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OUR VISION

To support, through model forests, management of the world's forest resources in a sustainable manner, reflecting environmental and socio-economic issues from the perspective of local needs and global concerns.



management of forest-based landscapes. What we were looking for by convening this meeting was an opportunity to have an external expert group take a critical look at our concepts, our performance and impacts, and our strategic directions for the future. They were also asked to help us to identify obstacles and opportunities to aid us in charting a path forward.

Not surprisingly, many good observations and recommendations were made, however two stand out. First, the discussion pointed repeatedly to the need for the IMFN to situate itself more prominently and assertively on the international stage. In the discussion there was no question that model forests were seen as being conceptually relevant, cost effective and addressing several notable national and international policy issues. Somehow though, there was not yet a sufficient international awareness or presence for the initiative. This led to the second point: that the IMFN needs to base its international presence on an unambiguous understanding about what it is contributing to global efforts to achieve sustainability, something that will require a much more robust research, analysis and publication of model forest impacts than what we currently have at our disposal.

In this edition of Connections, we look at one piece of the issue of assembling a “body of evidence” of model forest impacts. Over the years, a steady stream of graduate-level research, among other types of research, has taken place in model forests around the world. Good or bad, the performance of model forests must be examined and discussed objectively and the conclusions of this work must be given serious consideration.

A common thread that runs through most the summaries of graduate research presented here indicates that the broad-based partnerships offered by model forests as platforms for biodiversity conservation, poverty alleviation, and other objectives set by local actors, are seen as a key factor in the actual or potential success of their efforts. This is an important observation because it speaks to the validity of a fundamental design feature, namely the intrinsic value of an inclusive and multi-stakeholder framework for problem solving.

Dr. Hosny El Lakany, Adjunct Professor, Forest Resources Management Department, University of British Columbia; Risto Paivinen, Director, European Forest Institute; Dr. Chimère Diaw of CIFOR; Dr. Peter Bridgewater, former Secretary General, Ramsar Convention; Nik Lopoukhine, Chair, IUCN World Commission on Protected Areas, and; IMFNS Board members.

Model Forests Worldwide - Exceptional Sites for Knowledge Creation

Prof. John Sinclair (University of Manitoba, Winnipeg) and Prof. Peter Duinker (Dalhousie University, Halifax)

Since their inception, both the International and Canadian Model Forest Networks have provided tremendous opportunity for graduate student research. Like other researchers across Canada and abroad, we have been fortunate that some of our students have taken the opportunity to work with the diverse partnerships represented at each site. First-rate learning opportunities have resulted, allowing students to investigate their chosen topics and at the same time learn about working with a group of people that often have quite different perspectives about the environmental, economic and social aspects of the forests under study. Whether related to biophysical or social sciences, situating their work within this real-world context has better equipped our graduates with the skills and tools needed for success in promoting forest sustainability.

The benefits of such work flow to the model forests, too. All model forests include among their primary objectives the requirement to address key uncertainties related to sustainable forest management in their locales and regions. Many have vigorous research programs focused on key information needs identified by the partners. What better way to have these needs met than by graduate students? First, such arrangements call for the students to undertake projects defined by the model forests themselves, so the sites can be assured that the new knowledge will meet their expectations. Second, they are highly cost-effective – compared to other research providers, students are relatively inexpensive to retain. Third, the model forests are assured of fresh perspectives because the students are usually young, open to new ideas, and tremendously eager to learn. Finally, research quality is high because the students are supervised by university professors. All in all, graduate-student research represents exceptional value for model forests.

Over the years, dozens — perhaps even a few hundred — of graduate students have done work in Asia, Europe, Latin America, Central Africa, Canada and Russia with the support

of the model forest networks. The topics studied have been as diverse as the model forest programs themselves. Some have inquired into the forest itself, considering stand dynamics and the impacts of various silvicultural prescriptions. Others have examined the variety of species living within the forest, with projects spanning a wide range of species from grizzly bears to mushrooms. The human dimension of sustainable forest management and policy has also been an important part of

graduate student work and has considered issues such as determination of forest values, communications, and conflict resolution.

