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32 **Protected Areas and Indigenous Peoples in Bolivia and Peru: Dilemmas, Conflicts, and Ways Out**

Sébastien Boillat¹, Jamil Alca Castillo², Alex Álvarez³, Patrick Bottazzi⁴, Dora Ponce Camacho⁵, Elvira Serrano⁶, Valeria Biffi⁷, Sarah-Lan Mathez-Stiefel⁸, Peter Bille Larsen⁹, and Stephan Rist¹⁰

Abstract

Recognition of the limitations of the traditional ‘fortress approach’ to governance of protected areas has led to a new model that seeks to reconcile environmental conservation with human development and promote participation by local populations. Based on a comparative analysis of four case studies in Bolivia and Peru, the present article shows the processes, problems and potentialities that emerge from the inclusion of indigenous peoples in the governance of protected areas. It demonstrates that there are many political, economic, social and cultural obstacles to reconciling conservation with development. The article identifies four critical points that need to be addressed in order to understand and mitigate these obstacles: 1) the discontinuities between formal legal frameworks and local practice; 2) the difficulties of integrating conservation with economic activities; 3) the challenge of establishing an intercultural dialogue among the actors involved; and 4) the preponderant but ambiguous position of the state. In each of these points, the conflicting interests of and the unequal power relationships between the state, indigenous peoples, conservation organisations and extracting companies are the key drivers that create the obstacles.

Keywords: Protected areas; indigenous peoples; participatory conservation; governance; social conflicts; natural resource management; Amazon; Andes.

32.1 Introduction

Protected areas are created in order to safeguard biodiversity in a context of growing global demand for natural resources and pressure on land. However, they also have negative impacts on the livelihoods of local people. In this sense, protected areas represent a response to as well as a constituent element of global change (Galvin and Haller 2008). Before the 1980s, the dominant method of governing protected areas was shaped by the ‘fortress approach’, which emphasised state control, restricted the use of resources, and sometimes displaced local populations from these areas (Stevens 1997). In many cases, this focus led to an increase in social conflicts that gravely compromised the long-term effectiveness of protected areas and was also ethically questionable (Brechtin et al 2002). Many scholars and practitioners have since proposed responding to this problem by seeking to reconcile environmental conservation with human development, and promoting the participation of local populations in the management of protected areas.¹¹ This has resulted in a change of analytical paradigm, reinforced by the emergence of the concept of ‘bio-cultural diversity’ in the 1990s, which is based on the recognition that there is a link between biological and cultural diversity (Posey 1999).¹² This is partly why we now see a proliferation of ‘nature–society hybrids’ in the world of conservation (Zimmerer 2000) which recognise that sustainable use of biodiversity and natural resources can be compatible with conservation.

In South America, the inclusion of indigenous peoples and peasant communities in conservation efforts, recognising the contribution of their traditional activities in sustaining biodiversity, has been increasingly promoted by international conservationist organisations. However, this tendency contrasts with the increasingly weak role of the state in the management of protected areas as a result of privatisation and deregulation policies that have tended to benefit both the legal and the illegal private sector (Nelson and Sportza 2000). Under these conditions, there is persistent uncertainty about the efficiency of protected areas in integrating conservation with long-term local development.

An in-depth analysis of case studies in protected areas carried out by the Swiss National Centre of Competence in Research (NCCR) North-South (Galvin and Haller 2008) showed that participatory conservation is possible if it brings economic and political benefits to the local people(s) involved. However, it also showed that the paradigm shift towards more equitable and efficient implementation of protected areas through participation is far from complete.

The objective of this article is to describe the processes, problems and potentialities that emerged from inclusion of indigenous peoples in the governance of four protected areas, two in Bolivia and two in Peru. This analysis led to the identification of four critical points that must be addressed when seeking to reconcile conservation with development in the South American context: 1) the discontinuities between formal legal frameworks and local practice in the management of natural resources; 2) the difficulties of integrating conservation with economic activities; 3) the challenge of establishing an intercultural dialogue between the actors involved; and 4) the ambiguous position of the state.

