Spiritual values inspiring indigenous forest management

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Introduction

The significance of spiritual values for indigenous forest management (IFM) is increasingly recognised in the global quest for sustainable forest management. This article explores how and to what extent spiritual values influence the shaping of IFM. It does so through a study of literature on the subject, placing pertinent cases in a research framework constructed on the basis of the work done by Snodgrass and Tiedje (2008). In this framework four types of situations are identified: (1) Spiritual values inform indigenous communities' practices, with positive effects – either accidental or intentional – on the ecological environment. (2) The same, but with ambiguous and sometimes contradictory effects on the ecology. (3) There is a disconnection between individually held eco-friendly beliefs and the practices of communal or higher level institutions involved in resource management. (4) A trend towards reconnection sets in between growing individual spirituality and strengthening indigenous institutions for forest management. Cases illustrating the first category are the Highlanders of Cambodia, shamanistic environmental accounting in the Colombian Amazon, and bird augury in the Kantu' *swidden* agriculture in West Kalimantan. They show that spiritual beliefs may induce conservation and sustainable resource use, but especially in complex ecosystems such as tropical rainforests the relation is often only indirect. In other cases, here described for tribal communities in Nepal and India, belief systems may have both eco-friendly and environmentally destructive elements (category 2). The third category is illustrated by the case of the Mayangna in Nicaragua, where individual eco-friendly belief existed to a degree in the past but has largely disappeared from modernising institutions regulating resource use. The fourth category represents cases of reviving spirituality operating in tandem with reinforced institutions in a variety of ways, from native foresters' organisations in North America to grassroots movements such as the African Earthkeepers in Zimbabwe. It is concluded that (1) IFM has emerged as a serious concept in the 'formal' discourse on sustainable forest management, with the indigenous owners increasingly taking the lead; (2) some IFM systems show potential to grow into large-scale commercial businesses, which

necessitates rethinking the concepts; and (3) relating spiritual values to IFM remains a complex but necessary challenge.

Problem description

Since the early 1980s many new approaches to promoting local communities' active participation in forest management have been developed in tropical regions. As a result the various ways in which many local forest-dependent communities are actively managing their forest resources are increasingly recognised (Wiersum 1997). Such indigenous forest management systems (IFM) tend to differ in many ways from 'formal' (i.e. scientifically based) forest management systems. The actors are often farmers who in myriad ways interact with the forest-agriculture continuum for their living, whereas the terminology of 'scientific' forestry is mostly based on forests as separate units – although this is changing in currently developing approaches (cf. e.g. the Forest Landscape approach in Rietbergen-McCracken et al. 2008).

IFM systems are often said to be inspired by diverse values, including cultural and spiritual ones. In the last decade these values have increasingly become objects of formal research. This is in line with a worldwide academic search for systems of sustainable forest management that offer a balanced combination of ecological, social and economic goals. It accords with international agreements such as the 1992 Convention of Biological Diversity,[1] in which indigenous and local communities are specifically recognised as important stakeholders in biological resources.

It is now widely recognised that cultural and spiritual values have significance for IFM systems. The World Conservation Union, for instance, has established a Task Force on the Cultural and Spiritual Values of Protected Areas. They recently published *Guidelines for protected area managers on sacred sites* (Wild & McLeod 2008). In this regard Verschuuren (2007) has constructed a model for research into cultural and spiritual values. The International Union of Forest Research Organisations established a Task Force on Traditional Forest Knowledge (2005-2010), which is mandated to "increase understanding of the inter-relationships between traditional and formal (scientific) forest-related knowledge and catalyse potential synergistic application(s) to sustainable forest management".[2] They are currently

1 http://www.cbd.int/

2 http://www.iufro.org/science/task-forces/traditional-forest-knowledge/about/ (accessed 21 September 2008). In Europe the mandate to include social and cultural values in sustainable forest management was enforced by the so-called Vienna Resolution No. 3 (1993) of the Ministerial Conference for the Protection of Forests in Europe (MCPFE).

organising a series of regional conferences and preparing a state-of-the-art report on the subject by 2010. In addition, the programme of the Thirteenth World Forestry Congress in Buenos Aires (October 2009) deals with 'intangibility', 'adaptive management' and 'cultural influences' to a far greater extent than ever before.[3]

But as yet the significance of indigenous spirituality for the complex driving forces behind indigenous management processes is not properly understood. IFM is depicted by some as a 'holistic' alternative to forest destruction, while others are critical of the role of the underlying (spiritual) values and sceptical about their benign effects and the viability of systems inspired by these values. Combining the indigenous and formal systems is even more fraught with conceptual and ethical difficulties (see e.g. Van Leeuwen 1998).