The students we have been fortunate enough to work with directly reflect this overall diversity. They have completed their studies in Europe, Latin America, and Canada. Shannon Clohosey, for example, studied the participatory structures and processes of the Chiloe Model Forest (Bosque Modelo Chiloe), trying to understand how a local model-forest organization was responding to the sustainability imperative as articulated in international dialogues. The Canadian

network has also provided fertile ground for the research work of our graduate students. In fact, three of our students have had the unparalleled opportunity to travel across Canada, visiting and meeting with model forest partners from coast to coast – a feat accomplished by very few researchers indeed! This has provided them — and us — with first-hand insights into the Canadian program that have been shared throughout the Networks and beyond through publication as we try to establish new approaches to sustainable forest management.

Some of the excellent work of graduate students done in association with model forests around the world is highlighted here. We encourage you to check out the work of many of the other graduate student researchers by visiting the web sites of individual model forests throughout the Canadian and International Networks.

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Biodiversity and Conservation of a Cultural Landscape in the Western Ghats of India

Shonil Bhagwat, Linacre College & Oxford Forestry Institute, Oxford University, UK PhD Thesis (2002)



Sacred grove, Kodagu Model Forest, India

The sacred groves tradition in India has received considerable attention from researchers and the sacred groves of Kodagu district in the Western Ghats, home to Kodagu Model Forest, are no exception. Within the Western Ghats region, Kodagu is a rich district in terms of forest cover and biodiversity. This study highlights that the sacred groves of Kodagu cannot be looked at in isolation – the landscape that surrounds them is not only crucial in determining the biodiversity found within these forest patches, but also has important consequences for their conservation management. Much of this landscape is, in fact, covered by coffee plantations where native trees are kept for shade. The author shows why trees in coffee plantations might be important for sacred grove biodiversity and proposes an action plan for biodiversity conservation in the Kodagu Model Forest.

Sacred groves in Kodagu are situated in a landscape that once-upon-a-time might have had continuous tree cover. Today, they are fragments of forest separated by agricultural land. Their sizes range from a fraction of a hectare to a few tens of hectares. This means that sacred groves can be as small as a backyard garden or as large as, for example, Central Park in New York. This study looked at the effects of landscape modification on the diversity of three contrasting groups of organisms – trees, birds and mushrooms. The author examined the diversity of these organisms in forest reserve, sacred groves and coffee plantations. These three land use types are on a gradient of management intervention by people. A forest reserve is strictly protected by the government; sacred

groves are managed and used by local people; and coffee plantations are regularly managed and harvested by planters.

This study shows that, in general, there is wide variation in how the three groups of organisms respond to the landscape setting and these responses are not consistent. The author concludes that, as an ecological consequence of high tree cover, recognised landscape measures, such as patch size, isolation of patches from each other and from the forest reserve, are inadequate for explaining the patterns of diversity in Kodagu. This is quite unlike many other insular fragmented landscapes, where patch size and isolation do determine diversity.

The ambiguous result in Kodagu is, in fact, very interesting. The shade trees found in coffee plantations surrounding sacred groves provide a high level of tree cover. These plantations also provide corridors that ‘connect’ the forest patches making movement of animals, birds and even mushrooms and trees between patches possible. Therefore, conservation of biodiversity in sacred groves is dependent on the protection of native shade trees in coffee plantations. In conclusion, maintaining the integrity of the strictly protected forest reserve, of traditionally conserved sacred forests, and of privately owned coffee plantations across the Kodagu Model Forest is essential for biodiversity conservation. Furthermore, conservation practices should emphasize the involvement of local communities in management of the landscape rather than imposing biodiversity conservation from the outside.

Model Forest development as a strategy to apply an ecosystem approach to the Chiquitano Dry Forest, Bolivia

Alexandra Lobo Peredo, Tropical Agricultural Research and Higher Education Centre, Costa Rica, MSc. Thesis (2006)

The objective of this study was to evaluate the application of the ecosystem approach in the Chiquitano Dry Forest region, site of the Chiquitano Model Forest. Located in one of the last dry tropical forest regions, not only in Bolivia, but in all of South America, the Chiquitano is valued for both its unique ecology and its historical and cultural importance. One of the main challenges facing inhabitants is to strike a balance between conservation and sustainable development.

The author evaluated the application of the ecosystem approach based on the 12 principles adopted by the Convention on Biological Diversity, the hierarchical method of principles, criteria and indicators, and expert knowledge. The goal was to determine which principles and criteria are being applied and if there were differences between the municipalities that have land planning programs and those that do not. The researcher also compared the principles of the ecosystem approach with those of the model forest concept.

