be managed by a group of users with exclusive rights to regulate the resource under customary tenure arrangements, with effective local institutions enabling user access to be regulated. It was Ostrom’s work, in particular, that openly challenged the limitations of Hardin’s thesis and argued for solutions beyond state or private property (Ostrom 1990).

Due to the complex interactions that link society and environment, analysing the effectiveness of common property regimes is no easy task (Ostrom 2007). Most of the ‘success factors’ are site specific, while Agrawal (2001) argued that the variables that determine the success of Common Pool Resource (CPR) institutions are numerous, correlated and interrelated. Nonetheless, some common attributes are shared by many successful common property management systems (Ostrom 1990; Tucker 1999). In her groundbreaking work, Governing the Commons, Ostrom (1990) pointed to eight general design principles characteristic of successful CPR institutions (Table 1). According to Ostrom, a design principle refers to “an essential element or condition that helps to account for the success of these institutions in sustaining the CPRs and gaining the compliance of...
generation after generation of appropriators to the rules in the use” (1990: 90). Rather than acting as a checklist for deciding the robustness of local institutions, the design principles are better understood as guides to help analyse the relative success or failure of institutional arrangements for CPRs (Ostrom 1999).

The usefulness and validity of Ostrom’s design principles has been shown in their application in CPR studies over the past two decades. Cox et al. (2010) analysed 91 such studies and found that Ostrom’s design principles are well supported empirically. The principles also have their limitations, with some (e.g., Singleton and Taylor 1992; Tucker et al. 2007) arguing that issues such as external socioeconomic factors and urban connections have not been adequately considered given their clear impact on CPR management regimes.

**METHODOLOGY**

For this study, qualitative research was used to assess the management of Eritrea’s traditional woodland enclosures. The village of Lamza was selected due to its strong resource management tradition and limited government involvement. Lamza is located about 8km south of the national capital of Asmara, and had a resident population of 430 (128 households) in 2012.

Four focus group discussions were conducted, numbering between 4 and 6 participants per group and representative of adult men and women of different ages. Each focus group also contained participants representing a variety of socio-economic backgrounds. To help provoke discussion on a range of issues related to the access, management and protection of their enclosures, several exercises were carried out, including resource mapping, plant resource valuation, and seasonal resource availability. In-depth interviews (with open ended questions) were also conducted with the village administrator and other selected village elders. To obtain a detailed understanding of how individual households interact with resources from the enclosure, and abide by set rules, a semi-structured questionnaire was also conducted with ten (8 male and 2 female) randomly selected household heads.

The data collected were analysed against
Ostrom’s design principles. The strength of the *hiza’ti* system in fulfilling the criteria of each design principle was then evaluated.

**EVALUATING THE HIZA’TI SYSTEM USING OSTROM’S DESIGN PRINCIPLES**

The *hiza’ti* system in Lamza was established about 120 years ago. It was widely held that a community leader named Kentiba Zere had initiated the practice of restricting access to local woodlands in fear that Italian soldiers (Eritrea was a colony of Italy at the time) would cut down trees for timber. Subsequent administrators continued to restrict access to these areas, devising several rules and bylaws to help govern resource use and access. The village has several specialised grazing areas for small ruminants, for suckling sheep and goats and free grazing areas for all kinds of livestock. Compared to these other grazing lands, the *hiza’ti* area is strictly managed and reserved mainly for oxen.

The *hiza’ti* is located north of the village and covers about 130 ha (Map 2). The dry-weather road, which leads to the village, bisects the enclosure. Each side is open in turn for grazing for approximately two months each year. The *hiza’ti* is rich in plant species. Elders estimate that there are 35 types of tree and shrub species within the *hiza’ti*.

How does the *hiza’ti* system perform against Ostrom’s Design Principles for community-based natural resource management?

**Design Principle 1: Clearly defined boundaries and users**

The *hiza’ti* has clear boundaries, both in terms of resource and resource users. Distinctive features such as a river, a basaltic dyke and other features separate Lamza’s *hiza’ti* from the land of neighbouring villages. Village houses form the southern border. Use rights of any resource within the *hiza’ti* belong solely to residents of Lamza village. Since everyone knows each other very well, it is very easy for users to identify one another. Residence status is gained by birth or through marriage to a resident, and non-residents are prohibited.
from accessing the hiza’ti. Lamza residents do not share resources within the hiza’ti with any neighbouring village—in this way, what is managed and by who is clear to community members.