3.2.2 Analytical framework and methods

Our analysis contains several theoretical references under the broad heading of political ecology, taking an approach based on institutionalism that focuses on the management of common-pool resources (Ostrom 1990) as a starting point. Furthermore, the case studies were analysed using an actor-oriented approach (Long 1992; Wiesmann 1998) that focused on different actors' perspectives on resource management as expressed in their discourses, narratives and practices. This actor-oriented approach was given further depth by theoretical contributions from ethno-science (Atran 1991; Rist and Dahdouh-Guebas 2006) which helped to understand how actors construct their discourses, narratives and practices using specific forms of knowledge and perceptions of the relationship between society and nature.

Finally, the governance-analytical framework, which refers to the way the management of protected areas is shaped by formal and informal norms that are the result of interaction among the actors involved (Hufty et al 2007; Galvin and Haller 2008), made it possible to identify the continuities and discontinuities between the case studies in a joint interdisciplinary exercise.

The research was carried out in four protected areas (Figure 1) that are part of a 'hotspot' of biodiversity in the area of transition between the Andean mountain ranges and the Amazon plains. These case studies were selected in order to represent a broad spectrum of geographical, cultural, political and economic contexts, including lowland as well as highland areas, Andean and Amazonian indigenous peoples, and different Bolivian and Peruvian political and economic contexts. Moreover, the selected areas reflect different stages in the consolidation of protected areas, from areas created 40 years ago, such

Protected Areas and Studied Areas in Bolivia and Peru

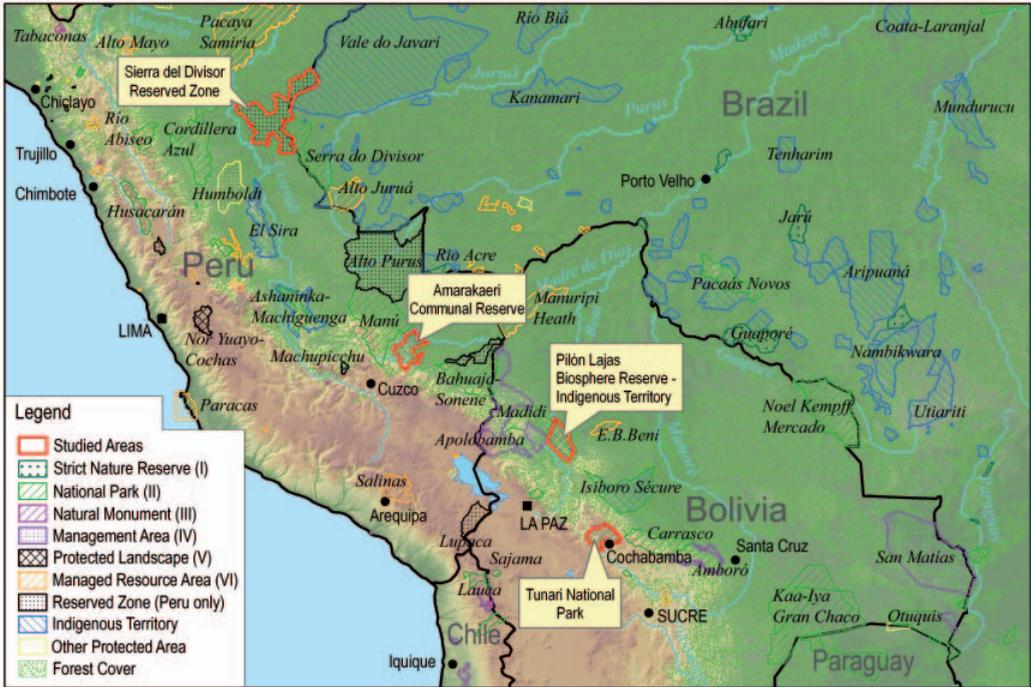


Fig. 1
Location of the four study areas in a hotspot of Andean biodiversity. (Map by Sébastien Boillat; source of data on protected areas: UNEP-WCMC and IUCN 2006)

as the Tunari National Park (TNP), to areas still in the process of implementation, such as the Sierra del Divisor Reserved Zone (SD-RZ). The main actors involved in the four case study areas were state representatives, indigenous peoples, conservationist organisations, and extracting companies.

