



GLOBALISATION,
LOCALISATION AND TROPICAL
FOREST MANAGEMENT



NEWS

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Dear readers,

Tropical forest management is facing new challenges. New actors and partnerships for the conservation and sustainable management of forests have been formed and are operating at multiple scales. These new global-local partnerships received an impulse through: *globalisation*, which connects local communities with international actors such as environmental NGOs and research organisations lending support to sustainable forest use; and *localisation* (i.e. decentralisation, democratisation, devolution of power and political autonomy for indigenous people), which creates new actors in environmental management.

As a result, forest management is no longer in the exclusive hands of a single entity - whether government, private, NGO or local community - and new forums for stakeholder negotiations, alliances and joint actions are emerging. Examples can be found at global level (e.g. the World Bank/WWF Alliance for Forest Conservation) and at regional level (e.g. the Guiana Shield Initiative), while numerous partnerships between international donors, government agencies, national and international NGOs, private sector actors, research organisations and communities are emerging at local level for the protection and co-management of forest resources.

Will these new alliances and partnerships be able to curb the destruction and degradation of tropical forests, and under which conditions? Will they be able to put sustainable forest management into effect? Will new markets and market incentives for sustainable management that emerge as a result of globalisation be able to affect the way forests are managed? And how will all these changes influence the livelihoods of forest-dwelling people and poor populations living at the forest fringe?

Dealing with these questions, the articles in this issue are organised under several headings, (listed on pages) , which correspond with the titles of panels and mini-symposia at the congress on 'Globalisation, localisation and tropical forest management in the 21st century', that is to be held in Amsterdam on 22-23 October 2003 (<http://www2.fmg.uva.nl/agids/agids/globalisation.html>). This event is organised by the Amsterdam Research Institute for Global Issues and Development Studies (AGIDS, University of Amsterdam) in collaboration with the Centre for Latin American Research and Documentation (CEDLA), the Institute for Environmental Studies (IVM, Free University), the International Agricultural Centre (IAC), Tropenbos International, the Environmental Policy Group and the Forest and Nature Conservation Policy Group of Wageningen University and Forest Trends in Washington, USA.

I wish to thank all the authors for their smooth cooperation, ETRFN for dedicating this issue of ETRFN News to the congress theme and the Amsterdam Institute for International Development (AIID), University of Amsterdam, Municipality of Amsterdam, Novib (Oxfam-Netherlands), the Netherlands Foundation for the Advancement of Tropical Research (WOTRO), the International Agricultural Centre (IAC) and the Centre for Resource Studies of Development (CERES) for supporting the congress financially.

I hope you will enjoy reading this issue and that the articles will provide food for thought and debate.

Mirjam A.F. Ros-Tonen, AGIDS, University of Amsterdam, the Netherlands

We are grateful to Dr Mirjam A.F. Ros-Tonen for editing this issue of the ETRFN News.

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**I G L O B A L I S A T I O N ,
L O C A L I S A T I O N A N D T R O P I C A L
F O R E S T M A N A G E M E N T :
I N T R O D U C I N G T H E C H A L L E N G E O F
N E W M A R K E T S A N D P A R T N E R S H I P S**

This issue of ETFRN News brings together knowledge, experience and lessons learnt with respect to the potentials and bottlenecks of new markets and partnerships which result from globalisation and localisation. The article below introduces the theme, while those of Arturo Escobar, Marcus Colchester, and Melissa Leach and James Fairhead provide a conceptual framework for the debate on partnerships, models of dialogue, networking and the role of science.

- S Introduction (Mirjam A.F. Ros-Tonen)
- S The need for new models of political dialogue and interaction (Arturo Escobar)
- S Bridging the gap: communities, forests and international networks (Marcus Colchester)
- S Does globalised science work for the poor? Forest perspectives (Melissa Leach and James Fairhead)

INTRODUCTION

By Mirjam A.F. Ros-Tonen

Globalisation has often been considered a threat to tropical forests since it opens up markets and may boost international demand for hardwood and other commodities. Some fear that free trade arrangements such as the General Agreement on Tariffs and Trade (GATT) and the North American Free Trade Agreement (NAFTA) will give a further impulse to illegal logging and the clearing of forests for large-scale export-oriented

agrobusiness firms and plantations. At the same time, in many countries the responsibility for forest management is being transferred to local authorities, which see new opportunities to mine the forest and generate new revenues. This doom scenario leaves little room for optimism about the future of tropical forests.

The other side of the coin is that globalisation creates niche markets for environmental services and sustainably produced timber and non-timber forest products. These markets give an impulse to sustainable forest management and create new opportunities for low-income producers.

Globalisation also implies a globalisation of environmental concerns. In a world 'that is growing smaller every day' (De Ruyter, 1997) actors at multiple scales find each other in new partnerships which were hardly imaginable in a world without internet and e-mail.

As a result of decentralisation and the devolution of land rights to indigenous populations and forest users at community level, the actors involved in forest management are more connected to the forest resources than before. In theory, this greater involvement gives an incentive to preserve the forest and manage it sustainably.

Thus, in contrast with the doom scenario outlined above, there is also scope for optimism with regard to the prospects for responsible forest management in a globalising world where rights to control forest resources are increasingly being devolved to forest users.

This issue of ETFRN News brings together knowledge, experience and lessons learnt with respect to the potentials and bottlenecks of new markets and

partnerships resulting from globalisation and localisation processes. The papers in this issue (most of which will be presented at the congress on 'Globalisation, localisation and tropical forest management in the 21st century') are categorised according to eight sub-themes related to markets and to multi-scale partnerships.

The potential of responsible trade

Several tools exist to enhance sustainable forest production through the market. Such market-related incentives include:

- S payments for ecosystem services, such as carbon sequestration, watershed protection and biodiversity conservation (Part II);
- S commercialisation of non-timber forest products in international markets, often with the twin aim of promoting forest conservation and livelihood improvement (Part III);
- S strategies to combat illegal logging (Part IV); and
- S the certification of forest products (Part V).

These market-related incentives have in common that they seek ways to compete with more lucrative, but also more destructive land uses, with the aim to contribute to forest conservation, sustainable forest use or improved livelihoods for the poor in tropical forest areas. Such market-related strategies often involve new partnerships between international, regional and local actors, as well as supplementary actions by the state and societal actors to evolve a supportive regulatory framework and 'greener' policies.

Together, the contributions on this theme illuminate (i) the conditions, institutional requirements, policies and development actions required to bring about sustainable and pro-poor forest management through international markets; (ii) the lessons learnt; and (iii) the implications for research.

The potential of global-local partnerships
A second aspect of forest management in a globalised and localised environment concerns the change of actors involved in forest management. Instead of forest management being in the hands of a single entity, new partnerships for the protection and co-management of forest resources arise, involving international donors, government agencies, national and international NGOs, private sector actors, research organisations and communities. These multi-scale and multi-stakeholder partnerships in forest management have the potential to link global conservation objectives with local needs, thus creating synergy. They do not, however, resolve power imbalances and conflicting interests.

The papers in Part VI (on the link between global conservation objectives and local development needs) and Part VII (about global-local partnerships for sustainable forest management in Latin-America) address the question to what extent and under what conditions multi-scale partnerships can regulate such power imbalances and conflicting interests and promote democratic governance of forest resources.

Part VIII specifically deals with the impact of decentralisation and devolution of land rights on the emergence of new actors and partnerships, and the effects they have on the democracy and sustainability of forest management. A common thread running through all contributions related to this theme is the conflict between central and local control over forest management and the danger of overexploitation following the need to generate revenues at local level, while the potential advantage of more democratic forest management has not (yet) become a reality in all cases.

In response to the processes of change, the

roles and responsibilities of groups and organisations dealing with natural resource management are reviewed and questioned. The involvement of various (community) groups and organisations at various levels, each with their own agenda and interests, imposes special requirements on work processes to ensure durable agreements and solutions. Adaptive learning, through which actors develop an appreciation of other stakeholders' interests and perceptions, and an awareness of their own mental models, plays a specific role in collaborative management schemes. How and under what conditions this works in practice, and what is the potential of such social learning methods to enhance partnerships at the local and regional level, are questions addressed in the contributions in Part IX.

General perspectives

The newly emerging global-local partnerships and increasing participation of the poor suggest that the voices of people living in and around forests are increasingly heard. Although terms such as stakeholder participation, partnerships and negotiation are now commonplace, the following contributions in this introductory part indicate that this process of increasing local participation is still at risk of stagnation or reversal.

Leach and Fairhead argue that such 'invited' participation often means that poor forest users need to comply with pre-set objectives and frames of debate. Also Arturo Escobar challenges existing models of dialogue and negotiation, for taking for granted modern (expert) categories of nature and social action such as 'management', and dealing inadequately with the often quite different understanding these actors have of such notions as 'nature', 'the forest', 'management', 'partnership' and 'negotiation'. All authors in this section also emphasise that, the same processes that seem to be so

promising with regard to people's decision making in forest management 'may create new divisions and possibilities of social exclusion' (Colchester) if the problem of unequal power relations is not addressed. According to Leach and Fairhead, science has a role to play in this respect: through participatory research and deliberate procedures to involve poor forest users in setting agendas and research questions, a pro-poor forestry science can be built, giving ample space to the perspectives of poor forest users. With respect to this, Escobar argues that much can be learnt from the strategies and knowledge of social movements and organisations.

Reference:

Ruijter, A de (1997). The era of globalisation.. In T. van Naerssen, M. Rutten and A. Zoomers (eds.) The diversity of development. Assen: Van Gorcum.

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THE NEED FOR NEW MODELS OF POLITICAL DIALOGUE AND INTERACTION

By Arturo Escobar

The need for alternative models of dialogue and interaction among various kinds of actors in the environmental arena is being increasingly recognised. Less widely shared, however, is the notion that social movement activists might be knowledge producers in their own right, and that the

knowledge they produce could be an important and constructive input into the development of environmental strategies. This is the case, for instance, in a recent (1993 to 1998) biodiversity conservation project in the Colombian Pacific rain forest region that was in many ways unprecedented. Although conceived within GEF guidelines and implemented by the government, it became a very interesting, although difficult, process of concertación - which could be defined as negotiation towards consensus in ways that take into account power differentials among actors involved. This process involved state officials, NGOs, experts in many branches of natural and social sciences and, very importantly, social movement activists from the region. The project was dismantled in 1998, largely because of lack of government commitment, and replaced by a more conventional biodiversity strategy, but for a time captured the imagination of many in the region. The knowledge and strategies of local social movements and organisations were crucial in this regard.

The social movement of black river communities in the Colombian Pacific

The Pacific Coast region of Colombia is one of the world's most biodiverse rain forest regions, covering about 70 000 km². About 60% of the region's 900 000 inhabitants - 800 000 Afro-Colombians, about 50,000 Embera, Waunana and other indigenous people, and mestizo colonists - live in the few larger towns; the rest inhabit the margins of the more than 240 rivers. Black and indigenous peoples have maintained distinct material and cultural practices.

In this region, a social movement of black communities emerged for the defence of natural resources. It comprises, amongst other local actors, a network of more than 140 local organisations known as Proceso de

Comunidades Negras, PCN. The PCN gives emphasis to the social control of the territory as a precondition for the survival and strengthening of culture and biodiversity. In the river communities, activists and communities have worked together to understand the meaning of the 1991 constitution - which granted black communities of the Pacific region collective rights to the territories they had traditionally occupied - and to develop concepts of territory, development, traditional production practices and use of natural resources. This process led to drawing up a proposal for the law of cultural and territorial rights called for by the 1991 constitution (Ley 70, approved in 1993), and to firming up a series of politico-organisational principles relating to identity, territory, autonomy and alternative development.

PCN activists sought to insert themselves in biodiversity-related discussions at all levels, including the government-run Proyecto Biopacífico (PBP), which accepted the black and indigenous movements as essential partners for dialogue. Of growing importance was the increasing transnationalisation of the movement through participation in official fora such as the CBD and in oppositional movements and mobilisations against neo-liberal globalisation in various parts of the world. At the same time, PCN activists ran for local elections; organised locally and nationally; and sought funding for territorial demarcation and collective titling. In this period, and particularly after 1998, there has been an escalation of violence in the region, some of it directed explicitly against activists and communities to discourage them from pressing for territorial demands. These tensions are related to the overall intensification of development, capitalism, and modernity in the region.

The political ecology framework

PCN activists developed a coherent and sophisticated framework for the defence of the Pacific rain forest. This framework - which I call a political ecology framework - weaves together territory, culture and local autonomy into alternative visions and strategies of conservation, sustainability and development. In the case of the southern Colombia Pacific, this framework constitutes the single most important and visionary effort at preventing the destruction of the forest and constructing a sustainable future for it.

This does not mean that it is the only possible framework. Other frameworks (by experts, academics, NGOs, the State, international organisations, etc.) also have to be taken into account. Nevertheless, these will be most effective when articulated with the concerns and views of social movements.

New challenges

By reviewing the case of the black movement in the Colombian Pacific and other cases to be presented at the congress, I would like to highlight some challenges in tropical forest management in the era of globalisation, devolution of land rights and the emergence of collective ethnic identities.

First, there is need for a renewed dialogue and integration among the natural, the social, and the human sciences in approaching issues related to the conservation and sustainable use of tropical forests. The separation of perspectives derived from these three domains continues to be a pressing problem.

Secondly, there is need to come up with concrete alternative ecological, economic and cultural strategies, projects and programmes. How do we rethink the economy from the perspective of local culture and ecology? Here we enter into the

terrain of alternative economies and economics. Tropical forests constitute a tremendously important site for thinking about alternative economies, precisely because they embody ecological and cultural differences, from which forms of alternative economy could be conceived.

Finally, there is the issue of models of dialogue and interaction among disparate social actors converging on the tropical forests. There is already a provisional language for this dialogue, embodied in terms such as 'stakeholders', 'partnerships', and 'negotiation'. However, to me this language - while pointing in the right direction - is inadequate on several grounds:

- it usually overlooks the problem of unequal power among actors;
- it deals inadequately with the often quite different understanding these actors have of such notions as 'nature', 'the forest', 'management', 'partnership' and 'negotiation';
- it takes for granted modern (expert) categories of nature and social action, such as 'management'.

As ecological anthropologists show, there are local models of nature in existence that do not correspond to conventional scientific models. Maybe the greatest challenge is to find an answer to the question: What are the epistemological and political conditions (that is, in terms of knowledge and power) under which such a 'dialogue of modellers' could take place on a relatively equitable basis?

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BRIDGING THE GAP: COMMUNITIES, FORESTS AND INTERNATIONAL NETWORKS

By Marcus Colchester

Community Forestry is seen today as vital to the promotion of 'sustainable development' in forests. Over the past 25 years, community forestry has transformed from being an experimental means of providing wood-fuel for the rural poor to a community-led movement demanding reform of the forestry sector. International networks to promote community forestry have played a key role in this transformation. Based on a review of ten networks involving seven countries, a recently completed study carried out for CIFOR compiled the main lessons learned from this experience in terms of advocacy effectiveness, communications techniques, network governance, relations with donors and linkage to social movements. The increasing mobilisation of community-based organisations means that supportive NGOs and government agencies now need to play a different role to the one they gave themselves 25 years ago.

Impacts

The ways that international networks have contributed to community forestry are very diverse. Few networks can claim to have had direct impacts at the local level, except through a handful of pilot projects, but then few of the networks sought to achieve change this way. Most of the networks have focused on providing information and services to national level actors to raise awareness, and build consensus, and to arm them with the information, arguments, knowledge, techniques, resources and skills needed to promote national and local change. These contributions have been so various and diffuse, and often indirect, that drawing up a balance sheet of the costs and

benefits of networking is impossible. It has become clear that the collective result of all this networking has been helpful in many countries and crucial in some others, especially those where donors also exert considerable influence. The gains attributable to the networks in international forest policy-making are both more evident and less certain, as for the most part these gains have not yet discernibly influenced national policy reforms, let alone had local effects. Not enough seems to have been done to insert these international policy gains into national reform platforms. A cumulative result of all this networking and advocacy has been a growing global acceptance of the validity of community forestry. New ideas of how to promote it have opened up space to local communities to reassert their rights, revalidate their institutions and customs and adapt to changing conditions.

Key lessons for networks

- Consensus-building networks that seek to include actors from communities, NGOs and government do have an important role to play, but they need to recognise their limitations and distinguish themselves from locally driven networks that are run by the community representatives. Supportive NGOs must also take care not to substitute themselves for local actors.
- Networks also need to recognise the inherent limitations of the networking endeavour and not exaggerate the extent to which they are genuinely democratic and inclusive. De facto networks cannot effectively include more than around 50 individuals or organisations in routine collective decision-making. Trust in a smaller group of leaders is essential. Every network needs to accept that there is an inherent tension between maintaining informality and flexibility and adopting structures and decision-making

processes that ensure transparency and accountability. In choosing their governance structure, networks need to weigh up the pros and cons of different ways of working and have clear reasons for whatever structures they choose.

- Maintaining trust and links with and between communities requires substantial investments of time and resources. Over-reliance on computers - email and the web - for communications will exclude the effective participation of community organisations in many countries for the foreseeable future. Networks need to think through carefully their communications strategies to ensure they do reach those they claim to include. Face-to-face meetings and exchanges, investment in translation and interpretation, and the modest use of newsletters as ends rather than means, have proved their worth and need adequate financing, while some of the new technologies and techniques seem worth experimenting with further.
- In connecting to national and local levels, networks generally have relied too much on a single national or regional focal point for communications: they need both to resource these partners more adequately so they can fulfil their onerous role and find other, complementary means of linking to national and local actors.

Lessons for donors

Community forestry and community forestry networking require sustained support if they are not to wither away. More support is needed to build up social movements and community-based networks, even those that are critical of government and aid agency policies. The challenge is to support the networks in ways that promote accountability without imposing artificial goals, targets and structures. Support needs to be long-term and should demand less pre-programmed 'outputs'. It should aim for good processes

rather than results-focused projects; for inclusive sharing and decision-making as much as for specific publications and pre-determined advocacy goals. Participatory monitoring and evaluation has proved its worth to help networks reflect on the extent to which they are being effective and are genuinely reaching those they seek to include.

Conclusion

Now that participation has become a norm in development discourse and even practice, the time has come for a much more critical evaluation of the form of this participation. Multi-stakeholder decision-making, new partnerships, routine engagements with civil society all promise new opportunities for local actors to get their voices heard. But there are also risks that these same processes are creating new divisions and possibilities of social exclusion. The community forestry networks and the social movements that they claim to support both need to be vigilant to ensure that they engage in these processes astutely, using political space that is offered in ways that do not legitimise unacceptable practices or that exclude the rural poor in whose name community forestry is advocated.

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DOES GLOBALISED SCIENCE WORK FOR THE POOR? FOREST PERSPECTIVES

By Melissa Leach and James Fairhead

What effects has the globalisation of science and policy around forests and biodiversity had on the lives of land users in the forests of West Africa and the Caribbean? How has international policy around forests and biodiversity influenced national moves towards greater local authority and resource control? A recently completed study of nine cases in Ghana, Guinea and Trinidad tracks the unfolding relationships among international perspectives, national research traditions, policy processes, media, and local knowledge and livelihood concerns. Despite concurrent processes of decentralisation and participation, local considerations are being reinterpreted within globalised frames. Will this lead to further impoverishment and exclusion for poorer forest users, or are there ways - through public critique and citizen science - to counter these trends?

Science and policy processes

The perspectives and values that frame international scientific and policy debates strongly shape national and local science and policy practices in all three countries. This derives in part from funding flows and dependence on international donors for forestry and biodiversity projects, sectoral budget support and research. In this respect Guinea and Ghana are notably more dependent than Trinidad, which has stronger nationally-funded institutions. However, this international influence also raises wider questions of epistemic relevance: the need for national and local academics and policy

actors to present their work as in tune with topics of global importance and with international best practice. This applies in Trinidad as much as in West Africa.

International engagement also interlocks with particular national institutions and their political constituencies, with science playing into, and at times amplifying existing institutional schisms and turf battles.

Yet although the international research and policy world revitalises national research practices and debates, it tends to cast these within a globalised, universal, rather than a national or local frame and transforms their meaning in the process. Rather than consider the centralising and decentralising forces in science and policy processes as contradictory, then, it is evident that the latter can extend the influence of the former.

The need for true participation

Participation has become central to forestry and biodiversity planning amongst governments, donor agencies and NGOs alike, in national consultations as much as local projects. However in practice, such 'invited' participation frequently is merely an invitation to comply with pre-set objectives within frames of debate that obscure the experiences, perspectives and political and material interests of poorer forest users.

Several problems result as the values and experiences of land users are eclipsed.

- First, interventions can be justified that are inappropriate to local circumstances, reducing local resource control and worsening poverty.
- Second, forest management continues to rest on particular ideas of nature as separate from society, and as stable and predictable. By obscuring historical experiences that reveal both the intertwining of ecological and social processes and the non-equilibrium forces

shaping environments (e.g. in climate history), forest management may pursue illusory goals and miss opportunities to adapt to emergent trends.

- Third, science and policy debates continue to invoke and reproduce particular ideas of society, including positive social categories (e.g. 'traditional' hunter, 'modern' environmentally literate citizen) and negative ones (e.g. squatter, charcoal-maker, slash-and-burn farmer, poacher, drug grower). Such caricatures contribute to simplified stories, and influence who gains and loses from intervention. They also shape and sharpen social fault lines that have a strong bearing on processes of governance and social change. As such categories become globalised, there is less opportunity for clashes of values to be negotiated locally.

The role of mass media

Mass media and education institutions are closely integrated with international science and policy institutions and processes. The institutional practices and narrative styles in media and education (and the popular culture they inform) amplify and reinforce dominant policy framings, narratives and social categorisations. This is as true in West Africa, where media and education are directed to reforming the perpetrators of rural environmental problems, as in Trinidad, where it creates more environmental literacy among urban-based and other populations less dependent on forest livelihoods. While media can help create a mutually supportive field of messages, in Trinidad, they have also been an important vehicle for public contestation of both policy and science.

Whatever the direct effects that international agreements and deliberations may have, it is important to recognise their indirect effects in shaping scientific and policy communities. The institutionalised aspects of these

agreements are only a small part of a much more extensive field of transformation. They alter the questions that are posed about the environment, and influence the social categories through which it is understood, serving to naturalise and stabilise them.

Building pro-poor forest science

How can poorer forest users genuinely shape forestry and conservation agendas in an increasingly globalised world of science and policy? Through strengthening participation not just in policy but also in science, and here there is a role for participatory research strategies and deliberative procedures in which poorer forest users help to set agendas and questions. To be effective, however, such procedures need to be opened up to a diversity of problem-framings, and to pay particular attention to the inclusion of those social groups delegitimised by conventional, globalised analytics.

Broader means for forest users' perspectives to influence science and policy are also important. These include promoting aspects of political and legal culture that enable critique, building citizen scientific confidence and skills, and making space for people's own science, knowledge and interests to shape and inform research and policy debates. Media and educational strategies could be directed to making explicit the evidence, values, and uncertainties underlying particular scientific and policy positions, enhancing and empowering public capacity to critique and engage in scientific and policy debate.

To balance the dependence of national and local research on the international agendas and values that are shaping them, donor support for independent, critical research within national and local institutions is needed. This could enhance capacity to respond to and engage with forest user's

own agendas, and help build alternative discourse coalitions to promote the perspectives of the poor - perhaps linking university researchers, NGOs and citizens' groups. At the same time, building better-informed and more reflexive international scientific and policy processes is important, requiring new procedures that allow perspectives from local settings to feed into and shape the terms of debate.

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II THE FEASIBILITY OF PAYMENTS FOR ECOSYSTEM SERVICES

One of the greatest challenges facing the forest sector today is to reconcile the conflicting demands of different stakeholders for the many goods and services, forests provide. Besides being a valuable source of timber and non-timber products, forests offer important environmental services such as watershed protection, biodiversity conservation and carbon sequestration that help sustain life on Earth. Hardly ever do beneficiaries pay for the services they receive, resulting in low incentives to conserve forests. The implementation of payments systems for ecosystem services supports the recognition of the true economic value of forests. Globalisation

provides opportunities for such market-based incentives for forest conservation and income generation for the communities that manage the forests. The following contributions provide some examples - with the lessons learnt, the pitfalls and dead ends.

- S Developing synergies between carbon sinks and sustainable development through forest certification (Catrinus Jepma)
- S Carbon as a non-timber forest product (Margaret M. Skutsch)
- S Towards socially and environmentally friendly carbon sequestration: learning from pilot projects in Bolivia and Brazil (Peter May, Emily Boyd, Fernando Veiga and Manyu Chang)
- S Leakage in CDM projects: are forest and energy projects equally troubled? (Arild Angelsen, Jens Aune, Stein Holden and Solveig Glomsrød)
- S Economic valuation of the local and global value of tropical forest: a comparison between the Leuser National Park (Indonesia) and the Iwokrama forest (Guyana) (Pieter van Beukering)

DEVELOPING SYNERGIES BETWEEN CARBON SINKS AND SUSTAINABLE DEVELOPMENT THROUGH FOREST CERTIFICATION

By Catrinus Jepma

The Kyoto Protocol contains a greenhouse gas emission limitation and a reduction commitment for industrialised countries (Annex 1 parties) which can be achieved through measures that reduce greenhouse gas emissions and through activities enhancing sinks. Forestry projects in the form of reforestation and afforestation are now

included in the project cooperation between industrialised and developing countries under the Clean Development Mechanism (CDM).

During the past decade, and quite unrelated to the Kyoto Protocol, certification systems for forest management and a chain-of-custody for certified forest and timber products have been introduced based on a set of forest management principles, guidelines, criteria and standards.

The question is: is there scope for synergies between enhancing carbon sinks and sustainable forest management through forest certification?

With respect to these synergies the following points are to be considered:

1. The degree to which synergy can be achieved between forest management certification and sinks certification depends on a number of factors such as the accounting framework under which the activity will be reported (as specified in various articles of the Kyoto Protocol), the type of forestry activity, the level of measurement, the scope and time horizon implicit in the implementation of the instruments (a short-term vs. a long-term or infinite time horizon) and the cost of implementation at the management unit level.
2. Trade-offs between the main criteria relevant for forest management certification and the criteria used only for the assessment of sink activities can emerge under many circumstances. Such trade-offs can only be dealt with if the responsibilities for the implementation are defined clearly and if clear rules are established on how to resolve any conflict between the forest management certification and sink targets without compromising the aims of both schemes.
3. Both practices could conceivably be developed in more detail on the basis of private initiatives in accordance, or otherwise,

with a formal framework such as the UN Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol. The ratification of the Protocol may lead to the issue of forest management certification being relevant to various of its sink aspects .

4. As far as the role of sinks under the Joint Implementation (JI) is concerned, it is yet to be understood if and how sinks-related Emission Reduction Units (ERUs) would make use of forest management certification and what the decision-making structures on that issue would be. Both UNFCCC and the Kyoto Protocol refer to sustainable development. This would suggest that sustainability criteria might be necessary when considering sinks activities under the JI. We should keep in mind that neither sinks nor forest management certification automatically contribute to sustainable forest management.

5. Processes which try to enhance the compatibility between, and integrated implementation of, forest management certification and sinks certification may be complicated by the fact that the first is essentially is a voluntary, market-driven instrument, whereas the second is ultimately an official government instrument, albeit complemented with private sector exercises outside the Kyoto Protocol.

6. At the implementation level, the accumulated experience from forest management accreditation and certification and verification programmes may provide useful lessons for developing and implementing sink accounting procedures. Conversely, work on sink-related issues such as permanence and uncertainty, project boundaries and leakage, as well as baselines, may provide useful insights into the further development and cost-effectiveness of forest management certification.

7. Finding synergies between forest inventory

and management planning, forest management accreditation, certification and verification procedures on the one hand and comparable sinks procedures on the other may be useful especially in case of forest areas which are considered for both processes. Such synergies may help to overcome a lack of economies of scale in small parcels of land.

8. The voluntary implementation of forest management certification may enhance sinks by setting up technical capacities for measurement, management plans consistent with the goal of sustainable development, familiarity with relevant concepts and definitions, as well as independent verification variables. All these factors may make it easier and less costly for the forest owner to be rewarded for carbon sequestration as well.

9. Areas of potential synergies between certification of forest management and carbon sequestration that need to be explored, may include:

- Whether common methodologies, definitions and concepts can be developed.
- The building of capacity which is required for both instruments.
- Whether forest management certification and other management tools could contribute towards the preparation of accurate inventories through the provision of data relating to land-use changes and changes in the growing stock.
- Whether forest management certification, if further developed, may verify the implementation of measures or a lack of those, both positive and negative, that affect sinks.
- Whether auditing procedures could be complementary to forest management and sinks certification even if both instruments require separate protocols and accreditation.
- Whether general procedures of existing

accreditation bodies (e.g. for ISO 9000 and 14000 series standards) could be applicable to sinks validation, verification and certification systems after having been augmented to deal specifically with sink projects.

- How group certification may reduce barriers (e.g. costs) for individual (small) forest owners to implement forest management certification schemes and facilitate the implementation of (bundled) sinks activities.
- Whether and to what extent any sinks credit return may provide additional financial support to the private sector for also implementing forest management schemes (e.g. cap management), or the reverse, where forest management certification may give added value and marketing advantages to carbon sequestration.

There is certainly some scope for synergy between forest management and carbon sequestration certification. Many questions at both the conceptual and implementation level need to be addressed however. One such question is whether alternative, simpler and more effective procedures can be developed to meet the goals of the Kyoto Protocol, for instance by not seeking to combine forest and carbon certification.

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CARBON AS A NON-TIMBER FOREST PRODUCT

By Margaret M. Skutsch

Under the Kyoto Protocol, forestry is permitted as a sink measure under the Clean Development Mechanism (CDM), but only in the form of 'afforestation' and 'reforestation'. These two forms are essentially plantation systems which, although cost effective in terms of carbon sequestration are in most cases not very beneficial to local populations, who depend on existing and bio-diverse forests for a large number of products. Many communities, however, transform unsustainable forest management practices (processes of degradation) to sustainable management under a variety of programmes unrelated to climate change policy. Examples include the Joint Forest Management programme in India, Forest User Groups in Nepal and community forest management in West Africa. This change to sustainable management has a two-way effect as regards carbon saving: it increases the sink capacity of the forest and, where harvested for firewood, it provides a perpetual renewable energy source. This form of forest management is, however, not recognised under the Kyoto arrangements.

Uncertainties

One of the reasons for not recognising the sink capacity of community-based management initiatives under the Kyoto Protocol is undoubtedly the difficulty of measuring the carbon saved and various uncertainties such as leakage and permanence. There are strict rules about how carbon saved can be measured and rigorous data will certainly be a prerequisite if such projects are to be accepted as 'climate' projects in the future, so that communities may access funds for them under Kyoto. However, the cost of employing professional scientific methods to gather and

process such data (the so-called 'transaction costs') are likely to be prohibitive, meaning that any financial gains by the community as a result of 'selling' their carbon, will be wiped out. The trick is then to find techniques which can, at least, partially be carried out by the communities themselves at much lower cost and also to demonstrate that these are as reliable as 'expert' methods.

The utility of GPS/GIS devices

A research project, sponsored by DGIS, is being carried out by the University of Twente (the Netherlands), ITC and three regional research institutes (in Nepal, Tanzania and Senegal) to test the use of handheld GPS/GIS devices in conjunction with wide angle photography, as well as related methods used by local communities that are already engaged in sustainable community forest management schemes. The research institutes are working with local organisations involved in community forest management activities in ten countries. The purpose of the research is to demonstrate that such communities can make reliable assessments of the increased sink values of their forest and monitor this over an extended time period. Hopefully, data gathered in this way will also be acceptable to international bodies responsible for verifying carbon offsets. If this objective can be realised, the forest-based livelihoods of these communities may be supplemented through the 'sale' of their carbon savings.

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TOWARDS SOCIALLY AND ENVIRONMENTALLY FRIENDLY CARBON: LEARNING FROM PILOT PROJECTS IN BOLIVIA AND BRAZIL

By Peter H. May, Emily Boyd, Fernando Veiga and Manyu Chang

The potential for regulatory measures to succeed in abating deforestation and protecting the environmental services that forests provide, such as carbon sequestration, have been limited. In response, innovative approaches to conservation and carbon sequestration are emerging among civil society and producer organisations in many parts of Latin America. Yet, the use of markets for global environmental services and their role in generating local sustainable development benefits remains a contentious issue, with little in-depth micro-level research into the impacts of market incentives on small or marginalised communities.

The Clean Development Mechanism

Carbon sequestration projects aim to generate carbon credits based on Article 12 of the Clean Development Mechanism (CDM) of the Kyoto Protocol benefiting their executors, their financiers, as well as global society. The CDM is one of the Protocol's so-called flexibility mechanisms. Article 12 foresees that an Annex 1 country (developed countries and economies in transition) can acquire carbon credits generated through projects developed in non-Annex 1 countries (developing countries) to abate part of their greenhouse gas emissions reductions commitments ratified in the Kyoto Protocol. A key tenet to the CDM is that projects must contribute to the sustainable development of host countries according to national sustainable development criteria. In Brazil and Bolivia, as in most developing nations, these criteria are still being defined. However, discussions on defining these criteria are already taking place within

government institutions, with some participation by academic groups and non-governmental organisations.

