

Learning and Innovation in Commons Management: Cases from African Communities

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Abstract

This paper presents evidence that community-based enterprises, by innovating in their use of the commons, are contributing to both local and global “social learning” on ways to reconcile biodiversity conservation and poverty reduction. We argue that this is a key benefit of commons management in the African cases profiled in this paper: an indigenous fruit and medicinal tree domestication programme in Cameroon, a honeybee initiative in Kenya, and indigenous tree-based enclosures in Tanzania. These cases support the position that community-based enterprises use the commons in ways that build knowledge and capacity and that result in institutional innovation.

We are particularly interested in the ways in which the actors engaged in these cases are enhancing the awareness, capacity, and action to address transnational problem domains – specifically, biodiversity conservation and poverty reduction – while satisfying local social, environmental and economic goals. This paper builds on social learning research. Social learning refers here to processes that increase the awareness, capacities, and repertoires of action amongst actors in a social domain.

The paper answers the following research question: what evidence exists of social learning benefits from community-based enterprises innovating in their use of the commons? Through a case study analysis of three African community-based enterprises, we find that enterprises contribute to social learning by (1) identifying issues in innovative and systemic ways; (2) building bridges amongst diverse stakeholders; (3) practicing adaptive management throughout implementation; (4) taking action across boundaries and scales; (5) sharing lessons learned; and (6) building knowledge and capacity for institutional innovation. We conclude by outlining the circumstances under which social learning benefits are more or less likely to occur through innovative uses of the commons within community-based enterprises.

Keywords: *biodiversity conservation; poverty reduction; commons; community-based enterprises; social learning; innovation; Africa*

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INTRODUCTION

Reconciling the goals of biodiversity conservation and poverty reduction has been on the international agenda for decades (see Box 1 for definitions). These transnational problem domains are social, economic and environmental challenges facing society that require the involvement of actors in more than one country to resolve and affect populations across borders (Brown and Timmer 2006: 2). This paper explores how community-based enterprises, by innovating in their use of the commons, are contributing to both local and global 'social learning' on ways to reconcile biodiversity conservation and poverty reduction. We argue that this is a key benefit of commons management in the African cases profiled in this paper: an indigenous fruit and medicinal tree domestication programme in Cameroon, a honeybee enterprise in Kenya, and indigenous tree-based enclosures in Tanzania.

Box 1: Definitions of Poverty and Biodiversity

Poverty: "Poverty has traditionally been measured as a lack of income but this is far too narrow a definition. Human poverty is a concept that captures the many dimensions of poverty that exist in both poor and rich countries – it is the denial of choice and opportunities for living a life one has reason to value. The HPI – 1 – the human poverty index for developing countries – measures human deprivation in the same three aspects of human development as the HDI (longevity, knowledge and a decent standard of living).

Source: United Nations Development Programme, *Human Development Report 2003: Millennium Development Goals: A Compact among Nations to End Human Poverty* (New York: UNDP, 2003), <http://hdr.undp.org/reports/global/2003>

Biological diversity or biodiversity: 'Biological diversity' means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.

Source: Article 2, United Nations Convention on Biological Diversity, <http://www.biodiv.org>

Past research on the community-based enterprises focus on how the use of the commons provides for broader goals (Anderson et al. 2006) or enables the integration of local and scientific knowledge (Reyes-Garcia et al. 2007). This paper builds on "social learning" research (Botkin et al. 1979; Brown 1999; Clark 2001; Finger and Verlaan 1995; Milbrath 1989; The Social Learning Group 2001; Timmer 2004; Brown and Timmer 2006) and adopts a social learning lens in posing the following research question: what evidence exists of social learning benefits from community-based enterprises innovating in their use of the commons? Through case study analysis, the paper outlines six ways in which community-based enterprises contribute to social learning and the circumstances under which these contributions are more or less likely.