Our premise is that IFM and its owners have a lot to offer the discourse on sustainable forest management; IFM's potential deserves to be thoroughly researched and documented with a critical, non-romanticising mind. In the process the role of spiritual values in IFM systems should be critically examined: there are indications that they are important for IFM, but to what extent is this true and, if so, what are their characteristics? How are these values translated into action (or not)? Could spiritual values meaningfully inform and enrich 'formal' sustainable forest management systems (without the risk of superficial 'cutting and pasting')? It is these questions that are the focus of this study.

The questions do not exist in a vacuum. As said before, spiritual values never work alone; they are linked with other values and conditions, which together inspire and drive communities in their interventions. A further consideration is that IFM systems and their underlying values rarely operate in isolation nowadays. They are increasingly subject to influences and processes from the globalising world, and can therefore not be separated from their context: the ecological system, economic factors, power balances, social interactions, et cetera. An important contextual feature is the question of the ownership and user rights of indigenous communities (also termed 'forests-dwelling and/or forest-dependent' people). The importance of the debate on land rights and politics can hardly be overlooked and reports show that indigenous and local people are winning ground: at least 370 million hectares or 22% of developing countries' forests are formally under community conservation (Molnar et al. 2007:275; RRI 2008:20). This, however, says little about the

3 See http://www.wfc2009.org/index3.html (accessed 21 September 2008). Section 7.2 of the conference programme is devoted to 'Native People, Communities and Institutions' with special subsections on Natural Resources Management Models', 'traditional knowledge, social, cultural and spiritual values', and 'traditional rights of indigenous people'. Other, mostly technical programme sections contain items such as 'intangibility', 'adaptive management', 'social and cultural influences', 'traditional uses' of non-timber forest products, etc.

situation on the ground, where issues of governance, legal arrangements, economic interests, religio-cultural concepts and even research agendas are often entangled.

IFM cannot be seen as static and unchanging. IFM systems and their underlying values – including spiritual values – are dynamic and adaptive to new developments from without and within (e.g. Michon 2000; Wiersum 2000; Grim 2001, Snodgrass & Tiedje 2008). This creates uncertainties as well as opportunities which we have to take into account.

To discuss the foregoing questions we make use of Snodgrass and Tiedje's seminal analysis (2008) of the current debate on indigenous nature reverence and conservation. I will fill in their excellent framework for discussion with recent information and literature on IFM. From this I draw conclusions about the significance of indigenous spiritual values for sustainable forest management.

Scope of the paper

The subject of the study lies at the intersection of several theoretical and practical discourses. On the one hand there are discourses about indigenous perceptions of nature and forests, indigenous ways and modes of knowing, and the challenge to articulate these perceptions and epistemologies in the face of 'formal' knowledge systems. On the other hand there is the debate among 'formal' scientists to incorporate and operationalise cultural and spiritual values in sustainable forest management. The subject is closely related to the discourse on sacred lands and biodiversity conservation. However, while sacred lands and conservation areas are usually more or less exempted from economic use, we focus principally on the (sustainable) *use* of the ecosystem, even if it includes non-intervention (e.g. for restorative purposes). Admittedly the boundary between the two discourses is not clear-cut and we shall therefore include the issue of sacred lands when it arises in the discussion of management aspects.

When discussing IFM we cannot deny the fundamental importance of land tenure and user rights for the survival of indigenous people. Indigenous peoples' social and political struggle for land and access to resources is fundamental to their survival, both spiritual and physical. This discourse is dynamic, vastly documented and has many ramifications. However, in this paper we confine ourselves to elements of spirituality that feature in it.

Finally, it hardly needs explaining that while focusing on forests, we do not limit ourselves to timber production only. In keeping with the currently evolving forest landscape approach, our concept of forest management includes all uses of forests for human livelihood, including hunting, gathering of non-timber forest products, shifting cultivation and agroforestry, in natural as well as planted forest ecosystems. In this connection we touch on the discourse on

indigenous or traditional knowledge and technology. Here again our discussion is restricted to spiritual elements. What we do include, though, are the respective ways in which indigenous people and formal scientists articulate knowledge.

Definitions

For the definition of 'indigenous', 'sustainable' and related terms I refer to the introductory section of this book. It should be noted, though, that in this article the term 'indigenous people/population/groups/communities' refers especially to those indigenous individuals and communities who either dwell in forests or live outside forests but depend on them for their livelihood, and who actually make direct interventions in forest ecosystems or used to do so in the past.