**Design Principle 2: Congruence between appropriation and provision rules / local conditions**

The opening and closing of the hiza’ti coincides with the farming season. Only oxen are allowed to graze inside the hiza’ti. Each side of the hiza’ti is grazed for two months a year; with one side of the hiza’ti open from the beginning of May to the middle of July, and the other side opening at the end of July and closing at the end of September. The hiza’ti plays a major role in the recuperation of sick or injured oxen and castrated calves, which are allowed to graze even during the closed season, pending special permission from the village administrator. It is strictly prohibited to take firewood or grass from the enclosure to sell in nearby towns. Users are only permitted to take what is needed for their household consumption. For example, under supervision, villagers are allowed to use local trees to make farm tools. However, villagers know which branch is suitable for a specific tool, and guards ensure that users do not cut any more than is needed. Similarly, rules exist around the collection of firewood. Every villager is allowed to collect dry fallen wood three times a year: mid-March for negdet (a religious festival); around New Year; and, at Easter. In addition, for funerals and weddings, three bundles of seraw tree (acacia etbaica) are permitted, although for weddings the bridegroom’s family’s quota can include a couple of extra bundles for firewood during the honeymoon.

The operational rules that govern the appropriation (use) of resources fit the local situation in the village, and it is this ability of the hiza’ti to meet the specific needs of villagers that appear to be the crucial factor behind its effective protection. If benefits from the hiza’ti area were not commensurate with the efforts required to protect and manage it, local people would not be so diligent in their stewardship of the resource. The study showed that residents believe the rules to be both fair and legitimate. Indeed, all respondents were satisfied with current management of the hiza’ti and want future administration of the enclosure to be left to the community. Moreover, they agreed that without rules to govern access, the resources within the enclosure would be severely degraded.
The fact that only a limited number of oxen and less destructive activities (e.g. carving farm tools, bee keeping, grazing of sick oxen etc.) are permitted is indicative that the operational rules in place are tied to the capacity of the resource to regenerate. These rules not only prevent outsiders from accessing the area but also regulate use-rate among eligible members, pointing to clear congruence between appropriation and provision rules.

**Design Principle 3: Collective choice arrangement**

Though no separate institution exists for managing the *hiza’ti* or woodlands, there is a traditional administration system in Lamza that manages several activities in accordance with local customary laws. This is called *Baito Adi* (village assembly) and is the space where important and divisive issues can be debated and decided upon, including the management of local natural resources. The *baito* devises laws, ensures the equitable allocation of resources from the *hiza’ti* and settles any conflicts over resource use and allocation.

In Lamza, every inhabitant has the right to participate and give his or her opinion in the village *baito*. The *baito* has both judiciary and legislative elements. In this way, the appointment of new guards, the amount of (or any modifications to) a guard’s salary, and the contribution of each household towards that salary, takes place at these meetings. Each participant has the right to raise, discuss and debate issues related to the operational rules of the *hiza’ti*, and together craft and pass new bylaws. Decisions are made based on consensus.

Although the *baito* system allows resource users to modify operational rules affecting the *hiza’ti*, study participants did point to the potential threat from government-led administrative structures that have the potential to interfere in the *baito* system and impose new rules that do not necessarily reflect the needs of local communities. This is because the *baito* is a customary rather than statutory structure, and so without continued recognition from government agencies their relevance and autonomy can be diluted.

**Design Principle 4: Monitoring**

Every resident is under the obligation to monitor and safeguard the *hiza’ti* and to bring rule-breakers to the attention of the guard or the village council. Residents are always attentive to movements within the enclosure and able to quickly spot and report unlawful activities.

One guard is officially appointed by the village *baito*, who also decide how much each household should contribute to the guard’s salary. On the top of his base salary, fines levied also go to the guard, making their pay roughly equivalent to that of a university-educated government employee and thus attractive in an area where wages are generally low. This helps to minimise the opportunity cost for guards, who have to forego the income they could potentially earn from farming. The *baito* also appoints an *Abo guasa* (father of herdsmen), who is responsible for overseeing the activities of both guards and herders, and holds power to enforce punishments and listen to the appeals of those charged. The most common transgressions in relation to the *hiza’ti* are grazing out of season and illegal tree cutting. Generally, all residents follow the rules and most culprits are outsiders. According to the village administrator, this is because the resources of neighbouring villages were depleted long ago.