SOCIAL LEARNING

Social learning is defined here as the processes that increase awareness, capacities and repertoires of action amongst actors in a social domain (Brown and Timmer 2006: 3). As organizational and individual learning increases the capacities of organizations

and individuals, social learning increases domain capacities by enabling action on critical problems and involving many diverse actors with stakes in the problem-solving activities. The centrality of learning stems from the fundamental uncertainty about the nature and consequences of commons management and from the recognition that the knowledge and skills that are required to address these challenges are frequently incomplete and are shifting rapidly.

It has been widely accepted that individuals and organizations can learn, but the concept of social learning in larger social systems, including entire societies, remains controversial. Some scholars maintain that societies can and do learn, as indicated by fundamental changes in societal institutions and practices (e.g., Botkin et al., 1979; Milbrath, 1989, p. 89). Others question whether societies as entities can learn, though they argue that it is important “to identify the social groupings of individuals within which learning occurs, and the institutional forms that stabilize and transmit the resulting lessons” (Clark, 2001, p. 382; see also Brown and Ashman, 1999). We focus here on examining processes by which learning occurs within local and global problem domains. Domain learning can involve learning that originates at the individual and organizational levels and becomes embedded in changed perspectives and capacities at the domain level. This learning may influence the performance of the domain – referred to as first-order learning – or may revise domain frames, goals, norms, values, and ‘taken for granted’ expectations that guide choices and interpretations of events and ideas – referred to as second-order learning (Argyris and Schon 1996). Evidence of domain learning can be found in recorded changes in domain interactions, performance or perspectives.

Discussions of social learning in particular domains sometimes focus on “issue maturity” as a way of describing stages of the process (Zadek, 2004). At the earliest stage, “latent” issues may be perceived by a few actors in the domain and the evidence about issue causes and effects may be skimpy or controversial. At the “emerging” stage, there is wider political and media awareness of the issue and more evidence about its causes and effects, with some actors beginning to experiment with innovations to deal with it. The “consolidating” stage is characterized by the emergence of more voluntary initiatives, increasing acceptance of practices for dealing with the issue, and discussion of litigation and possible legislation as well as voluntary standards. At the “institutionalizing” stage, norms of practice are established and the key actors in the domain build responsiveness to the issue into their regular practices. As issues mature, new awareness, mental models, and behaviors are developed and built into the capacities of the domain and its members (Hoffman, 2001; Zadek, 2004).

Social learning in problem domains can be described in terms of processes related to issue evolution. This evolution is represented by the domain learning spiral presented in Figure 1. While different investigators use different terms to describe these processes, most include some version of four: (1) problem definition, (2) direction setting, (3) implementation and action taking, and (4) evaluation and revision (Brown, 1999; Eijndhoven et al., 2000; Zadek, 2004). Note that while these phases have a linear logic, it is not clear that they always occur in this sequence. Indeed, some investigations

suggest that at the local and national level these phases are shaped by interaction with many other forces, while at the global level the interaction of apparently non-linear national patterns integrates into a more linear process (Eijndhoven et al., 2000, p. 183).

