



Traditional agricultural landscapes and community conserved areas: an overview

Traditional agricultural landscapes

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Abstract

Purpose – This paper seeks to offer an overview on the theme of “Traditional agricultural landscapes and indigenous and community conserved areas.” It aims to explore questions related to the special values of these landscapes, the threats facing them and ways to sustain them in the future. It also aims to discuss recent developments in conservation, particularly related to governance of protected areas and the emerging recognition of “indigenous and community-conserved areas” in diverse regions worldwide.

Design/methodology/approach – Drawing on a collection of conceptual papers and case-studies presented at a workshop (Cusco, Peru, 2008) and compiled in the present issue of this journal, this overview paper explores key issues and challenges related to community stewardship of traditional agricultural landscapes. It synthesizes a few common themes emerging from these papers and the discussions in Cusco, and reviews these in the context of global developments in protected areas and conservation.

Findings – Across diverse settings, traditional agricultural landscapes, created by indigenous peoples and local communities, have been shaped by the dynamic interaction of people and nature over time. These landscapes, rich in agro-biodiversity as well as inherent wild biodiversity and cultural and spiritual values, embody human ingenuity and are continually evolving. Key points emerging from this review include the role of traditional ecological knowledge systems, cultural practices and social institutions in creating these landscapes and ensuring their stewardship; the importance of securing customary governance; and need for dynamic socio-ecological indicators to measure the resilience of different landscapes.

Originality/value – The paper shows that these “living landscapes” play a vital role in sustaining agro-biodiversity as well as inherent wild biodiversity values, ensuring ecosystem function, and supporting livelihoods and food security. These landscapes and their associated management systems have much to teach us about sustainability and resilience in the face of global change.

Keywords Agriculture, Environmental management, National cultures, Conservation areas, Ecology, Governance

Paper type General review



Introduction

Among the striking features of traditional agricultural landscapes across diverse settings are their sophistication, complexity and resilience. Landscapes rich in agro-biodiversity are often the product of complex farming systems that have developed

in response to the unique physical conditions of a given location, such as altitude, slopes, soils, climates and latitude, as well as cultural and social influences (Phillips and Stolton, 2008). These landscapes, in many cases created and cared for by indigenous peoples and local communities, have been shaped by the dynamic interaction of people and nature over time, mediated by sophisticated knowledge systems and practices. They encompass a variety of ecological settings, embody human ingenuity, and are continually evolving and adapting. They are rich in agro-biodiversity as well as inherent wild biodiversity and intangible cultural and spiritual values.

Indigenous peoples and other traditional local communities are widely acknowledged to have evolved, managed, and sustained agricultural biodiversity for millennia. It is only in more recent times, however, that the formal scientific and conservation community has recognized their role in shaping, managing and conserving entire landscapes (and seascapes), with their complex interplay of the “wild” and the “domesticated”, the “natural” and the “cultural”[1].

A four-day session on “Traditional agricultural landscapes and community conserved areas,” held within the 11th International Congress of Ethnobiology (Cusco, Peru, 2008) explored the linkages between these landscapes, their natural and cultural values and diverse systems of traditional management and governance. This gathering was organized by two networks of the International Union for Conservation of Nature (IUCN): the WCPA-CEESP Strategic Direction on Governance, Equity and Livelihoods in Relation to Protected Areas (TILCEPA) and the WCPA Protected Landscapes Task Force[2] and hosted by Asociación Andes in partnership with the International Society for Ethnobiology.

Session presentations explored history, cultural and technological practices, knowledge systems, and other aspects of agricultural landscapes managed by indigenous peoples and other local communities. A diverse array of case studies was presented from Mexico, Spain, Peru, the USA, Thailand, Bolivia, Taiwan, New Zealand, the Philippines, Brazil, South Asia, and Venezuela. The session program included a day-long workshop with indigenous leaders in El Parque de la Papa (Potato Park) near Pisac, Peru where six Quechua communities are conserving their landscape for optimizing ecologically sustainable, biologically diverse farming and pastoralism (Argumedo, 2008). Apart from indigenous participation in the session, there were also evening interactions with a separate indigenous-only section of the Congress.