The *zeraa* system is used in monitoring and safeguarding the area. This allows the guard to seize all livestock found to be grazing illegally inside the *hiza’ti*. The owner has to pay a fine to get the livestock back. For this reason the guard is commonly known as ‘*zeraay*’, which means “one who seizes livestock.” Besides his power to seize livestock, the guard is also entitled to levy penalties to any offender in accordance with village bylaws. If the offender refuses to pay, the guard takes him/her to the *baito* to be judged by the village administrator and elders. Here, the *Abo guasa* plays a key role in enforcing any punishment. If the offender is from a neighbouring village and refuses to pay the fine, the village administrator takes the case to the offender’s
village baito. He will accuse him/her based on the ‘law of the fathers’, which is highly respected in the area. Neighbouring villages know that Lamza residents are very serious about the hiza’ti system and thus often afraid of not only the guard but also Lamza residents.

The fact that monitoring is carried out by resource users, means that mutual monitoring is extremely important. A quasi-voluntary form of compliance based around the idea of ‘I will if you will’ is highly visible, and the reason why so few law breakers come from within the community.

**Design Principle 5: Graduated Sanctions**

Punishments and sanctions designed to help regulate the hiza’ti system have evolved over time. Fifty years ago, the punishment for any illegal action was about nine melelik (about five kilos) of cereals per shepherd. Today, the punishment is based around monetary fines and tied to the rules being contravened:

- 10 Nakfa² per cattle and 5 Nakfa per sheep/goat for illegally grazing out of season
- 100 Nakfa for illegally cutting trees with an axe
- 25 Nakfa for illegally collecting dry and fallen wood with bare hands

In general, penalties and sanctions are graduated and increase based on offender intent, degree of damage caused, and the offender’s past record. Generally, offences in relation to grazing fall into one of two categories. The first is unintentional damage (known as Wererta), typically when livestock that’s browsing at the periphery of the enclosure enters without being noticed by the herder. Though a punishable offense, it is considered less serious and so the punishment less severe. Other categories cover deliberate illegal entry (Hasya), or when a herder intentionally leads his livestock into the hiza’ti out of season. Since he is doing this knowingly, the fine is much higher (usually double).

**Design Principle 6: Conflict Resolution Mechanism**

The village baito listens to and settles conflicts. It is rare that a resident of Lamza will appeal to the nearby Ministry of Agriculture office with regards to a resource-related conflict. While Lamza’s baito is capable of settling conflicts vis-à-vis resource use within the village, respondents revealed that for issues involving neighbouring villages, it is the ‘law of the fathers’, in combination with the baito system, that creates access to what Ostrom refers to as “rapid, readily accessible and low cost local mediation” (Ostrom 1990). When this does not suffice, government agencies are asked to get involved.

Acknowledging the role of elders and local authorities in mediating conflicts and the importance of a low-cost justice system, the government recently introduced ‘community courts’, whose decisions are officially recognised by higher-level courts. The presence of ‘community courts’ increase the capacity of the village baito to settle conflicts, and again this is reflective of a strong internal mediation procedure.

**Design Principle 7: Rights to Organise**

Study participants said that government interventions in the hiza’ti management system have been minimal and generally limited to the provision of seedlings and technical assistance. While villagers view their management system as largely self-sufficient, with villagers holding the right to devise their own rules, it is also true that they are held accountable to an official inter-village- institutional arrangement known as memihdar kebabi, which typically comprises of 3-4 neighbouring villages. The decisions of the baito prevail only if it does not contradict the verdicts of memihdar kebabi.

At state levels, the Eritrean Forestry and Wildlife Conservation and Development Proclamation (No 115/2006; article 24) states that “communities... may utilize any naturally growing trees in accordance with the...”

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² Nakfa is equivalent to approximately USD$15
management plan in which the government
will have a role to play in the technical
assistance as required". This proclamation
allows villagers to practice self-management
in their woodland and/or woodlots, but
within a framework of state ownership. The
Proclamation also states that government
can enter into agreement with community
members where appropriate, for the
purpose of sustainable forest management,
afforestation and reforestation, protection of
wildlife, watershed management and the like.

Both land and forest proclamations give
recognition to community-based resource
management and limit the ability of
government to interfere in situations where
stable management scenarios are being
achieved through customary means. However,
the power of local people to exercise their
rights is not absolute and remains contingent
upon it being in line with government policy
of the day. The State’s role in providing
oversight is not, therefore, an immediate
threat but still open to misuses of power that
could potentially (and unilaterally) reduce the
benefits that Lamza residents receive from
resources within the hiza’ti.

Design Principle 8: Nested Enterprises

Given that the hiza’ti system is not part of a
larger CPR, Ostrom’s eighth design principle
was not included in this study.

