2.2 Governance solutions from the International Model Forest Network

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Introduction

As the global population continues to increase in coming decades, particularly in the tropics, dependencies on land and natural resources will increase. Landscapes will be expected to provide an increasing number of functions (Sayer et al. 2013).

A landscape is more than a geographic territory. It is a multi-layered mosaic of land cover types and land uses such as farms, forests, water, mining and inhabited areas where multiple stakeholders and their social networks — with their own values and strategies — overlap and interact with each other and the environment (van Oosten 2013). There is increasing international agreement that the landscape approach is the most effective method of incorporating conservation and human development dimensions into land-use planning and the broader sustainable development agenda (Global Landscape Forum 2013). The approach enhances an understanding of environmental impacts and assists stakeholders in making informed decisions in a transparent, adaptive and resilient manner.

GOOD GOVERNANCE IS THE BASIS OF A LANDSCAPE APPROACH THAT MAKES SUBSTANTIVE CHANGES TO ECOSYSTEMS AND PEOPLE.

For more than 20 years, the International Model Forest Network (IMFN) has been implementing participatory, landscape-level approaches to the sustainable management of natural resources. IMFN is a voluntary global community of practice comprised of more than 60 Model Forests that cover 100 million hectares (ha) in 30 countries (Figure 1) and continues to expand.

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Figure 1. International Model Forest Network map

Note: Data as of August 2014

Model Forests are defined by a large-scale landscape approach and a voluntary and broad-based governance structure that represents a wide range of interests. These include forests, agricultural land, conservation areas, mining concessions, recreation areas and communities. Individuals, groups and institutions can all have a voice through the Model Forest partnership. All Model Forests are bound by a common set of principles, and each is also unique by virtue of its local context. The governance structure of a Model Forest is guided by accountability, transparency and consensus; it reflects local social, cultural, environmental and economic values.

The reasons for forming a Model Forest differ from place to place; various organizations, groups or individuals can take the lead. Model Forest partnerships are usually created to address a significant issue or challenge; for example, leaders have come to the realization that existing practices and relationships are inadequate. The Model Forest approach offers a set of guiding principles that can aid stakeholders in addressing and overcoming these issues.

The four case studies (see also article 4.1) highlighted below illustrate how Model Forests offer a valuable approach to sustainable landscape management through multi-stakeholder governance, knowledge generation and exchange, and the ability to address challenges at multiple scales.

Kodagu Model Forest, India

Sacred grove conservation through cooperation

Kodagu Model Forest, established in 2003, encompasses the entire Kodagu District in Karnataka State. It is part of the Western Ghats region, which has been identified as one of the eight "hottest hotspots" of biodiversity in the world (Myers et al. 2000). Kodagu has more than 1,200 sacred groves scattered across its 4,108-km^2 area. Sacred groves are forest fragments with religious significance to local people who worship nature and ancestors.

Sacred groves are owned by the Forest Department and protected under the *Indian Forest Act*. Because of their religious significance, sacred groves are managed by local communities as a form of common property. Although they are generally less than two ha in size, their religious importance has helped safeguard a high level of biodiversity.

In recent years significant population increases have resulted in an increased demand for agricultural land and timber. This has led to the degradation of community lands and sacred groves. The Model Forest partners recognized that sacred groves cannot be considered in isolation from one another or from the broader landscape. A key activity has been the restoration of sacred groves through multi-stakeholder activities involving government agencies, forest communities, coffee growers and others.

By cooperating and pooling their resources, stakeholders have been able to raise awareness about sacred groves and increase community engagement in their management and conservation. For example, research on sacred groves (Bhagwat and Kushalappa n.d.) and the surrounding landscapes conducted by the College of Forestry of the University of Agricultural Sciences in Bangalore led to improved management planning. An NGO, the Centre for Environmental Education, held numerous public outreach sessions, many targeted towards youth. The critical support provided by the Forest Department and the strong involvement of local communities ensured the project's success.