The Cusco session on “Traditional agricultural landscapes and community conserved areas,” brought together academics, practitioners and community leaders from diverse regions of the world. In bringing together people from a range of disciplines and experience the session provided a unique forum, not typically found at conferences, in which to share case-study experience and engage in dialogue. Thus it was able to foster a dialogue between those working on wildlife and those working on agriculture; those focusing on academic research and those practicing conservation; those studying community systems and the communities themselves; and others who typically do not have the opportunity to contribute to these discussions and debates. Participants discussed the special values of these landscapes, threats facing them and ways to sustain them into the future. They explored questions such as: In the face of global environmental and socio-economic change, how can we sustain traditional landscapes, making sure that connections to the land are transmitted to the younger generations? How do we integrate and create synergy between traditional and

modern (scientific) knowledge systems and make sure the necessary resources are allocated to this end?

This special issue of *Management of Environmental Quality* brings together some of the key papers presented at the Cusco session on “Traditional agricultural landscapes and community conserved areas,” and subsequently developed by the authors. In this overview paper we briefly review recent developments in conservation as they relate to sustaining traditional landscapes and agro-biodiversity, particularly within indigenous and community conserved areas. We explore some of the key issues and themes emerging from the papers presented in this compilation, and review some of the findings of the Cusco session.

Background

Traditional agricultural landscapes and the protected landscape approach

Landscape can be understood as a “meeting ground” – a place where nature and culture are intertwined – and a place that holds the past and the present, as well as tangible and intangible values (Phillips, 2005). Landscapes are shaped by the inter-relationships between humans and their environment. In turn, the natural setting has shaped how people live, their settlement patterns, livelihoods, cultural practices and beliefs – indeed their very way of life. It follows that taking a landscape approach to conservation must embrace this complex diversity – recognizing natural as well as cultural values, tangible and intangible heritage, history and present-day uses (Brown, 2010).

Protected landscapes are cultural landscapes that have co-evolved with the human societies inhabiting them and offer living models of sustainable land and resource practices. Corresponding with Category V in the IUCN system of protected area management categories (Dudley, 2008), they are protected areas based on the interactions of people and nature over time, where “safeguarding the integrity of this traditional interaction is vital to the protection, maintenance and evolution of such areas” (Phillips and Brown, 2008). Protected landscapes are rich in biological diversity and other natural values not in spite of but rather because of the presence of people, whose traditional patterns of land use have proven sustainable over centuries.

The traditional patterns of management and use that have created the world’s cultural landscapes also sustain a wealth of biodiversity, including agro-biodiversity, which in many settings occupies a spectrum from “cultivated” to “wild.” Inextricably linked to culture, traditions and identity, agrobiodiversity is the basis for food security and livelihoods. Agrobiodiversity includes two groups in particular:

- (1) the wild relatives of domesticated species (for example crop wild relatives from which cultivated crops originated); and
- (2) individual breeds of domesticated species of livestock and crops (Phillips and Stolton, 2008).

While these landscapes and their associated agro-biodiversity are resilient they are also under threat.

In a recent publication produced with colleagues from the IUCN-WPCA Protected Landscapes Specialist Group, we documented the agro-biodiversity values of protected landscapes (Amend *et al.*, 2008). The volume explored the potential of these Category V protected areas for conserving agro-biodiversity, recognizing that they encompass

lived-in, working landscapes and are often under traditional governance regimes. Because they overlap with farming systems in relatively remote regions and in rugged terrain, which are strongholds of rare and endangered livestock breeds and landraces, many existing Category V protected areas can, in fact, be considered as protecting “hot spots” for agro-biodiversity (Phillips, 2002). Further, this model of protected area is particularly appropriate in areas where biodiversity and cultural practices are linked, and where management practices must accommodate traditional uses, land ownership patterns, and the need to sustain local livelihoods.

In an earlier publication, our global working group explored how the protected landscapes model is being expressed in diverse regions of the world and articulated the elements of a “protected landscape approach,” linking conservation of nature and culture. While grounded in experience with Category V protected landscapes/seascapes, this approach is broader than a single protected area category or designation. Rather, it relies on different tools and designations to achieve protection, and on an array of processes and traditional systems to sustain people’s relationship to the land. The protected landscape approach recognizes that the cultural and natural values of landscapes are inextricably linked, and embraces the central role of communities as stewards of these landscapes (Brown *et al.*, 2005).