In addition, the following terms specifically related to the subject of IFM need clarification:

- *Traditional Ecological Knowledge (TEK):* "the culturally and spiritually based way in which indigenous peoples relate to their ecosystems. This knowledge is founded on spiritual-cultural instructions from 'time immemorial' and on generations of careful observation in an ecosystem of continuous residence" (Native American activist Winona LaDuke in Brosius 2001:128). According to Berkes (in Wiersum 2000:22), TEK consists of three interrelated components: beliefs about the human-environment relationship, biological knowledge, and management/extraction practices.
- *Forest management:* planned interventions in the forest ecosystem with one or more defined purposes and with a view to sustained achievement of these purposes. Non-intervention can be an element of forest management as well.
- *Sustainable Forest Management*: While sustainable forest management may be defined in different ways, it is widely accepted – and laid down by the International Tropical Timber Organisation (ITTO 2005) – that sustainable forest management concerns the following aspects: (1) extent of forest resources; (2) biological diversity; (3) forest health and vitality; (4) productive functions of forest resources; (5) protective functions of forest resources; (6) socio-economic functions; (7) legal, policy and institutional framework (Liang et al. 2007:6).
- *Indigenous Forest Management (IFM)*: "Forest management systems are referred to as indigenous, when they are primarily based on local experience of [indigenous peoples'] 'local world', that is, perhaps, most important to them" (Singhal 2000:133).
- *'Eco-spirituality'*: in accordance with the general definition of spirituality in the introduction to this book, 'eco-spirituality' is here defined as the belief in and interaction with spiritual beings that inspire people to intervene or not intervene in their natural environment in certain ways. In this definition, 'spiritual beings' may or may not be perceived as separate from the 'natural

environment', depending on the worldview of the people concerned – animistic or other. For a definition of animism, see footnote 5.

IFM in recent anthropological discourse

Indigenous worldviews, cosmologies and perceptions of nature have long been the subject of anthropological research (see e.g. Grim 2001; Snodgrass & Tiedje 2008:6-7). Many studies reveal reverence for environmental phenomena such as mountains, trees and animals as living, personified beings; the same reverence is extended to a vast array of supernatural beings that feature in these cosmologies as active elements with which humans are thought to be connected in manifold ways.

Whether these cosmologies and corresponding spiritual values have encouraged conservational attitudes or just the opposite has been the subject of intense scholarly debate, which has become increasingly polarised in recent times. In order to overcome what they call the 'unnecessary dichotomy' between 'romanticising' the indigenous reverence for nature and the over-simplified, outright rejection of it, and to do justice to the "subtle life experiences and complex cultures of the indigenous peoples", Snodgrass and Tiedje (2008:9ff) propose seven ways out of the deadlock:[4]

1 There is tremendous diversity in outlook, worldviews and practices across indigenous societies, which scholars should take into account.
2 We should make a clear distinction between animistic[5] religious thought and behaviour on the one hand, and conservationist thought and action on the other. Indigenous peoples conceive of their environment according to specific animistic frames of reference (e.g. they perceive environmental phenomena as animate), while this is not always congruent with conservationist thinking. Likewise we should distinguish between knowledge models of how the world is perceived and ethical/axiological models of how we should act in it;

4 The authors refer to 'conservation' instead of 'forest management'; however, since they define conservation as "actions or practices consciously designed to prevent or mitigate resource over-harvesting or environmental damage (Smith and Wishnie 2000)", there is little difference from the common understanding of sustainable forest management. They also use the two terms interchangeably.

5 Snodgrass & Tiedje (2008: 6) describe Animism as the personification by indigenous peoples of their environments, "treating both their lands and the non-human denizens occupying those lands as persons to be related to as cognizant and communicative subjects rather than as inert of insignificant objects". They write Animism with a capital A in order to place indigenous religions on the same footing as other 'world religions' (adjectival and adverbial forms take a lower case 'a'). Obadia (2008: 123), following Philippe Descola (2005), defines Animism as "a widely shared framework of ideas and practices based upon the continuity between humans and nature, rather than a distinct religious system".

3 There is tremendous diversity of 'cultural' models in societies; rational structures and practice are not shared equally even by individuals in the same group;
4 Individuals in indigenous societies vary (as in Western societies); so how are cultural (widely shared) ideas linked to collective arrangements (agents, norms, powers)?
5 This leads to the question how these collective arrangements are embedded: what meaningful institutions are in place to regulate collective action, in this case leading to actual conservation on the ground? The authors distinguish between three categories of conservation related institutions, all of which could in their opinion lead to de facto open access to resources and consequent degradation:
   - 'accidental' or 'epiphenomenal' conservation (Hunn 1982 in Snodgrass & Tiedje 2008:13): traditional ecological resource management contexts leading to conservation, arguably not as a result of conscious intention but of low population, limited technology and such like
   - mix of conservation and anti-conservation institutions: in that case rituals can be either ecologically beneficial (e.g. *bhil adivasis* in India, ritually closing off degraded land for further use till it has recovered) or detrimental (the same *bhil,* lighting fires as a 'gift to the gods', knowingly causing soil and forest degradation)
   - disconnection between individually held eco-friendly values and beliefs and lack of institutions which incarnate these values and beliefs. The Lakota Sioux are a case in point: spiritual values are cherished at grassroots level, strategically deployed in tribal politics at the intermediate level, and violated in favour of scientific and economic paradigms at the federal level (Pickering & Jewell 2008).
6 'Modern' or 'Western' conservation models are imposed on indigenous land by nation-states. These models are largely perceived by indigenous peoples as arrogant, instrumental, not in indigenous interests, and therefore not really legitimate. This has led to complex interaction between indigenous peoples and the global economy and world system. Noteworthy is the intrusion of 'world religions' in indigenous societies, leading to all sorts of syncretic religious systems with a bearing on the environment.
7 The authors point out the level or scale of (non-)conservation: individual commitment versus (lack of) collective action or arrangements. This in fact refers back to the last point of argument (5).