32.3 Results

32.3.1 The Pilon Lajas Biosphere Reserve and Indigenous Territory: between market and conservation rationale

The creation of the Pilon Lajas Biosphere Reserve and Indigenous Territory (Pilon Lajas) in 1992 was a response to a joint demand from indigenous populations (Tsimane’ and Mosekene) and from a Bolivian non-governmental organisation (NGO) involved in agro-ecology. When the Agrarian Reform Law (INRA Law) was adopted in 1996, the 400,000 ha of the reserve were regularised through a collective and homogeneous land title in the name of a

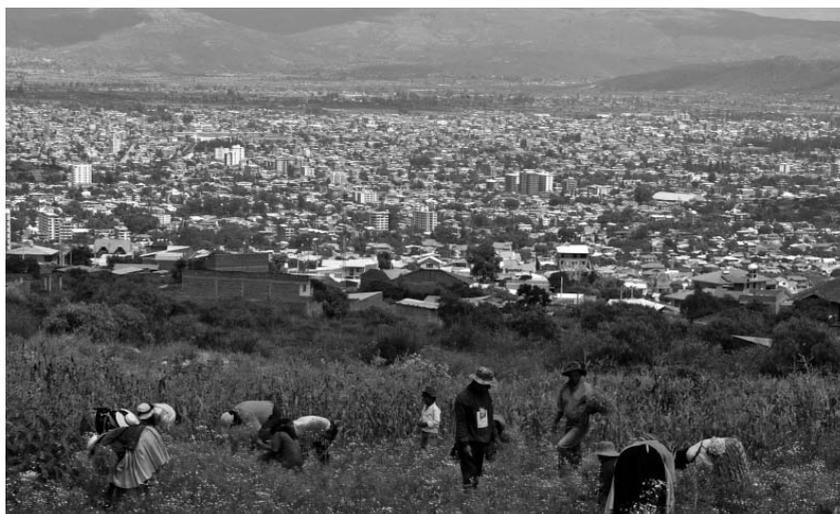
single and unique indigenous political instance, apart from local communities. This way, Pilón Lajas became an area where resource use was restricted, leading to a ‘double denial’: on the one hand, the restrictions deny the effective and growing influence of a strong lumber market in which indigenous people participate, and on the other hand, the collective title denies the need expressed by these people for greater land security at both community and individual levels (Bottazzi 2008). This situation of ‘double denial’ favours open access to forest resources in the name of integrated conservation. The absence of alternatives to an exaggeratedly collectivist vision of property over space, emanating from the ‘new conservationist essentialism’, leaves openings for the introduction of a fundamentally proprietary paradigm subject to market rationale.

32.3.2 Misunderstood worlds: urban dreams and rural struggles in the Tunari National Park

The Tunari National Park (TNP) was created in 1962 to halt the expansion of the city of Cochabamba towards the hillsides and to protect the city from natural disasters. In 1991, the current legal framework was established, prohibiting grazing and restricting agricultural and forestry activities in the 300,000 ha allocated to the Park. Over 385 Quechua peasant communities live in the TNP. They were not consulted about the creation of the Park; they opposed the legal framework and impeded its implementation, with the exception of an area close to the city (1% of the total area of the TNP). In this same area, however, the TNP has not managed to prevent illegal trafficking in land destined for urbanisation. Peasant organisations regulate the local management of natural resources through productive and social practices sustained by principles of integrality, diversification, respect and reciprocity, while maintaining high ecosystem diversity (Figure 2). These activities reflect a concept of unity between society and nature, characterised by a spiritual relationship to the land.

The government of the Department of Cochabamba – which administers the TNP – and the conservationist organisations of Cochabamba insist on strict protection of the area. Biodiversity specialists at the local university see the TNP as an opportunity to promote conservation of native forests. Both of these actors propose a separation between economic and social development and natural and recreational areas, a suggestion that contrasts with the peasant concept of a society–nature relationship (Boillat et al 2008). The TNP’s classification as a National Park entails a superposition of the rights of the

Fig. 2
Urban dreams and rural reality: Quechua peasants from the area of the Tunari National Park harvesting flowers to be sold in the city of Cochabamba. (Photo by Sébastien Boillat, 2006)



national state over the legal tutelage of local political authorities (municipalities) regarding the management of natural resources. At the same time, peasant organisations propose autonomous management of resources based on the rights granted to them by the Agrarian Reform Law.