Conservation governance

The first decade of the new millennium has seen a marked shift in conservation paradigms, at the international level and in many countries. A series of recent international events have marked this shift: the World Parks Congress (Durban, 2003), the 7th Conference of Parties of the Convention on Biological Diversity (Kuala Lumpur, 2004), the 3rd World Conservation Congress (Bangkok, 2004), and the 4th World Conservation Congress (Barcelona, 2008). Also, during this period there was finally agreement on the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), which provides a strong basis for the involvement of such peoples in all forms of conservation and development.

The World Parks Congress (WPC), organized by IUCN’s World Commission on Protected Areas in Durban, was (up to that point) the biggest ever gathering of conservationists, with over 5,000 participants. It produced the Durban Accord and Action Plan, the Message to the Convention on Biological Diversity, and over 30 recommendations on specific topics. All these outputs strongly stressed the need to centrally involve indigenous peoples and local communities in conservation, including respecting their customary and territorial rights, and their right to a central role in decision-making (see www.iucn.org/themes/wcpa/wpc2003).

Two crucial paradigm shifts in conservation were made at the WPC:

- (1) Moving government-designated and -managed protected areas towards collaborative management, involving, as equal decision-makers, indigenous peoples and local communities that are resident in or using these areas.
- (2) Recognizing and supporting conservation practices of indigenous peoples and local communities in their own right, in the form of community conserved areas (CCAs)[3] or in other forms.

The Durban Action Plan and a specific recommendation on CCAs, highlighted the need to incorporate and support CCAs as part of national PA systems. A strong message on

this was also conveyed to the Convention on Biological Diversity (CBD), which was to meet just a few months later.

The 7th Conference of Parties to the Convention on Biological Diversity (CBD), held in Kuala Lumpur in February 2004, had “protected areas” as one of its main topics. Since the CBD is a legally binding instrument, its outputs are of great significance for all countries. One of its main outputs was a detailed and ambitious program of work (POW) on protected areas (www.cbd.int/protected/). A crucial element of the POW related to “governance, participation, equity, and benefit-sharing”, under which actions explicitly urge countries to move towards participatory conservation with recognition of indigenous/local community rights. As in the case of the WPC, the POW also made a major breakthrough in committing countries to identify, recognize, and support ICCAs.

The emphasis placed on governance at both the WPC and the CBD COP7 represents a crucial step in the direction of making conservation more inclusive and more publicly accessible. Rather than letting the policy and practice of conservation remain the monopoly of bureaucrats and/or formal sector scientists, it acknowledges the vital role of all citizens, and in particular of those communities that live closest to the biodiversity sought to be conserved. It brings back into centre-stage the knowledge, practices, and skills of these communities, creating the possibilities of meaningful partnerships with organizations and individuals from the formal sectors.

All these principles and practices were endorsed, and taken further, by the resolutions and recommendations coming out of the 2004 and 2008 World Conservation Congresses (www.iucn.org/resources/documents/; www.iucn.org/congress_08/assembly/policy/index.cfm). A significant output of the 2008 Congress was a new set of guidelines, issued by IUCN, on the categorization of protected areas (PAs). While its earlier guidelines (recognized as the standard across the world) classified PAs into six categories according to their management objectives (from strict protection to managed resource extraction), the new ones incorporate the element of governance type (Dudley, 2008; Borrini-Feyerabend, 2008 cited in Brown, 2010). They recognize that all kinds of PAs can be managed or governed not only by government agencies, as has been assumed by conservationists for over a century, but also by indigenous peoples and local communities, or by private parties, or in various kinds of collaborative arrangements amongst these actors. Countries are now encouraged to enhance and expand their PA system by incorporating these governance types.

The outputs of these meetings (and the background processes that went into them)[4], represent a powerful and clear mandate for all nations to move ahead on community-based conservation with elements of decentralized governance, rights, and conservation effectiveness. Combined with the increasing focus on landscape (and seascape) level governance and conservation, there is a powerful potential to achieve the integration of several desired objectives: conservation of ecosystems, wildlife, and agricultural biodiversity, enhancement of food and livelihood security, sustaining diverse cultures, and achieving equity within and across generations (Kothari *et al.*, in press).