Research categories

While keeping in mind the important first four points, we shall structure the rest of this paper on the basis of items (5) (with its three sub-items) and (6). They concern the collective institutions in which spiritual values are translated

(or not) into behavioural patterns. This is the area most directly associated with the disciplinary field of sustainable/indigenous forest management. In the many 'formal' models designed in this field under various labels such as 'participatory forestry' and 'multi-stakeholder approaches', there is often a slot labelled 'worldviews' or 'indigenous belief systems' (see e.g. Wiersum 2000:25; Singhal 2000:136), on which this paper focuses.

When we look at Snodgrass and Tiedje's sixth argument – interaction with foreign dominant conservation systems – we see an obvious continuity with the previous item: such interaction often causes or aggravates the erosion of indigenous enviro-friendly institutions in a complex way. I therefore discuss the two categories in combination.

In addition I include a type of situation which seems to be under-explored by Snodgrass and Tiedje, namely when there is hard evidence that indigenous beliefs and institutions are both ecologically benign and intentionally conducive to a practical conservation ethic. This option comes close to the first point of item (5) ('accidental' conservation), but instead of 'accident' I presume an intentional translation of spiritual inspiration into ecological action. While anthropologists may have found little evidence of such intentionality in the past, there are signs of direct indigenous inspiration of ecological behaviour in recent times. The African Earthkeepers (see below) are a case in point. As we shall see, this case also relates to item (6): the indigenous belief system mingles to a degree with the originally 'foreign' system of Christian churches, but the resulting new institutions pressing for eco-friendly behaviour are powerfully informed by indigenous spirituality. This case therefore exemplifies a step beyond item (6): reconnection after disconnection.

To sum up, the following types (or categories) of situations will be discussed:

- One: spiritual values in line with ecology, accidentally or intentionally
- Two: spiritual values with ambiguous effects on conservation
- Three: disconnection between individual 'eco-spirituality' and institutions
- Four: re-connection between individual 'eco-spirituality' and institutions.

The first type will be discussed with reference to evidence from three indigenous peoples who practise, or used to practise, animistic rituals directly bearing on their interventions with forests: the Highlanders in Cambodia, the Yukuna and Tanimuka in the Colombian Amazon, and the Kantu' in Borneo. The second type will be illustrated by cases from Nepal and sacred groves and trees worldwide. 'Disconnection' is exemplified by the Mayangna of Nicaragua, and 'reconnection' by many North American First Nations organisations as well as the African Earthkeepers of Zimbabwe. I end with some conclusions referring back to the research question.

Category one: in line with ecology

Highlanders make up three quarters of the population of Ratanakiri province, Cambodia. Many Highlanders rely exclusively on the forest to survive. Following the opening up of the area since the 1990s, logging, land grabbing and cash cropping resulted in severe loss of forest resources, against which the Highlanders initially had little defence. However, NGOs and researchers started to train them in land mapping and documenting their local knowledge so that their self-esteem grew, and their legal situation gradually improved. When the researchers came into the area, they found that the communities had "a very clear mechanism for using their natural resources and protecting them". Spirit forests featuring in this mechanism were protected since, according to a villager, "if you cut down a tree from the spirit forest, something bad will happen". Scientific inquiry revealed that these spirit forests would not regenerate if they were cut. The soil was not fertile enough and the area was too exposed to wind and rain (The Communication Initiative etc. 2003). Here the spiritual beliefs appeared to accord with ecologically sound practice. This case corresponds with many instances of sacred forests all over the world where spiritually sanctioned protection coincides, consciously or unconsciously, with ecological protection.

Whereas in the Ratanakiri case the spiritual element is predominantly passive and only warns against (wrong) action, studies by Reichel (1992) in the Colombian Amazon reveal spiritual belief inspiring action. Reichel (1992:404) describes indigenous people's interventions in the natural environment (which includes the supernatural world) as "shamanistic concepts of environmental accounting". She sees shamanism as "a political and religious technique for managing societies through certain ritual performances, myths, and worldviews such that a community respects the natural environment and community life as a social common good." Shamanism is still the basic worldview of more than 30 million Amerindians in Latin America today (Reichel 1992:402). Reichel gives a detailed account of the shamanistically informed management practices in two isolated Colombian indigenous chiefdoms, Yukuna and Tanimuka in the northwest Amazon region. These communities still entertain a worldview in which the supernatural 'owners' of natural phenomena such as animals, rivers, trees and places need to be informed and compensated if humans want to use their resources (e.g. kill a tapir). Shamans have the skills to negotiate prices and see to it that the resource is not depleted, the penalty being calamities befalling the group. Thus they are crucially important for group survival. Shamanistic knowledge is highly specialised and combines vast ecological knowledge with the ability to 'travel mentally' through space and time. This enables them to adopt a long-term perspective, and so calculate the impact of interventions such as tree felling on forest regeneration. Shamanism

is embedded in a collective organisation and expressed in numerous rituals and an extensive mythology, which "encodes and expresses indigenous science" (Reichel 1992:422) and creates emotional links with and commitment to nature.