In the wake of the change of government in Bolivia and following implementation of a partnership project¹³ supported by the NCCR North-South, some conservationist organisations began to recognise the role of the peasant population in biodiversity management in the TNP. The peasant organisations, for their part, declared themselves in favour of a change in the legal framework for the area to permit traditional agricultural activities. However, other conservationist actors fear that such a change would make the area more vulnerable to land trafficking.

32.3.3 The Amaraeri Communal Reserve: co-management and uncertain partnerships

The Amaraeri Communal Reserve (ACR), extending over 400,000 ha, was created in 2002 owing to the ecological and cultural value of the area it covers. It was the result of a process of indigenous political self-determination through conservation, promoted by indigenous organisations with NGO support. The Harakmbut, Matsiguenka and Yine communities are estab-

lished on the outskirts of the reserve. Their representatives constitute the Executor of the Management Contract (EMA) and have signed a co-management contract with the state. The ACR legal framework permits hunting, fishing and harvesting activities, whereas commercial activities such as logging and gold extraction are not allowed. However, illegal continuation of the latter in the area has not been completely halted. These activities are the main source of income for groups of settlers, lumberjacks and miners, mainly from the Andean areas, who prioritise short-term economic development.

Contact with the market economy has led many indigenous people to become involved in these activities as well, mostly in a situation of indebtedness and disadvantage (Alca 2008). Some indigenous people, especially youths and those more closely linked with the market economy, had great expectations regarding economic benefits from the ACR; they became disillusioned, for example, with the inefficiency of a multi-communal ecotourism company. For this reason, some indigenous people perceive the ACR as a limitation that has mainly benefited those defending the interests of conservation. The problem is aggravated by the ambiguous position of the state, which is encouraging conservation on the one hand and promoting policies focusing on extraction of natural resources on the other. In 2005 the state granted a concession for exploitation of hydrocarbons (Lot 76) that covers the entire territory of the reserve and neighbouring areas (Álvarez et al 2008). This situation shows the permanent uncertainty in which the co-management of the ACR has been implemented.

32.3.4 Are conservation and sustainable development incompatible? The Sierra del Divisor Reserved Zone (SD-RZ)

The Sierra del Divisor is the only mountainous region in the lowland jungles of Peru, on the border with Brazil. In 2006 this area covering 1,400,000 ha was classified in the transitory category of 'Reserved Zone', for the purpose of protecting its biodiversity and endemic species as well as providing greater protection for the Isconahua indigenous group living in voluntary isolation within the area. The question of the final classification of the area opened up a process of negotiation between the state and the different actors. During the classification process, indigenous federations expressed their profound discontent with the work of some conservationist institutions; the latter were seen as making money in the name of indigenous peoples or the environment without generating concrete benefits. The federations shared the view of other local population groups that they would get no benefit from a protected area.

The predominant impression among indigenous people was one of expropriation; they felt that classification as a protected area would mean a ban on the use of forestry resources and would pose an obstacle to their territorial demands (Oliart and Biffi 2009). Conservationist organisations recognise the sustainability of traditional indigenous practices, but do not consider indigenous people capable of resisting pressure from logging companies that hire them or bribe their leaders. In fact, there are many signs in the area of illegal felling by settlers and indigenous people hired as cheap labour. The state – i.e. the actor with the greatest decision-making power regarding the SD-RZ – has assumed an ambiguous position that is clearly perceived as such by the different actors. On the one hand, the state takes measures to protect biodiversity and indigenous rights; on the other hand, it offers excellent conditions for extracting companies. For example, a contract for petroleum extraction has been granted on two lots (135 and 138) that overlap with the area of the SD-RZ. In conclusion, the case of the SD-RZ demonstrates the absence of an alliance between conservationist organisations and indigenous peoples, as well as the conflictive and ambiguous relationships that exist between the state and other actors.

32.4 Synthesis

32.4.1 Discontinuities between normative frameworks

In the cases of the ACR and Pilón Lajas, the new paradigm of including indigenous peoples in conservation efforts is explicitly and officially expressed in the formal legal framework. In the case of the TNP, the contribution of the peasant communities to biodiversity conservation has only very recently been recognised, and formal regulations have not yet been updated. The case of the SD-RZ shows the inverse tendency to apply a more rigorous category of conservation which restricts participation by indigenous people in its management, in line with the conservationists' 'new enclosure movement' (Pimbert and Pretty 1995).