Overview of the papers in this compilation

In addition to this overview paper, this issue of *Management of Environmental Quality* contains seven of the papers presented at the Cusco session. Generally, these papers present the key features of a traditional landscape or management system and discuss

the associated cultural and natural values, the governance regimes being by the relevant indigenous people or local community, current status including threats, and key issues for the future.

The paper on “Socio-ecological indicators of resilience in agrarian and natural landscapes” by van Oudenhoven, Mijatović and Eyzaguirre sets the stage for this compilation of papers, with its focus on bridging natural and cultural landscapes. The authors present a conceptual framework for understanding the human-environment interactions taking place in traditionally managed landscapes and ecosystems and monitoring the role that these interactions play in the maintenance of such systems. Drawing on case-study experience from many regions they describe a variety of mechanisms by which indigenous and rural communities help anchor biodiversity. Common to each of these practices is that they are based in social-ecological interactions in which human communities adapt to their environment and change that environment in the process. van Oudenhoven *et al.* (2011) argue that virtually all ecosystems and landscapes must be seen as coupled social-ecological systems whose resilience depends as much on these practices (which link human and ecological components) as it does on ecological characteristics.

Bassi and Tache (2011) describe the sophisticated systems of natural resource management and governance that was traditionally practiced by the Borana pastoralists of the Horn of Africa. These systems encompassed complex ecological, physical, political, and spiritual components, integrating various ecosystems and human use sites across a vast landscape. In recent times, however, the Borana landscape has faced threats from state-imposed changes, including settlement by outside communities, conversion of pastures into agricultural lands, and so on. The authors show how the indigenous systems managed to not only sustain humans and livestock, but also wildlife (including several species considered globally threatened), while the state-imposed systems have led to degradation. In a belated gesture, the government has introduced a new type of protected area to be administered by local communities, but without clarifying the rights and powers of these communities, and maintaining a top-down approach.

In a case-study focusing on the Fata’an, one of the oldest tribes of the Amis (Taiwan’s largest indigenous nation), Chang (2011) provides a different perspective on cultural changes in a traditional agricultural landscape. The indigenous peoples have viewed themselves as part of nature, which is the origin of all life. They have evolved sophisticated systems of restraint in their use of nature’s elements. However, in more recent times, a number of cultural and physical changes (including settlement from outside) have resulted in the “resourcisation” of nature, viewing its elements as being primarily for human use and – increasingly – for commercial use. The author brings out a clearly contrasting worldview between the indigenous Amis and the settler Han communities, including an attempt by the latter to impose exclusionary conservationist practices with “scientific” justification, ignoring the significant traditional knowledge of the former.

The paper by Roskrige (2011) explores the application of traditional Māori horticultural and ethnopedological practices in New Zealand whereby an inclusive “whole of landscape” approach known as “*ki uta ki tai*” – meaning, literally, from “the source to the oceans” – is applied in a contemporary landscape. The paper introduces the beliefs and practices embedded in the Maori worldview, and details the traditional ecological knowledge related to soils, land use and horticultural practices. While these

practices are currently relegated to pockets of land administered in a contemporary system the author observes that they are undergoing a renaissance, and that the future of traditional Māori horticulture and pedology will depend on the quality of the knowledge base, and the ability to retain this expertise and educate those around them of the value of traditional knowledge and practice. Roskrug writes that the “*ki tai ki uta*” concept applied to resource management is unique to Māori yet it reflects the holistic attitudes common among many cultures and practitioners.

Pajares Garay and Llosa Larraburre (2011) explore how cultural landscapes have been shaped in the Peruvian Andes, a region of tremendous environmental and geomorphological diversity, with extreme variations in climate and ecosystems. The authors assert that the environmental limitations posed by the heterogeneity of the Andes “became opportunities by creating and recreating agrobiodiversity, expressed in plant and animal domestication and the management of space, territory and water.” Over millennia the inhabitants of the Andes have developed not only a complex material technology, but also appropriate conceptual and communication systems in order to manage the mountain environment. The authors highlight the role of astronomic observation in planning agricultural activities, and emphasize the importance of these relational knowledge systems in adapting to the impacts of global climate change in the region. In particular, they call for the recovery of traditional systems for water management through “seeding and harvest” of water, and for renewed attention to the importance of ethno-astronomical knowledge.