Four case studies

We set up a research project aimed at exploring the extent to which carbon sequestration projects may actually contribute to national sustainable development as suggested by global policy and with a view to suggesting avenues for project design and implementation to pro-actively enhance local benefits. More specifically, the study aims to assess the socio-economic and environmental impacts of three of the principal pilot carbon sequestration projects underway in Brazil (Plantar, Peugeot and Bananal) and one (Noel Kempff) in Bolivia. Two of the four projects evaluated are predominantly commercial, yet have different commercial objectives in the context of their respective sectors. The Plantar project aims to make the pig iron sector viable through international carbon credits, whereas the Peugeot project aims primarily to seek a way to counteract the negative environmental image of the high CO2 emitting automotive manufacturing industry. The Bananal project has more of an experimental character in its 'social carbon' profile, seeking to anchor local socio-environmental development with carbon generation. The Noel Kempff project in Bolivia stands out in its approach to carbon retention in the tropical forest by buying back logging concessions and by promoting alternative activities to forest encroachment by local communities. This project is one of the oldest, largest and well-known existing forest carbon projects.

Metamorphosis

A common feature shared by all pilot carbon projects in Brazil and by the Noel Kempff project in Bolivia, is the fact that although all began with defined objectives, they have metamorphosed both in terms of their specific objectives and operational features. In other

words, they go through a process of adaptation as the climate regime regulations evolve internationally and as they learn by doing things locally. As early starters, they often run the risk of being left out of the categories defined as valid by the negotiators to the Conference of Parties for carbon credits and some are pure learning experiences.

Lessons learnt

It became clear from the study that stakeholder participation should be enhanced when designing, implementing and evaluating outcomes of projects. In the four projects reviewed, participation by local community members was found to be limited. It is necessary to seek stakeholders' opinions objectively and to ensure that the project concept be transparent to all since its inception. Social assessment should be pursued through participatory processes which may significantly affect the potential that local social development is generated by CDM projects.

From the point of view of social inclusion through support towards local development by projects, a key issue is the degree of participation by surrounding residents in the 'core business' of the commercial projects, i.e. the generation of carbon credits. Even if such participation is marginal to project objectives, it may come to have a more important effect on local development than that resulting from indirect economic spin-offs of project actions. For the communities, taking part more effectively as a project partner can produce many socio-economic benefits, not least of which is income generation and/or access to credit from the direct sale of environmental services as well as the stimulation of local capacity to undertake new projects.

Forest carbon projects, like some agricultural commodities, depend on a reasonable minimum area to guarantee profitability. Due to the considerable transaction costs, particularly

those incurred in negotiating contracts, carbon monitoring, carbon credit commercialisation and technical assistance for the implantation of technical operations, large areas are typically necessary to amortise these costs. From a social perspective, this requirement would contribute to a new source of rural land concentration. In this sense, the carbon market would repeat the same process that occurred with other agricultural commodities in Brazil, such as coffee, sugarcane and eucalyptus. One way to avoid this reconcentration process is to involve local community members from the outset as partners in the undertaking, through outgrower activities, similar to contract plantations used in many forest enterprises the world over.

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LEAKAGE IN CDM PROJECTS: ARE FOREST AND ENERGY PROJECTS EQUALLY TROUBLED?

By Arild Angelsen, Jens Aune, Stein Holden and Solveig Glomsrød

What are the properties of land-use change and forest projects versus energy projects in the context of the Clean Development Mechanism (CDM), and what are the leakages associated with such projects when the project boundaries are widened? We seek to answer these questions by simulating farm household adaptation to a carbon sequestration premium in Ethiopia and by then comparing the results with work done earlier on leakage in energy projects in China

LINKING SMALL FOREST STAKEHOLDERS WITH GLOBAL ENVIRONMENTAL CONVENTIONS : THE ROLE OF UMBRELLA PROJECTS

By Bruno Locatelli, Jaime Black and Lucio Pedroni

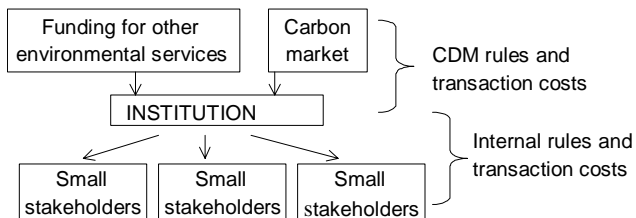
Global environmental conventions may encourage sustainable forest management practices, with positive socioeconomic and environmental impacts, such as biodiversity conservation or climate change mitigation by carbon sequestration. The United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol created two new instruments that may provide incentives to tropical forestry activities. This first one is the Clean Development Mechanism (CDM), which allows forestry projects in developing countries to sell carbon credits to industrialised countries, proportionally to their additional sequestration above a baseline. The second one is related to the Adaptation Funds of the UNFCCC. Although its scope is not yet well defined, some forestry activities such as forest conservation or forest landscape restoration in degraded watersheds may be considered as adaptation measures.

In Bonn (2000) and Marrakech (2001) the Conference of the Parties on the UNFCCC decided to restrict the eligibility of forestry project activities in the CDM to afforestation and reforestation. At the next Conference of Parties in Italy (November 2003), the modalities and rules for this type of project activities will finally be specified. However, an analysis of the draft decisions on modalities and rules and of the future carbon market shows that the complexity of the rules and the transaction costs of generating carbon credits may prevent small projects to benefit from the CDM (Locatelli and Pedroni, 2003). The question of project scale is relevant from a least three points of view: equity, as small community forestry projects and entire small countries may be excluded from the CDM; impacts on local development and environment, including on biodiversity, as large projects are believed to be more prone to negative impacts; and leakage, as large projects may inundate local or regional forest product markets thus lowering prices and discouraging other plantation initiatives.

The umbrella framework

If the international negotiations do not agree on specific rules for small projects, rewarding the environmental service of carbon sequestration by small stakeholders will become possible only through umbrella projects. This type of project framework considers a national or local organisation dealing with the international carbon market and managing at the same time many small plantation projects. The advantages of this institutional setting is not only that small stakeholders can participate to the CDM, but also that other environmental services, such as watershed protection and biodiversity, and forest products may be traded locally and internationally (see Figure 1).

Figure 1. Umbrella project framework



The advantages of umbrella projects are not without prerequisites that must be analysed since the project design phase. Among these are the following:

- The organisation must be able to manage a number of small projects without increasing the transaction costs too much. This requires strong organisation and management, and a good knowledge of the local context.
- A loan or incentive that is sufficiently attractive for the small stakeholders must be dispensed and at the same time must ensure the financial equilibrium of the whole project.
- The organisation must guarantee the long-term commitment of its small stakeholders through contracts. For example, the reimbursement of the loan can be done through a transfer of the right to sell carbon credits to the organisation, or through a project-specific value assigned to the ton of carbon stored in the forest of the project participants benefiting from the loan.
- The organisation requires to have at its disposal a sufficient buffer of areas in its own hands or in those of potential future stakeholders in which new forests can be planted for replacing carbon stocks that might disappear in the future because of fires, pests, harvest or farmers that decided to quit the project. This would ensure a permanent carbon storage. As the non-permanence issue represents a strong disadvantage of using forestry projects instead of energy projects for the mitigation of climate change, umbrella projects may be able to prove that carbon storage in forests can be long-term if not permanent.

Examples from Costa Rica

Some existing organisations may serve as examples for developing such an umbrella framework. In Costa Rica, the National Fund for Forest Financing (FONAFIFO or *Fondo Nacional para el Financiamiento Forestal*) pays for environmental services provided by a forest owner through a legally established mechanism called PSA (*Pago por Servicios Ambientales* or Payment for Environmental Services). This instrument considers four environmental services (carbon storage, biodiversity and watershed protection, and scenic beauty) which are paid to three types of activities: forest conservation, forest plantation and agroforestry. At the local level, some organisations (like FUNDECOR) help small stakeholder to access to this instrument and provide technical advice.

The concrete experience of Costa Rica and of other countries may be useful for investigating umbrella project set-ups in particular regarding institutional aspects and internal transaction costs. Another important aspect of a research on umbrella projects would be to investigate farmer's perceptions and decision making about such projects. Finally, the viability of umbrella projects strongly depends on international carbon prices, certification procedures and quality attributes that shall be explicitly or implicitly attached to carbon credits. Exploring these complex interactions between local stakeholder behaviour, attributes of the umbrella organisation and international carbon market requires the development of models and simulation tools that might support the design and management of these projects.

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and elsewhere. The results challenge a widespread view that carbon leakage from energy projects in developing countries is moderate and lower than land-use and forestry projects.

Our model simulates a coordinated adjustment of farm production and consumption following a CDM-induced change in economic incentives. The carbon cycle and sequestration of carbon associated with different farm activities is explicitly modelled. Household energy use is included in the carbon cycle, along with different land uses, farming practices and consumption activities.

As a result, the efficiency of carbon sequestration and the resulting farm earnings in the hypothetical CDM project can be traced. The leakage effects will be discussed based on the gap between the on-farm response to the carbon premium and the resources available within the farm boundaries.

Possible off-farm effects are also reviewed. In the event of tree planting being stimulated and the associated products such as firewood or poles competing directly with products from natural forests, the leakage can even be negative. Generally, the leakage will depend both on the product and labour market characteristics and the effects in some stylised cases are discussed.

We compare the potential leakage in the land-use change project in relation to empirical studies of leakage in energy-related CDM projects in developing countries. Empirical evidence from China indicates substantial carbon leakages in energy projects. We discuss the relevance of these results for CDM projects in developing countries and their possible implications for an improved design of CDM projects in poor rural economies.

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ECONOMIC VALUATION OF THE LOCAL AND GLOBAL VALUE OF TROPICAL FORESTS: A COMPARISON BETWEEN THE LEUSER NATIONAL PARK (INDONESIA) AND THE IWOKRAMA FOREST (GUYANA)

By Pieter van Beukering

Policymakers at various levels increasingly ask for information on the value of goods and services provided by tropical forests. They increasingly learn that deterioration of tropical forests does not pay off in the longer term. Local and national policymakers are beginning to agree that the value of natural resources depends not only on the market prices of its direct uses, but also on all other functions of the natural resources that generate value in its broadest sense. Especially now that policy discussions are aimed at a better understanding of these 'hidden values', there is a need for the development of new simple tools to come to a 'fuller' valuation of these scarce resources and to make better decisions. A method central to this effort is 'economic valuation'.

Economic valuation in international nature conservation

Two case studies carried out in different regions - the Leuser National Park in Sumatra, Indonesia and the Iwokrama Forest in Guyana - are illustrative of the possibilities and limitations of using economic valuation in designing international nature conservation. We can explain the conceptual role of valuation by determining the economic benefits of tropical rain forest at various scale levels in society. The concept of benefit transfer can assist in applying economic values of an existing study to other areas or situations. To illustrate this aspect of economic valuation and to explain the danger of applying benefit transfer in a too simplified manner, we compare and analyse the results of both case studies.

The need for different approaches

It is shown that, because of the high population density and subsequent importance of indirect use values, the efforts in the Leuser National Park should mainly focus on protecting the Leuser Ecosystem against encroachment and illegal logging. If the ecological integrity cannot be maintained, the negative economic consequences in terms of loss of water supply and increased flooding and drought events can be enormous. Most of the benefits are already operational, despite the fact that they may be 'hidden'. In Iwokrama, an opposite movement must be set in motion. Rather than frantically protecting the forest, sustainable ways should be found to materialise the potential values present in the forest. To realise this, a central organisation is required to take the initiative and establish the link between local supply and global demand for the ecological functions of the Iwokrama forest. Without the presence of the Iwokrama Centre, it is quite unlikely that different types of foreign grants and investments such as carbon credits, bioprospecting and conservation grants would be made.

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III OPPORTUNITIES FOR FOREST MARKETS TO BENEFIT LOCAL LOW-INCOME PRODUCERS

Both globalisation and localisation create new market opportunities for low-income producers in tropical forest areas. Globalising markets and environmental concerns create new niche markets for certified forest products and environmental services. Localisation increases control and ownership of forest through the devolution of land rights to indigenous populations, forest communities and specific groups of forest users. The demand for socially responsible forestry provides an incentive to democratic forest governance and protected land rights (Scherr et al., 2002). The following contributions discuss whether markets for ecosystem services and non-timber forest products can stimulate sustainable forest management and how, and under what conditions and partnerships, they can benefit the poor in tropical forest areas.

- S Time for something different: putting markets to the service of the forest-dependent poor (Sara Scherr, Andy White and David Kaimowitz)
- S How can the organisational challenges to multi-scale partnerships between forestry companies and local communities be

overcome? (James Mayers and Sonja Vermeulen)

- S The scope for improving livelihoods on the basis of commercial non-timber forest production (Mirjam A.F. Ros-Tonen and Freerk Wiersum)
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**TIME FOR SOMETHING DIFFERENT:
PUTTING MARKETS TO THE SERVICE
OF THE FOREST POOR**

By Sara Scherr, Any White and David Kaimowitz

Among development planners, paradigms regarding the role forests should play in social and economic development have changed dramatically over time. At the end of the colonial period, what could be called the large-scale industrial approach dominated. This was characterised by government-dominated forest industry and

markets and industrial forest concessions. This model persists in many countries today, although it has been under increasing attack because of the numerous social, environmental and economic costs of public-led and subsidised industry and because of the widespread failure to recognise indigenous and other community rights.

Addressing conservation and rural poverty
Public reactions to forest conversion and degradation in the 1970s and 1980s led to the establishment of new public protected areas, along models from developed countries where rural populations are now low. Growing concerns about rural poverty led to the 'social forestry' approach in the 1980s and 1990s which focused on forests as 'safety nets' for low-income forest dwellers and emphasised access to forest resources for the poor to meet their subsistence needs. A variant on this approach, the integrated conservation and development approach, developed in the late 1980s to address both conservation and development goals and encouraged local people to adopt livelihoods that do not damage the, usually publicly-owned, forest.

Whose right?

By and large, these approaches have failed to reduce forest degradation or poverty on a significant scale. All have embodied the assumption that outsiders, rather than local indigenous and other communities, have the right to decide who benefits and that outsiders rather than locals have the right to control use and arrange markets to suit their interests. Moreover, all have assumed that national and global goals of supplying timber and other forest product demands and achieving adequate conservation can be achieved without active management by local people. Indeed, the many ongoing struggles by local groups to gain recognition of their rights and market their forest products, suggest that it is time to take a fresh look at the role of forests

in development and address the question of who has the right to benefit from forests.

Market opportunities

Contrary to having a purely subsistence relationship with forests, most of the 500 million or so low-income people living in and around forests are already integrated into market systems, although they are usually poorly served by them. A growing body of research is revealing that not only are the forest poor active in markets but that forest markets provide real opportunities for substantial income gains and that the market segments where the poor are active are large, are growing and are globally significant. Unfortunately though, these opportunities are sharply limited by policies and market structures established by outsiders, who presume that they have the right, as well as the authority, to determine who should benefit from the world's forests.

A new publication by Forest Trends (*Scherr et al., 2003*) describes opportunities to achieve both conservation and poverty alleviation goals (goals that are held by local, national and international groups), presents a new agenda for achieving these goals and calls for new and heightened attention by development planners, industry, conservation groups and governments, as well as groups of low-income producers. The publication will be available on the Forest Trends and CIFOR websites in June 2003.

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Scherr, S., White, A. and Kaimowitz, D. (2003). A new agenda for achieving forest conservation and poverty alleviation: making markets work for low-income producers. Washington: Forest Trends / Bogor: CIFOR.

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**HOW CAN THE ORGANISATIONAL
CHALLENGES TO MULTI-SCALE
PARTNERSHIPS BETWEEN
FORESTRY COMPANIES AND LOCAL
COMMUNITIES BE OVERCOME?**

By James Mayers and Sonja Vermeulen

The international wood fibre industry is increasingly driven by market globalisation and demands for decentralisation and democratic local-level governance. Partnerships between multi-national forestry companies and local community groups or individuals are emerging as a response to these forces. An international review of the wide variety of partnerships, deals and informal arrangements between forestry companies and community partners, coordinated by the International Institute for Environment and Development (IIED) and covering over 50 cases in 22 countries, has identified successes and sticking points. A few of the key challenges encountered by the private sector and local actors in working together are highlighted in this article.

Complexity and transaction costs: rigid versus flexible models

One of the biggest hurdles for companies is how to deal with a large number of scattered farmers or groups - not only how to collect or distribute raw materials and products efficiently, but also how to negotiate, determine roles, reach agreements, establish cost-benefit sharing mechanisms (with groups and within groups) and continually review the arrangements. Communities suffer from similar problems of scale that beset companies. As individuals they have a limited ability to negotiate efficiently and effectively, or to access affordable services such as transport.

Companies tend to favour simple, replicable

models for dealing with transaction costs, based on standardised contracts and a clearly delimited set of extension services and channels for communication. The simplicity in itself may be an asset in attracting farmers and communities, but may also be at the expense of the flexibility required to make deals suit local circumstances and bring benefits to local livelihoods. More effective company strategies devolve power and budgets to local staff, while maintaining core principles of partnerships - a 'loose-tight' model of management. For communities, the key solution is to create groups, cooperatives and other alliances. Even small associations can improve efficiency significantly, as cooperatives of women outgrowers have discovered in South Africa. Locally based, smaller organisations may offer better services to communities: Indian outgrowers have found that cooperative banks process loans much more quickly than the bigger commercial banks. Third parties can also be crucial in spreading the costs of transaction. Government forest bureaux in China, for example, play a useful brokerage role between groups of farmers and multinational forestry companies.

Uncertainty - how to cope with risks

Forestry is a long-term and uncertain business and dependence on a partner adds another element of risk. The typical business approach of coping with risk, through financial insurance, is an ingredient that is missing from company-community deals because small-scale farmers are unable to secure insurance policies. Internationally there is a tremendous untapped opportunity for the insurance sector, particularly smaller local companies, to find a niche as a service provider to company-community forestry collaborations. Small-scale farmers and community groups could also benefit from using growers' associations or other groups to provide an attractive business option for agricultural insurance companies.

Risk mitigation can also be built into the contractual arrangements between company and community. The capability to resolve uncertainty and cope with risks may be improved where schemes are introduced in phases, rather than using a bandwagon approach, and where both sides keep ambitions simple at first, within a learning cycle philosophy. Outgrower schemes in Indonesia and Australia have benefited from the renegotiation of contracts as market conditions have changed. A similar degree of flexibility can be built into the more technical aspects of tree-growing partnerships in order to reduce associated risks. One problem in South Africa has been outgrowers harvesting immature trees and thus losing out on profits, simply because they panic about mounting debts to the partner company. A solution to this is to design farming systems to include early revenues from trimming trees, partial harvesting or intercropping.

Single or mixed production systems?

Company-community deals need to consider the trade-offs between forest goods and services and between forestry and other land uses. Local groups seek multiple benefits from forests for different purposes. Emphasis on single commodities in forest areas has historically been associated with community disenfranchisement and poverty after a short boom. Simple forestry models, as opposed to accommodating mixed land use, may prejudice against local livelihoods by encouraging broad-scale transformation of rural landscapes to forestry, and a type of forestry based on single species and single products. When markets are dominated by the economies of scale, farm-forest systems are unlikely to be recognised and profitable.

Under pressure from community partners, some companies have conceded better terms for multi-purpose forest management in agreements with outgrowers and tenant farmers. In South Africa, companies have

found that intercropping with legumes in the first two years not only gives growers early income, but also improves soil fertility. Where markets for raw materials are more competitive, as in India, small-scale producers of wood fibre are not controlled by minimum areas under trees and are able to divide farm land among multiple uses, sometimes confining trees to small strips along field boundaries.

Both companies and communities can consider activities other than tree growing. Secondary processing is generally more profitable than production, for instance, and emerging small-scale businesses in countries including Canada, Papua New Guinea and Mexico have found that forest service industries, such as transport, chainsaw operations, inventory and mapping, can be very successful options. Some non-timber forest products are highly profitable, for example those feeding into horticulture business. Other options include tourism and the management of forests for environmental services for which there are emerging markets.

Further information:

More information on this article can be found in:

Mayers, J. and Vermeulen, S. (2002). Company-community forestry partnerships: from raw deals to mutual gains? Instruments for sustainable private sector forestry series. International Institute for Environment and Development: London, United Kingdom. (<http://www.earthprint.org>)

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THE SCOPE FOR IMPROVING LIVELIHOODS ON THE BASIS OF COMMERCIAL NON-TIMBER FOREST PRODUCTION

By *Mirjam A.F. Ros-Tonen and K. Freerk Wiersum*

Since the early 1990s, the role of non-timber forest products (NTFPs) as a catalyst for sustainable forest use and poverty alleviation of forest-dependent people has received increased attention. NTFPs were expected to offer a model of forest use which could serve as an economically competitive and sustainable alternative to logging. Once results became available from research initiated to test this assumption, it was found that major modifications to the original proposition had to be made. It is now acknowledged that NTFPs are very diverse and that the scope for NTFP exploitation is both product and location-specific. NTFP research should pay more attention to the overall livelihood strategies of people and the contextual factors affecting them.

New propositions

Based on a review of theoretical and empirical studies, we assessed the potential for improved forest-based livelihoods and the conditions under which this potential can be realised. This review demonstrates how NTFP studies gradually evolved from a resource focus to a landscape and livelihood (or 'resource-in-context') focus. The first studies focused mainly on the potential of natural forests for NTFP extraction. In later studies, the focus extended to include the total landscape used by local communities. As a result it is now clear that there are more

sources of NTFPs than natural forests and that each vegetation type has its own potential for contributing to sustainable rural livelihoods.

The second major shift in the focus of NTFP studies concerns an increased livelihood-oriented approach to forest use and NTFP production, including the socio-economic and spatial contexts in which livelihoods are embedded. This led to the recognition that the notion of 'forest-dependent' people needs further refinement. Various categories of forest users exist which differ in their relation to, and interference in, the forest. Forest resources play different roles in the livelihood strategies of various user types, ranging from being a substantial source of food, materials, medicines and equipment in relatively undisturbed forest conditions, to sources of supplementary products in mixed landscapes or situations where alternative livelihood options are available.

In short, two new propositions emerged in addition to the original one concerning NTFP extraction from natural forests contributing to both forest conservation and improved livelihoods:

- The contribution of NTFPs to improved livelihoods can best be assured through a process of gradual domestication of NTFPs in human-modified (agro)forest types; and
- The way NTFPs contribute to peoples' livelihoods can best be understood by taking livelihoods rather than NTFPs as the central focus of study.

Prospects for improvement

Forest-based as well as other rural livelihoods are undergoing rapid changes. There is a growing tendency among forest-adjacent communities to seek a livelihood strategy which combines forest-based production with farming and off-farm activities. The opportunities available are related to access to

urban and external markets and available infrastructure. These locational factors should be taken into account when assessing the scope for NTFP production. Moreover, attention should be given to areas where forests perform an important environmental function and where NTFP production can be part of a participatory, multifunctional forest management strategy.

Although NTFPs may play an important role in meeting subsistence needs and in acting as one of the scarce sources of cash income or as a safety net in emergency situations, the scope for improving people's livelihoods on the basis of NTFPs seems to be feasible only if the following conditions are fulfilled:

- Producers have secure tenure rights (e.g. extractivist reserves in Brazil);
- Producers can combine NTFP production with other rewarding economic activities (farming, logging and/or off-farm employment) to overcome seasonality and price fluctuations;
- Products can be harvested efficiently from areas where the abundance of NTFP-producing species increased as a result of tending, enrichment planting and domestication;
- Products have established markets (e.g. Brazil nuts, palm heart and bamboo) or the potential to reach promising niche markets (e.g. eco-tourism and fair trade markets, 'eco-friendly' and certified products);
- Producers live in areas relatively close to urban markets;
- Producers have the capacity to add value to the product (e.g. handicrafts, furniture making, or processing of food products);
- Producers are organised and maintain effective alliances with outsiders (research and development agencies, trading organisations, research institutions and NGOs) that may help identify new markets and potential donors.

To improve the prospect of NTFP production, further attention needs to be given to:

- Identifying areas where people depend to a large extent on forest resources, so that access to these areas can be secured in land-use planning;
- Clarifying forest laws and regulations that hinder or facilitate the commercialisation of NTFPs;
- Designing participatory forest management plans for the exploitation of forest products (including small-scale timber products) from natural forests;
- Developing optimised production systems in human-modified and man-made vegetation types;
- Developing processing techniques which add value to NTFPs;
- Searching for optimal marketing channels and opportunities;
- Investigating options for more equitable commercialisation patterns.

Conclusion

The increasing incorporation of rural areas into external commercial networks means there is some scope for improving livelihoods on the basis of NTFP production through the gradual domestication of NTFP species in anthropogenic forest types as well as through the creation of NTFP-related jobs (e.g. specialised manufacturing and trade). Such options seem to be promising, in particular in areas where forests perform essential environmental functions and farmers can develop multifunctional production systems and in areas near urban markets where more specialised forest-related activities are feasible. There is, however, a need for location-specific research into the potential of NTFP production and the conditions under which this potential can be realised. Such research should consider the role of NTFP production in both rural livelihoods and rural landscapes and take account of the impact of contextual factors which influence access to

NTFP production factors and markets.

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**INDIGENOUS FOREST OWNERS:
DOES HIGHER INCOME MEAN
HIGHER PRESSURE?**

By Han Overman and Josefiën Demmer

Trade links with external markets play a central role in strategies that aim to merge improved local welfare with conservation goals. Meanwhile, external knowledge and communication links increasingly lead to the legal demarcation of indigenous territories. Quantitative information about how natural resource use changes when indigenous people become wealthier and more integrated into the market is, however, still scarce. We studied these effects for 2.5 years in the recently approved Tawahka Biosphere Reserve in the Honduran rain forest, by comparing the economic behaviour of a range of households from poor and isolated to wealthy and connected with the outside world, and the effect on forest plants and animals.

The field data provided quantitative insights into:

- The extent to which the intensity of forest use and that of other economic activities change with rising income and integration.
- Changes in people's economic behaviour (specialisation, migration, investment in agricultural tools, chainsaws, shotguns,

their children's education or increased consumption).

- The effects of more wealth and integration on the flora and fauna populations of the forest.
- The question of whether the recently approved Biosphere Reserve is large enough for ecologically sustainable use.

Changing forest use

Forest use appeared to intensify as wealth increased (i.e. the actual value of household assets) and integration into the market (cash transactions with outsiders). Wealthier Tawahka consumed more hardwood, thatch and wildlife. However, the relationship was not linear but instead had an inverted u-shape, with top households consuming less forest products than mid-range ones. In terms of cash income from detrimental activities and agricultural area, forest use increased linearly in a statistically significant way with wealth and integration. We found that doubling wealth corresponded with a 47% increase in forest cash income and 40% in agricultural area. The figures for the market integration level were 74% and 38%. Consumption of agricultural products went up by 46% when wealth or market integration doubled. Consumption of cacao, rice, domesticated meat and dairy products increased, while that of traditional crops like cassava, maize and sugarcane decreased (see Demmer and Overman, 2001 for exact figures). The consumption of industrial products (e.g. hardware, sugar, soft drinks, coffee, cooking fat, flour) went up by 38%, on average.

Woody species used for canoe building and house construction, such as mahogany, cedar, laurel and santa maria, and thatching leaves face more pressure when people become wealthier or more integrated into the market. The same applies to almost all wildlife species (armadillo, collared and white-lipped peccary, tapir, deer, monkeys and larger, non-predatory birds. The hypothesis that larger species will

be depleted first, after which people switch to smaller species, is refuted. Time becomes more precious and people hunt whatever they encounter. The affordability of bullets leads to a huge increase in pressure on non-terrestrials (monkeys, birds). For most households, domesticated meat is too expensive to replace bush meat on a regular basis.

Effects on the forest

We studied effects of wealth and market integration in an isolated and relatively poor village as well as in a more integrated and relatively wealthy one. The rainforest surrounding the isolated and poorer village contained 40% more good quality adult trees and 10% more good quality young trees than the forest surrounding the wealthier and more integrated village. Around the wealthier village there were clear indications that white-tailed deer, capuchin and spider monkey, collared peccary, crested guan and great curassow were being over-hunted. No species was locally depleted, though, presumably because there is still ample sparsely populated forest outside the reserve for replenishment and keeping most wildlife populations genetically healthy.

Sustainable use?

To gain more knowledge on sustainable use, we compared yearly human extraction with production rates in the forest. Contrary to common perception, yearly stem growth, as well as the number of individual trees per hectare of good quality species, appeared inherently low. Adding mortality figures (98% of the trees never become 'giant'), this explains the large extraction areas. Conservative calculations show that with current extraction rates and numbers of families the Tawahka need half of their biosphere for ecologically sustainable use. It should be noted that we optimistically estimated the density at 1.0 mahogany trees per hectare (dbh >10 cm), while the scant

literature available refers to 'less than one per ha'. If mahogany abundance turns out to be 0.5 trees per ha, then the area needed for sustainable use doubles and the Tawahka are already at the boundaries of their territory.

This is where the global community could step in. The sustainable production potential of tropical soils and forests is generally too low to finance local welfare aspirations and may well lead to internal conflicts over the use of communal resources. In compliance with, for example, CO₂ reduction and biodiversity obligations, governments or their representative international bodies could agree to compensate villagers for the foregone benefits of exploiting rain forests beyond sustainable levels. The parties involved would have to reach agreement on the specifics of implementation, but this could be a promising long-term management strategy because it covers the direct interests of the stakeholders: the avoidance of national/global damage costs and biodiversity loss, the improvement of local living standards and rain forest conservation.

Indigenous reserves may be good initial locations to learn. If, however, governments endowed with tropical forest can be convinced that nothing grows sustainably on most tropical soils but rainforest and that developed countries are willing to pay competitively for it being left alone, there may be opportunities to convert other, more recent forest inhabitants, into forest managers as well.

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BAMBOO SECTOR DEVELOPMENT AS A MEANS FOR SUSTAINING FOREST LIVELIHOODS

By Herwig M. Cleuren

Bamboo has always been a vital part of the livelihood of millions of forest-dwelling people in tropical regions. Traditionally, bamboo is harvested in the natural forest and its use is limited to temporal constructions and low-quality utensils prone to rapid decay. Nevertheless, resource management and technical improvements can convert this fast-growing grass into a durable raw material for construction purposes and a wide range of semi-industrialised products. New industrial applications and modern construction design have both demonstrated bamboo's huge potential, but the bamboo sector in China is the only one reported to be thriving. In the last 20 years China has established an integrated production chain of bamboo plantations, semi-processing and industrial plants manufacturing bamboo flooring, furniture, furnishings, charcoal and fresh bamboo shoots for the domestic and export markets.

New opportunities

There are promising trends outside China where bamboo is being grown as a durable building material and income-generating resource for rural people. The Philippines has a rural bamboo handicraft sector that has been able to reach European and US markets after investments in improved designs. In rural areas, bamboo harvesters and craftsmen acquire an important part of their income from bamboo. Moreover, in Colombia and Ecuador growing bamboo on small plots is becoming a

lucrative option for smallholders and the bamboo construction sector is experiencing a boom period after years of neglect.

However, the bamboo sector is, in most countries, still part of the informal and backward rural economy and seemingly unable to grab the large potential +represented by the Chinese bamboo industry. This raises the question of the bottlenecks facing bamboo development. Many of these inhibiting factors are at the policy level and are additional to a lack of knowledge among the important stakeholders and a widespread stigma of bamboo as a poor man's timber. Convincing and informing users and policymakers of bamboo's versatility may fit in with a strategy of poverty alleviation and reducing pressure on tropical forests. Smallholders at the forest fringe can, in particular, improve their livelihood by processing bamboo or growing it in their backyard. At the same time, a large stock of bamboo contributes to broader environmental goals of erosion control, reforestation and watershed management.

For tropical countries confronted with rural poverty and shrinking forests, bamboo offers a sustainable option with considerable potential. However, it will require joint efforts by the international donor community, research institutes, national governments and pioneer investors to duplicate China's bamboo boom and turn the belief that bamboo may become the timber of the 21st century into a reality.

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GLOBAL COMMODITIES WITH LOCAL VALUE: NON-TIMBER FOREST PRODUCT (NTFP) DEVELOPMENT IN THE BRAZILIAN AMAZON

By Kei Otsuki

This article discusses the limits and potential of non-timber forest product (NTFP) development, as promoted by a university programme called Poverty and Environment in Amazon Programme (POEMA) in the State of Pará in the eastern part of the Brazilian Amazon. Although the effectiveness is questionable and still to be examined, the development of NTFPs for sustainable forest management and poverty alleviation in the Amazon has been widely recognised as promising. In the early 1990s, NTFP development was regarded as an alternative to the modernisation-driven deforestation by large-scale development projects. It was expected that if NTFPs were turned into global commodities, they would support rain forest conservation and poverty alleviation. However, the market development of NTFPs is still in its infancy.

NTFP strategies in the Brazilian Amazon

In the Brazilian Amazon, the initiative for NTFP development has been taken in cooperation with multiple actors at both national and international level: local associations and cooperatives, governmental and non-governmental organisations, research institutions and universities, the private sector and international organisations. The main NTFP development strategies pursued by these actors are aimed either at strengthening existing non-timber forest extractivism by revalorising products like fruits, palm hearts, fibre, latex and oil as sustainable commodities or at introducing and applying innovative technologies to create new products - mostly market-oriented and additionally processed. Examples are

automobile parts made of fibre taken from coconut husks and paper crafts made of processed pulp of forest plants and fibres.