All cases showed that formal regulations are usually very ineffective, regardless of the stage of consolidation of the protected area. In the cases of the ACR, Pilón Lajas and the SD-RZ, this is reflected in lumber extraction and illegal mining activities, which are not traditional activities of the indigenous populations. By contrast, in the case of the TNP, it is the banning of traditional activities that would be too conflictive to be applied in practice.

In all cases, informal regulations of access to land and resources prevail at the local level, showing a clear lack of continuity between the formal legal frameworks and local practices. These discontinuities are expressed in the superposition of contradictory norms from different sectors (conservation, land tenure, logging and mining) and at different levels (national, sub-national, municipal and local). As a consequence, even 'inclusive' conservation policies cannot be merged into an integral framework for the regulation of access to natural resources, and no authorities are clearly designated for the different levels of decision-making.

32.4.2 Conservation and economic activities

In the cases of the ACR, Pílon Lajas and the SD-RZ, the involvement of indigenous communities in illegal activities is clearly linked to the strengthening of their relationship to the market economy, particularly through contact with the population of settlers and immigrant extraction workers. In this framework, extraction of resources continues to be the most attractive economic activity for them, despite its illegality and the subordinate position of indigenous people in relation to other actors in the extraction value chain (Figure 3).

This situation demonstrates that the protected areas have indeed failed to bring true benefits to the least powerful social groups, and that the economic integration of conservation has not been achieved. A similar phenomenon can be observed in the case of the TNP with the spread of illegal urbanisation, which has not been stopped.

These observations show that the models of incentives promoted by conservation policies, including alternative economic activities such as ecotourism or handicrafts, have little effect and provide insufficient benefits, given the weight and force of non-sustainable, extractive economic activities.

This situation raises the need for reflection on the relationship between indigenous communities and the market economy. The hypothesis which states that by entering the market economy indigenous communities are not following a rationale of creating and accumulating capital, but are hoping to ensure their subsistence and strengthen themselves in the face of external actors (Orozco et al 2006), deserves to be explored.



Fig. 3
A Yine woman
from the Comuni-
dad Nativa de Dia-
mante, a benefici-
ary of the Amara-
kaeri Communal
Reserve. She is
carrying a bag of
yucca to feed the
family. (Photo by
Jamil Alca Castillo,
2007)

32.4.3 From inter-relation to intercultural dialogue between actors

This analysis has demonstrated that a significant source of conflict in protected areas can be found in the different visions of the relationship between society and nature that prevail in conservationist and indigenous organisations. For many conservationists, the main purpose of protected areas continues to be the conservation of biodiversity, and in general it is biological criteria that drive their creation, as in the case of the SD-RZ. There is a tendency among some to idealise the traditional indigenous way of life as automatically being sustainable, while at the same time rejecting the role of indigenous people who have already entered the market economy in the conservation of biodiversity. In this setting, there is still a dual vision, of society with its economic development, on the one hand, and nature, which is to be conserved and where the ‘traditional indigenous’ is no more than an element in its preservation, on the other hand.

From the point of view of indigenous organisations, the conservation argument is mainly seen as a tool for obtaining territorial recognition, as in the case of the ACR and Pilón Lajas, where the indigenous communities do not necessarily prioritise the sustainability of their practices in a biological-

ecological sense. On the contrary, some indigenous organisations reject the conservation option when they see that this becomes a threat to self-determination where their territory is concerned. In this sense, if we acknowledge sustainability as a normative concept (Lélé and Norgaard 1996), the need to maintain self-determination over their territory and a diversified relationship between society and nature can be interpreted as an indigenous criterion of sustainability.

Finally, this analysis shows that partnership between conservationists and indigenous peoples has mainly been instrumentalised by both parties, as observed in other South American cases (Conklin and Graham 1995). This alliance has not been the result of an intercultural dialogue, where agreed forms of perception and valuation of natural resources and their dynamics are discussed, but rather of the mere identification of some specific common interests.

32.4.4 Position of the state

In the areas studied, it can be observed that the various processes for decentralising natural resource management can make local indigenous and non-indigenous populations vulnerable to external pressure to extract resources. The cases presented here have given greater visibility to the ambiguous position of the state: together with conservationist organisations, the state promotes conservation policies, but at the same time subordinates conservation to policies favouring non-sustainable extraction of resources by private companies. In this context, the state appears to be guided by short-term economic interests and thus unable to establish or apply an equitable regulatory framework for the protected areas. This situation generates distrust towards state-based regulations among the local population – whether indigenous, settlers or mestizo groups – and also among some conservationist organisations. This highlights the need to strengthen and to clarify the role of the state in creating spaces for negotiation and social control for the co-management of natural resources.