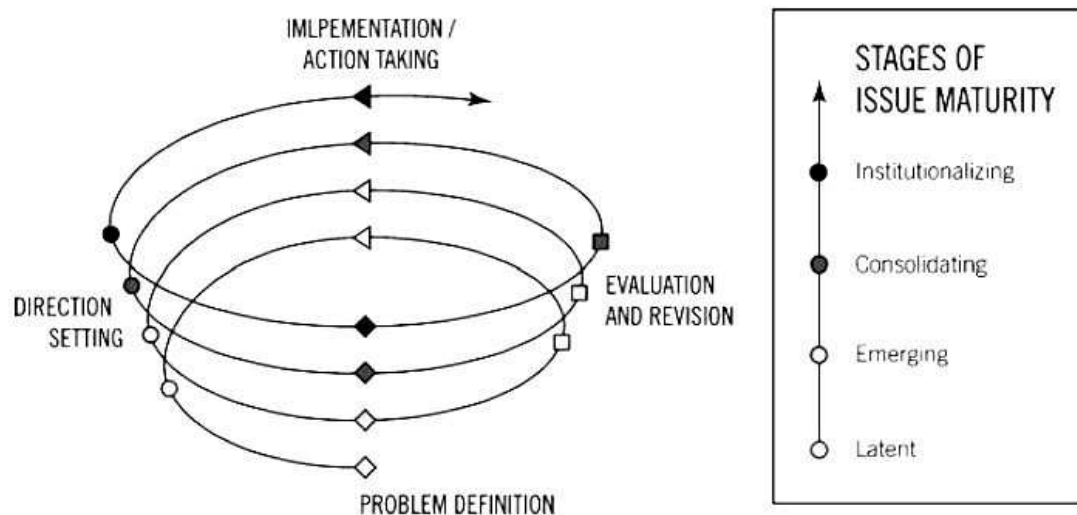


Fig. 1. A problem domain learning spiral and stages of issue maturity.

Problem definition is a knowledge-intensive phase, particularly when the problem is poorly understood or subject to radically different interpretations by different stakeholders. Issue framing in terms of overall concepts and values is central to the problem definition process, and frames may be radically affected by new knowledge and by stakeholders' efforts to articulate frames favorable to their interests. This phase also involves the initial stages of agenda-setting and the mobilization of stakeholders interested in the issue. In transnational domains, problem definition processes may take a long time and involve much controversy over the problem and its impacts, as in the cases of environmental risks or human rights issues. Problem definition moves an issue from latency into the emerging stage of issue maturity.

Direction setting processes build an agenda for action on the problem. These processes include coalition building across organizations, sectors, and countries among concerned stakeholders, issue analysis and risk assessment to create better understanding of options and consequences, and goal and strategy formulation across coalition members committed to problem-solving. This phase uses knowledge-intensive activities to create a base for the action-intensive activities needed for later phases of problem-solving.

The *implementation and action taking* phase builds on the wider awareness and improved understanding of the problem generated by earlier phases. Its activities focus on planning for action, capacity building, institution development, and eventually collective action on the issues. These functions can be action-intensive rather than knowledge intensive, since knowledge resources and institutional support for action have been created in earlier phases; however, frequently actors are faced with

uncertainty as to the consequences of their actions, and with incomplete information about the nature of the problem or the appropriateness of solutions. By adopting a learning approach, actors in a problem domain can practice adaptive management in which implementation is undertaken as a form of experimentation that enables learning from action (Lee, 1993; Rondinelli, 1983). The complexity of the implementation process varies by the types of actions adopted and the size and scale at which these actions are undertaken.

Finally, the *evaluation and revision* phase uses experience with early problem-solving activities to improve and institutionalize new awareness, norms, practices, and behaviors generated by the domain learning process. It includes first-order learning initiatives for error detection and operational learning from initial problem-solving activities. It may also involve second-order learning, which leads to an exploration of values, redefinition of the problem, and more strategic domain learning on the basis of that experience. Out of evaluation and revision activities emerge revised and reinforced responses to a mature issue as well as the recognition of newer associated issues that may require further domain learning. Complex problems may require multiple cycles of this learning process.

In Figure 1, the stages of issue maturity are portrayed in the progression to the right of the spiral. The figure suggests that actors in a problem domain may build knowledge and capacity at each stage of issue maturity, and spiral upwards and out toward improved understanding of the problem, wider inclusion of stakeholders, and enhanced problem-solving performance. Such domain learning expands the awareness and capacities of the domain to deal with problems in the future. On the other hand, not all domain learning is necessarily constructive. It is possible for domains to become locked in self-fulfilling cycles that make new learning and alternative actions very difficult, or for the process to spiral inward to narrowly-defined and less-inclusive solutions than those implied by the expanding spiral. The next sections introduce the three African case studies and then present the ways in which these community-based enterprises are contributing to domain learning processes at the local and global level in order to advance biodiversity conservation and poverty reduction.

AFRICAN CASE STUDIES

The three cases are linked to the following global programs: the World Conservation Union, the United Nations Development Programme's Equator Initiative, the World Agroforestry Centre (ICRAF), and the Alternatives to Slash-and-Burn Programme which it hosts.