In fact, these two strategies are often combined through the establishment of productive chains. In the State of Pará, the POEMA programme run by the Federal University of Pará has led to the creation and establishment of productive chains. In the case of automobile parts made from pieces of coconut fibres, for example, the coconut husks are processed into fibres using simple and adapted technologies in rural communities and sent to a central factory on the outskirts of the capital of the state of Pará, Belém, where the fibres are turned, using natural latex, into seats and headrests for trucks, cars and motorbikes. The products are sold to multinational automobile companies. Residues of the fibres from the factory are then processed further to produce pulp, mixed with natural fibres unique to the Amazon such as curauá (*Ananas electifolius*) supplied by different producers from various communities, which are eventually turned into paper and sub-products, involving local artists and craft makers.

Along the productive chain, POEMA created several institutional organisms in order to expand the opportunities for cooperating in NTFP development and marketing with other institutions and also in order to enhance income generation among the poor:

- POEMA serves as a university programme for research and rural extension;
- POEMAR (the Action Nucleus for Sustainable Development) acts as a non-governmental organisation;
- POEMATEC Ltd (Sustainable Technologies for the Amazon) functions as a private enterprise;
- POEMACOOP is a binding body of community producer cooperatives and
- The Bolsa Amazônia Programme was set up as a regional commercialisation

programme related to the Biotrade Initiative of the United Nations Conference of Trade and Development (UNCTAD).

POEMA's institutional development suggests that NTFP development through productive chain establishment requires the complex involvement of a range of organisations. The productive chain promoted by these institutions connects rural communities to the cities and eventually to national and global markets.

Poverty alleviation and market development In terms of poverty alleviation, NTFP development in the Amazon should not only be regarded as a tool for rural development and forest conservation as most of the NTFP programmes suggest. According to the 2000 Demographic Census, the rural population in the Northern Region of Brazil, which practically covers the entire Amazon region, encompasses only 30% of its overall population (IBGE, 2000). After all, the Brazilian Amazon is already urbanised. NTFP development therefore entails the scope for involving the urban poor suffering from unemployment. Completing the NTFPs productive chain should lead to more processing units and commercialisation opportunities in cities and the surrounding shantytowns.

The market development of the products is essential to ensure successful NTFP development. However, it is also the most challenging part of the development process. Even though NTFP development has been considered sustainable in the international development arena, the actual market for non-timber forest products occupies a mere 1.13% of all export value from North Region (Homma, 2002). It means that a more active cooperation and involvement of the private sector should be encouraged in terms of actual business promotion. At the same time, we must realise that the recognition of NTFPs

in the internal market (local, regional and national) will open up new possibilities for market development, as Brazil has a large domestic market thanks to its high rate of urbanisation and the eagerness of the richer part of the country to find new business opportunities. Most of the paper and crafts of the Amazon, for example, are sold in São Paulo and Rio de Janeiro.

Conclusion - NTFPs as global commodities with local value

NTFP development is a clear example of the (re)valorisation and promotion of once ignored or undervalued local products as global commodities that contribute to the sustainable forest management of the world's tropical regions. However, the market for the products remains very small and, as a result, the niche of market demand for NTFPs is becoming saturated in developed countries. We must therefore consider the integration of a variety of markets - local, regional, national and international - in order to achieve further development. In the Amazon, at least, NTFPs can become global commodities with local value by establishing and completing the productive chains, which allow various institutions and people to become involved.

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CORPORATE-COMMUNITY PARTNERSHIPS IN AMAZONIAN INDIGENOUS COMMUNITIES

By Carla Morsello

Over the last fifteen years, the commercialisation of rain forest products through 'fairly-traded' exchanges between corporations and indigenous groups has been promoted as a win-win approach to fostering environmental conservation and the improvement of local well-being. Initially made possible by a globalisation process that connected local communities with international corporations, the same process has recently expanded at regional levels. In fact, commercialisation of rain forest products has been at the centre of the policies of many public and private organisations dealing with indigenous affairs or environmental conservation in the South, giving rise to a burgeoning number of commercial agreements established independently by companies, or mediated by NGOs and the government.

Despite this, controversies about the efficacy of the approach still abound. Illustrated by the example of the trade partnership established between the A'Ukre Kayapó indigenous group and a UK-based cosmetics company, I argue that corporate-community partnerships are

not a panacea, but market relations and the commercialisation of certain products can, in particular, offset negative outcomes. The study particularly aims to evaluate the effects that corporate-community partnerships have on social differentiation, subsistence and culture, and the conditions needed to avoid undesired outcomes.

The partnership

The Kayapó are a group of about 4.000 indigenous people living in south-eastern Brazilian Amazonia. A'Ukre, one amongst the 18 Kayapó villages, has established a trade agreement with a UK-based cosmetics' company in 1991. The company has adopted policies of social responsibility and has created a specific department to commercialise with socially and economically marginalised producers. The agreement with the Kayapó is based on Brazil-nut oil trading, purchased at a rate above market price and used to produce cosmetics.

Effects on social differentiation and inequality

One of the aims of establishing trade partnerships between companies and communities is to improve local well-being. Nonetheless, one major concern of both anthropologists and conservationists is that market introduction in indigenous societies can result in increased social differentiation by the unequal accumulation of wealth.

The present study shows that, even under fair trade deals and indigenous control of the operation, markets are likely to produce some level of social differentiation. In this case, traditional social structures and local power relations influence how benefits are shared. For instance, usual trends include gender and seniority differentiation, with men and elders securing higher benefits. Moreover, even under ideal conditions, differentiation can occur at household level. Because of varied household composition and demography, households have different abilities to

reorganise subsistence work in order to engage in market duties, therefore being able to secure unequal benefits. Usually, smaller households and those lacking male labour are more deprived of market benefits.

Conditions for avoiding social differentiation

Although some level of social differentiation may be produced the study shows that, under some conditions, fair trade deals can help to reduce inequalities at individual and household level caused by more skewed income sources present in the same locality. The conditions for ensuring that inequalities are avoided are:

- open access to all individuals;
- unlimited number of opportunities for people to get involved, typical of NTFP trading but unusual in wage-based jobs;
- reliance on traditional and/or widespread skills;
- dependence on traditional forms of natural resource use and therefore organised along customary and more egalitarian social structures.

Effects on subsistence and culture

The second major effect that can arise from setting up market activities in indigenous societies is the transformation in traditional forms of natural resource use. In turn, transformation is feared because of the major role it plays in the conservation of tropical forests, especially in relation to agriculture practices that are more directly linked to deforestation.

The study shows that even under fair trade schemes, markets may produce transformations in traditional subsistence practices and particularly swidden-agriculture. Even when the total effort is kept unchanged, delays in plot preparation can reduce agriculture productivity, especially in those small households that lack male labour. Markets can also increase agriculture reliance at the same time that the reliability of

gathering forest products decreases, which leads to weakened social bonds due to the more collective method of gathering. These impacts are, however, reduced for groups at early stages of market integration that still have plenty of leisure and ritual time available, which can be redirected towards markets without jeopardising subsistence. However, the reduction implies certain consequences since many indigenous groups rely on plenty of non-work time to perform practices that maintain social bonds and culture. Finally, changes are not only brought about by trade-offs in the time budget, but also as a consequence of increased income levels that may allow indigenous groups to shift to market dependence in order to avoid the risks and drudgeries of subsistence work.

Conditions for avoiding transformations in subsistence and culture

To avoid transformations in subsistence practices and culture, new fair trade markets should:

- foster collective and traditional activities, such as the gathering of forest products, to help mitigate impacts, reinforce cultural practices and strengthen social bonds;
- avoid certain products or production levels that result in shifts in the preparation of agricultural plots;
- rely on economies that provide higher incomes per unit of production rather than increasing the scale of production;
- consider setting up maximum production levels to avoid causing shifts from subsistence reliance to market reliance and therefore a higher dependence on markets;
- consider setting up a portfolio of activities to improve benefits, instead of increasing production levels of a single product.

Conclusions

Fair trade activities are likely to cause some transformations, even if the organisation of the production and decision-making is left under

the control of indigenous communities. However, some market arrangements may offset negative impacts mainly if they rely on traditional products and practices and avoid production levels that lead to complete market reliance. Considering that market integration is in many cases unavoidable because it derives from the own desire of indigenous groups, the study draws attention to the importance of careful planning and monitoring fair trade market activities in order to avoid undesired outcomes.

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FIRST FSC-CERTIFIED NON-TIMBER FOREST PRODUCTS AVAILABLE FROM THE BRAZILIAN AMAZON

By Tinde van Andel

The fruits and palm hearts of *Euterpe oleracea* are non-timber forest products of major economical importance in the Brazilian Amazon. This multi-stemmed palm is widely distributed in the swamplands of northern South America and the greatest concentrations are in the Amazon estuary. People harvest the fruits by climbing the palms, cutting the inflorescence and extracting the fruit pulp mechanically or by hand. A highly nutritious liquid, locally known as açai, is processed into beverages, ice cream and pastries and is sold at local or regional markets. Mixed with cassava flour or rice, it is consumed in huge quantities by the

poor section of the Amazonian population. Palm hearts consist of the young, undeveloped leaves in the crown shaft of the *Euterpe* palm and can be consumed raw or cooked. To harvest a palm heart, the entire stem is cut down and its crown shaft removed. Palm hearts are processed and canned in factories on the banks of the Amazon and are worth some US\$ 120 million annually in domestic consumption and export value.

Repeated harvesting with short rotation periods leads to the weakening of individual palm clumps and a slower regeneration. Ecological research on *Euterpe* populations has pointed out that harvesting at short intervals (1-2 years), as is mostly the case in Brazil, causes clump mortality and a steady decline in production. Overharvesting and low-quality (immature) palm hearts have already weakened Brazil's position on the world market. Obviously, the indiscriminate felling of *Euterpe* palms also has a negative effect on the availability of açai resources.

Sustainable management practices

Fortunately, alternative land-use practices permitting both fruit harvest and palm heart extraction are being increasingly implemented by the rural Amazonian population. Harvesting palm hearts after longer intervals (4-5 years) causes less damage to the natural stands and produces a higher palm heart yield. Leaving one mature stem per cluster intact increases the vitality of the clump and supplies the extractor with fruits. Because of its frequency and clonal, self-regenerative habit, *E. oleracea* is able to sustain a viable industry, as long as rotation periods are long enough and producers strictly follow their management plans. As long as people climb the trees to collect the fruit, instead of cutting all mature stems, açai production can be considered sustainable. Other sustainable management practices are the selective thinning of forest

competitors (lianas) and pruning to increase production.

Certified production

Some 4.000 hectares of *Euterpe* forest on Marajó Island (Amazon estuary) were recently certified by the Smartwood Programme, according to the sustainability guidelines of the Forest Stewardship Council (FSC). The canning company, Muaná Alimentos, buys palm hearts and açai from forest-dwelling communities. In 2000, the company produced 540 tonnes of palm heart with a value of US\$ 4 million. In the same year, 7 tonnes of pure and sweetened açai pulp were exported to the US.

Muaná employees are hired and organised through a labour cooperative and training courses in responsible forest management are held periodically. Other technical training courses are made available to the community as a whole. New harvesting methods have been developed that enable adults to gather the fruits and the children now go to school. The newly founded producers' association provides boats and fuel for school transportation. The state government continues to provide support as well since eradication of child labour is high on their agenda. The school curriculum includes forest management and the basic concepts of nature conservation.

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This study was carried out for the Guiana Shield Initiative (GSI), which is an ambitious ecoregional project, coordinated by the NC-IUCN with the aim of setting up sustainable financial mechanisms to conserve

the unique in-tact ecosystems of the Guiana Shield. The development of commercial non-timber forest products is often one of the ways by which local communities generate income from their surrounding biodiversity.

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NEW SYNERGIES IN THE PROMOTION OF COCOA-BASED AGROFORESTRY SYSTEMS IN THE HUMID FOREST ZONE OF WEST AND CENTRAL AFRICA

By Denis Sonwa, Stephan Weise and Marc Janssens

The liberalisation of the world economy sometimes has drastic effects on rural farmers of the South. These drastic effects, in turn, have instilled a greater awareness among the consumers of 'forest' products. The latter consumers are adamant that all the products (including cocoa) which they buy come from sustainably managed systems. This new consideration has materialised by more involvement of industries (mainly multi-nationals) in development and natural resources management projects. The aim of this involvement is to increase the chain supply for the industry, as well as fulfil the need of consumers to act ethically.

The importance of cocoa plantations in West and Central Africa

In the four main cocoa-producing countries of West and Central Africa (Côte d'Ivoire, Ghana,

Nigeria and Cameroon), cocoa plantations increased from 3 to 5 million ha between 1961 and 2000. Cocoa plantations are generally established on land previously covered by forest and/or at forest peripheries. Cocoa cultivation, which was introduced in Africa during the 19th century, is generally associated with forest destruction. This is mainly the case in West Africa. In Central Africa, particularly in Cameroon, cocoa is managed under forest. This gives such systems a certain ecological and social sustainability.

In southern Cameroon, farmers rely on non-cocoa trees that are present in their plantations to compensate for decreasing and fluctuating cocoa prices following the liberalisation of the economy. These non-cocoa trees give flexibility to farmers. They are now trying to plant trees within their farming systems with the aim of maintaining diversity. For example, 80% of the cocoa farmers plant *Dacryodes edulis*, one of the most commonly used non-timber forest product (NTFP), in their cocoa agroforest. Among these farmers 38% also plant four non-fruit tree species, while 47% of them plant four additional fruit species along with *Dacryodes edulis*.

Managing non-cocoa trees in the cocoa agroforest of southern Cameroon makes this system more sustainable than those of West Africa that are generally unshaded and quasi-mono-specific. Zapfack et al. (2002) reported that the cocoa agroforest of southern Cameroon contains 116 plant species as opposed to 160, 171 and 64 species in primary forest, in secondary forest and on farmland respectively. In areas of high land pressure, cocoa agroforests are often the only forest-like vegetation around. Cocoa agroforests contain 62% of the carbon of a primary forest (Kotto-Same et al., 1997). As international organisations are now promoting in and ex situ conservation of forest resources

as well as poverty alleviation in the forest area, the management of cocoa under forest is now seen as replicable in West and Central Africa. Following the actions of GTZ and the Mars chocolate industry to promote the conservation of Tai park in Côte d'Ivoire, a regional effort has been initiated to promote cocoa agroforest in West and Central Africa.

New public-private coalition to promote cocoa agroforest.

To promote a cocoa-based sustainable system in West and Central Africa, a regional programme was launched in May 2000 - the Sustainable Tree Crops Program (STCP, see <http://www.treecrops.org>). Based at the International Institute of Tropical Agriculture (IITA), the STCP is a joint public-private partnership between European and American chocolate manufacturers, bilateral donors, international and national institutions and organisations in West and Central Africa. The programme activities have been endorsed by a broad coalition of stakeholders (Figure 1), including farmer organisations and the private and public sectors. Activities centred on cocoa in this programme cover Cameroon, Nigeria, Ghana and Côte d'Ivoire. The goal of STCP is to improve the economic and social well-being of smallholders and the environmental sustainability of tree crops farms. The general approach being adopted is one that builds on existing efforts and activities of relevant stakeholder groups, to add value to them and coordinate future collaboration.

Strengthening of farmer organisations and the development of an adapted market and information system in forest areas where the cocoa is produced are among the programme's priorities. In Southern Cameroon, 50% of the farmers belong to farmers associations. Organising themselves into groups is one way to overcome the effects of economic liberalisation. Through these organisations, or those it helps to create, the programme provides tools for the sustainable

management of cocoa farms and commercialisation of products from the cocoa agroforest. In 2001, cocoa marketed through this union yielded a 33% higher price in its initial year than cocoa marketed individually, whereas inputs purchased by this union were bought at a 7% discount (IITA Annual Report, 2001).

Conclusion

Concerted efforts around public-private partnerships are now conducted to promote the sustainable management of cocoa agroforests in West and Central Africa. These efforts are still in an embryonic phase and need to be sustained by international and national fora for the sustainable management of the humid forest zone of West and Central Africa.

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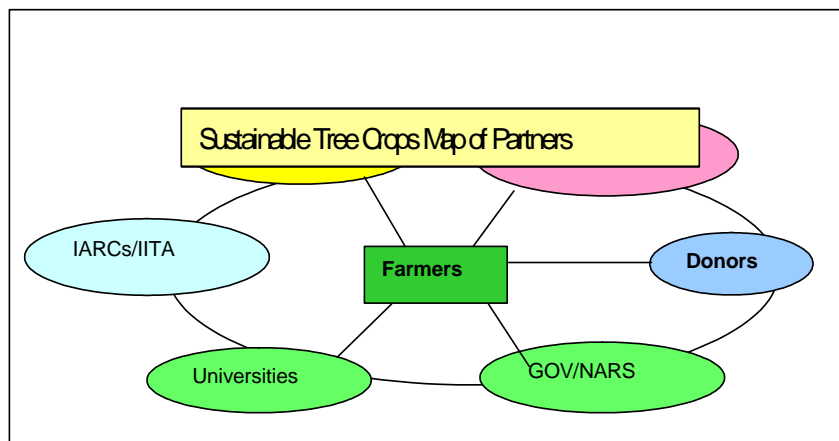
E-mail: desonwa@yahoo.com or dsonwa@cgiar.org

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Figure 1: Coalition around the promotion of sustainable tree crop systems in West and Central Africa
(NB: NARS = National Agricultural Research System; IARCS = International Agricultural Research Centre; IITA = International Institute of Tropical Agriculture)



IV GREENING (TRANS)NATIONAL LOGGING COMPANIES? STRATEGIES TO COMBAT ILLEGAL AND UNSUSTAINABLE LOGGING

One clear effect of globalisation is the global flow of international capital to the South. Possible 'push and pull' factors include lower operating costs, domestic logging bans, nepotism and slack environmental regulations in the South. The critical theme is how companies can work in a more sustainable manner and which strategies might be used for that: forest environmental services, national regulations, NGO pressure and certification. Others maintain that international business actually contributes to more sustainable forest operations in the South as they abide by international corporate regulations, rather than promoting a 'cut and run' policy. The following contributions address this critical debate, questioning how to effect

organisational change in transnational and national logging companies towards a greener corporate policy.

- S Greening of forest industries in the South (Peter Ho)
- S The prospects and problems relating to sustainable management of the Congo basin forests (Frank Nwonwu)
- S Globalisation and sustainability: the forestry and wood industries on the move - social and labour implications (Peter Poschen)
- S Global civil society and forest management in the Russian Far East (Maria Tysiachniouk and Jonathan Reisman)
- S Natural resources governance: combating illegal logging at regional level (Kevin R. Gray)
- S Tales and truths in the forests of Surinam (Linda van der Valk)
- S Renegotiating the ITTA: will delegates look forward or backward? (Andy White)

GREENING OF FOREST INDUSTRIES IN THE SOUTH

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By Peter Ho

In the North, a combination of government regulations, NGO pressure, market conditions and technological innovation has encouraged forest industries to act in a more environmentally-friendly way. What is far less clear is the extent to which the greening of forest business is catching on in developing countries, and whether or not an institutional and political framework conducive to corporate environmental responsibility is being constructed. Processes associated with globalisation indicate that whereas the global reach and influence of transnational logging companies has increased in recent decades, the power of certain institutions that might regulate business activities, notably those associated with the nation state and trade unions, is weak or declining in many countries in the South.

To what extent is the greening of logging companies a reality in the South? In other words, are we talking about the greening or "greenwash" of forest industries? What are its implications for sustainable development and what might non-governmental and governmental actors do to scale up and deepen corporate environmentalism in developing nations? What could be the role of "corporate self-regulation" and "voluntary incentives" such as FSC in this? These are the critical questions that need to be addressed in order to understand corporate environmental policy.

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THE PROSPECTS AND PROBLEMS RELATING TO SUSTAINABLE MANAGEMENT OF THE CONGO BASIN FORESTS

By Frank Nwonwu

The Congo Basin is made up of the six countries - Gabon, Cameroon, Central African Republic, Equatorial Guinea, Congo Brazzaville and the Democratic Republic of Congo (DRC). The Congo Basin Forests represent as much as a quarter of the world's rain forests and cover more than 198 million hectares. They are among the last remaining large areas of primeval forests in the world, second only to the Amazon Basin. These forests are home to rare endangered species such as the eastern lowland gorilla, mountain gorilla, chimpanzee, white rhino, okapi, forest elephants, forest buffalo and Congo peacock. They provide food, medicine, construction materials and shelter for over 20 million people including the indigenous people, the Pygmies. They further act as a sink for the greenhouse gas carbon dioxide. This paper reviews the management of the Congo Basin Forests from international and local points of view. It assesses the activities and efforts of logging companies, donor agencies, foreign governments and member states in the sub-region aimed at achieving a sustainable use and management of the forests. Furthermore, it examines the factors that militate against efficient management of the forests and prescribes some remedial measures.

The globalisation-localisation nexus

The Congo Basin Forests are under threat from a multitude of forces among which logging, hunting and mining are the most

important, degrading almost four million hectares each year. For example, the Malaysian timber company Idris Hydraulic Bhd, has timber concessions totalling about 1.2 million hectares in DRC and Gabon. In the DRC, Innovest Bhd has two timber concessions totalling 0.8 million hectares, while the German company SIFORZAL has a logging concession of more than 2.4 million hectares.

Governments in the sub-region have expressed concerns at the catastrophic consequences of unsustainable logging of the forests. At a meeting in Paris in 2002, the Congolese Minister of Forestry highlighted the importance of democratisation and adequate funding in sustainable management of forest resources. He emphasised his concern by stating that a lack of access to financial resources has led to weak government control over the forestry sector in the Congo.

Policies adopted locally by member states to achieve sustainability and efficiency include:

- The 1994 forest law in Cameroon, which prescribed six different types of logging permits namely: sales of standing volume, exploitation permits, individual felling authorisation, concession, state exploitation and wood recovery permit.
- The Yaoundé Summit of 1999, which brought together the six Heads of State in the Congo Basin, and yielded a 12-point declaration on cross-border forest protection.
- The December 2000 agreement between Cameroon, Congo Brazzaville and the Central African Republic to jointly manage 28.000 km₂ of forest.

International and local initiatives in greening the Congo Basin Forests

During the World Summit on Sustainable Development (WSSD) in Johannesburg in 2002, the world's five wealthiest nations - the United States, Japan, the United Kingdom, Germany, France and Canada - in cooperation with the World Bank, international conservation groups and logging companies, agreed to provide up to US \$ 100 million to try to save the forests of the Congo Basin. The United States, as the leader of the partnership, is to invest \$53 million between now and 2005 to help the six countries in the Congo Basin develop a network of national parks, protected areas and assist local communities in managing their forests.

Factors militating against the greening efforts

One factor that has tainted the local efforts to achieve sustainable forest management is the seeming alienation of the indigenous people and local communities in the decision-making process. Environmentalists speculate that there is very little input from NGOs and the local people, especially the Pygmies who depend on the forests for their livelihoods. They have warned that unless the Pygmies are involved in the management of the forests and are able to share in the benefits, future generations of indigenous people might feel cheated out of their heritage.

The protracted civil wars in the DRC and Congo Brazzaville, the political instability in the Cameroon, the de facto one party dictatorship and limited democratisation in the rest of the sub-region militate against the global and local greening initiatives.

Corruption within government and logging company agents further exacerbate the degradation and destruction of the forests of the Congo Basin. In Cameroon, the Pygmies have mortgaged their traditional values to hunt bushmeat for commercial traders and to find

commercially exploitable trees for loggers in return for fees.

Conclusion

This study investigated the activities of international logging companies, foreign governments and state governments in the sub-region, as well as those of NGOs in relation to the goal of sustainable management of the Congo Basin Forests. The study reveals that logging, hunting for bushmeat and the exploitation of other forest resources are excessive and in many cases illegal. The scenarios are a threat to the world's remaining rain forests, their immense biodiversity of rare and endangered flora and fauna and the livelihood of the people, especially the indigenous Pygmies.

The efforts of foreign and local governments, NGOs and the logging companies, aimed at saving the forests, are hampered by the prolonged civil wars in DRC and Congo Brazzaville as well as the ever-erupting political unrest in the other states of the sub-region. The emergence of sub-regional and trans-national alliances in forest management offers great potential and is hereby prescribed as a viable mechanism for sustainable management of the Congo Basin Forests.

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GLOBALISATION AND SUSTAINABILITY: THE FORESTRY AND WOOD INDUSTRIES ON THE MOVE - SOCIAL AND LABOUR IMPLICATIONS

By Peter Poschen

The forestry industry is on the move. Globalisation is clearly gaining momentum in forestry and accelerating the structural changes that have taken place in this sector over the last decades. Trade - now equivalent to 30% of world output - is outgrowing production for basically all the subcategories of products (i.e. forestry, timber industries, wooden furniture making, and pulp and paper). Falling tariffs and regulations facilitating and encouraging foreign direct investments (FDI) are important driving forces. There are also environmental factors driving globalisation. In a number of countries the natural forests have been, or are about to be, exhausted and industries are having to relocate, or at least find other sources of raw material. As a consequence, the sources of supply have gradually been shifting from public to private and from natural to planted forests. Conditions for plantations are particularly favourable in parts of the southern hemisphere. The location of future markets as well as of sources of raw material, coupled with the increased financial clout and reach of larger firms, are resulting in a redirecting of the flow of FDI increasingly from North to South and West to East.

Adoption of sustainable forest management objective

A different kind of move, but one that has been gaining momentum in recent years, is the widespread adoption of the sustainable development objective by the forest products industry. Sustainable development in forestry and the forest industries has been defined as an equilibrium between economic

development, the conservation of the environment and social justice. The adoption of this goal is recent and implementation still in its early stages, but it has already made a clear impression on the forest policies and practices of countries and individual firms. In today's competitive markets, more and more firms have come round to the view that demonstrating environmental and social responsibility can be a decisive advantage to organisations. One outcome of this development has been the spread of certification and labelling as a means of independently verifying claims of sustainability or good stewardship in a credible manner and communicating this to customers and the public.

Implications for decent work

All of these developments are having profound social and labour impacts, affecting all aspects of decent work: employment and income, job quality and social security, rights at work and social dialogue.

Employment: An estimate based on the best data available puts global forest-based employment at some 47 million work-years (full-time equivalents), including both the formal industrial sector (more than 17 million jobs) and the informal and subsistence sectors (around 30 million). Globalisation, with mobile capital, the worldwide availability of advanced technology and larger firms more inclined to substitute capital for labour will make job creation in the forest industries an uphill struggle even in developing countries, except for those that experience spectacular growth in output. However, some countries and firms have been coping with globalisation and other changes much better than others and have even benefited from them. The impact of globalisation is to a large extent conditioned by the reaction of firms and governments. Even small firms have been able to use it to their advantage.

Job quality: There is no sign that globalisation has had a direct effect on wage

levels, which continue to be determined by national labour markets. Attempts to cut wages have therefore been unsuccessful. In order to remain competitive vis-à-vis other sectors, the forest industry is more likely to be forced to increase wages in some countries and sub-sectors. One factor associated with globalisation and structural change that has strongly influenced the quality of employment, generally for the worse, is outsourcing, particularly in the case of forestry contractors. Contractors and their workers have lower quality jobs in more or less every respect: income, job stability, working hours, safety and health, and social security coverage. They receive little support from others in the supply chain but are exposed to severe and sometimes unfair competition. Training systems are not geared to their needs. In such a situation, investments in advanced equipment and work organisation, as well as in qualified staff, are difficult. Skill development is a priority area in all countries and all sub-sectors.

Rights at work: Friction between a globalising forestry sector and social and labour rights has been growing with regard to local communities and indigenous peoples. A number of clashes, some of them violent, have erupted in recent years. The potential for such conflicts is rising as plantation forestry and the harvesting of natural forests advance into new areas. Unacceptable social and environmental cost is believed to be a result of deficits in the design of schemes and investments or of poor management. Giving full consideration to social impact can help to maximise benefits for all concerned.

Social dialogue: The institutions of social dialogue and the organisations involved are often weak in countries where the forest industries have been growing strongly. In all countries, contracting out has complicated organisation and the establishment of forums for social dialogue. While firms are becoming more and more organised and operate internationally, their social dialogue

counterparts in governments and workers' organisations have mostly remained confined to individual plants or countries. More social dialogue and stronger partners appear to be very desirable, not least in view of the importance of the social dimension of sustainable development.

Conclusion

In order to make sustainable development a reality, the social dimension will have to be incorporated more fully and in more operational terms into policies related to the forestry sector and into industry practice. National fora on sustainability in forestry, industry-community partnerships, certification, codes of forest practice, small enterprise development, organisation and dialogue about forestry contracting modalities are encouraging examples of how globalisation, decent work and sustainability can be made compatible. The challenge is to turn good practices into standard forestry practices.

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GLOBAL CIVIL SOCIETY AND FOREST MANAGEMENT IN THE RUSSIAN FAR EAST

By Maria Tysiachniouk and Jonathan Reisman

Since Gorvachev's reforms in the late 1980s, Russian legislation and the policy-making process have been in a state of constant change. At the same time, both international and local NGO networks have become significant political and social actors. Furthermore, the heightening of globalisation

has brought changes to government-civil society interactions and the ways in which timber is produced, transported and consumed. Environmental policy researchers traditionally focus on state-civil society-market relations within one country, but Russia - like other countries - is now a participant in global markets and the global civil society. These worldwide forces and flows influence governments and reshape the traditional ways of creating rules as well the response of local and international organisations.

By analysing the partnership between WWF and the forest company Terney Les, which is involved in forest trade with Japan, we aim to find out how international and local environmental organisations promote forest certification under the Forest Stewardship Council (FSC) and try to prevent illegal logging in the Russian Far East. This partnership was created in order to bring FSC forest certification to the region as an alternative to highly inefficient and destructive logging. Our analysis will focus on the controversy arising from the interests of the indigenous Udegey people on the land rented for logging by Terney Les.

Environmentally sound markets

WWF is trying to adapt the Russian forest industry to environmentally sound markets. In Asia, there is a high demand for uncertified, and thus cheaper, wood. WWF in the Far East hires experts to analyse market opportunities in Northeast Asia in order to find buyers interested in certified wood. We will assess these efforts and consider the difficulties and barriers to fostering FSC certification in the region, given the dearth of environmental sensitivity in these markets.

The specific context of this region influences WWF's objectives, strategy and activities. According to WWF, governmental forest protection agencies underreport the level of illegal logging along the Russian-Chinese

border. WWF claims that the control system is inadequate and poorly funded due to the socio-economic conditions of present-day Russia. In this context, supplementing law enforcement is a WWF priority in the region. We will analyse WWF's partnership with law enforcement structures operating under the regional branch of the Russian Ministry of Natural Resources in preventing illegal logging in the region.

Globalisation has brought many growing dangers to the forest resources in the Russian Far East. Public-private partnerships, however, can help to civilise even the most environmentally insensitive markets. The presence of international environmental organisations such as the World Wildlife Fund (WWF) and many other NGO networks in the Russian forestry sector is essential. Without this international intervention and the informal networks created by these organisations, Russia could easily become a worldwide exporter of under-priced and unsustainably produced roundwood.

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**NATURAL RESOURCES
GOVERNANCE: COMBATING
ILLEGAL LOGGING AT REGIONAL
LEVEL**

By Kevin Gray

The problem of illegal logging has recently caught the attention of the international community. Exporting countries from the South are realising that problems of

governance and corruption in their natural resources sector are denying their treasuries access to considerable sources of revenue. In addition, illegal practices are undermining the rule of law and ultimately leading to outcomes inimical to sustainable development.

International governance on forestry issues and efforts to draft a binding convention on forests have fallen short, despite unabated global deforestation. The recent awareness of the problem of illegal logging may overcome the deadlock due to the economic disadvantages of national inaction. The loss of government revenue and ill regard for government laws and regulations have motivated countries to pursue bilateral and multilateral strategies.

By studying the policymaking process for combating illegal logging since the Rio Summit on Environment and Development in 1992, we are exploring how the international community has mobilised around this issue. Specific attention is given to the recent initiatives in a number of intergovernmental bodies that incorporate forest governance issues into their mandate. We will also address the issue of how recently established regional mechanisms exude great potential for being an effective way to combat illegal logging. We will argue that, in the case of illegal logging, the regional approach offers the greatest chance of ensuring that a workable strategy is introduced.

The problem

The clandestine nature of illegal trade makes its scale and value difficult to estimate. A large part of the problem relates to inadequate national laws or infringements thereof. In some countries there may simply be no clear definition of what is and is not illegal. Violation of the law is, however, a problem impacting the international trading system and global sustainability of forest resources for undermining economic development and

denying substantial government revenue that could be channelled towards developmental objectives. In addition, governance in the natural resources sector influences how the rule of law operates in all sectors of society. A lack of compliance with laws and regulations, corruption and lack of political will all inhibit economic growth.

Poor governance in the forestry sector can be better understood by assessing more systemic issues such as rampant poverty, little respect for human rights and unsuitable living conditions. Effective ways of combatting illegal logging need to concentrate on the domestic environment that stimulates this illegal behaviour. Incentives for local producers are required that reward sustainable and legal livelihood alternatives to illegal logging.

Required actions

Tackling illegal logging will require a number of initiatives developed at all levels of government - from the local community up to international fora. Legal instruments may only play a partial role, since the origins of the problem are rooted in basic questions of economic underdevelopment, poor infrastructure and limited resources and opportunities. An interdisciplinary approach is needed with full engagement of non-state actors in the process. The use of market mechanisms such as certification schemes and corporate codes of conduct supplement the variety of legislative and regulatory instruments and policy documents needed to curb the illegal logging trade.