Because of the Model Forest multi-stakeholder approach there has been a change in the communities' perception of the ownership, management and importance of sacred groves. They now see sacred groves as centres of bio-cultural diversity. The initiative has also influenced higher-level policy development through its inclusion in the National Biodiversity Strategy and Action Plan and in the Karnataka State Biodiversity Strategy and Action Plan (Kushalappa and Raghavendra 2012). In another strong indication of success the state government recently provided funds in the annual budget for restoration activities for groves throughout the entire state. This is the first initiative of its kind in India.

Tierras Adjuntas Model Forest, Puerto Rico

### *From local initiative to national public policy*

A resurgence of community initiatives in the conservation of forest areas in Puerto Rico led the government to approve legislation in 1999 that connected several state forests in an attempt to create an ecological corridor. However, the legislation failed to identify a

mechanism for integrating the landscape into a broader management strategy. In 2004, an expanded plan was adopted. It established conservation measures for riparian zones and forest stands that defined a biological corridor for wildlife and other natural resources. Despite these actions, balancing environmental, social and economic values at the landscape level remained challenging. There was growing recognition that community-based conservation initiatives were necessary to address these challenges.

In 2006, the Tierras Adjuntas Model Forest was established. It was a partnership that involved key land users and managers and other stakeholders in the geographic area, including the national government. This began a process of developing a landscape-level management approach anchored in a governance model that is representative, participatory, transparent and accountable, and promotes collaboration among stakeholders. The Model Forest identified the social, economic and environmental values of the communities within the landscape. By clearly acknowledging the importance of collaborative partnerships and participatory governance to address landscape-scale management challenges, the Model Forest provided a mechanism for integrating a wide variety of stakeholder interests and values.

Since 2006, the Tierras Adjuntas Model Forest has advanced a landscape approach based on integrating the strengthening of communities and the conservation of natural resources. This work led to a scaling up of the Model Forest approach, from the site level (14,368 ha) to a proposed national Model Forest (153,285 ha; Figure 2).

Figure 2. Proposed national Model Forest, Puerto Rico
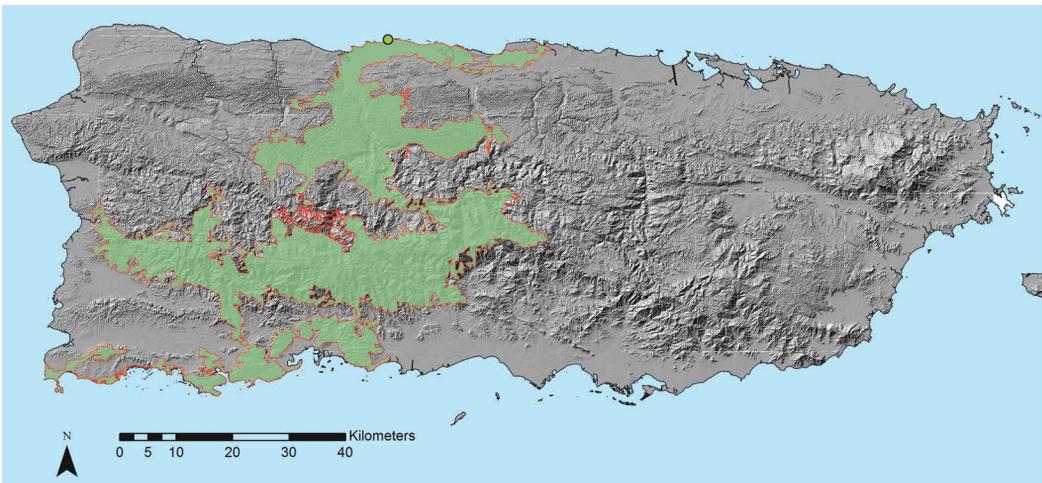
In July 2014, legislation was passed promoting a more integrated, effective and efficient way to use public resources to address conservation and the promotion of sustainable development in an area that encompasses approximately one third of the island.[1] The *Ley del Bosque Modelo de Puerto Rico* (Model Forest Law of Puerto Rico) recognizes the need for a voluntary and permanent multi-sectoral entity with representation from government,

academia, communities, non-governmental organizations and private companies. The entity will consider and enact strategic plans to harmonize new and existing economic activities with natural resource conservation, and promote greater quality of life within communities.