The article by Bassols Isamat, Perramon Ramos, Mallarach Carrera and Falgarona Bosch on La Garrotxa Volcanic Zone Natural Park of Catalonia in Spain describes the integration of conservation and resource use across a large landscape with many unique features. Recent changes in agricultural policies and the cultural impact of modernization, have altered the traditional equations with detrimental impacts on both people and nature. However, the Natural Park has taken a pro-active role in reviving agricultural biodiversity and practices related to it, especially horticulture. This provides hope of sustaining both the agriculture, enhancing livelihoods, and protecting the wildlife of the area.

In their paper on “Indigenous and community conserved areas in Oaxaca, Mexico”, Martin *et al.* (2011) present the findings of a 2009 survey of indigenous and indigenous and *mestizo* community conserved areas – including protected communal areas, certified community reserves, forestry management protected areas, sacred natural sites and wildlife management areas. The survey revealed 126 sites of community conservation in Oaxaca covering over 375,457 ha., which is 14.5 percent greater in extent than the area covered by nationally decreed protected natural areas in the state. Some of these ICCAs incorporate agroforestry and agroecology systems, such as milpas and shade coffee plantations, making these areas important reservoirs of agrobiodiversity. Martin *et al.* observe that the diversity of ICCAs in Oaxaca is testimony to the degree of innovation and self-mobilization that has led communities, often in association with government and NGO partners, to designate *sui generis* protected areas that adapted to a particular context. The authors assert that the findings of this inventory of ICCAs in Oaxaca substantiates the claim that the documented terrestrial land surface under some form of protection (governmental, private, community or co-management) would more than double if community conservation were taken into account.

Discussion

We explore here a few of the common themes emerging from the papers in this compilation.

Diverse worldviews

The traditional knowledge systems and practices that create these landscapes and ensure their stewardship emerge from a particular worldview or cosmovision.

As Roskrige writes in this compilation, all cultures and groups within cultures have their own way of seeing the world – a “worldview” – and this informs the way communities of people behave toward each other and their environment, the values they hold and their customs and traditions. The traditional Māori worldview is based on a concept called *whakapapa*, described as “how Māori know what they know about the world.” Roskrige explains that, inherent within the *whakapapa* relationship between Māori and the landscape, are an array of practices and systems. These include the whole of landscape approach known as *ki uta ki tai* – literally “from the source to the oceans” – and *tikanga* which describes collective management techniques developed over time. Emerging from this worldview is *kaitiakitanga*, or traditional guardianship of any resource for future generations.

Chang observes that in traditional Fata’an culture, there is no concept of “resource.” Rather the Fata’an view themselves as part of nature and the food chain, and see nature not as a resource to be monopolized, but as something to be shared – carefully – by all beings. The author quotes an Amis man describing how they view the creatures in the sky, earth and sea as abundant and edible, “however we do not overwhelm them.” Within this worldview the Fata’an understanding of the wetland environment as something that the local Fata’an share with all other beings serves as the basis for sustainable management systems, such as *pa-lakaw*.

Traditional ecological knowledge

Traditional ecological knowledge (TEK) is inextricably linked to the agro-biodiversity of these landscapes. Long the repository of strategies for adapting to challenges in the environment, TEK helps ensure resilience in the face of global change. Van Oudenhoven *et al.* describe traditional ecological knowledge as “the memory of human-environment dynamics in landscapes,” and observe that the deeper this memory, the more accurately the traditional ecological knowledge can be expected to reflect the complexities of those dynamics and facilitate communities’ adaptation to change, thus contributing to socio-ecological resilience.

In their discussion of agrarian cultures of the Andean high plateau, Pajares Garay and Llosa Larraburre explore the role of traditional ecological knowledge in creating and sustaining cultural landscapes that encompass areas of high agro-biodiversity. The development of complex predictive systems has enabled people to respond to the high climatic variability typical of the Andes in order to practice agriculture. The authors describe how Andean societies developed farming techniques adapted to and manipulating micro-climatic characteristics as part of a strategy of “massive parallelism” enabling them to cultivate the highest number of lands at different altitudes. In the face of global climate change, the authors call for the recovery of “ethno-astronomical knowledge,” as a fundamental predictive system that can help

Andean communities respond and adapt to the expected distortion of eco-climatic variability in the Andes.