Since 1992 shamanism has lost ground in Colombia. Many shamans have died without passing on their knowledge; resource extraction by outsiders has increased, the general security situation has deteriorated, national parks and reserves have been established, and constitutional handing over of territory to Indian communities has swept up the political and judicial machinery.[6] The adjacent Tikunas, however, have retained much of their vast traditional ecological knowledge and reportedly follow the old ways that Reichel describes. They now share this knowledge with the National University in Bogotá in updated research programmes, in which they are the leading actors. The strength of this formula is proven by the fact that the Tikuna continue to monitor their resources and send data to Bogotá even now that the area is out of bounds for non-indigenous researchers because of security hazards (Verschoor, unpublished; Boot, unpublished).

What Reichel does not discuss is the *effectiveness* of the shamanistic approach. Obviously the 'eco-spiritual system' (my term) as a whole has survived and perhaps thrived for prolonged periods till recently, but that does not explain the success or lack of success of the spiritual advice in detailed intervention decisions. While noting that, like everything else, standards of 'success' are culturally determined, some indicators are arguably fundamental for the survival and well-being of the individual or the group. Does heeding shamanic advice correlate positively with success in hunting, high agricultural harvest rates, abundance of forest produce and the like?

This topic was discussed by Michael Dove (1999) in his studies of the Kantu' *swidden* agriculturists in West Kalimantan (Indonesia) in the 1970s and 1980s. He specifically looked into spiritual involvement in agricultural management decisions.[7] For centuries the Kantu' have practised *swidden* rice agriculture in a rainforest ecosystem, which is one of the most variable and unpredictable environments in the world. A key success factor in the annual *swidden* cycle is the selection of favourable sites – not too dry, not flooded for too long. This risky decision, on which people's survival depends, is often

6 The Colombian constitution was rewritten in 1991 to outline broad rights for indigenous people, including recognition of their traditional leadership in their territories, direct budget transfers for their own educational and health systems, and the stipulation that indigenous groups have to be consulted about decisions that affect them, such as mining or oil production projects in their territories. Ironically, shamans were not included in this process.

7 In this section I use the present tense, although the research took place about a generation ago and the tremendous changes since then must have affected the present Kantu' generation's culture and livelihood.

made by means of bird augury. According to traditional belief deities of the spirit world foresee events in human life and communicate them to the Kantu' by means of seven forest birds. The selection of a *swidden* field is made by the augurer traversing a proposed forest section and seeking favourable bird omens. He or she observes the birds and applies an intricate system of rituals and interpretation, leading to a positive or negative conclusion. Consequently the plot is either cultivated or abandoned for the year. Interestingly, Dove (1993:377) did *not* find an empirical correlation between the 'spiritually inspired' predictions and actual harvest results. Although birds did behave in certain ecological patterns as far as habitats, feeding and mating are concerned, these patterns did not correlate with "temporal or spatial variables critical to swidden success". Moreover, Dove discovered that the rules of augural interpretation – compounded by different augurers' subjective interpretations – effectively scramble any such correlation. So why do people continue to believe in augury and practise it?

In the first place, Dove argues that belief in augury systems is encouraged by the very fact that they are unpredictable. A direct relation between bird behaviour and harvest success would have undermined the system's supernatural character and the spiritual element would have been merely 'instrumental'. "It is precisely the impossibility of any such empirical connection that confers supernatural authority on the system" (Dove 1993:378, citing Aubert 1959). Secondly, in Dove's view the environmental irrelevance of the augury system does not render it meaningless. On the contrary, it has significant cultural meaning. The Kantu' undeniably have vast ecological knowledge of their environment, but given the extreme complexity of the Kalimantan rainforest ecosystem, they are not able to control all production factors. Their response to this structural environmental uncertainty is to diversify their strategies and cultivate a variety of fields each season, thus maximising their chances of success. The augury system enhances this strategy by giving it a symbolic and cultural (I would call it spiritual) underpinning. Thus it is in intrinsic contrast to modern science, which aims at systematising and converging forest management in definite 'rules'. In fact, Dove commends the Kantu' for their clear distinction between 'rules' and 'system'. Rules are pursued by science, which tries to systematically and limitlessly develop one 'best' strategy (e.g. for sustainable tropical forest management). The augury system, by contrast, aims at plurality and diversity of strategies to cope with always imperfect knowledge and an ever indeterminate environment, and thus ensures better adaptation to it. "The Kantu' augural system links ritual to ecology not just instrumentally, but also symbolically and pedagogically" (Dove 1993:1).