Limited success

Multilateral efforts to combat illegal trade in timber and non-timber products have failed. Two years of negotiations on a global forests convention before the Rio 'Earth Summit' in 1992 did not result in a binding convention. Although an agreement specifically on illegal logging might be easier to negotiate, and

there seems to be increasing international willingness to act on the subject, concerns about national sovereignty and fears of disguised protectionism against exports are likely to cause many exporting countries, both industrialised and developing, to be reluctant to engage in such negotiations.

Some countries are exploring the possibility of taking unilateral action to address the issue. The EU and the United States have adopted customs measures to stem the tide of illegally felled timber, such as mahogany from Brazil. However, the effectiveness of unilateral measures to correct the conditions underlying the illegal trade is limited. In addition, unilateral measures can potentially fall foul of international trade law requirements restricting the ability to prohibit the imports of illegally felled and produced timber. Some countries may perceive such measures as disguised attempts to protect local producers.

Regional approach

A regional focus on combating illegal logging might be more appropriate. Such an arrangement would consist of several like-minded timber-producer countries. This might bridge the needs of having consolidated action by a large number of countries while still remaining cognisant of their common characteristics. Cooperative management can function more effectively over a smaller geographic area with adjoining States. Information exchange and resource sharing can be carried out more easily under these circumstances. In addition, there is better scope for monitoring the problem when the countries can assist each other in tracing the illegal exports coming from their region. Regional arrangements to combat environmental crime, such as the Lusaka Agreement (1997) in Southern Africa or the Amazon Treaty (1978) already establish frameworks for enforcement collaboration as well as capacity building. The Forest Law Enforcement and Governance (FLEG)

Ministerial Conference in Bali, Indonesia - regarded as an important initiative in East Asia - could well provide a preliminary framework for the negotiation of a regional agreement on illegal logging in East Asia.

Successful regional agreements demonstrating how an anti-illegal logging regime could work in practice, how capacity-building could be delivered, and the impacts of the system on trade flows and government revenues, could provide a much-needed stimulus for a wider agreement. The regional approach may also be preferable since it can stimulate action at the national level through a peer review system. Forest law enforcement is primarily, if not exclusively, dependent on what occurs at national and sub-national level. In addition to generating awareness of the problem, States that agree to strengthen their legislation may motivate others to follow suit due to the impact on competition for their exports that might be disadvantaged due to higher legal compliance standards in importing countries.

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TALES AND TRUTHS IN THE FORESTS OF SURINAM

By Linda van der Valk

Globalisation is the process of integrating economies world-wide, particularly through trade and financial flows. In terms of the global timber trade, the transnational logging companies play a more important role than

the local companies as exemplified in the following quote: 'The international trade in wood, pulp and paper is worth around US \$ 100 billion per year, making timber the third most valuable natural resource in the global market place. Around 80 - 90 % of this trade is now controlled by transnational corporations' (www.eia-international.org, 16-7-2002).

These companies not only dominate the world timber trade, they also dominate local logging operations in countries where forest and timber resources abound. This is why it is important to investigate what role these companies play in forest destruction and degradation at country and resource level, in particular in countries where environmental legislation is lacking.

We conducted such a study in Surinam, a former colony of the Netherlands, where forest resources are abundant, several transnational logging companies are active and forest degradation has also been reported .

Tales and truths

The title of our study - Tales and truths in the forests of Surinam - reflects that the situation in the field does not always correspond with the image that comes to the fore in international literature and reports. The first striking discrepancy concerns the role of transnational logging companies. Whereas these companies are said to have a negative influence on the Surinamese environment, non-governmental organisations (NGOs) in Suriname claim that transnational logging companies operate on a sustainable basis. Obviously, the logging companies have changed for the better.

Hence the objectives of our study are twofold:

- To describe and explain organisational change in logging companies in Suriname
- To compare these results with international criticism

We would not preclude the possibility that transnational logging companies were influenced by these criticisms and have changed as a result. The main research question is therefore: What organisational change with regard to sustainability that has taken place in logging companies as a result of social pressure?

Greening of organisations

We conducted a survey among different stakeholders in the logging and timber industry, such as NGOs, the government and several local and transnational logging companies, departing from the theoretical notion of the 'greening of organisations' at different organisational levels. This notion distinguishes between the image of a company (what it says it is) and what the company actually does (Boons et al., 2000).

We found that institutional strengthening and improved environmental legislation and control in Suriname resulted in the 'greening of organisations' in two ways:

- The transnational companies that caused much damage and were not inclined to manage the forests on a sustainable basis have left the country;
- More recently established transnational companies are showing an interest in forest management programmes primarily because it is obligatory, but they comply with the legislation and invest in sawmills, which suggests that they are willing to operate in Suriname on a long-term basis.

The results suggest that the discrepancy between legislation and the way transnational logging companies operate in the field have altered. The organisations seem to have changed directly or indirectly as a result of national and international criticism.

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RENEGOTIATING THE ITTA: WILL DELEGATES LOOK FORWARD OR BACKWARD?

By Andy White

Recent meetings of the International Tropical Timber Council (ITTC) have perhaps been most remarkable for their lack of controversy. Delegates debated and made progress on what had previously been highly contentious issues - such as certification, illegal logging and the role of civil society within the ITTC - the very issues that have long paralysed the Council and drove many NGOs to dismiss it as an irrelevant, if not destructive, force in tropical forestry. An emerging consensus - or at least an ability to speak openly about these issues - bodes well for the future of the ITTC and suggests that it is finally in a position to address some of the underlying causes of tropical forest degradation - positioning it to become a much more effective institution in the future than in the past.

While the emerging openness is encouraging, the ITTC is still very far from realising its own objective that all timber exports from all member countries would come from sustainably managed sources by the year

2000. To make good this Objective 2000 and to realise the ITTC's potential to become a driving force for saving tropical forests and forestry, the Council will need to rethink its own scope and focus during the renegotiations of the ITTA. Forest Trends sees three priority issues for the Council to consider in its upcoming deliberations:

1. Prioritise fulfilling its commitment to sustainable development. The fate of tropical forests and forestry is inextricably linked to the fate of the hundreds of millions of poor forest dwellers around the world. The ITTC has committed itself to contributing to sustainable development, but has not developed a vision or articulated a strategy regarding how forestry and forest trade can make a difference. To succeed, the ITTC will need to come to grips with the equity dimensions of the timber trade. Indigenous and other communities now legally own or administer about 25% of all tropical forests, and at current rates this amount could double in the next 15 years. This means that forest communities can no longer be considered passive participants, but rather as leading decision makers in the fate of the forests. The steps forward are clear: the ITTC should aggressively assist producer and consumer countries to adopt policies that recognise and strengthen indigenous and other community rights and 'level the playing field' for communities and other small-scale producers - reforming policies and regulations to allow them to compete and use their forest resources for their development. For far too long, governments have given preferential treatment to large industry rather than small ones and have acted to consolidate power in a small set of industrial players - with devastating effects for the forests, for the people, and for government revenues.

2. Revamp the 'project' funding mechanism to finance work on the fundamental policy issues driving forest degradation. While

current 'technical' projects are useful, they do not substantially address the real problems in the forests. The ITTC needs to take advantage of the increasing openness and emerging sense of partnership to finance policy studies, technical assistance and pilot projects to advance forest tenure reform, the removal of subsidies to large-scale industry and the establishment of policy and regulatory frameworks that do not discriminate against small holders and communities. The issue of tenure reform merits particular focus. Disagreement over who owns and who should own the forest is the rule rather than the exception in many tropical forest countries. This uncertainty and the insecurity it generates undermines any possibility of sound management and sustained investment. Becoming more relevant and effective requires the ITTC to no longer ignore the need for tenure reform and other fundamental issues, but rather embrace them and provide technical assistance to its many members in grappling with these problems.

3. Protect natural forests and embrace markets for the ecosystem services of natural forests. The ITTO was formed to save natural tropical forests - not the global timber trade. Managing the timber trade was a means to an end for conservation. In contrast to the early days of the ITTO, one of the biggest threats to sustained conservation of tropical forests is tree plantations - which, according to the ITTO's own figures, are likely to provide up to one-half of all industrial supply within 15 years. Plantations undoubtedly have a legitimate and important role in meeting global demand - the problem lies in the fact that most plantations are heavily subsidised, either directly or indirectly, tipping the scales against natural forests and thereby undermining the value of natural forests and the potential for investment and conservation. Unfortunately, the ITTO has too often acted as a neutral observer in this growing competition between plantations and natural forests. It is time for the ITTO to return

to its roots and become a clear and unabashed advocate for natural forests and their conservation, arguing against subsidies to plantations and embracing tools, markets and policies that advance the interest of natural forests.

Chief among these new markets that should be stimulated by the ITTO are markets for forest ecosystem services. Without payments for ecosystem services, natural forest management will find it very difficult to compete with alternative land uses - whether soybeans, oil palm or fiber plantations - and the industry reliant on natural forests will wither, and with it the livelihood options of millions of the world's poorest. The ITTO has already funded some ecosystem service projects and the Council should explore every alternative to increase the ITTC's support for the development of these new markets.

The ITTC has come a long way since its inception in 1985. The emerging consensus, established organisational capacity and dedicated member governments mean its future is bright. With the renegotiation of the ITTA, delegates have an opportunity to reshape and remake the ITTC, enabling it to address the real, underlying drivers of topical forest degradation, contribute to sustainable development and assume a position of leadership in the global forest community. Our hope is that the negotiators are ready for the challenge, and that they will look to the future, and not the past, for their inspiration.

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V CERTIFICATION AND TROPICAL FORESTRY

While the certification phenomenon is still quite new, with the FSC created in 1993 (some certification preceded FSC) the progress has been astounding. Over 30 million hectares of forest in over 30 countries have been certified. Over 600 'chain of custody' certifications have been awarded to suppliers of FSC products and the FSC logo can now be seen on more than 10 000 product lines worldwide. The abundance of newly developed certification schemes including the Pan-European Forest Certification (PERC) in Europe, the Sustainable Forestry Initiative (SFI) in the US, the Canadian Standards Association's (CSA) Sustainable Forest Management Standard, and certification schemes in Indonesia and Malaysia is a sign that certification is here to stay.

Certification has had many affects that cannot be measured in hectares or premiums. It has given a greater voice to indigenous groups historically left out of the forest debate. Certification has made a tremendous contribution to creating a space for broad participation and continuous adaptation in forest management and conservation efforts. Regional standards-setting groups have brought together industry, the environmental community and local communities in an unprecedented way. Hundreds of companies, communities and forest landowners have reinvented their businesses, enhanced their products and established new partnerships, responding to the new opportunities opened by the certification movement.

Several strategic issues should be addressed in the future development of this new tool. Originally designed in response to unsustainable logging in the tropics, certification has been much more successful in temperate forest areas. A core question addressed in the following articles is therefore how certification can be made more useful in those forest areas where it is most needed.

- S Forest certification and its present and potential influence on regulatory frameworks and forest policies (Gerardo Segura)
- S Certification in complex socio-political settings (Michael Richards)
- S Forest certification and small forest enterprises: key trends, benefits and impacts (Rebecca Butterfield)
- S Forest certification and communities: looking forward to the next decade (Augusta Molnar)
- S Sustainable forest management in Brazil and the role of FSC forest certification (Andre de Freitas)
- S Comparison of standards for evaluation of sustainable forest management between countries from the South and the North (Bart Holvoet and Bart Muys)
- S Capacity building in forest certification: linking an international market mechanism to national initiatives (Anne C. de Fraiture and Wouter Leen Hijweege)
- S Remote sensing and GIS for supporting sustainable forest management certification in the tropics (Cui Yihun, Yousif Ali Hussin and Ali Sharifi)
- S Beyond timber: certification of non-timber forest products (Patricia Shanley)

FOREST CERTIFICATION AND ITS PRESENT AND POTENTIAL INFLUENCE ON REGULATORY FRAMEWORKS AND FOREST POLICIES

By Gerardo Segura

The increasing demands for more social and environmental benefits from forestry are putting pressure on governments in many countries. In the past, governments traditionally sought to exert control over forestry activities and they have been the major player in the forest sector in many countries. However, recent external pressures and the self recognition of governments regarding the limitations of public institutions to take on these responsibilities have tended to shift the role of governments to regulation, technical assistance and mediation of conflict resolutions, leaving other roles (e.g. ownership, management, commercialisation, conservation) to stakeholders and the civil society.

It is in this context that forest certification has emerged during the last decade as an international process to promote sustainable forest management. Although the original purpose of certification schemes was to provide market-based incentives to improve the quality of forest management by producers, such schemes have also been applied by different groups to influence government policies and actions (e.g. regulation-oriented verification to complement or strengthen forest law enforcement) and to verify that specific project-based forestry outcomes have been achieved.

This review evaluates the role that forest certification has had on influencing public forest policies and legislation during the last decade and identifies the possible role that this independent process could have on

governments during coming years. Detailed analysis has been carried out in indicative cases of developed and developing countries in both tropical and temperate regions (e.g. Cameroon, Finland, Bolivia, Malaysia, Mexico and USA) where certification has had both positive and negative outcomes, looking at relevant national (e.g. Malaysia and UK), regional (e.g. PEFC) and international (e.g. FSC and ISO) certification systems and programmes.

Dilemmas

Although the role of forest certification in influencing sound policy processes has been recognised, the available evidence is limited. Documented changes in policy instruments are only beginning to emerge, mainly as an indirect result of independent local certification actions. Some governments are beginning to recognise the indirect value of certification schemes with regard to:

- stimulating compliance or encouraging implementation and enforcement of local regulations and policies;
- improving national definitions, standards, criteria and indicators of sustainable forest management (SFM) based on a multi-stakeholder participatory approach;
- improving forest and environmental legislations;
- gaining credibility by certifying public forests; and
- advancing international policy dialogues involving multilateral institutions and processes (e.g. FAO, ITTO, UNFF, UNCBD).

Governments, however, have also expressed concerns regarding the possible conflicts related to the acceptance and spread of independent certification schemes that may be in conflict with local policy instruments or may not respond to local biophysical and social conditions and needs, that may challenge government rights over publicly owned forest lands, or that could lead to trade barriers that discriminate against small land

owners and poor rural communities.

Barriers

- Governments as absent actors in independent third-party certification processes. Threats of certification schemes as an independent environmental market-based instrument that may be in conflict with local conditions and policies and challenge government rights over publicly owned forest lands.
- Direct and indirect influences of certification processes on policy reforms. The limitations and opportunities of certification as a true policy instrument.
- The use of independent certification by governments as a 'soft policy' instrument for SFM. The role and impacts of national certification programmes. Promoting certification in private and communal forest lands as a law enforcement strategy. Failure to ensure consistency with national policy objectives and programmes leading to increased costs imposed on producers for the bureaucratic requirements to comply with different regulatory approaches and the risk of overregulation as a burden to local small producers and poor communities.
- The role of governments in promoting access of local producers to certification markets. Development of technical assistance and investment programmes to improve access of local small-scale producers to certified markets. Programmes to stimulate the local demand of consumers of certified products in developing countries.

Adjustments

A number of governments have incorporated aspects of forest certification into their regulatory frameworks, such as those in Bolivia, Brazil, Finland, Malaysia, Mexico and the United Kingdom. Those with the longest experience have made interesting adjustments in the national initiatives to

address country-specific political economic, social and ecological conditions within the overall agreed principles of certification. Specific regions, such as northern Europe, have developed criteria and processes relevant to smallholders and cooperative forest managers.

Recommendations

- Agreements in international forums regarding issues such as cooperation need to ensure that the different emerging certification schemes achieve consistency and international comparability to avoid confusion among stakeholders (e.g. consumers and producers)
- Governments need to address problems of certification related to equity, mainly to protect local forest producers against possible trade barriers created by the higher costs of certification and resulting discrimination against small land owners and poor rural communities.

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FOREST CERTIFICATION IN COMPLEX SOCIO-POLITICAL SETTINGS

By Michael Richards

This review examines the role of forest certification in forest trade and governance in complex socio-political settings. A large portion of the world's forestland suffers from

illegal logging, poor management or no management at all. What is the role of certification in promoting better practice in the difficult areas of the world and what are some of the options for progressing in these areas? Looking at the experience in Latin America, Russia, parts of Southeast Asia and parts of Sub-Saharan Africa, the review asks:

- What national criteria and indicators can be applied in an imperfect setting to create a credible system of forest certification?
- What potential repercussions do these have on overall forestry sector and government setting and enforcement of standards?
- How does the certification of a limited set of 'responsible' forest operations affect the overall trade in sustainable forest products - including the problem of green washing, the problem of accepting imperfect equity standards for tenure or workers' rights and not being able to change the standards later and of impacts where land tenure and forest tenure rights are not well established.

The review looks at some of the options that have been adopted to evaluate their potential effectiveness as certification moves forward.

Overall certification is still at a rather incipient stage in the tropics due to its cost and other constraints. While North America and Europe have 8.7% and 5.7% of their forest areas certified, respectively, other regions only have about 0.5% of their forest area certified. About 97% of the total certified forest area is in North America and Europe and the total certified forest area is still less than 1% of the world's forests outside protected areas.

Governance impacts

The main positive governance impacts include improved forest management planning and administration (including internal monitoring, evaluation and reporting procedures), increased dialogue with government and other stakeholders, increased acceptance of

community representatives in local and national policy fora and, at a more general level, increased company and supply-chain transparency. Certification is helping to stimulate enabling SFM policies, because of its participatory approach to standards development, raising awareness of the potential of SFM, decentralising and democratising the policy processes and providing better policy definition from an interdisciplinary sharing of ideas. In some countries, certification is beginning to take on a voluntary monitoring function of SFM. In Cameroon, Papua New Guinea and Ghana, 'privatised' chain of custody verification mechanisms are emerging which will help enforce forest management and transport regulations.

Trade liberalisation increases the influence of international green market pressures like certification and green procurement policies (as promoted by several European governments). In a more liberalised trading scheme, there are higher returns on certified forest product exports.

Dilemmas

However, various shortcomings in certification and timber procurement initiatives can reduce the likelihood of forest governance benefits in developing and transition economy countries:

- Most forest production is for domestic markets currently disinterested in certification and forest governance problems are more acute in the context of domestic trade.
- If certification focuses primarily of on the easier to certify temperate timber, this may result in a substitution of tropical timber in more discriminating markets and a shifting of the tropical timber exports to less discriminating markets.
- Certification can be inequitable, since its high cost means only large operations can obtain certification, giving them preferential export market access.
- Trade policies and pressures can lead

either to a virtuous governance cycle, providing regulatory weaknesses and externalities are tackled, or a downward spiral of illegality where certified companies find it difficult to compete.

- Decentralisation under poor governance simply moves rent-seeking and continued corruption to a more local level.

Barriers

A number of countries demonstrate the complexities of the role that market-based pressures for sustainability place on trade and forest governance. Compliance with the CITES agreement for control of mahogany has been limited to export markets without having a positive impact on the SFM for other products and species. A small number of certified companies in the Amazon have set very positive examples, but these have not led to changes in the incentives in the domestic trade for the majority of companies.

Regional pressures are created by policies in producer and consumer countries. In East Kalimantan, Indonesia, the high demand for logs from Malaysia, China and other countries was fuelling the illegal export trade, in combination with the lack of stability for internal controls. Certification efforts in Indonesia compete with the greater governance pressure created by the China logging ban and the application of higher SFM standards in Malaysia. In Africa, as well, an improvement in forest control in a wealthier country, which can afford to import forest products to meet a domestic market shortfall, increases the environmental and governance pressures in poorer neighbouring countries.

Adjustments

Interesting models are being applied by certified and other buyers seeking timber produced from sustainable sources in complex settings: the Star System, based on percent of product content which complies with the standards, as for recycled content, Ikea's 4-step system, the Nature Conservancy's 'safe

wood' model and models of performance-based harvesting. All of these systems aim to support improvements in local governance and encourage improvements in SFM in export trade which also has an impact on domestic trade.

In Russia, investments are being planned in parallel to government efforts to establish minimum standards for forest management, apply better governance and move towards full certification. Certification bodies and donors are promoting modified processes for certification including step-wise approaches and modular certification, rather than attempting to move immediately to an assessment of a forest management operation or chain of custody operation with regard to full compliance with standards and criteria. There are discussions of paralleling certification efforts with the imposition of tracking systems. Bolivia has brought its forest policies line with certification and decentralised enforcement to create positive local incentives for their implementation.

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FOREST CERTIFICATION AND SMALL FOREST ENTERPRISES: KEY TRENDS, BENEFITS AND IMPACTS

By Rebecca Butterfield

Over the past decade, small forest enterprises (SFEs), including smallholders and non-industrial private forest owners, have participated in forest certification through

forest management certificates and as part of a certified chain of custody supply to a larger processing enterprise. SFEs are those that harvest or process a small volume of timber, either due to small holding sizes or to low productivity of forest operations. This review looked at the experience of SFE certification in a global context, highlighting their role, region by region, in terms of land area and wood supply. The certification of smallholders has been concentrated geographically, with large numbers of European smallholders becoming certified under the PEFC system, non-industrial forest owners in the United States under the FSC or SFI (through the US Tree Farm programme) systems, community or group certification in Mesoamerica, and outgrower schemes in South Africa and other pulp-producing plantation regions. Three certification systems were reviewed in relation to the barriers SFEs face and the benefits they can attain under each.

Forest certification is a market-based tool that is not effective or appropriate in all circumstances. Ensuring equitable access to forest certification and certified product markets for smallholders requires targeting a distinct set of issues which are not easily addressed or resolved. While equity is a stated objective of the FSC and other forest certification systems, the nature and scale of SFEs creates a number of barriers that need to be resolved for benefits to accrue and for this be a viable option.

The experience of SFE certification raises a number of issues:

- Will SFEs continue to become certified under existing systems?
- Which systems offer lowest barriers to access and which offer greatest potential benefits?
- Does certification create inequalities in access to wood markets for SFEs beyond usual constraints and barriers?
- Does it help or hinder market access?
- Should more be done to extend or adapt

- certification for SFEs?
- Should tools, other than certification, be used for SFEs to achieve SFM?

Barriers

Community forestry operations oriented towards subsistence use or local markets and small volumes of wood are simply not viable commercial operations and are unable to afford the costs of third party certification (even with greatly reduced certification costs). Similarly, many of the very small forest owners who originally signed on for forest certification early on have now dropped out as their small holdings (50-100 ha) and infrequent harvests cannot justify third party audits costs nor do they attract wood buyers (due to small, infrequent harvests) who might want certified wood. Some landowners are clearly not interested in being part of a group. This group comprises the largest drop-out rate in the Smartwood portfolio, a certifying body that has invested considerable resources and placed considerable emphasis on the equitable inclusion of communities and other SFEs.

The barriers that SFEs face are caused by their low productivity and low timber output, lack of market access due to location and productivity, lack of technical expertise, limited adoption of business and documentation standards that are common at larger scales and difficulties in incorporating landscape-wide environmental concerns into the certification of small timber-producing areas - wildlife values, aesthetics, recreation, suburban pressures and ecological integrity.

Adjustments

A number of adjustments have been made recently to the FSC forest certification system designed to eliminate barriers for SFEs and these adjustments have been analysed from the perspective of access and cost-benefits.

The FSC system has introduced a group certification option and approved a set of

modified standards for small and low-intensity operations (SLIMFs). FSC is in the process of refining the criteria and indicators of SLIMFs on the basis of actual certification experience. The US Tree Farm programme is a model designed to assist non-industrial private forest owners so that they can afford to become part of an industrial chain of custody certified supply chain. The PEFC certification model in Europe has developed a certification process for cooperative tree owners as a form of group certification system. These have increased access to SFEs but many of the inherent barriers remain.

Rainforest Alliance is implementing an innovative programme to address market barriers. The TREES programme works with US and Mesoamerican SFEs in small holder market linkage pilots. The programme includes analysis of the market barriers to gain a greater understanding of the market linkage issues and technical assistance to help SFEs make changes in selected landscapes or along specific product lines. Market linkages to processing industries and buyers with demand for types of wood products generated by SFEs are explored to increase marketability on a small scale

Recommendations

- Improve the systems of forest certification so that they are more equitable to the scale and efficiency of SFEs so as to increase their competitiveness in the market.
- Recognise that SFEs face specific barriers that will remain once they become certified. Provide adequate donor financing for complementary support activities that help SFEs to address these barriers and improve their efficiency and market access, including attention to market linkages.
- Explore alternative models for those community and smallholder forests which do not have sufficient market access to benefit from forest certification but wish to

improve the sustainability and environmental returns from their forest operations.

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FOREST CERTIFICATION AND COMMUNITIES: LOOKING FORWARD TO THE NEXT DECADE

By Augusta Molnar

Since its inception, forest certification has aimed to address social as well as environmental goals. For that reason, the FSC and its certifiers (mainly Smartwood) and supporting donors have aggressively supported community certification. At present, about 50 community enterprises have been certified worldwide and a number of others have a process of certification underway. This small but diverse sample provides a rich set of lessons to help guide all certification schemes that have an interest in community forest management.

The linkage between certification and communities is important because forest communities are increasingly major stewards of the world's forests, especially in tropical countries. One quarter of the forests in the developing world is currently community owned or managed; a figure that is likely to double in the next 15 years. This is based on the continued recognition of indigenous and other community rights, which may easily include 700-800 million ha of the total global 3.6 billion ha. Until now, certification has

reached less than 1% of community forests. With no changes to certification systems, it is unlikely to reach more than 2% of all community forests in the next decade. This is worrisome because of the very significant contribution that forest communities can make to sustainable forestry.

To understand the impact of, and barriers to, certification on communities and suggest actions for the future, Forest Trends carried out a comprehensive evaluation of the existing studies and case material, interviewed and organised discussions with more than 60 individuals involved in forest certification as certifiers, accreditors, clients, researchers or promoters.

Dilemmas

There is a growing paradox between expanding the area of community certification and expanding third-party forest certification for industry, private individual and government forests. There is a strong demand for a simplification of procedures and a minimisation of costs for small-scale enterprises including community-based enterprises, but there is also demand for a longer and more detailed assessment with a rising bar for social and environmental criteria. NGOs are particularly concerned about the certification of industrial and state enterprises where land tenure rights of indigenous peoples and other local residents are not established. Recent debates in Indonesia over the potential certification of state-owned forests include unresolved dilemmas over the treatment of high-value conservation forest, treatment of local property rights, corruption among authorities and companies, and issues of labour conditions and local benefit sharing. There is also a growing tension between increasing the amount of certified timber and wood products so that the certified markets can grow and increase market share, and establishing and applying sufficiently rigorous standards to maintain the credibility of the forest certification instrument.

Barriers

Much fewer communities have qualified for certification than expected and, to date, the experience has been confined mainly to Mexico, Canada, USA, Guatemala and the Philippines. While a number of new communities are in the process of scoping or assessment for new certification, a number of issues have emerged that create barriers. Many communities face policy and regulatory barriers to extracting and processing forest products, or controlling rights to the environmental services generated. The cost of the assessment and auditing process is high for small operations. Given the fact most community enterprises are incipient, there have been numerous pre-conditions or conditions for them to qualify for certification, requiring them to seek donor financing to pay for these or substantially increase costs relative to their returns. Communities are found in more remote areas where markets are not developed for certified products and do not pay a premium, making the additional cost impractical.

The small-scale and incipient nature of community operations has made it difficult for communities to generate the quantity and quality of products that a certified market would demand. Communities are too risky an investment to attract the required finance and face internal constraints to make organisational changes towards a more profitable business model. Where cultural differences are large between certifiers and communities, the process of certification can also come into conflict with the natural path of evolution of the community enterprise and its natural resource management models.

Adjustments

Some recent innovations introduced by certifiers address a number of these issues. Recently, the application of rules for Small and Low-Intensity Managed Forests (SLIMFs) was approved by the FSC General Assembly with provisions for group certification within

them and there are proposals for introducing a step-wise or modular certification to provide more time to achieve best practices.

More adjustments are still needed. Certification schemes need to recognise the larger set of client communities dependent on multiple income streams or just starting up enterprises. Communities with multiple income streams face the dilemma of which products to certify: wood, non-wood, conservation practices, environmental services or eco-agriculture. So far, we have no answer for these communities, either in helping them evolve into enterprises, bear the cost of more sustainable management by linking them to markets, or fight the battle for greater resource rights and access.

Recommendations

Forest Trends recommends two related sets of actions, both of which require more active collaboration among the various stakeholders:

- Revisit the objectives of certification and modify the criteria and indicators and process of certification to reach a wider range of forest communities, taking advantage of long-standing practices of communities that achieve the same set of goals, but in a different way.
- In forest communities for which forest certification is not a currently viable option, efforts are needed to foster and expand coverage of alternative SFM instruments (fair trade, ethnical collection standards, the deregulation of market barriers, the devolution of rights and responsibilities and business support). Alternatives must address the multiple income streams that many forest communities derive from the forest to ensure that the SFM instrument is not excessively expensive.

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**SUSTAINABLE FOREST
MANAGEMENT IN BRAZIL AND THE
ROLE OF FSC FOREST
CERTIFICATION**

By Andre de Freitas

It is very likely that FSC certification has been the initiative that has had the greatest impact on world forestry in the last ten years. At least, this has been the case as far as Brazil I concerned. Forest certification in the FSC system can be considered a global phenomenon, with basic standards and rules applicable to all forests in the world. Besides that, in many cases, operations that seek certification in developing countries are oriented towards foreign markets, for which FSC can provide an advantage.

Forest certification in the FSC system is helping to change the face of forestry in Brazil by providing a way to increase the importance of social and environmental aspects in decision-making processes. This is done through a credible identification of SFM initiatives, which provides market and image benefits to forest operations.

Changing outlook

The outlook for sustainable forest management has changed dramatically in Brazil in the last decade. In 1993, for example, attempts at managing forests sustainably were restricted to a few isolated

research initiatives.

In 1995, a group named Precious Woods started a forest operation with the objective of implementing a sustainable forest management proposal. With this in mind, they invested in forest areas, equipment, training and personnel. The operation was called Mil Madeireira Itacoatiara and was located close to Manaus.

Certification was deemed crucial for the project, which was aimed at the European market, and in 1997 their operation received FSC certification. To achieve this, they had had to recognise the land rights of traditional communities living inside the forest areas adopt reduced impact logging practices and provide good working conditions for employees.

Challenges

Mil Madeireira had to deal with a great many challenges. There was no similar operation in Brazil that had proved that SFM would work, or that it would be economically viable. The species being managed were unknown on the market and were hard to sell. In its first years, Mil Madeireira did not break even and the tropical forest industry was quite content to carry on conducting business as usual, claiming that sustainable forest management did not work and things should stay the way they had always been.

Then, it all started to change. Some of the historically unsustainable operations started similar sustainable forest management and FSC certification initiatives. The Precious Woods operation broke even, proving that sustainable forest management was indeed a sound business. Considering Mil Madeireira part of a learning curve, they decided to start another forest operation in the Amazon, which was certified a little over six months after it started. Precious Woods also became the first tropical forestry enterprise in the world to be listed on the stock market .

The situation today

Currently, there are five FSC certified large forest operations in the Brazilian Amazon and several others engaged in the certification process. Together, they represent the most advanced commercial forestry initiative in the country. The changes made are related to working conditions, health and safety, food and lodging for workers, increased planning and reduced impact on the forest, better efficiency of forest operations and, more recently, the use of ecological criteria for the management of species or groups of species.

FSC certification has been a key element in this process, facilitating changes through an independent assessment of social, environmental and economic issues related to forestry. In many cases, certification has enabled forest managers to gain leverage with regard to implementing better forestry practices on the ground.

Certification has also impacted community forestry in Brazil. Community forestry in the country has gained momentum in the last five years, with several initiatives throughout the Amazon. According to a recent estimate, there are more than 15 community forest projects in the region.

Most of these projects are supported by NGOs or social movements and, in a few cases, by research institutions such as Embrapa. In general, the term community forestry in the Brazilian Amazon has a very broad understanding and comprehends any forestry initiative that involves traditional communities, such as rubber tappers and riverside populations (ribeirinhos), peasants and indigenous peoples.

FSC certification has been of interest to these projects, as it provides a means of improving forest management, guaranteeing to donors and stakeholders that the initiative is working towards sustainable forest management and providing a market differentiation for their

products, and sometimes, even a price premium.

At present, there are three community forest operations certified in the Brazilian Amazon and close to ten others in the process of becoming certified or that are interested in the issue. There is also a growing trend to certify community forest management of non-timber forest products. This has been largely led by a demand from the cosmetic industry, which is becoming increasingly aware of the importance of responsible sourcing of their inputs.

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**COMPARISON OF STANDARDS FOR
THE EVALUATION OF SUSTAINABLE
FOREST MANAGEMENT BETWEEN
COUNTRIES FROM THE SOUTH AND
THE NORTH**

By Bart Holvoet and Bart Muys

The number of initiatives focused on the evaluation of sustainable forest management has risen considerably since the UNCED Conference in Rio de Janeiro (1992). A large number of countries have already drawn up a set of Principles, Criteria and Indicators. In most of the cases this development took place within the framework of an intergovernmental or international initiative. Other national and international organisations have also been involved in the development of such sets or

'standards'. In our study, we collected and compared the contents of a large number of standards. Although most standards shared the same main elements, there also appeared to be substantial differences between the standards.

Differences between standards

The level of application - the 'forest management unit' (FMU) or the 'national level' - appeared to be a major difference. Standards developed for the national level are less detailed and consist mostly of monitoring aspects at a regional scale. The more detailed FMU standards combine both monitoring aspects and a number of management aspects.