CONCLUSIONS

This study reports on a community in the
Eritrean highlands, holding a long tradition
of communal resource management, which
has developed a set of comprehensive village
bylaws to enable the sustainable use of
biologically diverse woodland enclosures of
livelihood importance to local people. The
study finds that these bylaws, or operational
rules, play a major role in protecting,
monitoring and enhancing the regenerative
capacity of these enclosures, and appear to
fulfil most of the design principles (Table 2)
that Ostrom (1990) developed to characterise
robust commons institutions and management
systems.

The study provides an illustration of how
Ostrom’s Design Principles have stood the test
of time (Cox et al. 2010) as a tool to assess CPR
management, where trust and reciprocity is
crucial to sustaining collective action in the
management of shared resources.

However, while the hiza’ti system of commons
management appears robust and successful in
terms of resource sustainability, this study also
shows how tenuous certain aspects of the system
can be (in this case, the arrangements around
collective choice and the right to self-organise)
because of their dependence upon supportive
government policy—a situation that can easily
change with political upheaval at the state
level and/or the influence of evolving market
economies.

Yet despite the threat of upheaval, this study
also shows how important it is to properly
assess the effectiveness of local resource
management efforts ahead of instituting
any kind of external intervention that could
fundamentally change a system’s dynamics.
In this case study from Eritrea, locally-crafted
institutional arrangements, evolved over many
decades, have enabled a sustainable resource
management system based around customary
practices and norms. At the heart of this
system is a degree of autonomy that provides
resource users with the political space to craft
operational and collective choice rules—a
situation that requires continued statutory
recognition and the kind of tenure security
that incentivizes local people to use and
protect the resource over the long-term.

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1Land Proclamation (No 58/1994) declares a fundamental change to the customary tenure system and proclaims all land to be
property of the state in which villages are allowed to ‘continuous use and control’ of their communal land including woodlands.
Table 2: The hiza’ti woodland management system and Ostrom’s Design Principles

<table>
<thead>
<tr>
<th>Ostrom’s Design Principles</th>
<th>Fulfilled / Not Fulfilled</th>
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<tbody>
<tr>
<td>Clearly defined boundaries and users</td>
<td>Fulfilled</td>
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<tr>
<td>Congruence between appropriation and provision rules and local conditions</td>
<td>Fulfilled</td>
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<td>Collective choice arrangement</td>
<td>Fulfilled but potentially threatened by interference of government institutions</td>
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<tr>
<td>Monitoring</td>
<td>Fulfilled</td>
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<tr>
<td>Graduated sanctions</td>
<td>Fulfilled</td>
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<tr>
<td>Conflict resolution mechanism</td>
<td>Fulfilled</td>
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<tr>
<td>Rights to organise</td>
<td>Fulfilled but dependent on future government interventions continuing to be supportive of self-organisation</td>
</tr>
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Governing the Commons Through Customary Law Systems of Water Governance

The Case of the Marakwet

Elizabeth Gachenga
Governing the Commons Through Customary Law Systems of Water Governance
The Case of the Marakwet

Elizabeth Gachenga

Abstract
The resilience of customary law systems of natural resource governance in many parts of the world lends credence to Ostrom’s theory on the governance of commons. Ostrom argued that resource users who enjoy relative autonomy in the design of rules for governing and managing common-pool resources, frequently achieve better economic (as well as more equitable) outcomes than when experts do this for them. In support of this theory and acknowledging that most common pool resource governance regimes are based on a customary law system, Bosselman has sought to demonstrate a link between customary law systems and positive outcomes for sustainable development. Using a case study of the customary law system of water governance of the Marakwet community of Kenya, this paper tests and builds on the design principles and tools developed by Ostrom, to study normative institutions in a dynamic environment. The paper proposes an analytical framework that helps identify the features that strengthen customary institutions and ensure their adaptability and resource sustainability. This exercise illustrates the parallels between commons governance and customary law governance of natural resources.

Keywords: commons, common pool resources, customary, law, natural resource governance, irrigation system, sustainability, sustainable development, property, water

Plate 1: The River Embobut, which is the source of the irrigation furrows used by the Marakwet people. (Photo credit: Elizabeth Gachenga)
THE CONCEPTS OF CUSTOMARY LAW AND COMMON POOL RESOURCE GOVERNANCE SYSTEMS

Common pool resource (CPR) governance systems refer to the various models of norms and institutions used by communities to manage the use of a shared resource. The field of CPR governance gained popularity in the 1990s following the publication of Elinor Ostrom’s book: *Governing the Commons: The Evolution of Institutions for Collective Action*. Her work provided a highly insightful critique into the theoretical foundations of prevalent policy on natural resource governance, and motivated a reconsideration of the two-dimensional approach to the ‘problem’ of limiting the governance of common pool resources to state or ‘market’ (through privatisation) solutions.