Endnotes

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¹ Sébastien Boillat is an environmental scientist with a PhD in Human Geography from the University of Bern, Switzerland. He has field research experience in Latin America in traditional ecological knowledge, intercultural dialogue, indigenous peoples, natural resource management and ecosystem diversity. He is currently working for the Swiss Agency for Development and Cooperation (SDC) as an associate expert in the fields of renewable energy and multifunctional rural systems in Matanzas, Cuba.

E-mail: sboillat@hotmail.com, sebastien.boillat@gmail.com

² Jamil Alca Castillo is a Peruvian anthropologist and a PhD candidate at the Graduate Institute of International and Development Studies (IHEID) in Geneva, Switzerland. He is also a research assistant for the Swiss National Centre of Competence in Research (NCCR) North-South. He has a Russell E. Train Fellowship and is associated with the Education for Nature Programme at the WWF. He also works as a consultant within his areas of interest, which include management of natural resources, protected areas, governance, indigenous peoples and social and environmental conflicts.

E-mail: jamil.alcacasillo@graduateinstitute.ch

³ Alex Álvarez is a Peruvian anthropologist specializing in indigenous resource management, governance, property rights and development. He is currently a PhD candidate at the Graduate Institute of International and Development Studies (IHEID) in Geneva, Switzerland, and also works as a research assistant for the NCCR North-South. He has a Russell E. Train Fellowship and is associated with the Education for Nature Programme at the WWF. He is also a research affiliate at People and Plants International.

E-mail: Alex.Alvarezdc@gmail.com

⁴ Patrick Bottazzi is a development sociologist. He recently completed his PhD at the Graduate Institute of International and Development Studies (IHEID) in Geneva, Switzerland, where he worked during 6 years as an assistant teacher and as a researcher. His work focuses on land tenure, institutions, natural resources management and indigenous peoples in the Bolivian Amazon.

E-mail: patrick.bottazzi@graduateinstitute.ch

⁵ Dora Ponce Camacho is an agronomist engineer with a MSc in Agroecology, Culture and Sustainable Endogenous Development. She is Lecturer at the Faculty of Agronomy of the Universidad Mayor de San Simón in Cochabamba, Bolivia, and responsible for academic training at the University Centre for Agroecology of Cochabamba (AGRUCO). Her research interests are sustainable management of bio-cultural diversity, governance, conservation of bio-cultural diversity from the perspective of indigenous and peasant peoples, and in-situ conservation of biodiversity.