Another important difference between the standards can be traced back to different geographical origins. Standards from countries in the South place a greater emphasis on the social and economic forest functions, while those originating from the North pay relatively more attention to the ecological forest functions. One of the most important differences between standards from the North and the South is their use of research-related aspects. The management capacity and research capabilities related to sustainable forest management are far less in evidence in the South than in the countries of the North.

Challenges

A policy challenge is now to find out whether it is a good idea to maintain the observed differences between sustainable forest management standards or whether it would be preferable to harmonise them. In those cases in which the differences reflect diverging local conditions such as ecosystem functioning, management techniques and traditions and market opportunities, differences are legitimate and should be maintained. However, when differences are caused by a lack of capacity or

socio-economical inequities, we recommend a harmonisation of the standards.

Forest certification in the South is in its infancy. However, sustainable forest management is needed just as badly or in some cases even more urgently than in most of the North. Local and international efforts should be made to increase capacity and equity. Logging companies working in the South should be guided to engage in sustainable forest management by NGO pressure, by means of national regulations, or by market pressure. The donor community could support efforts to realise sustainable forest management in the South by assisting the development of proper national regulations and efficient national forest services. In this way, a more harmonised and better forest management can be attained worldwide.

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**CAPACITY BUILDING IN FOREST
 CERTIFICATION: LINKING AN
 INTERNATIONAL MARKET
 MECHANISM TO NATIONAL
 INITIATIVES**

By Anne C. de Fraiture and Wouter Leen Hijweege

Forest certification is gaining recognition as a useful market instrument for linking international customer concern with sustainable forest management. The adoption and application of forest certification in tropical

countries remains limited, however while temperate forests are forging ahead. Based on the EU's assumption that a lack of information and knowledge about sustainable forest management and forest certification is one of the main obstacles to the adoption of certification in tropical forestry, GTZ and IAC jointly implemented the 'Inter-institutional Development of Training Capacity in Forest Certification' project in 77 ACP countries between January 2000 and March 2003. In the participating countries, the project supported stakeholders in forest management, encouraging their participation in national and regional forest certification initiatives.

Strategy

Given their number and diversity, the ACP countries were grouped into ten regions with one core country each. For each region, a capacity building strategy was developed and regional focal point organisations (RFPs) were identified to coordinate the implementation of this strategy and to maintain a network for the exchange of experiences. Given the project's restricted financial and human resources, capacity building activities concentrated largely on the core countries, with a focus on national activities. To support the capacity building processes in the regions, a project website was created containing a toolbox and learning platform on forest certification. This material was later adapted to specific regional and/or national circumstances during regional training-of-trainer courses.

Lessons learnt

1. Project impact and sustainability differed markedly and was determined mainly by the country's starting position and progress in establishing forest certification. The project approach to focussing on support for new or ongoing certification processes allowed sufficient flexibility to handle these differences, but increased the project management requirements e.g. in providing

adequate back stopping.

2. The aforementioned national and regional intervention in forest certification was not successful in all countries. Obviously, the project's basic assumption of a lack of information among stakeholders involved in forest certification was only partially valid. In most countries, a multitude of factors affected the certification process, such as:

- Disturbed working relations between different stakeholder groups, for example private companies and governmental organisations. Yet elsewhere, the development of national standards and procedures through stakeholder consultations and national working groups brought various stakeholder groups together successfully for the first time.
- The role and mandate of the players in the national processes needed due attention. For example, the dominant role of the government in forest management and its supervision tasks complicated discussions. Some governments still see certification as a controlling and steering mechanism within their role and mandate rather than an independent market mechanism. Similarly, private sector representatives proved to be hesitant to share views on certification and forest management issues with colleagues, government and NGOs, because they regard it as their own responsibility.
- Limited market signals in the absence of a timber export market. Certification for sustainable forest management has been developed for the (international) timber trade and experiences with certification of non-timber products and other forest functions and services (e.g. tourism, watershed management) being limited. This needs to be developed, since marketing these products can contribute to the sustainable management of forest resources.

3. Adopting a process approach to capacity

building and placing it in a perspective of longer-term change with multiple stakeholder involvement will contribute to a sense of ownership among the parties involved. However, the initiation of such a social learning process requires time, money and long-term support from donors. Thus, capacity building evolves from providing training to individuals to providing various forms of support, training and coaching both for individuals and organisations in order to develop new roles and working methods. Apart from technical information about forest certification and training-of-trainers, attention shifts to such issues as communication, governance and conflict management.

4. The project offered national stakeholder groups (governmental, non-governmental and private sector) a neutral platform on which to start a dialogue and to exchange views. In most countries this aspect of neutralism was essential in order to get the major stakeholders around the table and to get the process started. This resulted in some countries in the (re-)establishment of national working groups.

5. After all, up-to-date information and especially communication play an important role in building support, trust and mutual understanding among stakeholder groups in the transformation to sustainable forest management. Information management is one of the mechanisms for maintaining momentum in an ongoing learning process among the various stakeholders and may take many different forms. However, the active involvement of stakeholders is one common denominator. The project's digital toolbox and learning platform on forest certification has been developed as a networking tool that is to continue playing a facilitating role in building an information base and platform for sharing experiences (see http://www.gtz.de/capacity_building or <http://www.iac.wur.nl/forestcertification>).

Conclusion

Linking an international market mechanism such as forest certification to several national initiatives for sustainable forest management is a complicated activity with far-reaching institutional implications. Instead of a straight-forward training approach for the transfer of technical expertise, a process-oriented capacity building effort to support learning among a network of involved parties is required. It is essential that the national context and institutional setting is taken as a starting point for the implementation of project activities. Furthermore, flexibility in strategies and approaches to adapting project activities to the actual situation of the stakeholders and to responding to the evolving capacity building requirements requires high-level commitment from the project management.

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REMOTE SENSING AND GIS FOR SUPPORTING SUSTAINABLE FOREST MANAGEMENT CERTIFICATION IN THE TROPICS

By Cui Yijun, Yousif Ali Hussin and Ali Sharifi

Forest certification is a process for verifying whether a forest is sustainably managed or not. Certain criteria and indicators are used in

this process. The Indonesian Institute for Eco-Labeling (LEI), based on the guidelines developed by International Tropical Timber Organisation (ITTO), Forest Stewardship Council (FSC) and the Centre for International Forestry Research (CIFOR), has compiled a comprehensive set of criteria and indicators for the Indonesian certification of sustainable forest management (SFM). Under an agreement made by FSC and LEI in 2000, all the certification bodies operating in Indonesia are to use this set of C&I only. How to effectively and objectively assess the forest management performance against these criteria and indicators has become an important issue.

Remote sensing as a source of information

In order to carry out sustainable forest management certification efficiently and monitor already certified forest management performance objectively, unambiguous and timely information about the target forest areas is needed. It is not feasible in terms of both money and time to obtain information pertaining to large and, usually, remote forest areas using only field surveys. Remote sensing data and techniques must therefore be considered. In fact it is the only way to obtain timely information on large and remote tropical rain forest areas. Theoretically, there is no doubt that remote sensing data can be a useful tool in supporting the acquirement of this information. However, because of the newness of SFM certification there are still many unknowns concerning the application of remote sensing in order to support certification.

Scope of the study

The research objective was to investigate the extent to which remotely sensed satellite images and GIS can be used to support the forest certification process in Indonesia. Landsat-7 satellite images were used as well as object-oriented image analysis for image classification. GIS was used for the integrated

analysis of classification results and other geographic data.

The selected study area was the Labanan forest, which is located in Berau regency in Indonesia (one of the four regencies in East Kalimantan province). Inhutani I, a state-owned forest concession company, has managed this area for more than 30 years and selective logging has been carried out since 1970.

The potential

The results revealed that there is great potential for using Landsat satellite images and object-oriented image analysis to extract information to support the forest certification process. Several indicators can be positively assessed using remotely sensed data, image processing and GIS analysis.

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BEYOND TIMBER: CERTIFICATION OF NON-TIMBER FOREST PRODUCTS

By Patricia Shanley

Certification is part of a growing trend with regard to defining standards for social and environmental performance in natural resource management. Started in response to consumer demand for sustainably sourced products, the concept has taken hold in a

number of sectors including the food, health care and forest product industries. In forestry, certification began in the wood products industry, only recently including non-timber forest products. Because the term non-timber forest products (NTFPs) encompasses such a vast array of goods, various certification schemes are being applied, with varied success and relevance. This review positions NTFPs within the context of sustainable forest product certification and within the development of broader standards and certification for NTFPs and related products (organics, authentication and quality control). There are broader implications of standards, for example as a tool to influence consumer choice, to form the basis of industry association standards (of collecting and management), corporate policies, and/or legislation.

There are 36 products that have standards established within the forest certification standards, 32 of them in Brazil. Certification has focused on products with commercial relevance but for which there is a good information base of management concerns and a known set of collectors whose activities can be monitored and confirmed. They are also products with a marketing chain to a product for which the NTFP is the main or primary ingredient.

Dilemma

Recent efforts to certify NTFPs raise questions about the impact of this market-based tool on local producers and communities. Drawing from case studies in Latin America, we find that there are many impediments to the successful implementation of NTFP certification. These impediments range from unorganised and powerless laborers to basic difficulties in commercialising NTFPs in the face of an undeveloped demand for certified products among businesses and consumers. The next generation of NTFP certification will be more complex due to faulty information on

management and biological characteristics of the species, multiple chains of collectors, managers and processors, the volatility of NTFP markets and the importance of many NTFPs which are only a small part of the final product to be marketed.

There are strong interests in developing standards from industry associations interested in the sustainability of the supply of threatened species and in preventing competition from lower-quality products. Health organisations and governments are increasingly concerned with standards, while producers seek clear guidelines for harvesting and management that can be communicated clearly and successfully applied to ensure their own income streams. In most cases there is a lot of conflicting information: a plethora of guidelines, the weakness and inconsistency of standards and a lack of integration into market chains or other trade labelling initiatives (organic or fair trade, for example).

Apart from a limited set of products, NTFP certification can be extremely costly as regards standards development and application to varied ecological settings. Even within a given region in a given country, standards can be impossible to apply where there are multiple types of collectors over dispersed areas with public tenure. Small producers may be unable to apply these standards due to a lack of information or lack of market return for their application. Particularly in the cosmetic industry where individual NTFPs are only a small portion of the final product, there is little market incentive to certify. In addition, some products can be quite vulnerable to product substitution or fashion and expensive processes of certification should only be applied to those NTFPs likely to maintain a reasonable market share over time.

Adjustments

There are a number of successful experiences

that can be expanded to other products - rattan, maple syrup, chicle, palm heart and wood carvings. For species which are difficult to certify there are a number of alternatives which could be more systematically applied to new countries and new markets, including ethical standards for collectors' associations, permit systems which coincide with collection options and requirements, fair trade models and the provision of greater tenure security to specific sets of collectors and producers. Parallel to this, government regulations often need modifying in order to remove market barriers for small-scale producers and to eliminate counterproductive permitting and taxation systems that reduce the returns available to the producer.

It appears that the process of creating NTFP certification standards may create positive ripple effects among producers, traders, companies and policy makers by planting the seeds for a vision of more socially and environmentally responsible management of NTFP resources. We conclude that the ability of certification to bring about wider social change indirectly may prove to be of greater lasting impact to rural livelihoods and NTFP management than labeling and marketing.

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VI LINKING GLOBAL CONSERVATION OBJECTIVES AND LOCAL USE OF FOREST AND WILDLIFE RESOURCES

Globalisation and localisation have improved the mix of actors involved in forest management. Forest management is no longer in the hands of a single entity (whether government, NGO or local community), but increasingly the product of negotiations and joint actions between players at global and local level. On the ground, new partnerships for the protection and co-management of forest resources are being created, involving international donors, government agencies, national and international NGOs, private sector actors, research organisations and communities. These multi-scale and multi-stakeholder partnerships in forest management have the potential to link global conservation objectives with local needs, thus creating synergy. However, they do not automatically eliminate power imbalances and conflicting interests. The following contributions discuss the opportunities and difficulties of reconciling global conservation objectives with local needs, and the ways in which power imbalances and conflicting interests can be overcome.

- S International organisations, civil society and tropical forest management (Eero Palmujoki)
- S Strategic partnerships to combat forest conversion and the role of financial institutions (Jan Joost Kessler)
- S Beyond community-based conservation: policy and institutional arrangements for partnership in forest biodiversity management (James Gichia Njogu)

- S Not by maize alone: forest access and rural livelihoods in southwest Ethiopia (Yihenu Zewdie)
- S Global forest management decisions and local use of forest resources in Kenya: exploring the link (Wario R. Adano and Karen Witsenburg)
- S Local people and local benefits in integrated biodiversity conservation: a case study from Ranomafana, Madagascar (Maija Kaisa Korhonen)
- S Assessing mammal status in tropical rain forests using local knowledge (Christiaan A. van der Hoeven)
- S Biodiversity conservation through burning: a case study of woodlands in the Budongo Forest Reserve, NW Uganda (Grace Nangendo, Oliver van Straaten and Alfred de Gier)
- S Is sustainable mangrove management possible in the Red River delta of Vietnam? (Le Thi Van Hue)

**INTERNATIONAL ORGANISATIONS,
CIVIL SOCIETY AND TROPICAL
FOREST MANAGEMENT**

By Eero Palmujoki

Our review deals with the policies and interaction of the world's major economic organisations - the IMF, World Bank and WTO - with regard to tropical forestry, in particular their policies on civil society's role in sustainable forest management.

We analyse this role from two points of view. First, the multidimensional character of international organisations and possible impacts of these organisations' primary aims are examined. The multidimensional character means that although these international organisations focus on particular issues, such as poverty reduction, they have

adopted a broader approach including environmental concerns and sustainable development. This has been evident at the World Bank, but also increasingly at the IMF and the WTO. Second, we scrutinise the role of civil society in the policies and agendas of these international organisations, in particular with respect to the environment and tropical forestry. The first issue that emerges here is that the civil society empowerment model applied by the World Bank, in which the IMF has also engaged through the general discussion with the NGOs, has been applied in the environmental projects of multilateral financial institutions during the last decade. The second issue concerns new market-based mechanisms, for example forest certification which constitutes another important field in which the non-governmental sector and international organisations are interacting. This raises interesting questions regarding sovereignty.

The mechanisms of governance, in which non-governmental actors play visible roles alongside international and governmental agencies, generate new tendencies in international relations. It is justified to characterise these mechanisms of governance as phenomena of international relations for their own sake. It is also possible to speak about the privatisation of international regulations, on the one hand, and about the politicisation of private measures, on the other. In these cases the issue is that the non-governmental players - NGOs and other civil society organisations, business enterprises and local communities - with or without the international organisations, supersede the governmental authorities.

Interestingly enough, these mechanisms are becoming increasingly important for the international governance of forestry. Concerning tropical forests, in particular, new measures emphasise both the tendency of privatisation and politicisation. The politicisation is due to the definitions of

sustainable forest management that international organisations and NGOs adopt and the privatisation is partly due to the way these measures are implemented.

The concept of civil society

The idea of governance derives its concepts from economic liberalism and political pluralism. Both of them resist strong central government and authority over citizens. The central concept connecting economic and political aspects of liberal governance is civil society.

Although the concept of civil society is ambiguous, both multilateral financial institutions and national and international NGOs eagerly implement it. In tropical forestry, four patterns can be identified:

- The first is a typical pattern of international organisation-national government-operational NGO cooperation, in which the international organisation realises its projects through governments and NGOs or directly through NGOs. The policy implementation is more or less in the hands of an operational NGO.
- The second is the case of the role of an advocacy NGO in which the international organisation and the NGO have a more or less direct relationship that is reflected in the policy of the international organisation towards the governments.
- In the third case the state is active as well, or is even manipulating the international organisations and the NGOs.
- In the fourth case, the NGO or another private actor has been accepted as an integral part of governance together with the states and the international organisations.

All these patterns reflect changes in international relations as well as in national forest policies in an interesting way. The first two patterns refer primarily to the policies

initiated by the international organisation and to a certain extent by the NGOs. They vary from the particular forest projects of multilateral financial institutions, such as the Pilot Programme to Conserve the Brazilian Rain Forest (PPG7) to the link between forestry and the funding and loan conditions of the World Bank and the IMF. These kinds of conditions - although their effectiveness has been criticised - have been recently implemented in the important tropical timber-producing countries of Indonesia and Brazil.

The third and fourth cases refer to forest certification. They differ from the earlier cases because the roles of the international organisations can be more or less responsive and they have not been very active in creating these kinds of regulative mechanisms. Originally the idea of forest certification was put forward by the non-governmental sector, but - as the third pattern shows - there have been significant attempts to create national certification programmes, in which governmental or semi-governmental agencies play important roles.

The way in which these developments and patterns enforce civil society and sustainable forest management is a question of importance. These mechanisms are still so novel that their efficiency for sustainable forest management cannot be clearly proven. Theoretically they have already changed the position of the sovereign state in global environmental governance. Similarly, these developments have enforced non-governmental environmental regulation and these regulations have spread to non-forest sectors, thereby emphasising the politicisation of forestry measures.

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STRATEGIC PARTNERSHIPS TO COMBAT FOREST CONVERSION AND THE ROLE OF FINANCIAL INSTITUTIONS

By Jan Joost Kessler

Continuing forest conversion processes result from the expansion of agro-industrial industries responding to global markets and consumers demands. The role of financial institutions is critical in funding these processes, but the role of this actor has so far not been properly addressed. Strong north-south collaboration has been effective as regards linking local problems to global private sector actors. Strategic partnerships between environmental NGOs and private sector innovators (retailers and financial institutions) are critical for bringing about change and for convincing 'mainstream' actors.

Underlying causes

In recent decades, much attention has been paid to logging for timber as the major activity that causes the decline of primary forests. It has led to the development of sustainable forest management practices and the certification of timber based on sustainable management principles. However, this approach has ignored several important causes of continuing forest decline, such as forest fires in Indonesia. AIDEnvironment took up this issue and coordinated action-research aimed at:

- understanding the dynamics and root causes of forest conversion;
- identifying the key actors involved; and
- developing and implementing solution strategies.

The research is being undertaken in various

countries using a model that is generally applicable to problems of illegal and unsustainable exploitation of natural resources. A critical aspect of the research is the collaboration between southern (local) and northern (Dutch) environmental NGOs, with a view to acquiring evidence of the local problems and their impacts on stakeholders, unravel the causal linkages with private sector actors from the Netherlands and Europe operating at a global scale, and then actively address these actors as well as Western consumers.

Forest conversion for monocultures

Forest conversion is the continuous process of declining forest functions leading to man-made monocultures with low biodiversity, causing a loss of economic value and negative socio-economic impacts on local communities. The forest conversion process passes from primary (natural) forest to logged or residual or secondary forest, and finally converted forest. The driving forces for forest conversion are often found beyond the forestry sector. In Indonesia, palm oil plantations are largely responsible for forest conversion; the area affected has increased by 530% since 1985. It was estimated that oil palm plantation owners started more than 50% of the forest fires. While international pressure has led to increasingly stringent regulations for selective logging, forest clearing for oil palm plantations is bound by less stringent regulations. It is estimated that in 2000 forest conversion accounted for 40% of Indonesia's legal timber and pulpwood supply. Similar processes are the expansion of soy monocultures (Brazil), cotton (Western Africa) and pulpwood plantations (Indonesia).

The role of the private sector

The profitability of agro-industrial monocultures constitutes a driving force behind the forest conversion process that does not seem to be fully recognised. The scale and the rapid speed of forest conversion is unprecedented. This can be explained by

the connections with global commodity markets. The 'resource-trade-cycle' model describes how consumer markets are related to resource management and forest conversion processes. There are two basic flows that connect consumer markets with the resource: capital flows and product flows. Capital is channelled to the producer through financial institutions. For instance, the expansion of oil palm estates in Indonesia is largely financed by financial institutions which are subsidiaries of international banks. Depending on the type of credit provided, financial institutions can strongly influence their clients' policies. It is remarkable that the role of financial institutions as a driving factor and root cause of forest conversion has so far been ignored. Product flows from producer to the consumer market are generated by a range of actors involved in trade, processing and retail of products. The consumers contribute, through their savings, to the creation of the financial resources that feed the process.

Solutions

The action-research has resulted in a number of solution strategies. These result from a critical combination of:

- joint actions by environmental NGOs to put key private sector actors under pressure, by informing consumers, making known illegal acts and contributions to deforestation, thus putting the reputation of the company under pressure ('pushing' strategy); and
- strategic partnerships with private sector innovators and early adopters, offering and developing alternative options, more sustainable practices, better policies and support by environmental NGOs ('pulling' strategy).

With respect to the Indonesia case, this has resulted so far in the following progress:

- Following a major campaign by consumers, three Dutch banks - ABN AMRO Bank, Rabobank and Fortis Bank

- decided to stop or substantially restrict the financing of oil palm plantations for which tropical rainforest is purposely destroyed. They have expressed the need to work towards alternative approaches and to do so are in close contact with environmental NGOs. One result of this collaboration is the formulation of a forest policy for financial institutions now ready for adoption.

- Some large companies have cancelled investments in oil palm plantations or pulp industries, partly as a result of pressure. As a result of partnerships with environmental NGOs, some retailers are working on the development of palm oil that is produced in a more sustainable manner, adopting better practices and being 'HCV-free' (not derived from the cutting of high conservation forests).
- At a local level there have been various court cases supporting local communities and workers on oil palm plantations in their cases against illegal exploitation or social injustice. To succeed, the support from northern NGOs is important.

A similar approach has been adopted for other cases of forest conversion resulting from private sector involvement, and the role of financial institutions in financing these.

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BEYOND COMMUNITY-BASED CONSERVATION: POLICY AND INSTITUTIONAL ARRANGEMENTS FOR PARTNERSHIP IN FOREST BIODIVERSITY MANAGEMENT

By James Gichiah Njogu

The emerging partnerships between stakeholders resulting from decentralisation and globalisation bring new challenges to forest conservation. Multi-stakeholder partnerships are increasingly shaping biodiversity conservation. Using the case of the Taita forest in Kenya, we aim to demonstrate how multi-level stakeholder and partnership arrangements can enhance community-based forest conservation and lead to sustainability.

We argue that combining a multi-stakeholder approach with the entitlement approach is a way of gaining more specific insight into the interests, values, attitudes and interactions between various stakeholders. Combining both approaches into one research framework allows us to be more specific about the potentials and constraints of partnerships in community-based forest conservation.

This goes beyond various forms of user-group participation that are based on a rather narrow conception of 'interest' and 'affectedness' in which inclusion and participations are largely confined to user groups proper. Indeed, a successful conservation strategy requires the integration of values and interests of a range of human stakeholders and actors well beyond the user group proper to those who knowingly or unknowingly enjoy ecosystem services. Although these people may occupy the same ecosystem or conservation area, they are very different as regards political and economic power, options and level of interest

in a place and its resources. The fact that there are multiple interests and stakeholders in biodiversity and forest conservation and that they range from local people to distant outsiders cannot be ignored.

New actors

In the case of the Taita forest, considerable degrees of authority, including those in forest management, are transferred to lower levels of government. In this process, new actors in forest and biodiversity conservation came to the fore. This not only means district and local governments, but also NGOs, forest communities, individuals, community-based organisations (CBOs) and the private sector. While decentralised forest administration creates space for greater participation of these actors in the decision-making process in Kenya, the same has not been addressed in forest law. Thus far, no provisions are available for complaints of misuse and excessive clearing of forests. However, following the challenges of the emerging partnerships, new laws are being made such as the 'Environment Management and Coordination Act 2000' that is now being implemented and a draft Forest bill which is yet to be enacted. These laws may allow integration of stakeholders in forest management through social and economic incentives.

In forest and biodiversity conservation, the concept of stakeholder was evoked only recently for application in community-based conservation and co-management efforts. However, the use of this concept has no strong theoretical basis. In this article we define stakeholders 'as to include various institutions, social groups and individuals who possess a direct, significant and specific stake in the protected areas'. The stake may originate from institutional mandate, geographical proximity, historical association, dependence for livelihood, economic interest and a variety of other capacities and concerns. In this regard, we identify

stakeholders based on three attributes:

- Stakeholders are aware of their interest
- Stakeholders possess specific capacities such as knowledge, skills or expertise and/or comparative advantages such as proximity or mandate
- Stakeholders bear the cost or are willing to invest specific resources including time, money and political authority or influence management instruments.

Diverging interests

In view of the entitlement rights, the stakeholders have specific rights related to ownership, use and management interventions. Nevertheless, not all stakeholders are equally interested in conserving a resource, nor are they equally entitled to have a role in resources management. It is convenient therefore to distinguish between primary and secondary stakeholders. Primary stakeholders score high on several counts, while the secondary stakeholders score high on one or two counts only. In collaborative management processes, primary stakeholders would assume an active role such as decision-making or holding a seat on the management board, while secondary stakeholders would be involved in less active ways such as holding a seat in a consultative body. In addition to the three attributes of stakeholder identification, more detailed accounts form criteria for distinguishing stakeholders. Based on the Taita forest case, these accounts include the following:

- Historical and cultural relation with forest resources
- Existing rights to land or forest resources
- Continuity of relationship (e.g. residents versus visitors and tourists) with forest resources
- Unique knowledge and skill for the forest management
- Losses and damage incurred in the forest management process
- Degree of effort and interest in forest management

- Equity in the access to the forest resources and the distribution of benefits from their use
- Compatibility of the interest and social and economic activities of the stakeholder with national forest conservation and development policies
- Present or potential impact of the activities of the stakeholder on the forest resource base.

There is no clear line between these accounts, which are also very dynamic. However, they can be used conveniently to group various stakeholders. For these groups to be involved directly in forest resource and biodiversity management they must be organised accordingly and recognised through policies and by laws. Such organisation may include the district councils, the village council, a forest user's society or a local chapter of a union of indigenous people. The 'stakeholder-ship' of these organisations must be coordinated. This is the role of a national coordinating agency.

Challenge

The main challenge in the new policy and institutional arrangement relates to the relationship between agencies in charge of forest conservation (which may or may not be the coordinating agency) and its stakeholders. Often, the relationship is not as good as would be desired. Criteria for analysing these relationships need to be developed.

In conclusion, stakeholders in forest biodiversity management will generally fall into one or more of the following categories: those whose interests are affected by forests and/or by management strategies and action plans, as well as those whose activities significantly affect forests; those who control or influence management instruments relevant to the forest conservation; and those who possess important information or expertise and capacities needed to address forest issues and to develop management strategies and

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NOT BY MAIZE ALONE: FOREST ACCESS AND RURAL LIVELIHOODS IN SOUTHWEST ETHIOPIA

By *Yihenew Zewdie*

Ethiopia's natural forests, located primarily in the Southwest regions, are rapidly depleting. While the negative impact of deforestation on forest ecosystems is self-evident, the effect on forest-based livelihoods is poorly understood. The drive for food security in Ethiopia has focused mainly on enhancing the yield of food grains, such as maize, which are harvested from individually managed farm plots. Forest-based gathering operations, which are undertaken in common pool resource (CPR) systems, have received little policy attention. Furthermore, the current debate on land tenure is polarised in terms of private versus state ownership of agricultural land, with little or no reference to the fate of CPRs such as forests.

Forest-based livelihoods

Forest resources in highland Kafa in Southwest Ethiopia (Zewdie, 2002) support mixed farming activities and provide a venue for the practice of traditional spiritual ceremonies. Above all, they enable villagers to meet household subsistence and cash income needs. Wild food plants and plant medicines are collected for subsistence needs, but are rarely marketed. Urban

demand spurred villagers' involvement in the production of wood and non-wood forest products (NWFPs) such as honey (from hanging cylindrical log beehives on tree branches), coffee and spices. Although the level of NWFP income varies across household groups, it averages at least a third of the annual household cash income of communities in the case study areas. Nevertheless, this income may not be sustainable, since timber production in particular is sometimes excessive.

The contested terrain of forest access

Since 1975, all land resources have become state-owned. Within this framework, the current land law recognises farmers' 'holding rights' to farmland, but is silent regarding the natural forest from which most of the marketable forest goods are produced. The country's forest legislation, which classifies natural forests into 'state' and 'regional' forests, has a strong element of forest protection without spelling out clearly villagers' forest use rights.

In practice, local departments of agriculture, which are entrusted with the responsibility of administering these resources, have neither the capacity nor the organisational incentive to do so. Traditional principles of forest access such as prior occupancy and territoriality are therefore invoked by farmers to establish locally recognised claims on forest patches. These principles also apply to the Bonga state forest, which was demarcated in the mid 1980s in a rather top-down manner. Hence, from the perspective of farmers, the reality of 'farmer holdings' includes both farmland and tree resources in natural forest areas. This perception is also reinforced by the fact that the level of NWFPs a household harvests is factored into the determination of agricultural income taxes that farmers pay.

The advent of external forest stakeholders

The limited capacity of local government to carry out resource management has

necessitated the involvement of NGOs. Thus, in 1996 FARM Africa started implementing what became the Bonga Forest Conservation and Development Project within the Bonga state forest. The re-demarcation of the state forest boundary was among the first activities the project initiated. For farmers that regarded natural forests as their own use domain, such an undertaking was unpopular. Moreover, this approach inadvertently helped to strengthen the position of local administrators imbued with a top down 'fences and fines' approach towards resource conservation.

In 1998, the threat that deforestation posed to the plant genetic resources has prompted the Ethiopian Agricultural Research Organisation (EARO) to demarcate a vast forest area in highland Kafa as an in-situ coffee preservation site. Indications are that this, too, alienated the forest holdings of local farmers.

The budding private sector is also fast becoming a source of threat to forest-based livelihoods in highland Kafa and beyond. Since the official holding right of farmers is confined to farmland areas, local authorities have been eager to attract private agricultural investment to areas of natural forest in their jurisdiction.

The imposition of outside realities on the local forest tenure scene has consequently resulted in ambiguities and uncertainties. These can only encourage short-termism in the use of forest resources, rather than sustainable management.

The way forward

Uncertainties in forest tenure have frustrated the potential forest management partnership that could have been forged between forest villagers, external forest stakeholders and local departments of agriculture. It is, therefore, essential that policy makers formally recognise the forest use rights of rural households in a manner analogous to the recognition accorded to farmland. Policy

consideration should also be given to the role forest agriculture could play in sub-regional level food security endeavours. These measures will put an end to the governmental practice of viewing forest-based agriculture merely as source of tax revenue, and will be taken as an endorsement of the importance of forest agriculture as a way of life. These are also likely to encourage the development of village level institutional norms that would challenge destructive forest uses.

However, 'rights' for forest use advocated above have to be accompanied by corresponding farmer 'obligations' as regards forest conservation. Environmental NGOs could play a vital advocacy role in championing the legal recognition of forest use rights as well as organising communities to rise to the task of sustainable forest management. This entails a re-orientation of the existing partnership between local departments of agriculture and current and potential NGOs involved in the forestry sector.

As regards the designation of state forests or protected areas, a purpose-specific approach, like the one EARO spearheaded, could be employed, rather than the existing practice of territoriality, i.e. demarcation of contiguous forest areas. At any rate, external forest stakeholders that are keen on establishing such schemes have to appreciate the need for negotiating the outcomes with forest villagers and should be prepared to compensate for lost livelihoods from their activities.

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Yihenew Zewdie (2002). Access to forest resources and forest-based livelihoods in highland Kafa, Ethiopia: A resource management perspective. PhD Thesis, University of Huddersfield, UK.

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**GLOBAL FOREST MANAGEMENT
DECISIONS AND THE LOCAL USE OF
FOREST RESOURCES IN KENYA:
EXPLORING THE LINK**

By Wario R. Adano and Karen Witsenburg

Over 20 institutions and departments in Kenya are concerned with environmental issues and over 50 non-governmental organisations (NGOs) were engaged in environmental activities in Kenya by 1999. The importance of NGOs in environmental activities has grown over the past few years. Their forest conservation efforts and those of local communities are hindered rather than supported by the Kenyan government, which has control over forest resources and legal excisions of protected forest areas. Forest excision or the removal of Kenyan forests from environmental protection, has a powerful effect on local and international forest conservation efforts, making supportive law unrealistic. The recently planned excision of over 680 km₂ (about 10%) of the country's forest cover was not in the general interest. This decision contravenes the government's commitment to safeguard the environment and has serious consequences for the availability of forest products, the protection of vital water catchment areas and biodiversity conservation. Non-governmental organisations (NGOs) have started lobbying against such a move.

Forest conservation in Kenya is also challenged by widespread poverty and poor economic performance. A specific aspect of this is the use of wood fuel. Over 80% of the Kenya's population depends on wood fuel (firewood and/or charcoal) for their domestic energy needs and most of it comes from

forests, woodlands and shrub lands. Government policies do not, however, recognise the problem of wood fuel as a cause of deforestation and the link between deforestation and the demand for wood products is poorly understood (Mbugua, 2000). One of the questions addressed in our study therefore refers to the effects on local communities of national and international organisations' forestry interventions and conservation initiatives.

'Global' financing of forestry conservation and local level benefits

We conducted research in a small forest (about 152 km₂) in northern Kenya which serves as a water catchment and which is home to 350 elephants, buffaloes and many bird species. This forest supports arable farming by over 37 000 people, involving an estimated 80 000 head of livestock. Population growth and the economic situation are the main determinants of demand for forest products like firewood and charcoal, increasing pressure on the forest.