Most of the work done in the area of CPR governance has been contextualized in economics and more specifically in institutional economics. However, since the publication of Ostrom’s book, legal property theorists have also demonstrated an interest in the conclusion she drew; that tragedy is not a necessary fate for all commons. Consequently, in legal property literature, there is a growing appreciation of successful institutional arrangements for the management of commons that do not fall within the two-dimensional framework of private property or state control. Despite reference by legal property theory to Ostrom’s work, its practical implications have not been widely researched in the context of law. This paper seeks to explore one such application by investigating the linkages between the work of Ostrom and colleagues on the commons, and customary law governance systems for natural resources such as water.

Modern legal frameworks tend to associate customary law systems with the traditional norms and practices that local and indigenous communities have crafted/developed over an extended period of time. Although it is true that these systems are often closely related to long-standing activities of resource-dependent people, customary law constitutes a more dynamic reality. In this paper, the term ‘customary law systems’ refers to the norms and institutions whose moral authority and force emanates from the contemporary as well as traditional culture, customs, religious beliefs, ideas or practices of the people to whom it applies, rather than from the state.

Notions such as ‘community-based’, ‘informal’ or ‘local’ forms of governance are used regardless of their antiquity or association with tradition. In this context, customary law systems of resource governance are understood as a popular normative pattern reflecting the common understanding of valid compulsory rights and obligations relating to the resource.

Customary law systems for natural resources governance provide an ideal opportunity for investigating the emerging theories on commons’ governance in a legal context. This is because most customary law systems of natural resource governance are based on a CPR governance system. In recognition of this, Ørebech et al (2005) have sought to explore the implications of commons governance research on customary law, suggesting a link between customary law and sustainable development. This paper contributes to these efforts by exploring how Ostrom’s work on commons can be applied to customary law systems for water resource governance. Focusing on a case study of the Marakwet people of western Kenya, and by applying Ostrom’s work to Ørebech et al’s research into customary law systems, I propose an analytical framework to help identify the main features of successful customary law systems for natural resource governance. The paper confirms that parallels do exist between the salient design principles identified by Ostrom and others as indicators of successful

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5 (Ostrom 1990)
6 (Rose 1986)
7 This definition is adapted from that of the International Council on Human Rights Policy. See (Policy 2009) 43.
8 (Ørebech et al. 2005)
commons institutions and features of resilient customary law systems of governance. Above all, it establishes that customary law systems that enjoy autonomy over the design of rules and norms, and which are open to adaptation and change, are more likely to result in positive sustainable resource governance outcomes.

**MARAKWET’S CUSTOMARY LAW SYSTEM FOR WATER GOVERNANCE**

The Marakwet community of Kenya have a tradition of customary law and governance that predates colonial rule. The community’s customary law also forms the backbone of a robust water resource governance regime based on an irrigation system that runs along more than 40km of the Marakwet Escarpment from south of Arror to north of Tot. The community practices a form of hill furrow irrigation common in East Africa, described as a slope off-take irrigation system. The irrigation furrows of the Marakwet, which date back to the initial occupation of the community in the valley, more than 200 hundred years ago, are the main source of freshwater resources both for agricultural and domestic use. As the country’s oldest customary irrigation system, the Marakwet’s water governance system thus provides an excellent case for analysis of a customary law system of water resource governance in Kenya.

**Methodology**

The primary data used for this case is based on a field study conducted from November 2010 to February 2011. A qualitative research methodology was used that combined various data collection methods, including semi-structured interviews, three focus group discussions, and participant observation. The population sampled came from Sambalat, the area of Marakwet that borders West Pokot.

The participants of the first focus group discussion were purposefully chosen from among clan council elders who are responsible for management of the furrows and thus knowledgeable on customary law norms and institutions for water governance in the community. The objective of the focus group discussion was to provide background information on the furrows, their management, and allow for an in-depth analysis of the Marakwet’s customary law system for water governance.

Under this customary law system, women do not have a direct role in the management of the irrigation system. This research nevertheless sought to obtain the views of female members of the community and to determine the extent of their participation in the design and implementation of customary rules for water governance. A focus group discussion was thus organised with both a selection of older and younger women. The stratification of age groups was useful to determine if perspectives around the perceived roles of women in water governance had changed over time.

Data was also collected from randomly selected water users with the aid of semi-structured questionnaires. Forty-three water users, consisting of men and women of different ages and from different households, were interviewed. Interviews were also conducted with the local chief of the area, an official working in the Eldoret Water Services Company (ELDOWAS) and a representative of the Lake Victoria North Water Services Board (LVNWSB) Office in Eldoret.