The traditional knowledge of the Māori community regarding the land and soils is used in the everyday management of these resources. Roskrige describes a detailed body of knowledge, including a traditional taxonomic system for soil types and strategies for site selection, planting patterns and soil modification. The author shows how these horticultural practices and expertise, determined through generations of experience, have proven to be highly effective and are still applied in modern horticultural systems. However, the inter-generational transfer of this knowledge will be critical to sustaining traditional Māori horticulture in the future.

Similarly, a concern for sustaining agrarian diversity in La Garrotxa Volcanic Zone Natural Park, particularly autochthonous varieties of fruit trees, led to the recognition by park managers of the importance of traditional knowledge pertaining to these varieties. Bassols Isamat *et al.* (2011) describe how, in response to the dramatic loss of genetic diversity over a 16-year period, priority was given to searching for information about the uses of these local varieties and all the related traditional processes of production. This loss of agro-biodiversity has important cultural implications: “the disappearance of a variety implies the loss of an important part of its associated cultural heritage – old recipes are no longer followed, domestic uses are lost, tools rust and disappear, skills die out and orchards are abandoned.” Among the recommendations made by Bassols Isamat *et al.* is for the creation of the first Catalan catalogue of traditional cultivated plant varieties, tapping the existing ecological knowledge in each region of Catalonia regarding species and traditional varieties and documenting their current state of conservation.

Cultural practices and social institutions

A recurring theme in the case studies presented here and in discussions during the Cusco session is the fundamental role of cultural beliefs and practices, and the associated social institutions, in shaping traditional landscapes.

Bassi and Tache observe that indigenous conservation is often indirectly achieved in accordance with culturally specific values, beliefs and ritual practices. An example from the Borana case-study is the set of beliefs and practices associated with particular trees, which one species is protected because of the importance of its branches for certain rituals, another for its role in forage, another because of its association with the *qaalluu*, or high priests. The authors write, “the overall result is a species-selective tree management at the country level.” Although poverty in some areas is forcing some families to engage in charcoal production, the burning of protected trees still raises strong social concern.

Another example of traditional practices contributing to sustainable management of a landscape is provided in Chang’s description of the traditional fishing culture called *pa-lakaw*. The *pa-lakaw* is a complex system of managing a wetland and associated ponds and springs, and ensuring sustainable harvest of fish and shrimp. Practices such as returning certain species of shrimp because they are an important food source for fish are rooted in the Fata’an view of themselves as part of the natural food chain. Chang notes the importance of social conventions, such as the sharing of catches among fishers and non-excessive fishing in achieving “[. . .] compliance with the value of “symbiosis with nature, sharing with all beings [. . .] Therefore, we can say

that the *lakaw* is not only a tool for survival, but also a cultural mechanism for natural sustainability.”

Writing of traditional management of landscapes in Oaxaca, Martin *et al.* observe that local ecological beliefs, knowledge and practices, which have ancient roots, have shown great resilience in the face of historical events including colonization, independence and globalization.

Customary governance

Customary governance plays a vital role in the stewardship of traditional landscapes and must be secured over the long term.

In their study of the Borana-Oromo, Bassi and Tache illustrate the role of customary governance in ensuring a viable pastoral system and caring for the landscape. Borana governance, built on the complex *gadaa* system of generation classes, defines management and access through practices, customary norms, belief systems and laws of inclusion/exclusion. There is extensive documentation of the rich biodiversity associated with the landscape traditionally managed by the Borana, including many globally threatened species. Their case-study illustrates the high potential offered by customary governance for conservation of biodiversity and sustainable use of resources.

Similarly, the paper by Martin *et al.* on the extensive network of ICCAs in Oaxaca documents the critical role of traditional governance by indigenous and local communities in caring for a bioculturally diverse landscape that includes large areas of forest. The authors assert that collective environmental management is a fundamental precondition of the ICCAs analyzed in their case study of Oaxaca. Noting that Oaxaca has a unique historical and contemporary context, and that there are few regions in the world where communities own and control their resources with the constitutional and legal protection offered by the Mexican state, they argue that the Oaxaca experience offers lessons for community conservation in other regions of the world.