Forest products contribute significantly to local production and income, especially for the relatively poor. The forest products also diversify the livelihoods of people living in close proximity to forested areas, contributing 25% of the rural households' income in an average year. During extended periods of drought, the sale of forest products becomes more important when other sources of income fall short. Population growth and the reduced availability of forest products means extra labour time for collection is required, with the burden of harvesting falling on women and girls. The selective harvest of indigenous tree species of high market value and removal of the vegetation cover at 1.5% annually has also been noted (GTZ/MDP, 1997). Yet the centrally determined permit fee system at national level and forest policing to regulate resource use are far removed from the economic circumstances that rural households face with regard to the forest products they

need.

Planting trees and promoting energy-saving devices are approaches commonly used to reduce local demand for forest resources. However, forestry projects take several years to yield returns on investment. Moreover, it is no straightforward matter to evaluate efforts of local NGOs at community level in measurable terms beyond the term of the project. However, one goal of a local NGO intervention was to install energy-saving devices (Bellerive stoves) in order to conserve the forest by encouraging reduced consumption of trees for firewood and to relieve pressure on the forest for fuel wood. The project helped to install energy-efficient stoves in schools, hotels (the main consumers of wood fuel) and households. The natural resource component of conservation of fuel wood accounted to only 6.3% of the total project cost. The comparison of fuelwood consumption before and after the installation of energy-saving stoves reduced the amount of fuel energy consumed by 64%, on average, and costs of firewood collection by about 63% by schools. The stoves achieved an overall 10% saving in wood fuel consumption by hotels. The stoves also cut household expenditures on firewood by 40%, and reduced fuel wood consumption and saved energy collection efforts by about 50% in the community. It is clear from the evidence that the energy-saving devices score highly in terms of reducing costs and creating savings on fuel consumption and collection time .

Conclusion

Forest conservation efforts in Kenya face a number of challenges, such as the threat of government initiatives designed to convert forests to other land uses and the lack of political will to implement the policies and existing regulatory measures. The government does not recognise customary rights in forest management.

Local NGOs face the difficulty of creating new

institutions that are sustainable beyond the term of the project. They lack the legal basis on which to base their concern, which indicates a lack of a connection between national forestry policy and local initiatives. Despite the criticisms levelled against globalisation, increasing inequality and exploitation of workers, the results of our study show increasing integration of the local economies into international markets and local partnerships in forest conservation that bring benefits to the rural poor, especially women who are the main actors in forest product exploitation. Currently, while working within the confinement of existing forestry laws, there is need to work towards effective forest and woodland management solutions, particularly as regards long-term policy.

There is no evidence of community involvement in the decision-making process of forestry conservation. The lack of involvement of forest-adjacent population groups and other stakeholders in conservation decisions remains the main challenge facing the forest conservation movement in Kenya. The decentralisation of certain forest decisions and the empowerment of local communities need to be matched with demand for forest resources. Another concern pertains to the influence of wealth differences on forest use. Without a special focus, the very poor are likely to be excluded.

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LOCAL PEOPLE AND LOCAL BENEFITS IN INTEGRATED BIODIVERSITY CONSERVATION: A CASE STUDY FROM RANOMAFANA NATIONAL PARK, MADAGASCAR

By Maija Kaisa Korhonen

The basic idea behind integrated conservation and development projects is to integrate development (usually by compensation) and conservation, with a view to reconciling nature conservation and local people's livelihood needs. Our study presents the case of Ranomafana National Park (RNP) which was established as an integrated conservation and development project. The aim of our study is to clarify the concept of 'local people' in a conservation context and how they are affected by, or benefit from, integrated conservation and development projects.

Local people have been the target of conservation and development activities, but each actor (local authorities, local elite, NGOs and various farmers groups) perceive the benefits and justifications of the project in their own way. All actors defend their own interests and control over natural resources. The aim of this study is to show how these different actors and the social relations and unequal distribution of power between them have shaped the way the 'forest' and 'local people' in Ranomafana are conceptually constructed.

Those who can apply for compensation within ICDPs, but also face restrictions in their identity and livelihoods as a result of conservation efforts should be considered as 'local people', 'target group' or 'beneficiaries'. These 'local people' differ, however, with respect to ethnicity, gender, place of living, wealth, social position and the social pressure they face in relation to natural resource use.

Preliminary outcomes show that in the name of biodiversity conservation, various segments of the local population lost their right to use forest resources, hence their source of livelihood. Many adverse effects were generated as a result of unequal power relations, weak institutions to control the conservation and development activities and a lack of commitment to the idea that conservation objectives should be reconciled with the rights of local communities to a decent livelihood.

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ASSESSING MAMMAL STATUS IN TROPICAL RAIN FORESTS USING LOCAL KNOWLEDGE

By Christiaan A. van der Hoeven

International donor organisations and major nature conservation organisations recognise that the rapidly worsening bushmeat crisis in Central Africa is turning from a biodiversity conservation problem into a livelihood and food security problem for the human population. Since it is the major protein source of the local populations, bushmeat is being exploited at unsustainable levels and this poses a threat to future food supplies. Other protein sources are too scarce or expensive to be considered as alternatives. Only NGOs or governmental organisations have the funds, and can apply these, to initiate and develop alternative protein production projects. However, production is no way near enough to be relevant as a major protein source.

Project aim

Efforts should be directed at regulating current bushmeat exploitation and making it sustainable, without jeopardising the regular protein supply for the population. This requires understanding of the actual status of wildlife in the forest and how this can or will change under different management strategies. The goal of our study is to provide biodiversity conservation and management projects with a cheap, time-effective and easily applicable tool to assess mammal status. Based on local knowledge, the method (called Pooled Local Expert Opinion or PLEO) is designed in such a way that local wildlife specialists can easily adopt it, thereby assuring local ownership of the results. This contrasts with present wildlife density assessments which are mostly carried out by western scientists, involve complex methods that are difficult to learn, are costly and involve the deployment of a team of observers and assistants over a longer period of time. The new methodology provides similar results as current methods, which makes it promising for use in sustainable wildlife use programmes.

Project set-up

The methodology is based on the fact that hunters are local experts with extensive knowledge of the wildlife status in their area. By asking the hunter to estimate animal abundance in a specified area, researchers can calculate the animal density with the help of GIS and maps. If enough hunters are interviewed, a good overall image of the wildlife status can be obtained. This method can be applied by people with basic training in biology and statistics. We tested this method in the Campo-Ma'an area in South Cameroon, where the GEF Campo-Ma'an Biodiversity Conservation and Management Project needed information on the wildlife status in order to develop a management plan for its multiple-use zone. The method was tested simultaneously with line transect surveys, which represent the currently

accepted methodology for wildlife density estimation. In addition, a risk analysis was performed on the species that were commonly hunted in order to rank the species according to sensitivity to over-hunting. Finally, a market survey was carried out to provide data on bushmeat availability and to test whether this survey could function as an early warning signal for the monitoring of frequently hunted species.

Results

The results of the wildlife density assessment for 33 species were compared with data obtained by different methods in the same area in the same period and were also compared with densities found in literature. The results were similar, further supporting the idea of implementing this method more widely. What also emerged from this study is that several species are threatened with local extinction. This is because they cannot maintain a healthy population since the area where they are protected is too small and not connected to other areas rich in biodiversity, thereby preventing exchange and replenishment. This implies a need for corridors, if the project management wishes to conserve current species richness.

Implications and further study

The results of this study indicate that adequate biodiversity protection requires specific criteria to be applied in the design of protected rain forest areas. These criteria refer to the size, location and form of the protection area. Little is known about these criteria as yet, so we will initiate a study on the criteria currently used for the selection and development of protected areas. The results of that study will be integrated with those of the wildlife assessment and will be used to issue advice on Protected Area Design and Management in West and Central Africa.

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**BIODIVERSITY CONSERVATION
THROUGH BURNING: A CASE STUDY
OF WOODLANDS IN THE BUDONGO
FOREST RESERVE, NW UGANDA**

*By Grace Nangendo, Oliver van Straaten and
Alfred de Gier*

In order to determine suitable areas for conservation, it is important that the spatial dynamics and the forces fostering that dynamic change be understood. The Budongo Forest Reserve, located in north-western Uganda, is one of the forests that have been identified as having a high biodiversity. The forest is composed of 53.7% tropical high forest and 46.3% woodlands. The Budongo Forest has been under central government management (specifically of the Forest Department) since 1948. In the mid 1980s, the Uganda Wildlife Authority (UWA) joined forces with regard to management of the forest. At the same time, the local people have maintained the woodlands within the forest area for hundreds of years.

In the woodlands (here defined as formations with a discontinuous tree layer but with a coverage of at least 10% and less than 40%, and generally with a continuous grass layer) local stakeholders used fire as a tool for hunting and for maintaining an open environment suitable for animal grazing. Many such ecosystems that experience fire disturbances over long periods consequently develop a unique species pool adapted to fire. However, in the absence of such disturbances, various ecological changes

occur within such ecosystems.

The woodlands within Budongo Forest Reserve were selected for a case study to determine spatial changes in the absence of fire. The spatial extent of vegetation changes were mapped using satellite imagery over a 17-year period from 1985 to 2002. Temporal NDVI image differencing and visual interpretation techniques were used to determine areas of vegetation change. The 2002 satellite image of the area was classified so as to generate a map of the existing cover types. In this paper, the output of the above-mentioned study is linked to an earlier study of the mechanisms used by local people who used fire for hunting purposes so as to understand the role of local people in maintaining the heterogeneous landscape.

Vegetation change following fire prevention

Due to increased fire prevention measures imposed throughout the past two decades, there has been a net increase in vegetation cover, with the surrounding forest encroaching into the woodland. The classified image shows various cover types. The recently burnt areas, however, show an interesting phenomenon: along the northern side of the forest, an area controlled by UWA management alone, the recently burnt parts are generally large, while those along the southern side, near the local people, being small and far apart. In between these two parts there is no indication of recently burnt areas. In an earlier study, it was observed that local people's fires are systematically set and controlled. They are also spatially varied over time. It can therefore be deduced that if the current fire control measures are maintained, there will be homogeneous woodland in the North and heterogeneous woodland in the south, with the central area being left to grow into forest unchecked. Heterogeneous woodland would be more advantageous since it is likely to have more species than a homogeneous one, which - if added to the already existing forest

- would lead to an increase in the biodiversity level of the forest reserve.

The vegetation changes in the area can mainly be explained by two major events that took place in the mid 1980s, i.e. the movement of the UWA gate from the Northern boundary of the forest to the southern boundary and the establishment of an ecotourism site by the Forestry Department along the only access road through the forest. The gate has created a checkpoint for all who enter the forest area. At the same time, the local people also avoid making fires anywhere close to the ecotourism site. Because of the dual management of the forest area, there is no clear understanding of the policies that play a role. While the UWA authority utilises early burning as a way of establishing fresh grass for the animals, the Forestry Department recommends the same in the woodland areas. The foresters on the ground, however, hardly ever carry out the burning work and rely on the now 'illegal' local people to do the burning instead. However, the current heavy policing of the area by the UWA means local people are unable to access the protected area.

The need for balanced fire management

To encourage the local people to stay away from the protected area, revenue-sharing programmes and income-generating projects have been set up. The children in the surrounding schools are also being taught about the value of conservation. While this may succeed, one problem still remains: by whom and when are the fires in the woodlands to be set? Is the management willing to learn from the local people who have maintained the woodland set up of this area for hundreds of years? Are we, foresters, willing to come down and admit especially to the local people, that fire is not always an evil to be avoided and that it is beneficial to certain ecosystems such as woodlands?

For the purpose of maintaining a dynamic landscape, where both the forest and the woodland communities co-exist in the future, it is important that fire disturbance regimes be managed consciously. Sustainable woodland management would require a balance between fire restriction and fire establishment to control and shift the ecosystem to suit future management objectives.

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**IS SUSTAINABLE MANGROVE
MANAGEMENT POSSIBLE IN THE RED
RIVER DELTA OF VIETNAM?**

By Le Thi Van Hue

Although community-based natural resource management attracts international attention, it has not yet been widely implemented in Vietnam. In Vietnam the main strategies have been centralised management by state agencies and the assignment of management responsibility to individual households. We argue that the promotion of nationalisation and privatisation has not solved the problem of resource degradation and overexploitation, but has deprived many rural households of their livelihoods. We base this argument on a study of mangrove forest use and management in a village of Vietnam's Red River Delta, which shows that the local community is highly heterogeneous. We suggest that sustainable

mangrove management requires a combination of institutional arrangements, including state control, private resource rights and community-based management.

Study area

Giao Lac village is a largely Catholic coastal community located in Giao Thuy district, Nam Dinh province, which lies at the mouth of the Red River. The village is home to an agricultural community who farm rice, but who are also engaged in animal husbandry and fisheries. It is bordered to the south by the central dike, an inter-tidal area and the South China Sea. The inter-tidal area occupies more than 600 ha, 400 hectares of which have been planted with mangroves. There are 5 shrimp ponds in this area.

Giao Lac's first cooperative was formed in 1959. During this time, the village managed the forests on behalf of the district. The villagers were not allowed to go to the forests as they had done before. The People's Committee put guards along the dike to protect the forests. Part of their job was to stop those who entered the mangroves illegally and even confiscate firewood. Thus, everyone tried his or her best to poach the forests. They even felled big mangrove trees for firewood, a situation that had never occurred before.

Impacts of economic reform

During the 1980s, a household-based economy increasingly displaced the cooperative-based economy. During the Doi Moi period, China became the biggest importer of Vietnam's marine products. In response to this, the mangroves were destroyed and shrimp ponds were constructed. Households bid publicly for a lease to manage a shrimp pond. Although the bidding process is open to everybody, only the rich with sufficient capital, labour, management skills and political power are able to participate in the process.

Since 1990, clams have become a valuable commodity, about 5 times more valuable than in the past. Those who had connections with Chinese traders who sold clams to the bivalve markets in China began farming clams by putting in place a system of nets on the inter-tidal area. Many people have become rich very quickly from farming clams and trading in marine produce. This process of claiming land excluded the poor and female-headed households. These people did not have any place to go and dig clams. Consequently, a number of people, especially poor women and girls, became marginalised.

Danish Red Cross mangrove plantation project

In 1997, the Danish Red Cross assisted Giao Lac to plant 400 ha of mangroves for the protection of sea dikes and other assets of coastal dwellers. The project was designed to select poor households with sufficient labour to plant mangroves. In reality, very few poor households were actually selected to participate. The majority were middle-class or upper-middle-class households, who were the hamlet heads' relatives and friends.

In 1999, when the mangroves were two years old, the village guards who are paid more than US\$ 25/month decided to sell tickets to local people who wanted to collect marine creatures in the mangroves. The guards kept the money for themselves. This created resentment between people in the village and the guards, as the enclosure of the protected mangrove forests had transferred control over the resources to the guards. The result was highly inequitable, as the poor could not afford to buy the ticket to enter the mangrove forests to look for marine creatures.

The mangroves are presently six years old and the Danish Red Cross project is going to finish in 2005. However, no one knows who is going to manage the forests when the project ends. According to the village officials, the mangrove forests will be under the district's

management, a system of management that disenfranchises Giao Lac's poor inhabitants. Many are afraid that the district will privatise the forests by granting concession to individuals who have capital sources to invest in shrimp ponds, to convert the forests into shrimp farming industry areas. Nobody wants to lose the forests again.

Conclusion

The Doi Moi economic reforms, while opening up economic opportunities for many, have not benefited the whole community. Rapid changes in the allocation of private leaseholds in the coastal area and the legalisation of private businesses have deprived many poor households of livelihoods dependent on open access to communally-held mangrove resources. Female-headed households, women and girls have been the most adversely-affected.

Since the local community itself is highly heterogeneous and outsiders also use the resources, it does not make sense to propose only 'community-based resource management'. A combination of national control, private ownership and community-based management therefore appears to be the most suitable strategy to promote in the case of Giao Lac.

A Central Government agency would continue to manage the dike system, as a breach in the dike system can cause far-reaching damage to many communities. Households would manage individual shrimp ponds according to private sector principles, since the proceeds from the bidding process can be spent on the village's infrastructure. The whole community would oversee the management of the mangrove forests and be granted the right to require shrimp pond farmers to post 'environmental bonds' or otherwise pay money into a local fund that would be used to offset loss of income to other villagers as a result of mangrove habitat destruction.

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VII GLOBAL-LOCAL PARTNERSHIPS FOR CONSERVATION AND SUSTAINABLE FOREST USE: A LATIN-AMERICAN PERSPECTIVE

As discussed in the previous part on the basis of examples from Africa and Asia, new multi-scale and multi-stakeholder partnerships in forest management have the potential to link global conservation objectives with local needs. This section provides examples from Latin America, where multi-scale and multi-sector partnerships in forest management abound. The main question that runs through the articles as a common thread is what opportunities and obstacles such partnerships offer for democratic governance of forest resources and participatory forest management in Latin America, and what is needed to remove obstacles and fully realise the potential.

- S Nicaragua: the rescaling of indigenous forestry (Mary Brook)
- S Partnerships, paper production and power: coalition-building to oppose unequal land-use opportunities in southern Costa Rica (Heleen van den Hombergh)
- S Volcan Arenal National Park and the community of El Castillo: the need for improving the links between parks and people in Costa Rica (Juan Antonio Aguirre González)

- S Partnerships and sustainable forest management: towards sustaining mahogany (*Swietenia macrophylla*) in the Maya forest of Mexico and Belize (Laura K. Snook)
- S Partnerships for sustainable forest management: lessons from Esmeraldas province in Ecuador (Nathalie Walker and Laura Rival)
- S Partnerships across scales: lessons from extractive reserves in Brazilian Amazonia (Sergio Rosendo)
- S Negotiating solutions for local sustainable development and the prevention of deforestation in the Brazilian Amazon (Imme Scholz)
- S Globalisation and the environment: the effects of the financial crisis on tropical forest management in Brazilian Amazonia (Sjur Kasa and Lars Otto Næss)
- S The Guiana Shield initiative as a multi-level strategy for sustainable forest management (Pitou van Dijck)

NICARAGUA: THE RESCALING OF INDIGENOUS FORESTRY

By Mary M. Brook

An analysis of the implementation of two multi-sector, multi-scale Nicaraguan forestry projects shows that balancing diverse needs is a challenging process. A degree of sensitivity to local leadership, history and culture is essential, but may be difficult to articulate into broad networks. These findings are based on two years of fieldwork in the Northern Autonomous Region in the municipality of Prinzapolka, which was chosen for its predominantly indigenous population, high rates of logging and recent entrance of international development institutions. Autonomous Region processes indicate a contested but slowly advancing

decentralisation of power from a formerly centralised state. In Prinzapolka, indigenous leaders such as village *síndicos* and elder councils play important roles in resource decision-making.

Historical constraints

Over the past century, foreign enterprises extracted select species from Prinzapolka such as big-leaf mahogany and Caribbean pine. Logging followed boom and bust cycles as companies left once accessible trees were harvested. Villagers had little control over common-property forests and were treated merely as a labour force. Even after the recognition of ethnic and communal rights in Eastern Nicaragua by the 1987 Autonomy Statute, local populations continued to be economically marginalised. The latest Prinzapolka mahogany boom lasted from 1993 to 2001. Villagers benefited little: Prinzapolka was identified as the Nicaraguan municipality with the highest rates of poverty in 2002. Local loggers, struggling to continue post-boom mahogany sales, entered into delinquency after the government passed legislation to protect the remaining mahogany and improve production methods. A lack of capital investment meant that the forests were used inefficiently. For example, mahogany planks were cut using chainsaws. This illegal practice wasted more than 30% of the potential timber, but it was the only opportunity at the village level to add value by processing.

Emerging opportunities

In 2002, the Meadow Lakes Tribal Council (MLTC) in Saskatchewan, Canada, initiated an indigenous-to-indigenous partnership in the Prinzapolka-Bambana area of Eastern Nicaragua. A central goal is for the sixteen Nicaraguan member communities to achieve economic parity with the national population within twenty years. The project will train local populations in sustainable logging as well as initiate ecotourism as an incentive to conserve forests, lakes, and wetlands.

MLTC includes nine independent Cree and Dene communities. This council uses pooled resources to function at a scale beyond the reach of any one community. MLTC has become a model for Canadian First Nations because of its ability to generate wealth from the logging, mining and service sectors. MLTC members established a non-governmental organisation (NGO) called Contigo International in 1997 to share what they have learned with other indigenous cultures. Contigo is guiding the creation of a Nicaraguan development corporation, called Limi Nawâh, which is run by a locally elected, multi-village council.

A second organisation, the Network for Forest Resource Management and Protection in the Mining Triangle and Prinzapolka (REPROMAB), works with indigenous communities, companies, government officials, NGOs, universities and forest professionals. For two years, REPROMAB has encouraged participants to work in a horizontal cooperation structure to achieve objectives that would be unobtainable if they worked in isolation. REPROMAB defines four municipalities as one forest management block. Organizers promote multi-sector partnerships for the management of long-term timber concessions as well as regeneration and conservation areas. REPROMAB supports regional wood-processing initiatives to increase local benefit from logging.

Continuing challenges

The greatest challenge for REPROMAB may be the lack of trust between state, private, and indigenous sectors. While the network articulates national, regional and municipal governance and creates linkages with the national private sector, these relationships alienate the indigenous population. Contigo sidesteps this problem with Limi Nawâh, an indigenous-run corporation. The employment opportunities mean that local communities fondly recall historical foreign resource ventures (timber, minerals, beef, rubber and

bananas). They are open to international alliances, yet resist arrangements with the state and businesses from Nicaragua's west. An east/west split originated prior to the birth of the Nicaraguan nation. Distrust increased during the Contra War in the 1980s.

While REPROMAB has brought diverse actors from the logging sector together to engage in dialogue, it does not yet have the necessary political or economic clout to attain forest management goals. There is international support for capacity building, but network development and administration are managed within the Autonomous Region. REPROMAB has found balancing diverse needs to be challenging because each participating sector advocates their own needs: the desire for sustainable forest management does not unify. REPROMAB resists promising material gain as a motivation for participation, whereas funding boosts Contigo's acceptance. Contigo involves the same sectors as REPROMAB (indigenous, state, private, NGO) and they both work for common goals:

- to develop a profitable corporation; and
 - to assist indigenous villages.
- Contigo has an extensive budget and international offices to deal with administration and funding matters.

REPROMAB invites each village *síndico* (overseer of common-property resources) to multi-sector meetings. Because, due to recent corruption, they no longer trust one individual to represent communal interests, many villages send multiple representatives. With more than forty member villages, hosts can become overextended. Working on a large scale with few resources, REPROMAB risks disregarding members' priorities. Moreover, addressing the needs of indigenous and non-indigenous sectors requires sacrifices to be made. The network limits language translations at meetings because indigenous participants are only from one sector and there are time constraints. Although REPROMAB's president is indigenous, the

lack of translations is considered disrespectful. Since Limi Nawâh works only in indigenous communities, meetings are held in Miskitu. Contigo representatives initially held traditional public assemblies in each village. Now six elected representatives from each village attend multi-village meetings.

Limi Nawâh is smaller in scale than REPROMAB because it works with just sixteen villages, but it is also larger because of strong international networks. While widely supported in the indigenous villages, Limi Nawâh risks creating a new enclave economy where national, regional and municipal linkages remain weak and resources jump back and forth between local and international scales. Time will tell if these two projects can articulate and balance multiple sectors and scales.

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PARTNERSHIPS, PAPER PRODUCTION AND POWER: COALITION-BUILDING TO OPPOSE UNEQUAL LAND-USE OPPORTUNITIES IN SOUTHERN COSTA RICA

By Heleen van den Hombergh

In recent decades the paper industry has been extending its influence further around the globe than ever before: not only to find exploitable natural forests, but increasingly to use agricultural or forest lands to produce fast-growing pulpwood species for their mills.

Cheap land and labour and favourable climatic conditions for fast-growing pulpwood species make paper companies sign agreements with Southern governments to 'reforest' the rural landscape. One such country is Costa Rica which is well-known for its protected areas, but which is also plagued by deforestation and is facing a crisis in remote rural areas because of opening markets and declining state support for farmers. The Southern area is one such remote area in need of employment and agricultural alternatives.

The case of Stone Container Corporation
Stone Container Corporation (now part of Smurfit Stone) was one of the largest paper producers in the world and is in constant need of raw material. It started operations in this zone with a view to sowing 24 000 hectares of Gmelina arborea. The company acquired extensive land resources for very low prices, while the conditions for the farmers 'leasing out' their land were quite unfavourable. Not only did the agreements affect the owners of the land, they also had an impact on their neighbours: the project (further) catalysed a rural exodus. Furthermore, Stone Container wanted to install a pulpwood-processing plant which was expected to affect forest and marine biodiversity - important assets for tourism in the area. To stop this and demand better conditions for the 'partnership' that the paper giant and Costa Rican government had designed, farmers, tourism entrepreneurs, environmental organisations, lawyers and politicians joined forces to negotiate a better nation-wide agreement with the company. They were successful in this to a certain extent. The slogan 're(af)orestation' proved, however, to have considerable political clout - who, after all, can be against it? The study reveals the dynamics of the political process involved, focusing on the issue of strategic framing or 'selling the green message' by both the company and its opponents.

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VOLCAN ARENAL NATIONAL PARK AND THE COMMUNITY OF EL CASTILLO: THE NEED FOR IMPROVING THE LINKS BETWEEN PARKS AND PEOPLE IN COSTA RICA

By Juan Antonio Aguirre González

Costa Rica has, at present, 155 protected areas in seven management categories which together cover 1.288.565 ha or 25.2% of the country. Thirty-two of these operate within the National System of Conservation Areas (SINAC). Here, many communities depend on various forms of nature-based tourism for their livelihood. A five-year research effort aims to study the state of relations between park managers and local communities, with a view to finding out how multi-stakeholder partnerships work out in practice. The project is now in its third year and has thus far covered 23 communities in about ten National Parks. It shows that the partnerships have so far benefited little from globalisation or localisation.

Volcan Arenal National Park
One of the cases studied refers to one of Costa Rica best-known parks, the Volcan Arenal National Park and the community of El Castillo - a small community of around 36 households nestled inside the park. This case provides an example of how interests of different stakeholders may conflict, thus complicating the formation of partnerships aimed at the conservation of the park and the improvement of people's livelihoods. The

complication arose because the park administration has to deal simultaneously with a variety of stakeholders, such as neighbouring communities, merchants, hotel and restaurant owners, farmers, tour operators, independent tour guides, bureaucrats from the Ministry of the Environment, illegal hunters, local transportation companies, taxi drivers and local and national politicians - all of which want to share in the tourist expenditures in one form or another. When one has so many interests to reconcile in order to work on conservation matters, conservation becomes a major challenge.

The need for decentralisation and international donor support

Although the park was created in 1992, a coherent set of conservation practices is still lacking due to conflicts between park managers and stakeholders. The problem is difficult to deal with because park managers have to follow central policies and directives that in many cases reveal little understanding of local conditions. The absence of local policy initiatives and decentralised decisions makes it difficult for local people to understand the behaviour and decisions of park managers, resulting in a generalised feeling that park managers have no understanding and/or do not care about community problems. A major problem is the government's inability to pay for the land confiscated to create the park. As a result, people are unable to move out of the park, while at the same time being restricted to develop their land freely because of outside environmental pressure. Government officials from the Ministry of Energy and the Environment complain about the indifference of the international community when they ask for monetary aid to solve these problems. Such requests are often refused, with the argument being that Costa Rica is a relatively developed country vis-à-vis other third world countries.

People's perceptions

The results of interviews with 33% of the households in El Castillo indicate that the average monthly income per household amounted to 125 thousands colones (approx. US\$ 330) and that 83% of the work is related to tourism. One third of the interviewees felt that their circumstances have improved since the creation of the park; 59% of the households are making more money now than before the park was created (albeit only during the tourist season). One third of the people have lost their land and have been compensated fairly and promptly. Twenty-five percent of the respondents were positive about the park because it generated jobs and 33% because they considered tourism to be the best land-use option. These figures indicate that the majority were less positive about the creation of the park. Roads and transportation were regarded as the community's main problems by 75% of the people interviewed. One third felt that the creation of the park put restrictions to development. Fifty percent of the people expect little improvement because most money generated by the park goes to the central government.

Involvement

People's involvement with the park is moderate. Although 75% of the respondents considered the park to be part of the community because they are neighbours, 67% stated they were not involved in the park and 17% said they were involved or visited the park only because they live inside the park. As much as 92% of the interviewees said they did not participate in park decisions. Eighty four percent regarded the relationship between park and community as poor and almost half of the interviewees expressed the wish for a change in attitude and more interaction between the park managers and administrators and the community.

Lessons learnt

The study of the relations between the management of Volcan Arenal Park and the

community of El Castillo showed that:

- The park system's inability to confiscate and pay for the land and the housing has been a permanent source of irritation between the park's management and the community.
- The fact that the local people live from tourism has softened the impact of the problems associated with the creation of the park.
- The park management is incapable of addressing the community's needs because the central government takes all the entrance fees.
- The park is considered to be part of the community, but the community is not participating in park decisions.
- Most interviewees want a change in attitude as reflected by increased participation by the community and more cooperation between community members and the park managers.

It is understood that making people, park managers and administrators work together is not easy since a lot of actors are involved and there are a great many conflicting interests. In the end, co-management may fail. It is not fair, however, to suffocate communities by inflexibility and a lack of participation in the event of unilateral policies and decision-making and the incapability of governments to properly confiscate and pay for the land, as is the case in Costa Rica.

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PARTNERSHIPS AND SUSTAINABLE FOREST MANAGEMENT: TOWARDS SUSTAINING MAHOGANY (SWIETENIA MACROPHYLLA) IN THE MAYA FOREST OF MEXICO AND BELIZE

By Laura K. Snook

Approximately 500.000 ha of the Maya forest in southern Mexico are owned by more than 40 communities that obtain subsistence crops from shifting agriculture and income from timber and non-timber forest products. Since 1984, partnerships between European bilateral aid organisations, American foundations and NGOs, and local organisations have helped these communities and the foresters who work with them make significant progress towards sustainable forest management. Across the border, a Belizean NGO that has received support from conservation NGOs in the US as well as the EU, has come to own and manage over 100.000 ha of forest for the joint objectives of biodiversity conservation and the demonstration of sustainable development options. Through an ongoing, 7-year collaborative relationship with researchers, these two different kinds of forest owners in Mexico and Belize have become leaders in demonstrating that the highly valued mahogany (*Swietenia macrophylla*) can be both harvested and sustained in natural forests.

Flagship species

Mahogany has become the flagship timber species in debates about the feasibility of sustainable tropical forest management. It is still obtained from natural forests because decades of attempts to grow mahogany in monospecific plantations have been deemed unsuccessful due to attacks by an insect pest. However, selective logging of mahogany from

natural forests undermines the capacity of the species to regenerate due to the depleting of seed trees without producing the sunny conditions required for mahogany seedlings to survive and grow (Snook, 1996). Because of the incompatibility between the regeneration ecology of mahogany and selective logging, mahogany is typically treated like a non-renewable resource, and mined out of the forests where it is found. A financial analysis of the return to mahogany mining on a Bolivian timber concession led Rice et al. (1997) to conclude that sustainable management of natural mahogany forests was not competitive and therefore not viable either.

Long-term thinking

Fortunately, the forest-owning communities in Quintana Roo, Mexico, and the Programme for Belize (PfB), Belize, are interested in managing their forests in the long term and for the benefit of future generations. The families who share title to communally-owned forests in Mexico consider their grandchildren's welfare when they make decisions; the managers of the Rio Bravo Conservation and Management Area in Belize consider the future welfare of the people of Belize, for they own and manage this area (6% of Belize) 'in trust for the people of Belize'.

This concern for the long term led the forward-thinking foresters who advise the communities of the Organización de Ejidos Productores Forestales de la Zona Maya (OEPFZM), and the leaders of the PfB, to encourage or actively seek the support of researchers in determining how to sustainably produce mahogany timber from their forests. Individual forest researchers had begun to address this issue in the late 1980s, in collaboration with forest communities. Initial research revealed that mahogany had typically regenerated in the Maya forest in response to hurricanes followed by wildfire (Snook, 2002). The next challenge was to determine how to create similar conditions using silvicultural techniques.

Findings

Five years later, measurements revealed robust, management-relevant patterns. The slash and burn techniques used to establish shifting agricultural fields in Mexico were found to favour the survival and growth of mahogany, from seed or from planted seedlings. Uprooting patches of forest using bulldozers was almost as effective, favouring the establishment and growth of seedlings from natural regeneration, sown seed or planting. On clearings produced in either of these ways, cleaning, a costly periodic intervention intended to reduce competition, was found to be neither necessary nor desirable: it did not significantly favour growth, but greatly increased the rate of attack by pests. Overall, the experiments revealed that forest owners could sustain and increase mahogany populations in their forests by applying effective, low-cost techniques to only 3% of their annual cutting area each year (Snook and Negreros, in press).

All the landowners involved in the research are adaptive managers, willing and able to integrate into their management this new knowledge about mahogany silviculture. For example, in the past, communities modified their harvest rates in response to more accurate forest inventories (Bray et al. in press). In Mexico, communities were able to incorporate into their forest management both the shifting agriculture practised by most of their nearly 10 000 heads of household; and mechanical clearing, used to open log-loading yards. Mechanical clearing is more feasible on the RBCMA, where shifting agriculture is not part of the land use mosaic and where forest managers' fear using fire as a management tool.