**The Marakwet’s Customary Law System for Water Governance**

Among the Marakwet community, it was clear that customary law continues to play a central role in societal life. In the case of water resource governance, customary law constitutes the primary regulatory framework for managing shared water resources.

Community members demonstrated a keen knowledge of their customary water resource governance system. The clan elders in charge

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9 This is evidenced by the early accounts of the Marakwet’s law and custom. For example (Beech 1921)
10 (Watson, Adams, and Mutiso 1998)
of furrows explained that the origin of the system dates back more than two centuries. According to oral histories, the first four furrows, belonging to the Lakeno, Kapterit, Shaban and Kabishoi clans, were constructed in 1882. Construction of the furrows was triggered by drought in the region. Irrigation furrows were considered the only means by which to bring water from the Embobut River to people on the valley floor, which lies more than 1000m below the escarpment.

An important feature of Marakwet’s customary water governance system is that it is entirely home grown or autochthonous, with the norms that underpin the system developed solely by the community. In the case of local water law, the rules governing development and use were designed by the clan elders, in consultation with the wider community, following construction of the furrows. This autonomy in design (both in terms of rules and their implementation) is considered sacrosanct. One discussant expressed the centrality of autonomy in the following way, ‘There is no law that will come to tell us who will or how we will use the water. The water is for us and for our children from our elders. No one will tell us how to use it’.11

Although ultimately geared towards conservation and sustainability of the water resource, the scope of their customary water law is relatively broad and includes directives on the use of land and other natural resources. While the rationale for crafting rules is often based on environmental indicators, the connection between rules and ecological conditions is not always evident. For instance, some of the rules and norms are encoded within a sacred religious system that include taboos and prohibitions associated with the felling of trees, the contamination of furrow water, or the requirement to plant indigenous trees, which are regarded as sacred, around rivers and streams. In the course of discussion with village elders, it was confirmed that the underlying objective of these rules is to conserve water resources and foster a sense of respect for water among community members.

Although the clan council in charge of the furrows are viewed as custodians of customary law on water resources, the design, implementation and modification of the rules is carried out through a broad consultative process. Consequently, rules are subject to negotiation and modification with relative ease. For instance, most of the water users interviewed talked about the rule that stipulates how households whose male members do not contribute to furrow maintenance and repairs are not entitled to water provided by the irrigation system. However, before this rule is implemented, there is a consultative process in which the offender is given an opportunity to present his case. Depending on the reason for default, other sanctions may be applied to avoid punishing the entire household, such as a monetary fine. Young clan members unavailable for furrow work due to school or work commitments outside of the community may substitute their physical labour with monetary compensation.

This type of rule modification can be seen as a response to emerging circumstances. While based largely on norms and practices that date back many years, there are still changes that the rule system of the Marakwet has undergone in recent times. For instance, the custodian of the customary law system was traditionally a group of clan elders selected on the basis of their age and thus knowledge and experience of the furrow system. However, recognising the value of formal education, the community has begun to allow some younger community members to join the clan council. While obviously lacking in experience, younger members are often very resourceful and savvy in their relations with external organisations and donor agencies, as well as holding greater knowledge of (potentially useful) new technologies.

11 Focus Group Discussion with Clan Elders and Representatives of Furrows Council (Marakwet District- Kenya, February 10 2010)
REVISITING THE DESIGN PRINCIPLES OF SUSTAINABLE COMMONS MANAGEMENT AND THEIR APPLICATION TO CUSTOMARY LAW SYSTEMS

As noted in the introduction, Ostrom’s Governing the Commons illustrated how different communities develop rule-based institutional arrangements for the sustainable management of their shared natural resources. Ostrom’s analysis culminated in the identification of eight design principles that appeared characteristic of successful commons management regimes.12

Salient Features of Successful CPR Systems and their Application to Resilient Customary Law Systems