Both papers highlight the importance of establishing secure tenure and supporting traditional governance regimes, and argue for creating the conditions that allow communities to be empowered for conservation.

Indicators of socio-ecological resilience

In their paper Van Oudenhoven *et al.* propose a set of socio-ecological indicators of landscape resilience, noting that these indicators could facilitate a shift towards the more widespread adoption of “human-centered” conservation practices. They assert that conventional indicators of ecosystem health tend not to capture its social dimensions and nor provide historical depth, typically overlooking traditional ecological knowledge and associated socio-cultural interactions. Noting the challenges in measuring social-ecological resilience, the authors offer a set of indicators intended to be used by communities and scientists in the implementation and monitoring of community-based approaches to nature conservation. Among the nine indicators they propose are: retention and acquisition of traditional ecological knowledge; use of indigenous and local languages; the existence/continuation of customary laws, social institutions and autonomy; and the complexity and intensity of interactions with the ecosystem.

Conclusions

This compilation brings out a sample of the case-studies presented at the Cusco session on “Traditional agricultural landscapes and community conserved areas” and highlights many of the issues discussed there. The papers presented here illustrate the rich array of values of traditional agricultural landscapes and the complex management systems that have shaped them. They highlight the role of indigenous and local communities in shaping, managing and conserving these landscapes and their associated agro-biodiversity, as well as wild biodiversity. They explore the importance of traditional ecological knowledge and cultural practices and beliefs, embedded in a particular worldview, and the role of customary governance. They remind us that that these landscapes and management systems have much to teach us about resilience, and that expanded conceptual tools, such as socio-ecological indicators, are needed.

In a joint statement emerging from the Cusco session, participants recognized the diversity and sophistication of traditional agricultural and other human-modified landscapes that have been cared for by indigenous peoples and local communities. They noted the role of these “living landscapes” in sustaining agro-biodiversity values as well as inherent wild biodiversity and cultural values. They affirmed their vital role in ensuring resilience, ecosystem function, and livelihood and food sovereignty. Finally, they affirmed the importance of the intangible values of these landscapes, including their spiritual and cultural values, as well as their aesthetic qualities and “palpable sense of place.”

We have included an excerpt of their joint statement (see the Appendix), which was read at the final ceremony of the Congress, as the concluding element of this overview paper. From this statement, three key recommendations were distilled for inclusion in the main declaration of the Congress. These focused on a call to recognize and support indigenous peoples’ and local community-conserved landscapes, to provide them legal and policy backing as appropriate, and to facilitate the peoples and communities to tackle the multiple threats and challenges they face. Participants also committed themselves to “fully facilitate and support the efforts and struggles of indigenous peoples and local communities to maintain their traditional agricultural landscapes, recognizing that the participation and leadership of the indigenous peoples and local communities is an essential factor.”

Notes

1. As clear from a number of the pieces in this issue, and from literature elsewhere, these terms themselves are complex, and subject to differing interpretations and contestation. Indigenous peoples for instance do not necessarily envisage a clear distinction between these, which the “Western” world often sees as polarities. We do not here go into this issue, simply wishing to acknowledge it.
2. Information on the WCPA-CEESP Strategic Direction on Governance, Equity and Livelihoods in Relation to Protected Areas (TILCEPA) can be found at www.tilcepa.org. Information on the WCPA Protected Landscapes Task Force is at www.iucn.org/about/union/commissions/wcpa/wcpa_what/wcpa_science/wcpa_protectedlandscapes/
3. This term was subsequently changed to indigenous and community conserved areas (ICCA).
4. In the above processes, key roles were played by indigenous peoples through networks such as the International Indigenous Forum on Biodiversity; and by the Strategic Direction on

Governance, Equity and Livelihoods in Relation to Protected Areas (formerly called the Theme on Indigenous and Local Communities, Equity, and Protected Areas or TILCEPA, see www.tilcepa.org). TILCEPA is a working group of two commissions of the IUCN, the World Commission on Protected Areas (WCPA) and the Commission on Environmental, Economic, and Social Policy (CEESP). TILCEPA coordinated the Communities and Equity cross-cutting theme at the World Parks Congress, and initiated the inclusion of a separate section on “Governance, Participation, Equity, and Benefit-sharing” in the expert group to draft the CBD Programme of Work on Protected Areas. TILCEPA and its sister network, CEESP’s Theme on Governance, Equity, and Rights (TGER, www.tger.org), have continued to advocate participatory methods, including the recognition of ICCAs, at international forums and at national levels. They currently coordinate a global ICCA Consortium, and manage a web site dedicated to ICCAs (www.iccaforum.org). Significant inputs to the new paradigms have also come from the IUCN-WCPA Protected Landscapes Task Force.