E-mail: doraponce@agruco.org

- ⁶ Elvira Serrano is a PhD candidate at the University of Bern, Switzerland, within the Swiss National Centre of Competence in Research (NCCR) North-South programme. She holds a MSc in Agroecology, Culture and Sustainable Development in Latin America. She is also an agricultural engineer with more than 18 years of experience working with indigenous communities in Bolivia in the areas of research, education, and agrarian extension. She is currently supervisor of the research programme at the Asociación para el Desarrollo Sostenible (ADESO) in Cochabamba, Bolivia. She also teaches at the Faculty of Agronomy of the Universidad Mayor de San Simón. Her main interests are development issues related to ethically based economies, transdisciplinarity, knowledge management, ethical values, and bio-cultures.
E-mail: elviaserrano@hotmail.com
- ⁷ Valeria Biffi is a Peruvian anthropologist and holds a MSc in Culture and Society from the London School of Economics and Political Science. She is currently researcher at the Institute of Ethnomusicology of the Pontificia Universidad Católica del Perú, working in the field of conservation of audiovisual ethnographic archives. She also worked as a researcher at the Instituto del Bien Común (IBC) in Lima, Peru, in the field of protected areas, development and conservation in the Peruvian Amazon. Her research interests are visual anthropology, political ecology, visual history, and sustainable tourism, with special focus on the Amazon area.
E-mail: valeriabiffi@gmail.com, v.biffi@lse.ac.uk
- ⁸ Sarah-Lan Mathez-Stiefel is an anthropologist and ethnobiologist with extensive working experience in Latin America as well as Eastern and Southern Africa. She works for the Centre for Development and Environment (CDE), University of Bern, Switzerland, within the backstopping mandate of the BioAndes programme in Bolivia, Peru and Ecuador. She is currently concluding her PhD research on the transformations of local medicinal knowledge in the Andes.
E-mail: sarah-lan.stiefel@cde.unibe.ch
- ⁹ Peter Bille Larsen is an anthropologist and policy analyst specializing in social equity and environmental issues. He is currently finalizing his PhD dissertation on environmental governance in the Peruvian Amazon at the Graduate Institute of International and Development Studies (IHEID) in Geneva, Switzerland, and the École des hautes études en sciences sociales (EHESS) in Paris, France.
E-mail: peter.larsen@graduateinstitute.ch
- ¹⁰ Stephan Rist, University Lecturer in Human Geography at the University of Bern, Switzerland, specialises in agronomy and rural sociology. He is a senior research scientist at the Centre for Development and Environment (CDE), University of Bern, and coordinator of the Transversal Package for the Swiss National Centre of Competence in Research (NCCR) North-South.
E-mail: stephan.rist@cde.unibe.ch
- ¹¹ Key instruments in this respect include the 2004 Convention on Biological Diversity (CBD) Programme of Work on Protected Areas and the preceding Durban agreements; see Larsen and Oviedo (2005).
- ¹² For a complete review of key literature on the concept of bio-cultural diversity, see Maffi (2005).
- ¹³ This refers to a so-called Partnership Action for Mitigating Syndromes (PAMS), a programme component of the Swiss National Centre of Competence in Research (NCCR) North-South that serves as a vehicle for testing the practical application of development-oriented research results. PAMS are carried out by local organisations in cooperation with civil society and researchers of the NCCR North-South. Each project is designed to implement strategies developed jointly by researchers and local stakeholders. Based on a transdisciplinary approach to development research, PAMS aim at mutual learning and knowledge-sharing between academic and non-academic partners in sustainable development.

References

Publications elaborated within the framework of NCCR North-South research are indicated by an asterisk (*).

- * Alca J. 2008. Estrategias de gestión forestal y gobernanza local: el caso de la Reserva Comunal Amaraakaeri – Perú. In: Serna-Mendoza CA, Alvarez-León R, Rodríguez-López M, editors. *Desarrollo sostenible y medio ambiente: el pensamiento y las acciones estatales, universitarias, empresariales e investigativas al servicio de la sostenibilidad*. Manizales, Colombia: University of Manizales, pp 19–40.
- * Álvarez A, Alca J, García A, Galvin M. 2008. The difficult invention of participation in a protected area: The case of the Amaraakaeri Communal Reserve (Peru). In: Galvin M, Haller T, editors. *People, Protected Areas and Global Change: Participatory Conservation in Latin America, Africa, Asia and Europe*. Perspectives of the Swiss National Centre of Competence in Research (NCCR) North-South, University of Bern, Vol. 3. Bern, Switzerland: Geographica Bernensia, pp 111–144.
- Atran S. 1991. L'ethnoscience aujourd'hui. *Information sur les sciences sociales* 30(4):595–662.
- * Boillat S, Rist S, Serrano E, Ponce D, Delgadillo J. 2008. Struggling 'ontological communities': Transformations of discourses of conservationists and peasants in the Tunari National Park in Bolivia. In: Galvin M, Haller T, editors. *People, Protected Areas and Global Change: Participatory Conservation in Latin America, Africa, Asia and Europe*. Perspectives of the Swiss National Centre of Competence in Research (NCCR) North-South, University of Bern, Vol. 3. Bern, Switzerland: Geographica Bernensia, pp 37–80.
- * Bottazzi P. 2008. Linking 'socio' and 'bio' diversity: The stakes of indigenous and non-indigenous co-management in the Bolivian Lowlands. In: Galvin M, Haller T, editors. *People, Protected Areas and Global Change: Participatory Conservation in Latin America, Africa, Asia and Europe*. Perspectives of the Swiss National Centre of Competence in Research (NCCR) North-South, University of Bern, Vol. 3. Bern, Switzerland: Geographica Bernensia, pp 81–110.
- Brechin SR, Wilshusen PR, Fortwangler CL, West PC. 2002. Beyond the square wheel: Toward a more comprehensive understanding of biodiversity conservation as social and political process. *Society and Natural Resources* 15:41–64.
- Conklin BA, Graham LR. 1995. The shifting middle ground: Amazonian Indians and ecopolitics. *American Anthropologist* New Series 97(4):695–710.
- * Galvin M, Haller T, editors. 2008. *People, Protected Areas and Global Change: Participatory Conservation in Latin America, Africa, Asia and Europe*. Perspectives of the Swiss National Centre of Competence in Research (NCCR) North-South, University of Bern, Vol. 3. Bern, Switzerland: Geographica Bernensia.
- * Hufty M, Dormeier-Freire A, Plagnat P, Neumann V, editors. 2007. *Jeux de gouvernance: Regards et réflexions sur un concept*. Collection Développements. Paris, France and Geneva, Switzerland: Karthala and Institut de Hautes Études Internationales et du Développement (IHEID).
- Larsen PB, Oviedo G. 2005. Protected areas and indigenous peoples: The Durban contributions to reconciliation and equity. In: McNeely J, editor. *Friends for Life: New Partners in Support of Protected Areas*. Gland, Switzerland: International Union for Conservation of Nature (IUCN).
- Lélé S, Norgaard RB. 1996. Sustainability and the scientist's burden. *Conservation Biology* 10(2):354–365.
- Long N. 1992. From paradigm lost to paradigm regained? The case for an actor-oriented sociology of development. In: Long N, Long A, editors. *Battlefields of Knowledge: The Interlocking of Theory and Practice in Social Research and Development*. London, UK: Routledge, pp 16–43.
- Maffi L. 2005. Linguistic, cultural, and biological diversity. *Annual Review of Anthropology* 34:599–617.