Social Enterprise in Cameroon through Nurseries⁶

Farmer groups in Cameroon run tree nurseries to generate increased income for themselves and improve local biodiversity in the process. They have been cultivating trees – especially indigenous fruit and medicinal trees – to plant on their own land and sell to others. This case is a prime example of social learning across scales because these farmers learned the techniques and share it amongst themselves, because nurseries spread throughout Cameroon, and because lessons from this community-based initiative are being shared around the world.

We will explore the development and biodiversity benefits of these nurseries before turning to the social learning dimension. The nurseries provide a tangible source of income for the farmers involved. A farmers' group in the village of Lekie-Assie established its own nursery in 2001, after learning vegetative propagation techniques from the World Agroforestry Centre (ICRAF) in Yaoundé. For the Missé family, their life is far richer for the experience. "The plants we produce in the nursery have changed our lives," says Delphine Missé. "My husband has been able to build this house, and our eldest daughter who is 12 was able to join secondary school after completing her primary education. The school costs 260 000 CFA (USD 500) a year and it is because of the plants we sell that we can afford that... This year [2005] we earned more from selling plants than we did from our cash crop, cocoa" (ICRAF 2005).

In terms of biodiversity, the practice of agroforestry (or planting trees on farms) has long been hailed for its potential to enhance the biodiversity of the farming system. Additionally, they help secure the livelihoods of rural people, providing fruits for their diet and alternative medicines. Furthermore, planting trees has been shown to reduce slash-and-burn practices. They also act as a vital safety net in times of need. Indigenous trees and medicinals also add to the richness of the farming system, helping diversify the crop system and income opportunities. The value for medicinals is particularly clear, with the market for these products reaching well beyond the community. Farmer and nursery operator Richard Ndeugue notes that "researchers even come to me from Yaoundé asking for medicinal plants" (ICRAF 2005).

⁶ World Agroforestry Centre (ICRAF), (2005) 'Agroforestry in action' series, document reference 2005-11-Trees and Markets-African Humid Tropics
Degrande, Ann, Facheux, Charly, Mfoumou, CHimene, Mbile, Peter, Tchoundjeu, Zac, Asaah, Ebenezar, (2006) Research Note: Feasibility of farmer-managed vegetative propagation nurseries in Cameroon. Forests, Trees and Livelihoods, A B Academic Publishers, UK, Vol. 16, pp. 181–190.

There are clear development and biodiversity benefits from the nurseries, and they also provide the basis for social learning across scales. ICRAF began training farmer groups on tree propagation techniques in 1998. This training on participatory tree domestication was funded by the International Fund for Agricultural Development (IFAD) and consisted of sessions aimed at a variety of groups from farmers to NGOs and community-based organizations, national research institutes to extension organizations.

“Pilot nurseries were established in the different ecological zones of Cameroon – two each for the forest and humid savannah zones. These nurseries were to test and evaluate vegetative propagation techniques with farmers, and later to train neighbouring communities on these techniques, nursery management and germplasm collection. Two years later, off-shoot nurseries began to emerge throughout Cameroon, even in the South Province, where no pilot nursery had been established. These satellite nurseries, in turn, began spawning more nurseries, which now amount to [67] in Cameroon” (ICRAF 2005). Farmer groups have been teaching their skills to neighbouring communities, with a resultant spread of both the tree propagation techniques as well as the mechanics of starting a nursery and marketing the products.

Learning is constant and active at the nurseries. “The technologies need to be tested by farmers, implemented and adapted to the conditions prevailing in rural areas if wider adoption is to be expected. Vegetative propagation techniques have been under farmer evaluation and adaptation in pilot villages of southern Cameroon. Farmers have been trained in the different techniques and their propagation skills have been continuously upgraded through technical assistance and follow-up from research and extension services. Monitoring and evaluation has been done through informal discussions with farmers – with the numbers of plants produced and sold recorded once a year.”