The author found a significant perception of high participation of society in matters involving natural resources (Principle one of the ecosystem approach) for the entire ecoregion and widespread support for sustainable development. No significant differences in the application of the ecosystem approach between municipalities with and without land planning programs were found. This is probably due to the fact that land planning is relatively new in the region (the oldest programs are three years old).

Finally, the principles of the ecosystem approach and the principles of model forests were compared to determine if model forest development would help increase the application of the ecosystem approach. We found that the ecosystem approach does not include various aspects of model forests, such as broad-based partnerships and networking, and that these criteria will help in the successful application of the ecosystem approach in the Chiquitano Dry Forest region.



Chiquitano Model Forest, Bolivia

“ the principles of the ecosystem approach and the principles of model forests were compared to determine if model forest development would help increase the application of the ecosystem approach. ”

Local Organizations Analysis for the Reduction of Poverty in the Forest Area: The Case of Campo-Ma'an Model Forest in the South Province of Cameroon

Benjamin Ondo Obiang Agronomist (rural economy and sociology), Coordinator for the Centre for the Promotion of Forestry and Local Development Initiatives (CEPFILD)



Campo-Ma'an Model Forest, Cameroon

Summary of proposed thesis:

The forest ecosystem in Cameroon covers the South Province entirely, and it is from the forest that households pull most of their essential resources. This province is one of the least populated of the whole country, where the households collect their food and incomes through agriculture, hunting, fishing, non-wood forest products, tourism and so on; the forest is therefore, for these households, a setting of cultural and traditional expression. Local communities consider it as their unique fishpond.

At the same time, the government, because of the abundance of wood and non-wood forest products (NTFP) on one hand and conservation needs on the other, encourages the exploitation and the conservation of the forests through industrial exploitation and protected areas. The forest constitutes the second largest source of financing for the Republic of Cameroon, after fuel. Unfortunately, the riparian population of this forest remains one of the poorest in the country.

The general objective of my research project is to contribute to the implementation of the Campo Ma'an Model Forest as a

“ The forest is...a setting of cultural and traditional expression. Local communities consider it as their unique fishpond. ”

means of improving the standard of living of the households surrounding the Campo-Ma'an National Park in Southern Cameroon. Identified constraints would be due to the uneven distribution of forest-based incomes, the approximate organization of local communities and the lack of transparency or good governance (institutional, organizational and technological).

The project will centre itself on 1) the diagnostic and analysis of the actors in the Model Forest area: to identify the main constraints of partnership and dialogue of all the actors involved in the forest environment, and 2) enhancing the model forest as a representative structure of all local actors: the implementation and capacity building of such a structure as a strong means for setting up good governance and transparency mechanisms. This project will seek to adapt the tools of analysis of local and professional organizations to the needs of local forest actors or stakeholders, and to consider devices of information, training, dialogue and the equitable involvement of local actors.

Collaborative Synergy in Resource and Environmental Management

Bruce Gilbert, Dalhousie University, Halifax, Canada, PhD Thesis (2007)

The collaboration and partnership approaches to building sustainability have gained considerable momentum in since the 1992 Earth Summit. Collaboration processes, methods, tools, and best practices are routinely discussed in the relevant literatures. However, despite widespread support for more and better collaboration, such processes are also coming under increased scrutiny. The process of building them is often time-consuming, resource-intensive and difficult. Skeptics argue that many initiatives generate more frustration than results.

This mixed-methods study examines collaborative synergy in 23 Canadian multi-stakeholder processes set within resource and environmental management contexts. The study aims to understand better the general texture of synergy, as well as the factors that help it to emerge in processes established to address sustainable forest management (Canadian Model Forest Program) and coastal zone/watershed management (Atlantic Coastal Action Program) issues and problems. The broad goal is to contribute to an enhanced understanding of synergy in collaborative processes such that practitioners are better able to initiate, build, evaluate and sustain them.

Results reveal that although of considerable benefit to processes that achieve it, not all collaboration success is due to synergy. Synergy may be more special than ordinary in collaboration. It is a dynamic phenomenon. When synergy emerges within a collaborative process, it is not always experienced by all parts and at all levels of that process. It is not unusual for a process to experience a type of start-up synergy early in its formation stage.

There are several common transition points around which synergy often pivots. It emerges from the confluence of multiple factors, and there does not appear to be a most common, or best, chemistry of factors. Some factors are more under the control of participants than others. Some appear to be more vital than others. The former include ambitious and practical work; common/complementary goals; positive results; collaboration-friendly or -suitable members; meaningful participation opportunities; shared decision-making; strong leaders/champions; and trust, respect, and mutual understanding.