- Nelson JG, Sportza LM. 2000. Evolving protected area thought and practice. *The George Wright Forum* 17(2):59–69. Also available at: <http://www.georgewright.org/172nelson.pdf>; accessed on 7 March 2003.
- * Oliart P, Biffi V. 2009. *Encuentros y desencuentros en los discursos sobre el futuro de la biodiversidad amazónica: territorialidad indígena, conservación y desarrollo para el progreso*. Informe taller temático interno. Oxapampa and Lima, Peru: Instituto del Bien Común.
- * Orozco S, García Linera A, Stefanoni P. 2006. *“No somos juguete de nadie”. Análisis de la relación de movimientos sociales, recursos naturales, Estado y descentralización*. La Paz, Bolivia: Plural editors.
- Ostrom E. 1990. *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge, UK: Cambridge University Press.
- Pimbert MP, Pretty JN. 1995. *Parks, People and Professionals: Putting ‘Participation’ into Protected Area Management*. Discussion Paper No. 57. Geneva, Switzerland: United Nations Research Institute for Social Development (UNRISD). Also available at: <http://www.eldis.org/vfile/upload/1/document/0708/DOC21521.pdf>; accessed on 14 July 2009.
- Posey DA. 1999. Introduction: Culture and nature – the inextricable link. In: Posey D, editor. *Cultural and Spiritual Values of Biodiversity: A Complementary Contribution to the Global Biodiversity Assessment*. London, UK: Intermediate Technology Publications, pp 1–18.
- * Rist S, Dahdouh-Guebas F. 2006. Ethnoscience: A step towards the integration of scientific and indigenous forms of knowledge in the management of natural resources for the future. *Environment, Development and Sustainability* 8(4):467–493.
- Stevens S, editor. 1997. *Conservation through Cultural Survival: Indigenous Peoples and Protected Areas*. Washington, D.C.: Island Press.
- UNEP–WCMC [United Nations Environmental Programme World Conservation Monitoring Centre] and IUCN [International Union for Conservation of Nature]. 2006. *World Database on Protected Areas*. 2006 Release. <http://www.wdpa.org>; accessed on 9 September 2009.
- Wiesmann U. 1998. *Sustainable Regional Development in Rural Africa: Conceptual Framework and Case Studies from Kenya*. African Studies Series. Bern, Switzerland: Geographica Bernensia.
- Zimmerer KS. 2000. The reworking of conservation geographies: Nonequilibrium landscapes and nature–society hybrids. *Annals of the Association of American Geographers* 90(2):356–369.