Lessons learnt

What lessons can be drawn from these experiences? For one thing, support for forest owners on the part of bilateral organizations, multilateral organizations, conservationist

NGOs and private foundations from the US and Europe has successfully contributed to the development of the capacity of forest owners and their foresters to manage and conserve these forests, while building new foundations for sustainable livelihoods. In addition, by supporting partnerships between researchers and forest owners, donors have enabled these players to combine their respective assets in order to take the lead in developing feasible solutions to the challenges of sustainable forestry in the tropics. New insights into mahogany silviculture, determined from studies on these forests, are applicable to sustaining mahogany populations and harvests on millions of hectares of forests elsewhere in the Maya region and South America. Finally, it is important to recognise that there are tropical forest managers and owners who do not reject sustainable forest management based on financial calculations of net present value. These forest owners and their researcher partners have provided the opportunity for the world to learn that sustaining mahogany in production forests, and thus sustainable tropical forestry, is feasible as well as desirable.

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PARTNERSHIPS FOR SUSTAINABLE FOREST MANAGEMENT: LESSONS FROM ESMERALDAS PROVINCE IN ECUADOR

By Nathalie Walker and Laura Rival

The coastal province of Esmeraldas in Ecuador has received attention from a number

of international conservation and development organisations because of the high levels of biodiversity in its moist tropical forests, the high rate of deforestation and the high level of poverty in the region. The forests form part of the Chocó biogeographic region, which has been designated a biodiversity 'hotspot', but the forests of Esmeraldas have been reduced to less than 10% of their original size due to agricultural activity, oil palm plantations and unsustainable logging.

In contrast to many countries in Latin America, very little forest is state owned and over 70% of the forests are community owned. The majority of the timber in Ecuador is produced in Esmeraldas province and most of the remaining forests are owned or occupied by Afroecuadorian and indigenous Chachi and Awá communities. This situation has provided an incentive for the formation of partnerships between communities and both NGOs and timber companies to set up sustainable forestry operations and to seek certification from the Forest Stewardship Council.

This study analyses the views and findings of national and international NGOs, logging companies and communities involved in such partnerships in the north of Esmeraldas province in order to understand their potential and limitations. Preliminary results are based on a series of in-depth interviews with representatives of stakeholder institutions. A number of issues were found to be important to all partnership schemes, namely community organisation, land ownership and land security, ease of transport, access to markets, external financing and expertise and government legislation. The challenges of attaining forest certification and the benefits this could afford are also considered.

Conditions for successful partnerships

Features of communities that were found to facilitate the success of forestry operations include a strong organisation with a good

level of cooperation and planning and a sound awareness and understanding of the need for forestry to be carried out sustainably. There are many differences in community structure and organisation between the Afroecuadorian communities and the indigenous communities in Esmeraldas and it is important for partner organisations to take these into account. Where partnerships between communities and timber companies are concerned, a strong community organisation is particularly important and community empowerment, with external support, may be required to ensure that the partnerships are fair and that communities have the capacity and information to negotiate with the companies.

Ecuadorian law entitles indigenous communities to land tenure and community land cannot be sold, but invasions by colonists, logging and the activities of oil palm companies have altered the situation. Partnerships were able to help to legitimise the forestry operations and could help prevent such invasions. The Afroecuadorian communities involved in forest management programmes with NGOs obtained land tenure with legal assistance from the NGOs and this helped the communities to benefit from the alliance early on. Land tenure is often a pre-requisite for the success of forestry operations but there can be additional complications. Some communities had internal land ownership problems such as areas of land within the community territories that were owned by individuals or families and disputes between communities about the boundaries between their territories are common and need to be resolved before the logging can begin.

Partnerships were able to provide expertise in all areas of forest management and the training of community members is of prime importance. Training helps to empower communities and results in the involvement of a lot of community members and improves local enthusiasm for the partnership.

Constraints

The forested areas in the north of Esmeraldas have few roads and most communities are spread out along a network of rivers, which are used to transport timber to coastal towns for processing and sale. Transportation difficulties have been a constraint to schemes but the ability to obtain fair prices for timber is equally important, especially in Esmeraldas, where timber prices have fluctuated greatly in the last five years. Partnerships can provide communities with greater market access and the ability to cut out middlemen so that they can obtain better prices for their timber.

It is widely agreed that communities will not be able to carry out sustainable forestry operations without external financing, which is why there is a need for partnerships to be formed. In a number of cases, where profits are obtained relatively early on in the operation, communities are more likely to be more supportive but it is important that they have a realistic idea of the levels of profits that they can expect.

Government legislation on forests has only supported sustainable forest management in Ecuador during the last few years in the guise of new forest norms and measures put in place to reduce illegal logging. The partnerships between communities and NGOs have helped to influence government policy and there are good connections in Ecuador between people working for international NGOs and government policymakers, particularly regarding decentralisation and policy implementation.

Potentials

Certification can provide access to new markets and can enable forestry operators to acquire better prices for their products. The certification process is also seen as an opportunity for an external evaluation of the operation. However, in all cases, the conditions and preconditions required have been found to be extremely demanding. At

present, although a number of schemes have started the evaluation process, none have yet attained certification.

Partnerships between communities and NGOs or timber companies have the potential to help develop an impoverished region of Ecuador whilst at the same time protecting its internationally important and threatened forests. Alliances require a considerable amount of financing, but there is great potential for success and if a few schemes prove successful and are able to attain certification, they may be able to serve as a model that will lead to such initiatives spreading.

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**PARTNERSHIPS ACROSS SCALES:
LESSONS FROM EXTRACTIVE
RESERVES IN BRAZILIAN AMAZONIA**

By Sergio Rosendo

Tropical forest management is becoming increasingly complex in terms of its objectives, actors involved and the processes in which they are involved. Forests must nowadays be managed concurrently for a variety of goals, which range from maintaining local livelihoods to conserving biodiversity and ecological processes. The local to global significance of tropical forests means a proliferation of actors at different levels directly or indirectly involved in forest management. In tropical forests, local and global processes come together as different stakeholders need to collaborate in order to ensure that management fulfils

multiple goals. Partnerships have become important approaches to manage tropical forests. Common types of partnerships include those between government and private sector companies, communities and the private sector, community-based organisations (CBOs) and non-governmental organisations (NGOs), CBOs and government (also known as co-management); and local government and NGOs.

The complexity of partnerships

Despite synergistic objectives, working together in partnerships is not always a straightforward process. Partnerships often bring together stakeholders that have different interests and organisational capacities, operate at different spatial and temporal scales and are governed by divergent worldviews and values. Partnerships do not eliminate power and conflict between actors. Competition over agenda setting, over resources and the distribution of benefits are ever-present in partnerships, albeit a subtle or dissimulated way. It is important to improve our understanding of how partnerships work, what their limitations are and how they can be made to lead to more effective, efficient, equitable and legitimate outcomes.

The example of rubber tappers

Our study explores the evolution and outcomes of interactions between organisations of rubber tappers and key actors involved in the creation, implementation and management of extractive reserves in Rondônia, in the Brazilian Amazonia. The interactions between these actors have evolved in a context of partnerships and co-management. Extractive reserves are protected areas designated for the sustainable use of natural resources by the resident population. They aim to achieve multiple goals including conserving biodiversity, satisfying the basic needs of the population and strengthening social organisation as a means of guaranteeing their participatory management. The interactions

between the different actors involved in extractive reserves are examined in terms of the opportunities for grassroots empowerment, barriers to effective integration between institutions within partnerships and requirements for better integration between institutions in partnerships.

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**NEGOTIATING SOLUTIONS FOR
LOCAL SUSTAINABLE
DEVELOPMENT AND THE
PREVENTION OF DEFORESTATION IN
THE BRAZILIAN AMAZON**

By Imme Scholz

In the Brazilian Amazon, deforestation has been largely the result of public policy interventions. In the period 1960-1990, fiscal incentives for large cattle ranches, road construction, infrastructure projects and planned colonisation were introduced largely under conditions of a military regime. Since the new constitution of 1988, however, there have been ample possibilities for political participation by local and federal-state governments as well as for social movements and the population as such, especially regarding environmental protection. This means that nowadays local stakeholders and their interests have to be taken into consideration when the federal government plans new investments in the Amazon.

Partnership types

The increased local capacity to evaluate

federal investment projects critically can be seen as the result of two types of partnerships:

In the 1980s, international public attention was drawn to the social and ecological costs of the Brazilian development strategy for the Amazon, especially after the murder of the rubber tapper Chico Mendes in 1988. This led to the engagement of numerous NGOs, foundations and other organisations from the industrialised world in the Amazon, who wanted to support local social movements and NGOs in their struggle for local development.

In the 1990s, this first type of international partnerships among civil society organisations led to the establishment of an official cooperation among the Brazilian government and the G7 countries for the protection and sustainable use of the Brazilian tropical forests - the Pilot Programme to Protect the Brazilian Tropical Forests - PPG7. This programme channelled considerable funds into the development of environmental capacities at federal and regional level, including both environmental authorities and civil society organisations, with the aim being to reduce deforestation rates and CO₂-emissions as well as to promote alternative sustainable production systems.

The second type of international partnership enabled the Federal Ministry of the Environment (MMA - Ministério do Meio Ambiente) to redefine its role and to establish itself as a strategic partner for local social movements in the Amazon. Since 1994, the MMA Secretariat for the Amazon Region in particular has strongly promoted alliances with social movements and NGOs, in order to increase its bargaining power at federal level. The question arises as to whether these partnerships between local social movements and the MMA and international NGOs are effective when it comes to negotiations about large investment projects. With the new federal government, led by the Workers' Party

PT, opportunities for dialogue and negotiations have increased considerably.

Scope of the study

Our study summarises the results of an analysis of the political controversies regarding the construction of a dam and a hydroelectric power plant in the Xingú river (Belo Monte), close to Altamira at the Transamazônica, and the paving of the road between Cuiabá and Santarém (BR-163). Both projects are located in the state of Pará. They entail high environmental risks: accelerated deforestation due to higher immigration, enormous disturbance of the Xingú river and the living conditions of the local population, including indigenous peoples, and the reproduction of fauna and flora. In Altamira, the expected adverse impacts have stimulated effective legal action by local civil society - especially peasants' associations, the churches and NGOs - in order to inform the local population about the risks of the project and to delay the beginning of the work. In the case of the BR-163, the paved road as such is welcomed by everyone but its associated impacts are regarded with mixed feelings, as it will facilitate the expansion of soy farming and cattle ranching. Large soy farmers from Mato Grosso, one of the largest soy-producing regions in Brazil and world-wide, have the main stake in the paved road because it will considerably reduce their transportation costs to world markets via the port of Santarém.

Results

The research results can be summarised as follows:

- The capacity of local civil and public actors to engage in dialogue and negotiations and cope effectively with highly complex conflicts depends very much on their ability to establish local coalitions around clearly defined objectives and strategies, as well as on their ability to correctly understand the interrelated nature of the local social, economic and environmental impacts of

the planned investment projects.

- Environmental awareness is much more developed among social movements than among public actors at local and regional level. Local social movements learned lessons from the large investment projects of the past, but also benefited from the PPG7 subprojects aimed at promoting sustainable production methods by financing local experiments. These projects enabled them to strengthen their infrastructure and to engage in economic-ecological learning processes.
- Negotiations are not sustainable if important actors do not participate. The government of the state of Pará is not present either in Altamira or in Santarém, and neither is its environmental authority engaging in dialogue with local actors nor in environmental monitoring and control activities. Federal environmental authorities exist at local level, but do not have the necessary human and financial resources to fill the gap left by federal state and local authorities. In addition to that, powerful local economic actors often prefer to achieve their objective by using violence rather than by participating in negotiations.
- The weakness or even absence of legal institutions (judiciary, police) is a severe obstacle for civil society action and the implementation of environmental law prescriptions. The close partnership between local social movements and the Ministério Público Federal (Federal Prosecutor) has often been crucial for preventing the complete undermining of environmental law.

Lessons learnt

Two preliminary lessons can be drawn from these results:

- International partnerships contribute significantly to the strengthening of local networks of social movements and NGOs. Such networks are important to

make public actors aware of the social and environmental risks associated with large public investments, but cannot do the job of the public sector. These partnerships should include environmental capacity building among public actors in order to increase their problem-solving capabilities.

- The weakness of the legal system is a major bottleneck for environmental and forest protection. Violence and impunity are two of the main obstacles for participation of local stakeholders in natural resource management planning.

Note:

The paper is based on field research carried out between February and May 2003 in Brazil together with Daniel Dräger, Isabelle Floer, Constanze Neher and Julia Unger.

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GLOBALISATION AND THE ENVIRONMENT: THE EFFECTS OF THE FINANCIAL CRISIS ON TROPICAL FOREST MANAGEMENT IN BRAZILIAN AMAZONIA

By Sjur Kasa and Lars Otto Næss

Two main views have dominated the debate on globalisation and the environment over the last decade. One view argues that the financial and economic instability created by liberalising financial markets during the 1980s and 1990s undermines the ability of

developing countries to manage their environment in a sustainable manner. Another, more optimistic view holds that linking environmental problems in developing countries to 'new' global issues such as climate change and biodiversity loss, as well as the emergence of transnational networks of environmental NGOs, may motivate and enable states to improve their environmental practices and to introduce environmentally benign local practices by disseminating knowledge and empowering marginalised groups.

Contrasting impacts

Brazil provides an interesting case for studying how these forces have been played out and how they have affected tropical forest management in the Brazilian Amazonia. Since 1994, the country has gone through an extensive liberalisation and privatisation process and Brazil was also hit hard by the major 'Asia-Russia-Brazil' financial crisis of 1997-99. Brazil came under considerable pressure during the crisis, which led to a devaluation of the Brazilian Real and massive cuts in national budgets. IBAMA, the national environmental agency, experienced budget reductions of up to 90% in 1999.

The impacts of this crisis on forest management seem more complex however. Increasing attention to the deforestation in Amazonia and its effects on biodiversity loss, climate change and the livelihoods of local people had already triggered very strong pressure on the government from the late 1980s onwards, coupled with an emerging wave of transnational environmental mobilisation. Initiatives involving foreign funding, notably the Pilot Program to Conserve the Brazilian Rain Forest (PPG7), were not affected by the crisis. For example, a PPG7-funded monitoring system was successfully introduced in Mato Grosso, run by the state government. After it was introduced, the deforestation rates in the state were reduced by a third from previous years.

Likewise, a number of NGOs, such as the Institute of Environmental Research for Amazônia (IPAM) and the Brazilian branches of Friends of the Earth and Greenpeace were able, thanks at least partly to foreign funds, to expand their activities in Amazonia during the crisis. Moreover, NGOs such as the Institute for Agricultural and Forest Management and Certification (IMAFLOA) and WWF-Brazil have promoted campaigns for the certification of timber under the Forest Stewardship Council (FSC) criteria, which have had a significant impact. The financial crisis, along with the devaluation of the Brazilian Real, increased the attractiveness of the export market. However, controversies over the FSC certification system run high, and many argue that with only 15% of the Brazilian timber going for export, it will only have an impact on forest management in the Amazon if it manages to penetrate the domestic market as well.

Improved forest management

The above suggests that active NGOs - at local and international level - as well as new forest management systems implemented by state governments ameliorated the impacts of the 1998-99 financial crisis in Brazil and led to improvements in the tropical forest management systems over the same period. Foreign funding played a part, but the limited effect may also be explained by the fact that Brazil has well-established and robust institutions and that the crisis did not precipitate the kind of institutional breakdown as was seen in Southeast Asia. While the economic and political instability in Brazil of the early 1990s produced a very fragile setting for institutional consolidation of the environmental sector, the economic and political stabilisation following the inauguration of President Cardoso in 1994 undoubtedly contributed to such consolidation. Economic stability was a key precondition for a more effective public sector in general as uncontrollable inflation also decreased the real value of government funding.

It is important to note, however, that despite signs of improved forest management in some parts of Amazonia, deforestation - caused by the three main forces of cattle ranching, soybean cultivation and logging - is still widespread in the Amazonia as a whole.

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THE GUIANA SHIELD INITIATIVE AS A MULTI-LEVEL STRATEGY FOR SUSTAINABLE FOREST MANAGEMENT

By Pitou van Dijck

The Guiana Shield region is among the world's most ancient geological formations and includes all of Guyana, Suriname and French Guiana as well as parts of Colombia, Venezuela and Brazil. The region is home to one of the last pristine forest areas in the world. From an environmental and biological perspective the region is characterised by an extremely diverse endemic flora that has evolved on this precambian geological formation. From an anthropological and cultural perspective, the region is the habitat of a variety of indigenous communities which depend on the ecosystem to maintain their lifestyles.

The Guiana Shield region is currently in the spotlight as one of the few areas that can be preserved before irreparable damage is done.

The overall objective of the Guiana Shield Initiative (GSI) is to promote ecologically sustainable management of the region. The initiative will focus on cooperation with local

stakeholders, i.e. indigenous and other local inhabitants, local authorities, NGOs, academics, intergovernmental and international organisations and the private sector.

The initiative is made up of the following components:

- The Guiana Shield Regional Trust Fund
- Sustainable development corporations
- Mapping and monitoring
- Information, education and training

The Regional Trust Fund is the mechanism by which the nations in the region may be reimbursed by the international community - through the Global Environmental Facility - for their public goods services including carbon sequestration and stocking of biodiversity. The Initiative takes a bottom-up approach by placing the conservation in the hands of the local people who may function as ecosystem managers in specified areas.

Our presentation will focus on the goals and instruments of the Initiative and particularly on the potential role of the inhabitants of the region in conserving the forest and the public goods it provides for the region and indeed the entire world. Model contracts will be studied as a means for integrating services of local inhabitants into the Initiative.

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VIII THE IMPACT OF DECENTRALISATION ON FOREST RESOURCE MANAGEMENT

Localisation as discussed here refers to the devolution of land rights and authority over natural resources to local population and user groups and lower level authorities. It has been argued that decentralised systems of forest management can lead to more sustainable and equitable use of resources, as decision-makers are located closer to, and are more directly involved in, the resource to which their policies and interventions refer. Decentralisation is also supposed to enhance more local participation in recourse allocation decisions, greater accountability and more sustainable use of natural resources. On the other hand, decentralisation and devolution of land rights brings new actors into the arena, with potentially conflicting interests, objectives, mandates and values - not least with central government agencies previously responsible for forest and natural resource management. Decentralised power also allows lower level authorities to raise local revenues, thereby creating an incentive to exploit the forest beyond sustainable levels. The following articles discuss to what extent and under which conditions decentralisation and devolution of land rights can stimulate more democratic and sustainable forest management.

- S Central control of local resource management: the impacts of devolution (Eva Wollenberg, Bruce Campbell, Sheona Shackleton and David Edmunds)
- S The impact of decentralised forest governance: a case study from Bolivia

(Wil de Jong, Michel Becker, Sergio Ruiz and Carmen Gottwald)

- S Redistribution of Indonesian forests: impacts of decentralisation on power in forest management (Hanna Kaisti)
- S Management of forest areas in Indonesia following forest policy decentralisation (Retno Maryani)
- S Devolution of forest management: a cautionary case of Pukhtun Jirgas in dispute settlements (Pakistan) (Sara Southwold-Llewellyn)
- S Entitling local communities in forest management: has decentralised forest management affected charcoal production practices in Eastern Senegal? (Maaike Snel and Johan Post)
- S Natural resource management and decentralisation in Senegal : the downside of decentralisation (Laurence Boutinot)
- S Rural wood markets and decentralisation in Mali. Some issues (Baptiste Hautdidier and Laurence Boutinot)

CENTRAL CONTROL OF LOCAL RESOURCE MANAGEMENT: THE IMPACTS OF DEVOLUTION

By Eva Wollenberg, Bruce Campbell, Sheona Shackleton and David Edmunds

Devolution policies have sought to transfer control over natural resource management (NRM) to local people. Yet the state has continued to control the terms of most devolved NRM initiatives. While there are legitimate roles for the state, we question whether a better balance needs to be sought between local and 'wider' NRM interests. We summarise the extent to which such balance has occurred, drawing on Asian and African case studies.

Who controls and makes decisions?

The case studies showed that central authorities continued to drive the NRM agenda, despite the rhetoric. Except in cases in which NGOs or donors played a strong role, governments determined the nature of the shifts in control. In most instances they retained key aspects of management authority, placing tight constraints on local decision-making and sometimes rendering it meaningless. Most fundamentally, governments did not entrust people with rights to own the land and resources.

Thus, proprietary rights over resources such as wildlife were devolved to a local level in Namibia, Zambia and Botswana. However, governments continued to determine off-take quotas and communities were largely prevented from hunting game for subsistence. In India and the Philippines, government officials controlled planning, supervised the budgets and decision-making processes of local organisations and, in the former, controlled the marketing of timber and valuable forest products. In only a few cases did local people acquire land ownership (e.g. Maluleke case in South Africa).

In terms of organisations receiving devolved authority (Box 1), arrangements that transferred authority directly to disadvantaged people tended to be more responsive to local needs than those that allocated control to higher levels such as local government or district structures. Where community-based corporate structures were able to engage in autonomous planning, local residents had recognised rights to determine their own boundaries and membership, select their management structures and procedures and develop their own constitutions, by-laws, sanctions and management plans. They also received benefits of up to 100%. In some countries a demand-driven movement to establish such initiatives more effectively was emerging. The China cases were noteworthy for the relative independence that communities enjoyed under household and

shareholding arrangements. By contrast, committees that were created by forest departments tended to be upwardly accountable to them and enjoyed little independence. Where communities already enjoyed autonomy and benefits under self-initiated management, devolution policies sometimes resulted in a loss of decision-making authority and benefits.

Local capacity: the key to making devolution more responsive to local interests?

The degree of organisation amongst poor resource users and their knowledge of their rights was a critical factor influencing outcomes. Where local people were well organised and had alliances with NGOs or other influential groups, they managed to secure greater control and benefits. In Maputi in the Philippines, local users had a forest management agreement with outsiders revoked, thus protecting local access; in Orissa, India, federations of forest user organisations pressed government to honour agreements about rights to benefits. Where local people were aware of their rights and knowledgeable of the constitutions that guided their NRM committees, they were able to challenge elitist behaviour within committees.

Towards a better balance of state and local roles

- Most devolved NRM reflects some continuation of state control over natural resources rather than a genuine shift in authority.
- Organisational models that devolve authority directly to disadvantaged resource users embrace local interests more than those that allocate control to higher levels of social organisation.
- Strong local organisational capacity enhances outcomes for local people by enabling them to mobilise resources and negotiate better. NGOs, donors, federations and other external actors

have a key role in moving devolution policy and practice towards local interests.

Box 1: Organisational foundations of devolution

The types of organisations that exercised 'local' authority and the direction of their accountability had a strong influence on whether the outcomes were favourable for local people. The following organisational models were identified:

- District organisations such as district councils (e.g. Zimbabwe), Panchayats (India), multi-stakeholder structures aligned to line departments (e.g. Wildlife Management Authorities - Zambia, forest farms (China). The measure of downward accountability varied from very little to modest.
- Village committees facilitated by government departments, e.g. Forest Protection Committees in India. Here, accountability related to the degree of control transferred by the state and the extent to which local elites took over the process.
- Corporate, legal organisations composed of all rights holders/residents, e.g. Trusts (Botswana), Conservancies (Namibia) and Villages (Tanzania). Since the legitimacy of these organisations is derived from the community, interference by the state was less pervasive than in the preceding arrangements.
- Household-based and individual management (China, Philippines), where individuals exercised varying degrees of authority over tree management and use. The state maintained control by providing access to technology, permitting systems, planning requirements, fees and taxes.
- Self-initiated organisations operating outside of the state. Cases ranged from traditional institutions to Residents Associations and shareholding schemes. Self-initiated schemes were often accountable to disadvantaged users, but were often co-opted by elites or officials in the absence of a supportive policy and laws

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THE IMPACT OF DECENTRALISED FOREST GOVERNANCE: A CASE STUDY FROM BOLIVIA

By Wil de Jong, Michel Becker, Sergio Ruiz and Carmen Gottwald

The last decade has seen profound overhauls of governance in many tropical countries. Countries have adopted new economic policies, under considerably influence from free-market thinking and a reduced regulatory role of the state and its subsidiaries. This coincided with widespread decentralisation of government, including natural resource governance. Bolivia is famous primarily for its Andean uplands, but substantial parts of its territory are tropical forests. The economy of the northern part of the country, in particular, relies for a large part on income from forest products like Brazil nuts and timber.

Regulatory framework

During the 1990s, Bolivia enacted a set of new national laws that are affecting forest products-based industries. The principal laws are several decentralisation laws, a new land reform law and a new forestry law. The new regulatory framework has resulted in a progressively larger ownership of forest land and forests by rural communities. The impact that this has had on people's livelihoods is still not entirely clear. In northern Bolivia, there is evidence that conflicts over natural resources are increasing. There is also evidence that some of the feudal dependency relations that existed before the programme of legal reform are adapting to the new legal framework instead of disappearing. A new type of timber tycoons replaced the rubber and Brazil nut barons from earlier days. The local communities, new owners of forests, still have inadequate skills, knowledge and leverage that free them from the patronage of these new rulers of the north. Political patronage by people seeking votes for public office

dominates village level politics in many locations and hinders the true democratisation of rural Bolivia.

Prospects

Despite these initial shortcomings, the decentralisation of natural resource governance has had recognisable positive outcomes. The fact that local people are to be the legal owners of about half of the northern Bolivia forest region means new opportunities will be created that did not exist before. Besides income from Brazil nuts and other forest products, local communities will now increasingly be able to enjoy benefits from timber. Providing that illegal logging can be controlled, this also opens the way for sustainable forest production. However, the envisioned positive impact will need more time than initially expected.

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REDISTRIBUTION OF INDONESIAN FORESTS: IMPACTS OF DECENTRALISATION ON POWER IN FOREST MANAGEMENT

By Hanna Kaisti

Tropical forests have become politically visible sites of competing interests between global, national and local actors, and of diverging conceptions with respect to their intrinsic and instrumental or market value. This political nature of tropical forests can also be seen in Indonesia, which is one of the world's most biologically diverse countries, but where the rate of annual deforestation is alarming, about 1.6 million hectares per year.

During the past few years, forest management has changed significantly as a part of a wider political reformation which began in 1998, when the authoritarian president Suharto was forced to step down. Since then, Indonesia has undergone a process of rapid and far-reaching political, economical and administrative decentralisation, which has had a great impact on the use and conservation of forests. This process is a radical change in politics, because during president Suharto's so called New Order regime (1967-1998) national development was based on high economic growth and the control of natural resources was strictly centralised. For the three decades of Suharto's power, Indonesia had one of the most rapidly growing economies in the world. The forest sector was an important part of this economic growth, but the price has been high since the large-scale logging and plantation activities have had severe environmental and social consequences.

New actors, conflicts and possibilities

The decentralisation process has caused a considerable degree of political and economical power to be transferred from the

national government to 370 local governments. According to the new decentralisation laws, the districts and municipalities now get a more substantial share from the natural resources extracted from the area and they have the authority to decide how to allocate their own budgets. Local governments are also obliged to collect local revenues and this has created pressures to log forests in order to generate income.

The revised Basic Forestry Law of 1999, which outlines the division of authority in the forestry sector under regional autonomy, gives the district head the right to issue 100 ha forest concessions. This was meant to allow the district government to generate income so that the timber royalties could be kept within the region rather than being sent to Jakarta. In 2002, the Ministry of Forestry suspended this regulation, but this suspension has not had much of an impact since district heads feel they can now ignore directives from the central government because of the powers given to them by the decentralisation laws. In some areas the granting of small-scale logging concessions has increased deforestation and created social tensions, because in many cases old and new concession areas are overlapping.

The decentralisation process has at least in some respect changed the position of the system of customary rights or practices, which are collectively known as adat law. Different ethnic cultures function under different norms, rules and resource management strategies and spiritual belief systems. The way in which adat land or forest is defined and used has become one of the key determinants of how forest resources are allocated, for example in Kalimantan and Sumatra. The lack of clarity and the abuse of the opportunities to make claims have contributed to the atmosphere of conflict in some areas. So far the claims have mostly been oriented towards getting compensation for lost or damaged forest. In the long term it can increase political

mobilisation based on sentiments related with territory, ethnicity and religion.

Impact of decentralisation on forest management

Experience from other countries suggests that decentralised systems of forest management can lead to more sustainable and equitable use of resources, as decision-makers are physically located closer to where the policies are implemented. Decentralisation also offers an opportunity to move towards more local participation in resource allocation decisions, greater accountability and more sustainable use of natural resources.

In Indonesia the decentralisation process is very recent and the regional autonomy has been implemented for less than two years, so it is impossible to draw any definitive conclusions. Compared to the previous era, when a very small elite close to Suharto controlled basically all natural resources, the decentralisation process is no doubt a beneficial reform. Until now, however, the implementation of decentralisation has been characterised by intense power struggles among different levels of governance, each of which represents a competing set of political and economic interests. Rules and regulations issued by authorities at different levels are often contradictory and their implementation is deficient. The political participation effect of the decentralisation also falls short since almost no district government official is accountable to his or her constituencies and district residents through direct elections. The heads of the region have a lot of power and corruption is common. The economic and political benefits to local forest-dependent communities remain unclear, since the distribution of the wealth from the extraction of natural resources at local level is far from being equal.

From the environmental perspective, decentralisation has created both pressure and an opportunity for revenue generation at

local level, but the focus has so far been on short-term income generation without any long-term planning and control. Protected areas and conservation areas potentially face a greater risk from logging or mining activities since they are not economically productive areas.

Having said all this, one must emphasise that a changing political system in a country as large and culturally diverse as Indonesia takes time. The change in forest politics can, in the future, create a new sense of power and political identity for groups which were previously excluded from decision-making processes. This could lead to a less economic-oriented way of seeing the forest and hopefully to the recognition that other forest functions also exist.

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MANAGEMENT OF FOREST AREAS IN INDONESIA FOLLOWING FOREST POLICY DECENTRALISATION

By Retno Maryani

The forest conditions in Indonesia are largely shaped by natural causes such as fire and drought, by management practices and by policy incentives. The three causes together induce changes in the country's forest cover. Several studies suggest that complex patterns exist between causal changes, agents of changes and levels of causation (Sunderlin and Resosudarmo, 1996; Kaimowitz and Angelsen, 1998; Geist and Lambin, 2001).

While it is important to identify the cause and agent of forest changes, the institutional arrangements play important roles in shaping behaviour of the agent and vice versa, which further affect the condition of forests in Indonesia.

Decentralisation

Forest policy decentralisation creates new institutional arrangements which differ from centralisation. Building on the work done by Kissling-Naf and Bisang (2001), we identify four major elements of an institutional arrangement:

- The framework of state constitution and formal regulations.
- Policy designs or the policy instruments that reflect the strategy through which goals and objectives are pursued.
- Management structures or the way tasks and authority are distributed and in which democratic decision and participation are encouraged.
- Property, disposal and use rights that regulate society's interactions with forest resources.

Each element of the arrangement has certain functions and differs in nature according to the use of forest resources. Any adjustment of external orders therefore simultaneously affects the goals set by actors as well as their strategies to achieve these goals, hence the actions of people.

Before-and-after comparison

In our study, we compare two different settings of institutional arrangements before and after forest policy decentralisation. We present preliminary findings from field observations combined with related reports on ongoing forestry activities and forest conditions in a selected district in the East Kalimantan province. The aim of the analysis is to explain the interactions between institutional arrangements and the behaviour of people under different settings and forest conditions. It is hoped that the elements which

benefit forest policy decentralisation can be identified in order to enhance sustainable tropical forest use, in particular for the benefits of local people.

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DEVOLUTION OF FOREST MANAGEMENT: A CAUTIONARY CASE OF PUKHTUN JIRGAS IN DISPUTE SETTLEMENTS (PAKISTAN)

By Sarah Southwold-Llewellyn

In many respects, the legal framework of a jirga has comparable features to those proposed for community-based management. It is formed by representatives of different community factions and is based on the ideal of consensus. In our study we examine how the jirga operates. Two key issues involving the jirga's role in forest management are:

- The distribution of revenue from state-controlled commercial felling and
- Usufruct rights.

The case will illustrate some of the political, economic, social and cultural pitfalls that underlie assumptions about community-based management schemes.

The case is based on anthropological research on natural resource management and livelihoods among a community of Pukhtun agro-pastoralists in the Hindu Kush, whose permanent settlement is at 2 000 metres. During the summer, members from most households move to the alpine pastures at 2.500 to 3.500 meters.

In addition, we studied the relations between the Pukhtun community and transhumant pastoralists, paying particular attention to disputes over access to forests, alpine pastures and water, the impact of government policies on the articulation of disputes and the role of plural legal frameworks for dispute resolution. Other research themes included the impact of migration on rurally based livelihoods, especially with regard to agricultural production, the impact of state-controlled forest harvesting on livelihoods and the sources of power and

influence of women. Research was conducted in Shangla District during the summer months of 1991, 1993, and 1994.

Devolution to heterogeneous communities

The Provincial Government of the North West Frontier Province (NWFP) of Pakistan owns all the forests. This has a historical legal precedent. The area studied had a hereditary ruler until 1969 when the Malakand Division became a Provincially Administered Tribal Area and was incorporated into the NWFP. The consequence was the creation of additional tiers to the existing plural legal systems with regard to the concepts of rights to the forest and dispute settlement. Since 2001, the government of President Musharraf has introduced radical changes to the structure of Federal, Provincial and Local Government aimed at devolution. Similar devolution policies are proposed for the Forest Department with regard to their role in forest management.