Waswanipi Cree Model Forest, Canada

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The collaboration and partnership approaches to building sustainability have gained considerable momentum in since the 1992 Earth Summit.

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Ecosystem Services of, and Financing Mechanisms for, Protected Areas: Case Study of the Tapanti National Park Tropical Rainforest in Costa Rica

Florence Bernard, Environmental System Analysis Group, Wageningen University, MSc Thesis in Environmental Sciences (2005)



Tapanti National Park, Reventazon Model Forest, Costa Rica

Protected areas represent special places in the world that are managed for conservation purposes and deliver a continued flow of ecosystem services. Ensuring the effective management of protected areas is vital if they are to continue to provide ecosystem services and fulfil their role in biodiversity conservation. Nevertheless, effective management has a cost and thus requires financial resources. One of these protected areas is Tapanti National Park.

Tapanti National Park is a tropical rainforest located in the Central Valley of Costa Rica. Established in 2000, it covers an area of 58,323 hectares, provides 25 percent of the hydroelectricity consumed in Costa Rica, supplies 25 percent of Costa Rica's drinkable water, and contains highly endemic species of flora and fauna which emphasize the possibility that new species may be discovered in the future. Tapanti National Park is also a partner in the Reventazón Model Forest.

The park's current annual budget of approximately USD 245,000 is considered insufficient as it prevents the park from

managing its resources effectively. The lack of sufficient funds has social, economic and ecological consequences which may lead to a future risk of deterioration of the park's ecosystems and its surrounding buffer zone. Financial resources are lacking mainly because there is no recognition of the economic value of the park's ecosystem services and no financial strategy to convert the economic value of these ecosystem services into a source of income.

The objective of the study was to investigate the economic value of a select number of ecosystem services (water supply for drinking and electricity generation, maintenance of biodiversity and opportunities for recreation and tourism) provided by Tapanti National Park, and to gauge the willingness to pay for their maintenance by those who benefit most from these services.

Based on interviews with over 300 stakeholders, the study identified the main beneficiaries of the selected ecosystem services provided by the park: hydroelectricity companies, water and sewer companies, consumers in the cities of San José, Cartago and Paraiso, ecotourism enterprises, tourists and biodiversity institutes.

The monetary benefits of the three services combined were estimated at US\$ 2,507,913 per year, equivalent to an average of US\$ 43 per hectare per year for the total park area. To develop payment-mechanisms for the conservation and sustainable use of Tapanti National Park, the stakeholders were asked about their willingness to pay for the maintenance of the services they benefit from. Different financing mechanisms were explored, such as taxes, user fees, individual and corporate donations, 'friend' schemes, and voluntary contractual arrangements. On average, most of the stakeholders were willing to pay for the ecosystem services they received. The total potential payments amounted to approximately USD 388,500 per year (excluding hydro-electricity, the main beneficiary), which would be sufficient to cover the current (USD 245,000) and additionally needed yearly budget (USD 100,000) for the National Park management.



www.imfn.net

Of Interest

IMFN Global Forum: Online consultation

Planning for the Global Forum 2008 continues at a rapid pace and the IMFN Secretariat wants to receive as much feedback from model forests as possible. A survey on potential workshop and poster themes was circulated to all sites in February and other online tools are being examined as a way to engage as many participants as possible prior to the meeting. Make sure you take advantage of these opportunities to be heard! For more information, please contact imfns@nrcan.gc.ca.

IMFN Website Redesign

The IMFN Secretariat is leading on the redesign of the IMFN website. Members from each region, as well as the newly created Networking Committee, have been invited to comment on the website strategy. Consultation on the site will continue as it develops. The new site will be launched during the IMFN Global Forum 2008 in June in Hinton, Canada.

Circumboreal Initiative: Update

A concept note for an IMFN Circumboreal Initiative is being developed. It outlines current challenges and opportunities for countries with model forests in the boreal zone to collaborate on endeavours to improve the sustainability for forested landscapes and natural resources.

CMFN Hires New General Manager

On January 23, 2008, Dr. David MacLean, Chair of the Board of Directors of the Canadian Model Forest Network (CMFN) officially announced that David Winston will assume the position of General Manager (Executive Director) of the CMFN effective February 15, 2008. Mr. Winston's professional career spans more than 40 years in management and scientific research related to forestry and environmental sciences in the Canadian Forest Service, the Province of Ontario as well as a private consultant.

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