Research organizations are analyzing the factors that make community-led enterprises work – and uncovering the challenges that face these enterprises. ICRAF scientists reflect, “from the ongoing participatory research it has become clear that group dynamics and character (attitude towards collective action, leadership, group composition and functioning) are dominant determinants of the viability and sustainability of group nurseries. Four out of the nine pilot groups studied (Essomba, 2004) experienced serious drop out from members, decreasing membership from 15–20 in 1999 to merely 1–2 in 2004. Absence of a charismatic leader and lack of transparency in group management and benefit sharing often explain failure in nursery performance. Attendance at group activities is not strictly adhered to by all group members and is very dependent on actual workload and the perceived benefits of individuals. For example, during food crop planting and harvesting peaks, attendance is very low, slowing down the production of plants.... Strengthening the functioning of nursery groups in and demonstrating the equitable sharing of benefits may also motivate members and lead to increased production” (Degrande et al. 2006).

This also reflects learning that takes place within the farmer groups themselves, including gaining skills in project management and community enterprise development. Nursery groups should be encouraged to develop tree domestication projects, specify

quantifiable objectives and milestones, draw up a calendar of activities” (Degrande et al. 2006). “ICRAF intends to assist managers of promising nurseries to develop business plans for their nurseries in 2005. Hopefully this will lead to the creation of profitable and self-sustaining tree nursery enterprises” (Degrande et al. 2006). These solid business skills complement the technical skills farmers and farmer groups acquire, and continually upgrade.

This set of community-based enterprises is also the topic of learning at an international level. Funders including DFID and IFAD continue to learn about how to best manage the interface between development and conservation concerns. ICRAF, which facilitates this work, shares its lessons through networks including the Alternatives to Slash-and-Burn Program, which focuses on managing tradeoffs at the boundaries between tropical forest and agricultural land. ICRAF makes an effort to share its expertise with other research organizations in similar countries like Congo DRC, with the intent to spawn similar efforts there. The lead researchers also publish and present in national and international journals and conferences.

Empowering Farmers in East Africa through Honey Care Africa⁷

When Farouk Jiwa returned to Kenya from obtaining an undergraduate degree in Canada, he wanted to contribute to his country by finding a niche in the agricultural sector and the environmental market. He recognized the enterprise of beekeeping as having the potential to reduce poverty and enable environmental conservation, if the correct market linkages and support structures were put into place. Farouk and two other founders invested US \$150,000 apiece to launch a sustainable bee-keeping initiative. The purpose of this initiative would be to empower the rural farmers and local communities in Kenya, supply them with training opportunities and ecological awareness, and provide them with new opportunities to harness the natural resources for their livelihood. The kind of bee-keeping Honey Care Africa Ltd. would encourage would be sustainable, and economically viable. The name, Honey Care Africa Ltd., was selected to reflect the important components of this initiative. This organization would be a private sector organization that enabled the production and purchased quality honey from Kenyans with principled goals of poverty reduction, empowerment, social cohesion and ecological conservation. Their motto was “Honey from Africa: Honey for the World.”

As Jiwa and his colleagues embarked upon their initiative, the founders of Honey Care Africa Ltd. were concerned that they would repeat mistakes of other development

⁷ Case study information drawn from Honey Care Africa Ltd. website: <http://www.honeycareafrika.com/files/about.php>; nomination form for the Equator Prize 2002; Timmer, Vanessa (2004) "Community-based Conservation and Leadership: Frameworks for Analyzing the Equator Initiative" CID Graduate Student Working Paper No. 2, November, http://www.cid.harvard.edu/cidwp/pdf/grad_student/003.pdf; <http://www.honeycareafrika.com>; Jiwa, Farouk. 2002. Honey Care Africa's Tripartite Model: A New Approach to Solve an Old Problem; Television Trust for the Environment. 2002. Bee Fair – Kenya, <http://www.tve.org/ho/doc.cfm?aid=889>; Equator Initiative. 2002. Equator Prize 2002 Finalists, <http://www.undp.org/equatorinitiative>; Nagahuedi Mbongu S. Jonas. 2002. Interviews with Equator Prize 2002 representatives for an analysis of the 27 Finalists. Canada: IDRC.