One of the fundamental observations made by Ostrom is that appropriators who enjoy relative autonomy from government or other external actors in the design of their institutional arrangements are more likely to develop sustainable management regimes.13 Such autonomy ensures that the users of the resource play a role not only in the design but also the modification of the rules that regulate access and use. The case studies also demonstrated that CPR governance systems with collective choice arrangements (that allow individuals affected by operational rules to participate in their modification) often result in positive outcomes.14 Apart from participating in rule modification, the users in these successful CPR systems are also charged with the implementation of those rules15, as supported by subsequent research that analysed multiple communal irrigation systems in Nepal.16 Based on the work of Ostrom and others, Ørebech et al (2005) argued that adaptability is also an indispensable characteristic of success in any complex resource management system.17 Adaptability relates to the inherent capacity of a system not only to deal with the present but also continue to be relevant in the future. In other words, a system that has the capacity to adapt to changing conditions. Given that the social, economic and ecological factors that impinge upon and influence natural resources use and management are in a state of constant flux, any ideal system of resource management needs to be capable of adapting itself to such changes, whether anticipated or not.18 This is what Ostrom and Basurto (2011) were pointing to when stating that CPR governance systems, in order to be successful, need to have a tested capacity for adaptability and openness to change;19 typically by means of a normative system that exhibits substantial variety in its rules, with changes in rules driven by institutional memory as well as socio-economic and/or environmental change.20

As a result of their genesis and nature, customary governance systems also tend towards versatility and flexibility in the sense that rules and institutions reflect the prevalent social, economic, cultural, political and ecological circumstances in which they operate.21 To this extent, such systems contain an inherent adaptive mechanism that makes them suitable for natural resource management. However, as noted by Bosselman, not all customary law systems integrate this adaptive management strategy effectively.22 A successful customary law system will recognise the structure of adaptations that it has made in the past and it is this that offers an effective vehicle for making changes to existing rules, encourages fine-grained rules that can be modified without having to modify the entire system, and has a meaningful feedback mechanism in place.23

Bosselman’s principles of resilient customary law systems are comparable to the design principles identified by Ostrom and built upon by others, and the synergy that exists between the two will be looked at in more detail in the following section.

AN ANALYTICAL FRAMEWORK FOR IDENTIFYING SUCCESSFUL CUSTOMARY LAW SYSTEMS OF NATURAL RESOURCE GOVERNANCE

Figure 1 encapsulates some of the main contributing factors that lie behind the success of customary law systems for natural resource governance. Departing from the premises put forward by Ostrom and building on Bosselman’s work, the framework identifies five main indicators of successful systems all of which are dependent on users enjoying some level of autonomy in system design and implementation.

1. Knowledge Management System

Both Ostrom’s and Ørebeck’s work point to the need for a rational process for the development and modification of rules in order for any normative CPR governance framework to work effectively. Based on insights drawn from the Marakwet case study, this paper recognises this crucial feature and develops it further.

First, any successful customary system for governing a CPR needs to have a record (oral or written) of how the system works under different conditions and that this knowledge and experience ought to be institutionalised. The term ‘knowledge management’ is used to denote this characteristic. For purposes of this framework, knowledge management signifies the capacity of the normative system to identify the insights and experiences necessary to develop rules that result in the sustainable governance of common pool resources. Knowledge management thus implies the capacity to capture the accumulated experiences of responses to environmental, socio-economic or other types of change. It is this record of past experiences that forms the basis for institutional memory and a repository of knowledge that is maintained for the purposes of improving the system down the road.

An insight into the importance of this feature was gained during fieldwork among the Marakwet. Through focus group discussions, the responses of water users, and the observations of the researcher, it was evident that an implicit system existed for accumulating knowledge of the conditions affecting water resources and associated rule system. Most interview respondents demonstrated knowledge of the origin of the furrow system in response to prolonged drought in the valley and of their water rules. The rationale for the rules and their relation to past experiences was not always evident as respondents often associated non-compliance of the rules with taboos and religious sanctions. However, as noted in the focus group discussions, clan elders explained that the objectives of water rules

![Figure 1: Framework for Analysing Successful Customary Law Systems of Water Resource Governance](image)
were the preservation of water resources, environmental conservation, or the socio-economic welfare of local people.

2. Feedback Mechanism

A second feature characteristic of successful customary law systems is the presence of a feedback mechanism. A successful system must have ways of ensuring that accurate information is promptly fed back into the system and that information then used in the decision making process.24 This mechanism is dependent on the knowledge management system, which ensures that relevant information is captured and used to drive the appropriate adaptation of resource rules and institutions.

The Marakwet’s customary water governance system provides clear evidence of this. The flexibility of rules on water and land use point to their adaptation to ecological conditions. For instance, while commercial mango farming was not a traditional practice among the community, many women are currently involved in growing mangoes that are proving successful given their higher tolerance to the increasingly dry climate. Further, some of the respondents indicated that they are testing the feasibility of farming green gram commercially, along with other non-traditional crops that require less water. The customary law rules on farming and use of irrigation water have consequently been adapted to allow for commercial farming and changes in cultivation practices.