The Model Forest approach has shifted national policy in a significant way. The new law is a powerful mechanism to implement a suite of public policies and a platform for integrating environmental, economic, social and cultural development at the landscape level.

Campo Ma'an and Dja et Mpomo Model Forests, Cameroon

Building resilient communities for climate change adaptation

Changes in climate and extreme weather events disrupt food production systems. In countries such as Cameroon, many smallholders use unsustainable farming techniques and rely on forest products for subsistence. These factors, along with increased pressures on lands and forests, create significant challenges to food security and livelihoods.

Starting in 2013, the African Model Forest Network (AMFN) and Cuso International[2] implemented a project to help local farmers adapt to these challenges. The Eco-Agricultural Business for the Adaptation to Changes in Climate (B-ADAPT) project addresses several landscape issues through the promotion of new eco-agricultural planting techniques (which associate nitrogen-fixing species with bio-fertilizers and crop rotation) and the development of value chains focused on African plants and non-timber forest products (NTFPs).

The project supports 234 farm schools in more than 226 villages in Cameroon's two Model Forests: Campo Ma'an and Dja et Mpomo. More than 2,000 agricultural, NTFP and non-conventional livestock producers are involved.[3] The farm schools increased community capacities in participatory monitoring and evaluation, conflict management and business development; 60% of the schools are led by women and indigenous people, who serve as community peer educators.

The schools are learning spaces where local farmers test and share knowledge with other farmers, work together to obtain micro financing, reinforce value chains and gain better access to markets. This allows farmers to increase productivity and supports a network of smallholder businesses that can be sustained and scaled up throughout the value chains.

The Model Forests facilitated links with the Ministry of Agriculture and with industry, local officials and banks to strengthen services to producers and increase collaboration among stakeholders. The Model Forest governance structure, which reaches hundreds of communities, along with its accumulated history of outreach experiences contributed to the quick and extensive mobilization of this project. The B-ADAPT project has the potential to contribute to building more sustainable and resilient landscapes.

Vilhelmina Model Forest, Sweden

Reindeer herders, GIS and land-use planning

Although this fourth case study is located far from the tropics, its lessons are valuable to many ecosystems around the world where wildlife, traditional livelihoods, and competing tenure arrangements call for new approaches. The Vilhelmina Model Forest encompasses a portion of three of the 51 official reindeer-herding districts of the indigenous Sami people. Reindeer husbandry is one of the last remaining large-ungulate migratory systems: semi-domesticated reindeer move across vast areas every year — sometimes 300 km or more — from the mountains to the coast of the Gulf of Bothnia and back. The reindeer herders have guaranteed access to land for grazing, regardless of ownership and other ongoing forestry land use, on 55% of the northern part of Sweden (about 22.6 million ha). Overlapping land-use regimes have led to conflicts, which are exacerbated by a lack of equity, openness and information.

Each herding district produces a management plan that includes information about reindeer habitat use and movement. Through the Model Forest, the Swedish Forest Agency, researchers and herders increased the plans' efficiency through a participatory GIS (pGIS) tool. It integrates input from indigenous communities and builds local capacity in spatial data mapping and database development. The reindeer herders — who equipped the reindeer with GPS collars — and the forest companies use the pGIS database. Herders were also trained in satellite image interpretation and field inventory techniques. By merging traditional and scientific knowledge, the system allowed herders and industry to better assess reindeer movement and habitat use, and identify potential areas of conflict.

The pGIS tool led to more collaborative decision-making. This improved information sharing between herders and forest managers through a more open and transparent planning process. It has also led to consultations with other land-use stakeholders in the mining, energy and tourism sectors. The planning process developed through the Model Forest has now spread to all 51 reindeer herding districts in Sweden.

Lessons learned

There are many examples of effective, broad-based and resilient partnerships found in Model Forests around the world. Good governance is the basis of successful landscape approaches; six key governance factors have been identified from more than 20 years of Model Forest experience.