Category two: spiritual values with ambiguous effects on conservation

There is ample evidence of the extensive role played by trees, forests and forest products in Nepal and India, both in the dominant Hindu and Buddhist religions and in the manifold animistic traditions on the subcontinent (e.g. Gupta 1971; Majapuria & Joshi 1988; Nugteren 2005). It is hotly debated, though, whether this apparently omnipresent nature reverence[8] actually leads to conservation and judicious resource management (Agarwal 2000:165ff); Narayan 2001:195ff; Nugteren 2005). To illustrate the ambiguity in 'eco-spiritual' indigenous institutions, Snodgrass and Tiedje (2008:13) sketch the case of the *Bhil Adivasis* in India. Their elders ritually close off degraded forest lands from further use for up to five years or more, which allows them to recover. On the other hand they also perform 'fire bath' rituals: setting fire to hillsides as a gift to the gods in order to obtain certain benefits from them, although they know that such fires can severely damage trees and soils. Here I describe some cases to more detail. They all come from the Indian subcontinent, but there are parallels with many other places in the world.

Nepal[9] is the scene of a wide array of spiritual beliefs and rituals pertaining to forests and trees. The Scottish forester Andrew Ingles (1997) studied their influence on forest conservation in Nepal, concentrating on the management and condition of 'religious forests'. His findings confirm Snodgrass and Tiedje's second point, namely that the primary purpose of religious forests is not necessarily biodiversity conservation or soil protection, but to provide a sacred landscape and products for religious purposes. Conservation or sustainable forest management is not always achieved either. The rules governing the management of religious forests usually prohibit the use of the overstorey (trees and higher shrubs), e.g. tree felling or pruning, but are often less rigid about the use of the understorey (e.g. collecting firewood, fodder or litter found in the lower shrub and ground-cover vegetation). Most religious forests are small, many are open in structure and their periphery is often under pressure from land users, although they are sometimes reforested. Ingles concludes that the direct contribution of religious forests to biodiversity conservation is insignificant in Nepal. However, he sees entry points for implementing community forestry systems in the institutions and organisations to manage both the performance of rituals and religious forests.

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8 Which is in itself debated as an intrinsic element of Hinduism (see e.g. Nelson 1998).

9 Nepal has been running one of the world's most advanced and widely documented community forestry programmes in recent years, systematically handing over state forests to local communities and arranging sustainable forest management systems with them.

Laird (1999:358) comes to more or less the same conclusions on sacred groves worldwide, and questions whether the complex traditions behind these areas can and should be operationalised as a tool for further conservation efforts. Rival (1999:362) warns that sacred groves and trees, rather than being the home of benign, protective deities, are frightful dwellings of untransformed ghosts with a powerful and dangerous life force. All these notions are reflected in Nugteren's summary of the debate on tree worship and sacred forests in India. While criticising the romanticised visions on Hinduism and Buddhism as a priori 'eco-friendly traditions' on the one hand, she points out that many sacred forests – especially in tribal areas – are still havens of biological diversity. She concludes that notions of 'the sacred' undeniably persist and are inseparably interwoven with material aspects of tree culture and management. She therefore argues for a contextualised, historically embedded, multi-levelled and unsentimental view when studying these issues (Nugteren 2005:363ff).

Such a view certainly applies to Obadia's description of spiritual practices vis-à-vis conservation among the Sherpas of Solukhumbu district in Nepal (Obadia 2008:116ff). The Sherpas' belief system can be seen as a combination of three magical/religious 'spheres': the animistic, shamanistic and Buddhist spheres. Shamanism presumes communication with supernatural forces/deities in nature; Buddhism propagates a protective attitude and divine power over nature ('avoid or minimise the killing of insects during ploughing'); and Animism underlies a worldview in which the world is full of spirits and natural forces with whom one can communicate. Sherpa farmers possess extensive traditional ecological knowledge (TEK). Contrary to expectation, however, this worldview and TEK do not always lead to conservationist behaviour. On the contrary, Obadia observes a paradox between 'protective' Buddhist attitudes and animistic perceptions of spirit-embodying forests on the one hand and socially induced forest destructive practices on the other. Not only were rare plants and animals all the more spiritually valuable (i.e. wanted for amulets) as they became rarer, but social drivers for well-being leading to cutting trees in 'sacred' forests for house-building or agriculture appeared to outweigh threats of supernatural revenge for this practice. The hereditary system involving continued subdivision of family land also led to opening up virgin land for cultivation. Forest destruction could even be directly attributed to religious practices, in that the Sherpas in this area favoured cremation which required lots of wood. In other words, two cultural codes applied to Sherpa society, one inducing the protection of spirited nature, and the other aimed at personal and social survival. These codes used to work in tandem, but the balance tilted in favour of the latter once 'development', tourism and Western-type nature conservation entered the area. In the ensuing complicated mix of 'old' and 'modern' values Sherpas sometimes reinterpreted their old traditions in terms of modern conservation. Thus they can be seen as playing on Western romantic

sentiments in order to assert their rights to land and benefits from the resources – in fact, the third category of the foregoing framework.