initiatives. After much consideration about the causes of past failures, they developed a conceptual model of the synergistic partnership they deemed necessary for success. This model emphasizes the need for projects to be more economically viable, market-sensitive, and realistic than past projects have been. They established Honey Care as a private-sector initiative working together with NGOs, the development sector and grass-root communities in a symbiotic partnership that links environmental conservation and poverty reduction through a model of sustainable bee keeping by providing bee hives to rural communities and subsistence-level farms in Kenya and by guaranteeing to buy the honey produced. The tripartite model integrates social, institutional, financial and ecological elements and includes the private sector organization, development sector organization and the rural community and farmers engaged in a 'win-win' relationship.

Today, Honey Care Africa is a rapidly expanding Kenyan Company that manufactures and supplies high quality Langstroth Hives and related bee-keeping equipment to organizations, communities and individuals across Kenya. Honey Care products are developed, modified, and tropicalised after research and practical hands-on experience. Honey Care has a trained field team to assist people in setting up the hives correctly and training them in using the equipment properly, as well as dealing with any technical problems as and when they arise. The overall objective of the company is to produce and market high quality honey that will successfully compete on the world market with honey products from elsewhere. To achieve this objective the company has opted to work with the rural community groups in an out grower model whereby it has introduced modern bee - keeping methods using the Langstroth hives. In this approach, the company closely monitors the production process to ensure quality of honey produced by the contracted out growers.

Bee-keeping can be part of the solution to rural poverty in Kenya because it is an enterprise that can complement subsistence farming with relatively low inputs of land, labour and knowledge for starting and for maintenance. Subsistence farmers can be directly assisted with bee-keeping enterprises. In addition to the economic benefits of reducing poverty, honey harvesting is one of the few environmentally benign enterprises and, in fact, is beneficial to the local environment through the pollinating activity of the bees. Socially, honey harvesting is accepted amongst Kenyan communities as bee-keeping is a traditional activity throughout Africa and honey is an important resource both as a food source and a cultural artefact.

Communities Restoring their Forest Landscape in Tanzania⁸

In the late 1980s, there were only 1,000 hectares of traditional woodland enclosures remaining in the semi-arid Shinyanga region of Tanzania. Overgrazing and land conversion had devastated the ecosystem, combined with deforestation aimed at tsetse fly eradication. 60 years of state initiatives had been largely unsuccessful in reversing

⁸ Barrow, E., D. Timmer, S. White, S. Maginnis (2002) Forest Landscape Restoration: Building Assets for People and Nature – Experience from East Africa. IUCN, Gland, Switzerland, and Cambridge, UK.
Lamb D, D Gilmour. (2003) Rehabilitation and restoration of degraded forests. Issues in. Forest Conservation IUCN-WWF, Cambridge, UK. 110 p.

this trend – even when accompanied by awareness-raising. However, within 15 years, these woodland systems had expanded to 250,000 hectares. The initiative is notably successful in terms of biodiversity and development. The more interesting story relates to how the community banded together with researchers and government to re-invigorate this traditional practice and share their lessons globally.

The Sukuma people of the Shinyanga region are agropastoralists who rely on livestock and crops for their livelihoods, to the tune of an estimated 2.25 million cattle in 1998 in a region which covers only 6% of Tanzania. To ensure a steady stock of fodder for their animals – as well as fuel and crops for other uses – they traditionally employed a management practice called 'Ngitili.' Ngitili are enclosures where naturally regenerating indigenous trees are left and associated vegetation – in particular, grass – are allowed to grow back. The enclosures are managed as farm and grazing land. As the numbers above indicate, its use had declined dramatically.

Government-led restoration efforts, including compulsory de-stocking and tree planting, had little success. The survival rate of planted trees in communal woodlots, for example, was below 20%. HASHI – Hifadhi Ardhi Shinyanga (the Shinyanga Soil Conservation Programme) saw the potential for the latent practice of Ngitili to become the cornerstone of a forest restoration strategy. "In fact, the Sukuma people had already suggested that restoring Ngitili might be an easier and better option than planting mostly exotic trees" (Barrow et al. 2002).