Effective landscape solutions need broad partnerships and collaborative governance

Broad stakeholder engagement facilitates a common understanding of the vision, values and needs of the landscape. An effective governance structure for landscape management must provide stakeholders with a neutral, non-threatening and constructive forum through which they can explore issues at multiple scales and negotiate creative solutions.

In addition, IMFN stakeholders have found that by pooling their limited resources and focusing their efforts on a longer-term common vision, they achieve what they could not

do on their own. Whether individuals and organizations contribute by providing cash, office space, staff time or knowledge, joint efforts will create new opportunities. Nesting local networks within larger ones creates a community that leverages more resources and knowledge, and from which emerges a network that has power and influence to truly improve sustainable landscape management and the livelihoods of communities (Weathley and Frieze 2006).

Good governance requires responsible resource managers

For effective landscape management, it is necessary to ensure that the people and organizations who have strong interests in the issues and challenges facing the area are involved and willing to listen to each other. This can sometimes be a challenge. In addition, formal and informal connections are needed with appropriate government departments and agencies to ensure that local activities are linked to regional and national policies. Effective landscape-level implementation must involve those with land and resource management authority, such as governments, industry and communities.

Voluntary engagement creates stronger governance

An effective landscape approach should not affect land ownership or administration but rather set in place an operational environment in which choices and trade-offs are discussed by the stakeholders affected by land-use decisions. In such a system, resource managers are not obliged to change their management practices, but their engagement often leads to their better understanding of other stakeholders' concerns and ideas and increased willingness to implement innovations. The voluntary nature of the process creates a dynamic, flexible and surprisingly solid governance environment that leads to long-lasting change. Several Model Forests have experienced challenges in obtaining and maintaining voluntary engagement from stakeholders.

Building capacity leads to enhanced engagement and empowerment

At the core of a Model Forest is a diverse group of stakeholders with various levels of capacity for engaging in landscape management processes. It is important to enhance their understanding of resource management and support their engagement in decision-making. They need to know how national and international policies affect them. Stakeholders also need access to information to build capacity in specific issues, such as REDD+ or climate-smart agriculture.

Managing competing interests and values

Landscapes comprise conflicting values and uses. It is important to create tools and processes — ranging from codes of conduct for new stakeholders to participatory mapping — to manage competing interests. Although an open, transparent, voluntary and participatory process such as a Model Forest is often a giant first step in dissipating potential conflict and orienting stakeholders towards creating a common solution, having appropriate tools and processes in place can facilitate conflict resolution.

A landscape approach is a process, not a project

Creating constructive dialogue and building trust and transparency among stakeholders, takes time, often several years. For the landscape approach, long-term engagement is needed, while short-term wins help keep stakeholders engaged. A key challenge is to secure funding for activities both for the short and long term. The landscape approach should be considered a flexible process of learning and engagement, adapting as new knowledge and issues arise and with no fixed start or end dates.

Conclusion

The Model Forest concept has been applied in a wide array of ecological, social, economic, cultural and political contexts in both developed and developing countries. The concept has shown itself to be flexible and adaptive to its setting (Besseau, Dansou and Johnson 2002). It is not an easy process to implement successfully, but perseverance and utilization of lessons learned can lead to effective and sustainable change.

The Model Forest concept links high-level policy objectives of sustainable landscape management to local-level processes and tools that are anchored in inclusive, locally based governance mechanisms. This creates a framework for landscape management that is comprehensive in its approach, scalable in its operation and effective in the breadth and depth of the activities undertaken. This can help local stakeholders address a wide range of challenges and allow them take advantage of emerging opportunities such as REDD+, forest landscape restoration, climate change adaptation, improving food security and creation of a green economy.

Acknowledgements

For more information

For more information about the IMFN, please visit www.imfn.net.

Endnotes

1. The senate approved the act on June 24, 2014.

2. The African Model Forest Network is one of five regional networks of the IMFN. Cuso International is a Canadian-based international development organization that works to reduce poverty and inequality through the efforts of skilled volunteers.

3. The farm schools built on earlier AMFN experience in the development of its Practical Itinerant School programme.

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