Category three: disconnection between individual 'eco-spirituality' and institutions

In many cases spiritual beliefs are still vigorous at the grassroots and family level, while community-wide arrangements or institutions supporting these beliefs have weakened or ceased to exist. Sometimes these beliefs have faded into history and only the places are remembered as 'sacred'. The forest-dwelling Mayangna (or Sumu) in Nicaragua, for instance, used to celebrate their most important festival, adolescents' initiation, by sending the youths to certain remote mountains. In olden times male youths were reportedly tested for their valiance and knowledge of nature as follows. First they were sent into the forest with the task of finding a rare medicinal plant. When they returned, the group had to go to a sacred mountain for the rest of their initiation. This must have been an important, if not the most important festival of the year. Most of the proceedings were secret, but some heavy beatings and ferocious 'fight-dance' performances seem to have topped the programme. The previously collected plants were then useful for healing, and the new initiate received a first name of his own (Von Houwald 2003:463-467).

Rituals like these have been documented throughout the world, and many of them show various ways of connecting with the natural environment on which the population depended. However, a lot of them have disappeared or were thoroughly transformed by the influx of outside forces, and the Mayangna were no exception. They were christianised by the Moravian brethren during the 19th century and pushed to inland forest areas by their neighbours from the coast, the nowadays far better known Miskito tribes. Despite this the Mayangna remained relatively isolated, subsisting mostly on agriculture, fishing and hunting, with which their religion and culture were closely connected.

Commercial forestry entered the area some 200 years ago, with companies occasionally employing Mayangna as day labourers. To the latter, however, the idea of commercial forestry was alien to their perception of trees as spirit-embodying entities closely connected with their identity and culture (Roper 2003:15; Thompson n.d.:8). Nevertheless 'formal' forestry became part of the regional economy and after its collapse in the Sandinista period (1979-1990) it was taken up with fresh enthusiasm. This involved the extraction of timber as well as non-timber products (charcoal, pine resin, tree seeds, etc.). Various models were implemented to let indigenous communities benefit more from these activities than formerly. Lately this has extended to the establishment of indigenous forest enterprises owned by the communities themselves. These

enterprises received support from the World Wide Fund for nature (WWF), Nicaraguan NGOs, URACCAN university, and funding from Germany and the USA. Lessons were learnt, especially in regard to the organisational setup, and despite many conflicts and hiccups the process of obtaining international forest certification was started in 2004.[10]

Category four: reconnection between individual eco-spirituality and institutions

Elsewhere we see similar emergent trends in indigenous forest entrepreneurship, specifically in Canada, the USA and New Zealand (for the latter, see e.g. Hammond 2003 on Maori owned forests). In Canada almost 80% of the First Nations (800 communities) live in forested areas covering a total of 1.4 million hectares. As part of its sustainable forest management policy the government has launched the First Nations Forestry Programme,[11] which has financed over 1 700 forest related projects in 460 communities, thus providing an economic base while retaining traditional ties with the land. In addition to training, employment creation, development of enterprises and new technologies, the programme has encouraged the use of traditional knowledge in decision making. Such knowledge emphasises the interrelationship between all elements of nature – of which humans are a part, not a steward or observer.[12] On the other hand, indigenous foresters have united in the National Aboriginal Foresters Association (NAFA). NAFA has initiated a strategy[13] which calls for a broad approach to forest management – the ecosystem approach – and for ample room for traditional lifestyles, including hunting and the 'cultural and spiritual use of resources'. What exactly 'spiritual use of resources' comprises is not specified in this strategy. It is a subject of debate among foresters: how should concern for spiritual values be translated into concrete management prescriptions? To answer this question, Lewis and Sheppard (2005) studied the Chaem First Nation of British Columbia. They found that the Chaem did not only derive material sustenance and cultural identity from the land, but also "a feeling of inward, spiritual security and sustenance" (Lewis & Sheppard 2005:917). They often retired to the woods to meditate and draw other forms of spiritual sustenance. While their deep roots in the land demanded respectful land use, it did not mean that areas had to remain totally untouched. Cautious

10 http://www.usaid.gov/our_work/environment/forestry/features_aug2004a.html and http://www.usaid.gov/our_work/environment/climate/country_nar/nicaragua.html (accessed 7 October 2008).

11 http://www.fnfp.gc.ca/ (accessed 7 October 2008).