"HASHI started field operations in 1986 as a Government soil conservation project. Indigenous knowledge and natural resource management systems were adopted as the basis for restoration. The traditional function of Ngitili to provide fodder for the dry season was expanded to cover other products and services required by rural people to meet their livelihood needs" (Barrow et al. 2002). A strong memory of both individual and communal Ngitili provided the impetus for a locally-driven enterprise to restore the land. Combined with an "increasingly liberalized economy, and the initiation of the HASHI project, provided the right incentives for local ownership of efforts to revitalize the indigenous Ngitili system" (Barrow et al. 2002).

"The project raised awareness of the importance of restoring natural resources through various media including video, theatre, newsletters and demonstrations. Participatory Rural Appraisal tools were used at the village level to identify important natural resource problems, and how they could be solved. This process identified the need for training so that villages and farmers could manage for 'improved' Ngitili. The project continues to provide advice on Ngitili management, for example which natural species should be selected for, which species are best used for enrichment or boundary planting, and which tree species and soil conservation methods are best used in any given area" (Barrow et al. 2002). "The adoption of a revitalized system of Ngitilis by communities and individuals is contributing to improved livelihood security and helping to restore a wider range of woodland goods - such as fodder, fruits, fuel, poles and medicines - and services, such as improved water availability and shade" (Barrow et al. 2002).

Learning went far beyond the technicalities involved in afforestation schemes. Government was actively engaged, including at the local level, to rethink the rules that govern land use and practice in Shinyanga. "In order to effectively manage the Ngitili, HASHI worked to build the capacity of both official government institutions - such as village government and environmental committees - and traditional institutions - such as the dagashida, a community assembly which formulates customary law and punishes those that break it. Building on, rather than replacing, such local institutions fosters local ownership and responsibility. Rules agreed with local communities were monitored by the traditional village guards, or Sungusungu" (Barrow et al. 2002). At a national level, learning has extended to the government as well. "The success of Shinyanga has prompted a shift of focus within the forestry sector in Tanzania, from externally planned and promoted schemes of tree planting based on exotic species, to one of restoration of, in the case of Shinyanga, indigenous Miombo and acacia woodlands" (Barrow et al. 2002).

When the former chairman of Isagala village was asked why it had been possible to turn a large stretch of land into a communal Ngitili, he said "it was because the village made the decision themselves. It was not imposed on them" (Barrow et al. 2002).

"Understanding existing land use and natural resource management systems has been key to the success in Shinyanga, in contrast to the externally driven, and often imposed, tree planting interventions before 1985. HASHI used this indigenous knowledge as the basis for restoration, while encouraging village governments to establish by-laws to protect their Ngitili. The main advantage of using traditional rules is that they are well understood, they are strictly adhered to by the majority of people, and they complement village by-laws" (Barrow et al. 2002).

Furthermore, this community-based enterprise has become a case study for research at the national to international level. It was a finalist in the first Equator Initiative prize, as an example of successfully bringing together conservation and development objectives. It was one of the first cases studied by the global Forest Landscape Restoration partnership, spurring the partners to better understand what makes restoration efforts work. One of the lessons retained from Shinyanga is summarized by Lamb and Gilmour (2002): "It makes good sense to consciously look for any institutional arrangements which are in place for managing natural resources, and to then build on them for restoration activities. This sounds eminently sensible, but in fact is rarely done. Quite frequently it is assumed that no institutional arrangements exist. It is perceived that there is a need to create and impose a new institutional structure on local communities. This normally destroys the pre-existing arrangements, and may not provide a sustainable alternative. It is always much better to build on what is already there."

ANALYSIS

(in development: final version will be submitted 31 May 2008)

1. Issue identification in innovative and systemic ways
2. Bridge building amongst diverse stakeholders
3. Adaptive management throughout implementation
4. Action taking across boundaries and scales
5. Sharing Lessons Learned
6. Knowledge and capacity building for institutional innovation

CONCLUSION

(in development: final version will be submitted 31 May 2008)

Circumstances within which social learning is more or less likely.

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