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Appendix. Statement from the session on Traditional agricultural landscapes and community conserved areas, International Congress on Ethnobiology

Session on Traditional agricultural landscapes and community conserved areas key recommendations

The participants of the International Congress on Ethnobiology who took part in the session on Traditional Agricultural Landscapes and Community Conserved Areas strongly acknowledge the contributions made by the: knowledge and wisdom, traditions and practices over millennia, of the indigenous peoples and local communities for the conservation of the world's biological diversity (ranging from the level of genetic diversity to ecosystem diversity) and cultural diversity (in its multifaceted expressions) of the planet. Such acknowledgement is important, and necessary, in light of the formidable global environmental, socio-economic and cultural changes the world faces today, and in light of the remarkable contribution of bio-cultural diversity, maintained and/or generated by indigenous peoples and local communities, to the well-being of society at large, and to our collective aspiration for a world that is more just, equitable, beautiful and sustainable. Based on our work together in this session on Traditional Agricultural Landscapes and Community Conserved Areas we recommend that:

1. The contributions made by the indigenous peoples and local communities for the conservation of the world's biological and cultural diversity, through the creation and sustenance of traditional agricultural and other human-modified landscapes and seascapes, be recognized and respected in all national and international policies and forums. These traditional agricultural landscapes are rich in agro-biodiversity values as well as inherent wild biodiversity and cultural values, and encompass holistic knowledge and collective management systems and complex institutions of customary law. They play a vital role in ensuring resilience, ecosystem function, and livelihood and food sovereignty. Inextricably linked to the material values of these landscapes are their spiritual and cultural values. These special landscapes offer us beauty and a palpable sense of place. They are living landscapes worth living in.

2. Given the serious threats faced by these landscapes and seascapes due to various economic, social, and cultural forces, they need recognition as indigenous territories and community conserved areas in their own right, both in national policies and in international forums such as the IUCN guidelines on protected area categories. This can also be done through the use of the protected landscape or ecosystem approach (as expressed in the Convention on Biological Diversity, the UN Declaration on the Rights of Indigenous Peoples, the International Treaty on Plant Genetic Resources, and other international agreements and forums), which combines ecological, cultural, and socio-economic values, integrates various knowledge systems, and links nature and culture. We therefore strongly recommend the use of the cultural landscape and ecosystem approach in both conservation and development.
3. Communities be facilitated and supported in their experimentation with an array of innovative and adaptive responses to the threats they face, including:
 - Revitalization and strengthening of cultures, including through festivals, rituals, languages, and sacred spaces and areas.
 - Revival of biophysical practices of land/water management in traditional or modified forms, combining the best of old and new methods and technologies.
 - Changes in some community practices that are detrimental in new contexts, e.g. uncontrolled grazing that degrades ecosystems or displaces wildlife.
 - Adoption of policies and laws that recognize territorial rights and practices, including through in indigenous and community conserved areas.
 - Comprehensive planning that builds on traditional agricultural calendar and practices in the landscape, and provides for diverse livelihood options.
 - Generating pride in one's own culture amongst youth, for example through documentation and use of traditional knowledge in new forms.
 - Creating processes to synergize the priorities of research and donor institutions with the priorities of indigenous peoples and local communities, ensuring that all such research and donor action is undertaken with the free and prior informed consent of such peoples and communities.
 - Enhancing the struggle against destructive "development" practices or powerful corporate interests.

In these and other ways, participants of this Congress commit themselves to fully facilitate and support the efforts and struggles of indigenous peoples and local communities to maintain their traditional agricultural landscapes, recognizing that the participation and leadership of the indigenous peoples and local communities is an essential factor. We believe that such a commitment is urgently needed for the sake of not only the peoples and communities who are stewards of these landscapes, but for humanity as a whole, and indeed for all life on earth.

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