12 Source: Canadian Council of Ministers, information leaflet 2008.

13 http://www.nafaforestry.org/roycom/roycom1.php#issue accessed on 1 June 2009.

partial cutting was even visibly preferred to abstinence, provided enough forest was left intact 'for other animals to survive'. In the Manitoba Model Forest Management plan spiritual values were linked to certain animal species such as moose and porcupine, and consequently measures for studies and protection were taken. In British Columbia the 2005 annual general meeting of the association of Registered Professional Foresters (RPF, now ABCPF) identified factors contributing to spiritual forest values. They found that spiritual values are intangible, difficult to measure, subjective, linked to a moment in time ('peak experience'), linked to certain 'places', influenced by religious and cultural perceptions and by urban or rural upbringing, changing with structural characteristics of the forest stand, and historically and ceremonially created.[14]

Whereas these initiatives were launched by or in close cooperation with the 'formal' sector, there have been signs of grassroots growth of spiritually inspired environmental movements in recent times as well. The best example of this is the Earthkeepers movement in Masvingo province in southern Zimbabwe (Daneel 2001). Here the impulse to restore vast stretches of degraded land in the country after the liberation war came from grassroots associations of spirit mediums who advocated land restoration and tree planting as a God-given task. People were mobilised to plant trees and behave respectfully towards nature in an almost 'military' campaign, nicknamed '*chimurenga* 2', after the liberation war in the 1970s (*chimurenga* 1) that sent the colonial rulers home. This is one of the most explicit cases of spiritual inducement to ecological action we have ever come across. I cite it here because, unlike the cases in the first three categories, here the inherited ecological/environmental consciousness was lost at an earlier point in time. There has been a disconnection from the past and an articulated reconnection when the time was ripe. Of course, one could argue that here, too, the spiritual heritage was not transmitted from the past unchanged. On the contrary, it was intermingled with Christian beliefs, organised through churches, and assisted by a white Zimbabwean advisor from a Christian missionary background (Daneel 2001). However, the churches accepted the spirit mediums (although some had difficulty doing so), and the advisor was accepted by the supreme deity through the oracle at a shrine in the Matopos. Zimbabwe became greener after that – hopefully it has retained some of its greenness in recent troubled times.

14 www.rpf-bc.org/agm48spiritual.html accessed on 9 March 2005 (not accessible at the time of writing)

Conclusions

All three cases in *category one* present a more or less positive relation between the spiritual and physical dimensions, although the correlation is not necessarily direct, and in the case of the Kantu' even overtly indirect at the 'meta' level. Spiritual beliefs generally go hand in hand with extensive traditional ecological knowledge (TEK) and can in fact not be separated from it. Perhaps there are grounds for the thesis that the more unpredictable the environment, the more strategically TEK and 'meta-TEK' are applied.

Category two presents perhaps the most intriguing situation, where spiritual inspiration leads to divergent and sometimes diametrically opposed actions. Apart from knowledge building, there will have to be dialogue to forge creative solutions between the different perspectives: those of believing community members, spiritual leaders, administrators and researchers. Detailed knowledge, alertness and respect are obvious skills anyone operating in this environment ought to master, and wisdom is a prudent addition.

As for *category three,* like the Mayangna, many indigenous communities lost their cultural and spiritual values when they were more or less forcibly pressurised into modern entrepreneurship. The transition from isolated subsistence producers to market-oriented entrepreneurs and scientific managers is obviously fraught with difficulties. However, we observe an overall upward trend in the development of indigenous leadership and responsibility for modern-day resource management. What is hardly ever reported, though, is whether the old beliefs in 'spirited' forests still play a role in this process. Pending further investigation, we might perhaps speak of a certain 'secularisation' of the indigenous view of forests. This is not to say that people do not believe in tree spirits any more, but like the Sherpas in the previous group, they will not attach importance to them when it comes to commercial use.

Category four, however, shows hope for the future. We have seen that indigenous foresters and grassroots communities take up the challenge of formulating ecological management systems on their own terms, basing these systems on what they perceive as spiritual values.

Ten years ago Van Leeuwen (1998) could only find a handful of examples where systems were recognised and respected in their own right by 'formal' organisations. Since then many pilot projects, models and cases have been developed in which IFM has been articulated, applied and reflected upon. The cases in this paper do not represent the whole spectrum. Perhaps the IUFRO Task Force will produce a more comprehensive overview in 2010. However, just as important is the fact that the indigenous people themselves have come to play a much more active role. It is no longer Western outsiders carrying out the research but the indigenous people themselves, who play an active role as researchers as well as implementers of IFM systems. IFM has therefore

acquired a slightly different meaning than before. It has shifted from local, more or less 'artisan' systems of management to larger commercial, indigenously driven systems that may even be geared to export. How spiritual values are incorporated into such larger systems is a new issue to be investigated. Certainly these values will continue to surface in ever new forms and conditions, alive as the forests themselves.

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