The Marakwet case thus points to the importance of an effective feedback mechanism and suggests that successful customary law systems need to include a wider base of knowledge inputs that encompass not only environmental change but economic and social shifts also. As Ostrom and Basurto (2011) note, the success of any such system is also dependent on an enabling environment that facilitates learning from the success and failure of others.25 Such an informal social learning mechanism can be observed in the community habits of the Marakwet, whereby customary norms are crafted, implemented and enforced by means of member consultation—further aided by a physical space, the Sambalat trading centre, which acts as a hub for irrigation users to share experiences.

3. Inherent Rule Modification Procedure

Bosselman developed this feature by building upon Ostrom’s work on rules and game theory in the context of institutional arrangements for natural resource management.26 It concerns a procedure by which any given resource rule system can be improved and thus ensure its continued relevance in the context of changing circumstances. It is both considered an essential attribute of system sustainability27 and requires the maintenance of an open-minded attitude to rule making by those involved—thus assuring congruence between rules in use and local conditions.

As noted, Marakwet’s customary water governance system, while based on traditional norms and institutions, continues to evolve to adapt to changing circumstances. For instance, the incorporation of younger men into the clan elder council responsible for irrigation furrows is one important example of institutional flexibility that allows for rule modification when needed.

4. Stratification of Norms

One of the necessary conditions for designing an effective feedback mechanism is a rule system that is sufficiently stratified. Bosselman refers to this feature as ‘fine graininess’,28 and involves rules that can be easily modified; that partial changes can be made without having to affect the entire system. Although this feature guarantees the sustainability of the rule system rather than the sustainability of the resource system, resource sustainability is closely associated with a resilient governance system that exhibits institutional adaptive

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24 (Bosselman 2005)
26 (Ostrom, Gardner, and Walker 1994)
27 (Ostrom and Basurto 2011)
28 (Bosselman 2005)
capacity. A system with a great potential to deliver sustainable development outcomes would be useless if it were to fail in its actual operation as a rule system—for example, a system whose design requires an entire overhaul each time a single rule is changed.

While most rules of the Marakwet’s water resource governance system were broadly defined, implementation take places through consultation with all water users, which subjects rules to negotiation and also allows them to be modified with relative ease. For instance, while there are clear rules on clan allocation of water resources from the furrow systems, the elders explained that these rules could be altered to grant more water resources to those families in greater need.29 In other words, discretion is sometimes used in the application of rules, but this occurs without having to change the major institutions that fall under customary law.

5. Autonomy

Lastly, as was noted in the work of Ostrom and Basurto (2011), evidence from research on irrigation systems from different countries around the world has clearly demonstrated that the autonomy of resource users to design, operate and modify rules governing the water resources they use and depend on, ensured better and more equitable outcomes. This finding resonates strongly with the analysis of the customary law system of the Marakwet, where the community itself develops norms. The operation and implementation of rules is thus in the hands of resource users, with such autonomy in rule design regarded as inviolable.

LESSONS FROM OSTROM FOR CUSTOMARY LAW SYSTEMS

This paper confirms the parallels that exist between CPR governance systems and customary law governance systems. While the former focus on the normative structures (rules in use) for managing shared resources, customary law systems for natural resource governance are interested in a similar institutional framework albeit one where the basis of authority rests in informal rather than formal/statutory norms and institutions and where the focus is the relationship that connects actors and their environment to those rules. Given these parallels, Ostrom’s pioneering work on commons management provides a set of most useful insights into the operation of resilient customary law systems for the governance of common pool resources, such as the irrigation system of the Marakwet.

The centrality of autochthony for building resilient customary law systems confirms Ostrom and Basurto’s observation that, in places where commoners enjoy autonomy in CPR rule design there is an increased likelihood for positive outcomes. As noted, while the origin of customary law systems is often linked to past traditions and customs, the systems themselves must continue to evolve in response to changing environmental and socio-economic circumstances. Consequently, Ostrom and Basurto’s tool for analysing ever-changing commons governance institutions also provides a most useful framework for the analysis of customary law governance systems.

29 (Focus Group Discussion with Clan Elders and Representatives of Furrows Council (Marakwet District- Kenya, February 10 2010)
As is the case with successful CPR management systems, customary law systems must also contain mechanisms to ensure adaptability to changing circumstances if they are to persist. The analysis presented in this paper lends credence to Ostrom’s central thesis that ‘tragedy’ is not a necessary outcome for commons scenarios and by extension customary law systems for natural resource governance. As demonstrated by the analysis of Marakwet’s customary water governance system, autochthonous or home grown normative and institutional frameworks for governing CPRs, providing they can successfully adapt in the face of change, can produce positive and sustainable resource outcomes.

REFERENCES