These new policies recognise the needs of local stakeholders and the aim of community-based management schemes. They are not sensitive, however, to the heterogeneity among communities or to how these new policies will be incorporated into existing practices. The purpose of our study is to describe the situation in a Pukhtun community prior to these changes in the hope of understanding their likely consequences.

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ENTITLING LOCAL COMMUNITIES IN FOREST MANAGEMENT: HAS DECENTRALISED FOREST MANAGEMENT AFFECTED CHARCOAL PRODUCTION PRACTICES IN EASTERN SENEGAL?

By Maaïke Snel and Johan Post

In accordance with Senegal's decentralisation policy, important forest management tasks, including the right to allocate charcoal production rights, have been transferred to rural councils. We have investigated the impact of these institutional reforms on charcoal production practices using the environmental entitlement framework developed by Leach et al. (1999). The study clearly showed that decentralisation has not been able to alter forest management practices at the local level, although official rights and responsibilities have changed.

The problem of legitimacy

The environmental entitlement approach of Leach et al. centres on the three concepts of endowments, entitlements and capabilities. Endowments refer to the rights and resources that social actors have, while entitlements are defined as 'the alternative set of utilities derived from environmental goods and services over which social actors have legitimate effective command and which are instrumental in achieving well-being'. Capabilities then refer to the outcome - in this case charcoal or the revenue from the sale of charcoal. The rural councils have not been able to turn their new endowments into entitlements because they lack sufficient strength and legitimacy. Rural councils were created in the 1970s and 1980s as part of the first deconcentration efforts of the Senegalese state, yet even after extending their formal rights they have never been able to compel (let alone cooperate efficiently with) the respect and legitimacy certain traditional

institutions still enjoy. This has complicated efficient and effective decentralised forest management, because forest management rights and responsibilities have been transferred exclusively to formal institutions. The decentralised structure of forest management moved the spotlight onto an institution that is rather marginal in the organisation of rural society and not downwardly accountable. As a result, the only person really benefiting from entitlements is the president of the rural council. His access to entitlements and their translation into capabilities (benefits from logging) is based entirely on his liaison with informal institutions. The Senegalese charcoal production and marketing is mainly dominated by merchants who provide access to charcoal markets, labour and capital for cutting wood and turning it into charcoal and by forestry agents who officially sanction woodcutting and trade. Informal institutions, notably the coalition between merchants, state agents and village chiefs, continue to run the charcoal business and are hardly affected by decentralisation efforts. The institutions formally responsible - the rural councils and the forest service - are easily influenced, overruled or ignored by the informal institutions.

Stakeholders and power relationships

Decentralisation has not really affected the power relationships that underlie the distribution of entitlements to charcoal. The claim of Leach et al. (1999: 238) that 'institutional change in society may be a slow, path-dependant process, even if formal institutions, such as legal frameworks... change quickly' is certainly true of the Senegalese charcoal production and trade.

Although tensions between pro-exploitation actors and pro-conservation actors are evident, the pro-exploitation actors' firm grip on the informal institutions will probably lead to a prolonged subversion of the laws that seek to enhance local control and sustain the forest.

The local community is not homogenous in their opinion on the charcoal production and trade: those who benefit economically from charcoal production have a different opinion than peasants who merely suffer the adverse effects of production. Due to the different popular needs and priorities, decentralisation to a genuinely representative institution would not automatically lead to ecologically sustainable forest management. Even if the rural councils were to function as democratic and representative institutions, the outcome of their forest management would be uncertain in terms of sustainability.

Efforts to improve the record of the decentralisation policy in terms of more effective local control over forest resources and more sustainable use of natural resources have not too much to build upon. Attempts by some rural councillors and villagers to persuade the rural council to use its legal powers to this effect have broken down in the face of opposition by the local establishment and merchant class (mobilising their political friends in Tambacounda and Dakar). This attests to the link between macro and micro-level developments as mentioned by Leach et al. The impact of the alliance between state and capital that characterises the overall Senegalese political economy manifests itself at the local level, affecting local processes of endowment and entitlement mapping.

Conclusion

In the short run it is unlikely that there will be a marked change for the better. Only through a process of empowerment - probably with a crucial role for NGOs to provide access to vital information and to educate and train people - can one hope that countervailing forces will gradually gain strength and that people will become more successful in effectuating the claims that decentralised forest management should provide.

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NATURAL RESOURCE MANAGEMENT AND DECENTRALISATION IN SENEGAL: THE DOWN-SIDE OF PARTICIPATION

By Laurence Boutinot

Administrative and political decentralisation is not new in Africa. It is linked to widespread structural adjustment reforms that caused the disengagement of the states by the end of the 1970s. In Senegal, after long delays, the process of natural resource management decentralisation was accelerated by the passing of the 1996 decentralisation regulations and the new decentralised forest codes of 1993 and 1998. Like elsewhere in Africa, decentralisation is changing relations among various actors - public/private and community/individual - in natural resource management. Since Rio (1992) and Johannesburg (2002), the necessity of involving citizens in all stages and scales of natural resource management has been recognised. Furthermore, increased local responsibility is viewed as a way of producing equitable and sustainable development.

Natural resource management and decentralisation
Natural resource management is a powerful lens for understanding the process of

decentralisation. Among all the decentralised sectors, natural resource management is the only one that produces financial gains. In this way, the natural resource management experience sheds light on the complex stakes involved, the difficulties in implementation and the dysfunctions of decentralisation.

With a view to throwing light on the nature and effects of decentralisation we initiated a study on decentralised forest management in Senegal. We aim to explore whether decentralisation in Senegal can be a way to harmonise actions and redistribution of authority in natural resource management. More specifically, we aim to:

- Clarify the stakeholders and interests involved;
- Map competition in resource access and control;
- Highlight such risks as the entrapment of people within 'participatory', but non-representative arrangements and over-regulation through the proliferation of local committees.

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RURAL WOOD MARKETS AND DECENTRALISATION IN MALI. SOME ISSUES

By Baptiste Hautdidier and Laurence Boutinot

Mali, as a Sahelian country with limited forest cover, could be overlooked in the current debates on international forest management. Yet, while its wood harvesting activities barely contribute to international trade, they represent nearly 90% of its domestic

household energy. This is why - in a globalised world with multiple poverty alleviation and desertification reduction agendas - Mali is particularly in touch with processes of 'localisation' of timber resource management. In 1991, the dictatorship overthrow was strongly backed by rural people. The failure of the forest administration, with its repressive stance inherited from colonial times, was particularly blatant. This urge for reform led the peasantry to adopt the slogan of 'power back to the village' (*mara ka segi so in Bamanan*).

This coincided with the evolution of the ideas of international actors (Bretton-woods institutions, cooperation agencies, think tanks and NGOs) regarding institutional reforms. Thus globalisation met localisation and, while relying on new precepts of good governance and subsidiarity, the donors supported the development of two broad parallel moves towards decentralisation.

Communes and rural wood markets

The first move towards decentralisation was the creation of a new level of power, the commune, based on laws and decrees issued in 1995 and 1996. Yet, although the process was initiated in 1999 with the election of the local councils in a rather consensual ambience, the creation of the communes could more or less be regarded as a political non-event until now. Due to a lack of real power and financial means, their action is strongly impaired in rural areas when they are not associated with a development project or real estate issues. Their role in natural resource management is theoretically important, yet hindered by numerous institutional resistance: according to a 1996 law, the real devolution of forest estate to communes still has to take place.

The second move towards decentralisation consisted of a revision of the country's forest policy. Legislation adopted between 1995 and 1998 allowed a transfer of the forest

management responsibility from the State to the rural communities, with a newly created institution - the rural wood market. Defined by a demarcated forest, a point of sale and a 'rural management team' comprising local woodcutters, the rural wood market can sell a predefined quota of wood and/or charcoal under the supervision of the Nature Conservation services. The system is based on police control at the entrance of the country's main cities. A differential taxation theoretically ensures a substantial advantage to the rural wood markets.

In reality, the picture is not that flattering, due to weak control (with efficiency estimated at 10%). Most markets fail to differ from the bulk of suppliers. Along the commodity chain, such a status quo benefits the wrongdoers, ranging from urban merchants to corrupt civil servants. Furthermore, the bank account used for the taxes collected for the markets, which are supposed to partly benefit the commune, was recently blocked.

Nevertheless, nearly 300 rural wood markets have been established to date, most of them at the instigation of development projects. From 1998 to 2002, the Household Energy Strategy, a para-governmental agency mainly funded by the World Bank and the Dutch government, supervised the process in the heart of the country. Relying on socio-economic and satellite-based surveys, it planned the potential locations of the markets around the main cities and oversaw their setting up by private operators. Based on different approaches, various development actors entered into contracts in other parts of Mali: the Swiss Intercooperation near Sikasso, the International Labour Organisation at Kita, and SOS Sahel, CARE and the Near-East Foundation in the Mopti region.

Research

The environmental superiority of the system has been rather questionable until now and so are the social, territorial and economic

consequences of transferring management responsibility for timber resources. This is what a network of social science researchers based in Mali plans to investigate. The hypothesis that the reforms have substantial effects in terms of (i) reshaping of the equilibrium of powers, (ii) the appropriation of territories and (iii) the redistribution of the woodfuel commodity chain incomes, will be tested at three embedded scales, namely the supply basin, the commune and the village.

The woodcutting activity, formerly caste-reserved and dominated by transitory wage earners, has since been largely spread throughout villages surrounding Bamako and other towns. The local harvesters, a substantial number of whom are women and landless peasants, are tending to become professional. The impact of the markets on actors' strategies and incomes may then be important, but also subject to swift changes. Are rural wood markets a factor of social and economic differentiation (at the inter and intra-household levels)? Was the gender awareness and the pro-poor stance of the markets' spirit a success or have global inequalities and struggles simply been translated to the village scale?

Changes

The rural management team of woodcutters, as an institution governing the access to bush areas and contributing to its members' welfare, has been a factor of change in local arenas. It triggered deep modifications of tenure rights over village lands and internal power struggles that both eventually led to conflicts. The question is how power relations and social networks are built through the harvesting of a resource and the appropriation of a territory. What are the links between those new powers and the traditional ones? What is the new constellation of resource access and use that result from those interactions?

Considering the current ineffectiveness of the

commune as an institution dedicated to natural resources management, the studies (based on the fields of social change anthropology, geography and economics) will take into account the possible functions of development projects, communes, merchants, hauliers and state representatives in a prospective view.

The aim is to reduce the conceptual inconsistencies between the ongoing processes of political decentralisation and liberalisation of the forest sector by accompanying the Malian society towards:

- better sharing of powers between State, communes, villages and the private sector;
- fair access to territories and a viable use of their resources; and
- rebalancing of economic incomes derived from the harvesting of the common resource.

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IX A LEARNING PERSPECTIVE ON PARTNERSHIPS IN COLLABORATIVE FOREST MANAGEMENT

Collaborative forest management approaches develop in response to broader change processes in society, when the roles and responsibilities of groups and organisations dealing with natural resource management are reviewed and questioned. The increased involvement and interactions of participants from different levels (national, regional and local) is increasing diversity among stakeholders and their interests. The involvement of various (community) groups and organisations, each with their own agenda and interests, imposes special requirements on work processes to ensure durable agreements and solutions. Active monitoring and feedback on results need to be accompanied by learning processes among stakeholders and groups, the so-called social or collaborative learning perspective. This process requires participants to develop an appreciation of other stakeholders' interests and perceptions, as well as an awareness of their own 'mental models'. The complexity of such process management requires special attention, as well as flexibility to adjust to the inherent uncertainty and diversity in managing the natural resources. The following contributions explore the potential of social learning methods for enhancing partnerships at the local and regional level. This is particularly important when considering sustainable forest management in conditions where poverty, land degradation and loss of biodiversity are in a vicious spiral.

- S Learning in adaptive collaborative management of community forests: lessons from Indonesia (Yurdi Yasmi and Yanti Kusumanto)
- S Public participation in community forestry policy in Thailand. The influence of academics as brokers (Sacha Zurcher)
- S Influencing the international forest policy: the role of collaborative research (Purabi Bose)
- S An experiment relating to the participation by and partnerships between people in a tiger reserve in India (S. John Joseph)
- S The dilemma of 21st century forest management in Papua New Guinea (Ruth C.H. Turia)
- S Facilitating collaboration and partnerships: lessons from adaptive collaborative management in the Philippines (Herlina Hartanto)

LEARNING IN ADAPTIVE COLLABORATIVE MANAGEMENT OF COMMUNITY FORESTS: LESSONS FROM INDONESIA

By Yurdi Yasmi and Yanti Kusumanto

Problems and issues related to forest management are undeniably complex. Different stakeholders have different views about forest objectives and needs as a result of differences in rationales and mental models. Furthermore, the context of decision-making on forest issues is also highly complicated due to differing, even directly conflicting, objectives, changing social, economic and political conditions and changing policy. Conflict is therefore a key concept in co-management (Yasmi, 2003). Due to the complexity and the continuing state of change, not only in social but also ecological environments, forest management entails considerable risks and uncertainties. It

is in this context that many community forest managers face the challenge of trying to implement or achieve sustainable management while addressing livelihood needs. In this situation, adaptive learning and collaborative decision-making processes are required that provide opportunities for negotiation. Adaptive collaborative management (ACM) attempts to combine these elements into a conscious and intentional approach (Prabhu, 2002).

CIFOR and its partners undertook ACM research between 1999 and 2002 in Indonesia, Nepal and the Philippines as part of an ACM-wide initiative in Asia covering a total of eight sites. This paper provides a brief overview of the key concepts of ACM and how learning has been used as the basis for planning and decision-making. Learning as it is referred to here emphasises the shared and applied nature of learning rather than the building or transfer of individual knowledge or skills (e.g. through training) (McDougall et al., 2003).

ACM in Indonesia

The context in which ACM research was implemented in Indonesia is the chaotic environment concerning decision-making about forest management and forest governance at all levels (national, district and local). The main focus of ACM activities was to work towards improving the capacity of local institutions to engage in collaboration and negotiation with outside agencies in decision-making (Prabhu, 2002).

ACM research in Indonesia was conducted in two sites:

1. Baru Pelepat Village, Bungo District, Jambi Province, Sumatra
2. Rantau Layung and Rantau Buta Village, Pasir District, East Kalimantan Province, Kalimantan

In Pasir, dialogue has been a key platform for learning. Continuous dialogue and

negotiations among stakeholders aimed at exploring problems and finding solutions was the key to learning. Initially, ACM researchers initiated the dialogue and brought stakeholders together in a forum in which they discussed their problems. Along the way, trust developed between them, as a result of which it became easier to share views and ideas and be more open. One issue that they addressed was degraded lands around community settlement.

Based on continuous dialogue, it was jointly agreed that degraded lands were to be rehabilitated with local fruits. Roles and responsibilities were identified based on discussion and consultation that occurred during several meetings. Finally, the actors involved successfully identified who was going to do what. The District Forest Service provided seedlings and the local community was then responsible for planting and taking care of them. The local community formed several groups and each group worked in a particular area. Meanwhile, the role of ACM researchers was mainly to function as facilitators. After the ACM group concluded its research in Pasir, the activity continued and is now being coordinated by the District Forestry Service.

Social learning

In Baru Pelepat, various aspects of social learning have been identified. Knowledge construction and group consolidation were evident throughout the Participatory Action Research (PAR) cycle, in which collective processes were prominent. The knowledge acquired throughout the PAR cycle has led to the build-up of collective knowledge of the group with regard to village boundaries and related matters, such as policies. The knowledge has been used as the basis for action or learning with other groups (i.e. other stakeholders groups).

Previously, Baru Pelepat interacted on only a small scale with its neighbouring communities.

This explains why the Baru Pelepat community seemed to be somewhat isolated. Through the PAR cycle they communicated with neighbouring communities and as a result of communication and relationship-building the following outcomes emerged:

- A stronger sense of identity within each of the groups
- Increased trust and respect across the different groups
- Recognition of interdependence among the groups

Another important aspect of social learning in Jambi is knowledge sharing. Similar to the Pasir case, meetings and dialogue have been used as a platform for knowledge sharing between groups. This led to the generation of skills and knowledge on negotiation, consolidation, conflict management and leadership. Knowledge was shared about their own adat norms and values, as well as on physical matters related to village boundaries.

The desire for clear village boundaries was one of the motivations for learning and collaboration. It was evident that local communities were confronted with the fact that limited resource availability creates a demand for clear and respected boundaries. This was considered important to avoid future conflict among communities. Learning apparently adapted over time from 'simple' to more 'complex' forms (e.g. from comparing own perceptions with those of others, revisiting assumptions and looking for ways of learning). These processes were not facilitated but were developed in a natural way.

We conclude that ACM provides good opportunities for learning, not only for group learning but cross-group learning as well. ACM values learning as a base for planning and monitoring.

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**PUBLIC PARTICIPATION IN
COMMUNITY FOREST POLICY IN
THAILAND: THE INFLUENCE OF
ACADEMICS AS BROKERS**

By Sacha Zurcher

This study focuses on the role of networks in enhancing public participation in community forestry policy in Thailand. It analyses how conflicts between the state and local people over the right to manage forest resources are no longer regarded as isolated incidents but as part of a structural shortcoming in the law which has to be dealt with nationally. In so doing, we discuss the appearance of networks of actors who question the effectiveness of

state control and lobby for formal frameworks to establish the rights of local people with regard to access and control over forest resources. We also address the matter of how the different actors became involved and what their influence was in the process of drafting and presenting a peoples' version of a community forest bill to Parliament in 2000.

Outcome

The results of this study show that conflicts over access rights to forest resources at local level would not have had widespread national attention were it not for a group of academics who supported the idea of local management. They became actively involved in drafting the community forest bill and succeeded in raising a previously local issue to national level by using the press to publicise their academic achievements. Academics, non-governmental organisations and people organisations strategically allied themselves with those actors within the state apparatus who shared the same opinion. In so doing, they attempted to acquire a broader base of support for legalising the community forestry bill.

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INFLUENCING THE INTERNATIONAL FOREST POLICY: THE ROLE OF COLLABORATIVE RESEARCH

By Purabi Bose

'Does research in collaboration with partners has any impact on shaping global forest policy?' is a question being asked more and more frequently. Often, the challenges faced by most academic research institutions while working with partners and trying to measure impacts are related to:

- interpreting the impact of research partnership, which is made difficult by the fact that different stakeholders interpret 'impact' in different ways.
- obstacles to implementation when working with 'partners'.
- This paper will deal with the above-mentioned challenges and will address the following questions related to partnerships in adaptive collaborative management plans:
- What role is there for research?
- What is needed to facilitate the learning perspective in terms of the institutional environment, leadership and organisational change?
- What is the potential for research to contribute to improved livelihoods and sustainable forest management?

As far as the Center for International Forestry Research (CIFOR) is concerned, researching collaboration with partners remains the key to success with regard to influencing major global policy issues - forests and people - and public opinion. The purpose of this paper is to present CIFOR's decade-long learning experience, process and strategy of working in close alliance with its partners.

The paper begins by exploring CIFOR's strategic relationship with regard to science initiatives undertaken with local communities,

civil societies, academic and research institutes, governments, donors and policy makers. It then goes on to sketch out how networking, capacity building, bridging valuable links and acting as an intermediary among partners intersecting the global, national and local levels have had an impact on forest policy. Briefly, it illustrates how international institutes such as the World Bank, FAO, GEF/CBD, WRI, UNFF and ITTO, among other organisations, are utilising CIFOR's research and network studies for prioritising and disseminating purposes via their policy documents. These major institutes often provide support in the form of technical advice as well as financial investments in forest activities on behalf of governments, NGOs and academics. Thirdly, the paper addresses the achievements of CIFOR and its partners in assisting institutions and individuals from developing countries through its collaborative research approach.

The study corroborates other findings that 'partnership' research on forests and people is successful thanks to strong, strategic, shared leadership that purposely seeks to create a collaborative advantage. It also seeks to confirm that collaborative research has a higher level of mutual accountability and a shared vision with a sense of purpose. Findings primarily suggest that collaboration research yields a greater utility value through the dissemination and implementation of research outputs.

The study concludes that::

- partnerships can be best understood as a social instrument that can enhance policy effectiveness;
- although collaborative research is a slow process, its findings can influence major decision-making;
- collaborative research plays a crucial role in establishing networks and thereby wider dissemination.

Finally, we conclude that, while the impact of

research on policies changes over a period of time, one thing that remains constant is the value of partnership.

Note:

This impact adoption study (2003) is currently under process. It focuses on views of CIFOR's partners and CIFOR's ten long years of experience in collaborative forest (policy) research.

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AN EXPERIMENT RELATING TO THE PARTICIPATION BY AND PARTNERSHIPS BETWEEN PEOPLE IN A TIGER RESERVE IN INDIA

By S. John Joseph

The World Bank launched an experiment relating to participation by and partnerships between people under an international initiative termed FREEP (Forestry Research and Education Extension Project) on the premise that forest protection and management are increasingly the product of negotiation, partnership and joint action by government, NGOs, research organisations and forest-dependent communities and people on a realistic multi-stakeholders basis.

The Kalakad-Mundanthurai Tiger Reserve (KMTR) is the 17th Tiger Reserve established in the Western Ghats of India. Its vast array of biodiversity and the threat it faces has earned it the label of biodiversity hotspot. From the KMTR boundary, a 5 km-wide belt was

identified as the eco-development project zone, which covers 46,000 ha consisting of 42 revenue villages and 163 hamlets. This vast wilderness was becoming increasingly difficult to protect against the numerous surrounding villages and their forest dependent inhabitants, particularly with an understaffed and under-equipped Forest Department.

The forested area of the KMTR forms the catchment of the hydrological system of the area, charging the 14 rivers and streams and six reservoirs that are located in the KMTR. This watershed provides drinking and irrigation water to all the communities living in the villages besides meeting their livelihood needs from the forest resources.

Eco-development concept and evolution
The project document defines Eco-Development as '.... a strategy for protecting ecologically valuable areas from unsustainable or otherwise unacceptable pressures resulting from the needs and activities of people living in and around such areas.' In pursuance of this definition, the activities envisaged initially were:

1. To educate and motivate the local people regarding the values and needs of conservation and to involve them in the same.
2. To reduce the negative impact of local people on biodiversity as well as that of protected areas on people's livelihoods and also to increase collaboration of local people in conservation efforts.
3. To develop a more effective base and extensive support systems for eco-development activities, thereby improving the quality and capacity of protected areas management for conservation of biodiversity.
4. To provide opportunities for local partnership and participation in protected area management, activities and decisions.
5. To develop and ensure eco-friendly livelihood activities for forest-dependent people for their sustainable livelihood.

The Eco-Development team comprised

employees from the Forest Department who were totally divorced from their regular territorial policing duties, but had received high motivational training in securing peoples' participation.

To bring about a radical change in approaches and ensure people's active participation, Village Forest Committees (VFCs) were set up in the villages and hamlets. These had 100 to 300 members. The NGOs became instrumental in bridging the gap between the Forest Department and villagers and in bringing about a total change in the mind-set of the villagers. VFCs were formed in 113 villages and hamlets involving more than 13,000 families in their interventions. They were identified at the stage of preparation of the Micro plan, a strategic local level plan of operations evolved for the purpose of solving the problems of individual villages. The Micro plan had three major components:

1. Alternative income generation schemes
2. Biomass production/increase
3. Energy conservation measures

Project implementation included rapport building, awareness programmes, participatory rural appraisal and the formation of VFCs.

Awareness programmes in the form of traditional folk theatre and street plays were planned simultaneously and the task was assigned to the Arumbugal Trust, an NGO from Tirunelveli. This NGO with other NGOs operating locally made a deep impact on the minds of local people thanks to their acceptability to local people and the effective use of traditional media to mould the thoughts and attitudes of people and rekindle the dormant conservation ethos.

Positive project impacts

The Eco-Development Project has brought about a drastic change in the lives of the villagers and has improved their livelihood

security. More than 2,000 woodcutters who were dependent on the forest for their livelihood have changed to alternate occupations. Grazing within the KMTR has been reduced by more than 50%.

A high percentage of loan recoveries have been recorded, enabling the VFCs to provide assistance to 500 additional forest dependents. Various self-help groups, expert groups and village community funds have emerged to cope with new challenges of micro plan implementation. Most of them are now endowed with sustainable livelihoods.

The project has increased the confidence of the local people, converted erstwhile hostilities into camaraderie and forged a collaborative social bond between the Forest Department, NGOs and participating villagers to conserve the biodiversity in the KMTR and improve the grassroots economy.

Lessons learnt

It has clearly been demonstrated that it is essential that the NGOs need to mediate effectively between the villagers and the Forest Department. It also became clear that NGOs are required in order to secure the participation of women and to develop organisational and financial skills within the VFCs. The project made it clear that good personal relations are crucial - this requires getting close to the villagers and making them feel that there was no distance or difference between the project implementers and themselves.

The project also showed that while policing and the use of force may have an immediate restraining effect, they will only be temporary and counterproductive and will generate dislike, rancour and vindictiveness.

This effective interactive approach has meant that people have switched from a practice of destruction and degradation of the environment to one of understanding,

appreciation and promotion of objectives of sanctuary protection and management, anchored on their livelihood security mediation. The local grass-level NGOs joined together in this unique and innovative experiment and contributed to its successful acceptance and responses.

The lessons drawn and learnt and the conditions for effective multi-scale partnership have been used by World Bank to design and evolve refined and upgraded projects in seven other sites in India to meet forest-related livelihood and poverty alleviation challenges while embarking on a conservation and sustainable forest management programme.

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THE DILEMMA OF 21ST CENTURY FOREST MANAGEMENT IN PAPUA NEW GUINEA

By Ruth C.H. Turia

Concerns about tax evasion, transfer pricing and the abuse of both people and the forests of Papua New Guinea by the mainly foreign-owned logging companies operating in the country led the Papua New Guinea Government to establish a Commission of Inquiry into Aspects of the Forestry Industry in 1987. The inquiry confirmed and documented many of these concerns (Barnett, 1989). At the same time, the Papua New Guinea government went out of its way to seek international assistance under the auspices of the Tropical Forestry Action Plan (TFAP). A

TFAP mission visited Papua New Guinea under the leadership of the World Bank to assess and put together proposals for action. This led to major reform processes being implemented in the early 1990s to try and put some order in the management of the country's forest resources. After more than ten years many authors (Poore and Chiew, 2000; World Bank, 2000; Montagu, 2001; 2002) suggest that Papua New Guinea still faces problems with the management of its forests.

The research question under discussion is how Papua New Guinea can move forward with the management of its forests. A specific project will analyse the problems and challenges that the Papua New Guinea government is facing.

The Sagarai Gadaisu timber area

A 'timber rights' agreement over this area was entered into between the customary landowners and the administration of Papua New Guinea (then under Australia) in July 1966 and is valid until June 2006 (a 40 year term). The area came about in 1981 under the concept of the Forestry Development Corporation (FDC) which was envisioned in the then 1979 forestry policy of the Papua New Guinea government to meet one of the policy objectives of 'a greater direct participation of Papua New Guineans in the timber industry'. The preliminary findings of this project are that the land owners of Sagarai Gadaisu did not hold any shares in the original company and were therefore not involved at all in its day-to-day operations. In 1993, the customary landowners established their own holding company with the aim of developing and managing the timber project themselves. Again this was not put into action, firstly because the landowner company did not have the finance to pay off the creditors of the former company and partly because they did not have the management knowledge to run a timber business. Much of the flat land within the timber project area is dominated by oil palm trees and there is no

scope for the management of the forest area under a sustained yield principle (Milne Bay Provincial Forest Office - 2001 Annual Report). The Papua New Guinea forestry agency has to date established about 1,700 hectares of this total timber project area with patches of small plantations of mainly *Eucalyptus deglupta* (commonly known in Papua New Guinea as kamarere). This is only about 1% of the total forest area that was acquired by the government.

Conclusion

At one extreme, a New Zealand-owned company was engaged to manage the timber project. They were only operational for about four years and then went into receivership. The main reason for this was the claim that there were insufficient forest resources available in the forest area to sustain the company's requirements. This again calls into question the management capability of the foreign company.

At the other extreme, the Milne Bay Provincial Government was given the task of looking after the interests of the traditional landowners from the timber area. It was clear that the landowners did not have the financial resources to buy off shares in the company and so the Provincial Government held some shares in trust on behalf of the land owners. However, it made no effort to transfer or come to some arrangement by which the landowners could buy off shares in the company. The Provincial Government is believed to hold 75% shares in the timber project.

Sadly for this project and the landowners in particular, the natural forests will be replaced with oil palm trees and other secondary regrowth that are not that beneficial for a timber industry. This suggests that sustainable forest management is not taking place in this particular timber area and that, in turn, has wider implications for forest management throughout Papua New Guinea.

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FACILITATING COLLABORATION AND PARTNERSHIPS: LESSONS FROM ADAPTIVE COLLABORATIVE MANAGEMENT IN THE PHILIPPINES

By Herlina Hartanto

Community forestry has a long history in the Philippines. It began as early as in the 1970s, when the government started a people-oriented forestry initiative in the country. Three decades of experience have led to the creation of a flagship programme called Community-Based Forest Management (CBFM) in 1995. CBFM puts local

communities at the heart of CBFM management as stated in its slogan: 'People first, then sustainable forests will follow'. The Philippines also has an impressive record with regard to decentralisation. The 1991 Local Government Code authorises local government units to take part in implementing social forestry and reforestation programmes, managing communal forests less than 5,000 hectares, protecting watersheds and enforcing forest laws.

Nevertheless, devolution and decentralisation also create complexity and confusion. With authorities, rights and responsibilities being shared among various government agencies and communities, a greater number of 'groups' emerged with different and sometimes conflicting interests, objectives, mandates and values. Furthermore, devolution and decentralisation are often conditional and partial, with control still being retained by the Department of Environment and Natural Resources (DENR), which is responsible for overseeing CBFM in the Philippines. The situation is further exacerbated by a lack of communication and information flow, a lack of institutional mechanisms for engaging in partnerships and a lack of trust among the stakeholders. As a result of all these constraints, there are few genuine partnerships among and between People's Organisations, DENR and Local Government Units.

ACM approach and processes

In the midst of these institutional and management complexities we carried out a research project on Adaptive Collaborative Management (ACM) in two CBFM sites in the Philippines. One site was located in Bukidnon province (Mindanao) and the other one was in Palawan province (Luzon). Similar research projects are underway in other countries in Asia, Africa, and Latin America. The ACM approach, which focuses on social learning, communication and collective action among diverse stakeholders, was used to facilitate

collaboration and learning among the People's Organisations (PO), DENR and other local stakeholders in the Philippines.

In order to strengthen collaboration and partnerships in action and learning, and using participatory action research as the main research methodology, we facilitated the use of the following ACM approach and processes in the two sites:

- Effective participatory stakeholder identification processes and deliberate conscious efforts of engagement among these different stakeholders based on trust, common interests and objectives. Analysis of their mandates, interests, strengths and weaknesses allowed related institutions to identify areas that need collaborative efforts, and how their resources and capacities can be used more effectively, so that they can work together with mutual understanding and respects.
- Enhanced information sharing and communication horizontally (internally within the members of their PO and externally with other organisations and institutions), and vertically (to policy makers).
- Formation of different platforms that bring different stakeholders together for information sharing, the discussion of challenges and negotiations, conflict resolution, and to learn jointly from experience.
- Strengthening the skills, capacities, awareness, behaviour and attitude that would allow the PO and local stakeholders to engage effectively in partnerships.

Outcomes

Our three years of work on ACM implementation revealed improvements in human and social capital, as shown below, that indicate increased collaboration and partnerships in action and learning within and across stakeholders:

- Increased joint action by PO members (in establishing nurseries, herb gardens, newsletter production and proposal making) and across different stakeholders (controlling illegal activities, resolving boundary dispute, developing local monitoring system and exploring livelihood options for the PO).
- Increased communication and feedback provided by the PO to policy makers, identifying policies that hinder effective CBFM implementation and recommending alternatives.
- Increased level of trust between the PO and key government institutions, which lead to increased transparency and increased resource sharing.
- Increased participation and support from various government institutions to the PO in implementing CBFM.
- More active PO and community members and more functional committees participating in forest resource management.
- More democratic decision-making and planning processes that engaged more PO members, different community groups and other key stakeholders.
- Improved skills of several PO members in proper documentation, expressing and communicating their views and opinions, effectively using different mechanisms for information sharing (billboards, bulletin boards, newsletters, radio programmes, different forums) so that information reached the intended target audience through different channels.
- Improved capacities of the PO to link up with various government institutions and NGOs who have the skills, knowledge and financial resources to assist them.
- PO members reflected on their actions and experience in a more structured and conscious way, based on observations and monitoring and adjusted their management strategies accordingly.

Conditions

Our study also revealed that facilitating collaboration and partnerships in a multi-stakeholder situation would only be effective if:

- the process is facilitated by someone who is perceived to be relatively 'neutral' and can gain the confidence of related stakeholders;
- there is a willingness of the stakeholders to discuss, negotiate and work together towards common goals;
- the level of skills, capacities, confidence and awareness of local people to reach out and reach up to their members and other stakeholders is sufficient.

While it is too early to know the long-term outcomes of the ACM approach, results from the two sites in the Philippines and other ACM sites all over the world indicated that ACM is a potentially useful approach to enhancing collaboration and learning in the management of community forests.

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BOTANY ONLINE THE "AUBLET2 " FRENCH GUYANA DATA BASE ONLINE

The Guyana Herbarium is placing its AUBLET2 database collections on line. AUBLET2 contains standardised information on herbarium specimens collected on the plateaux of the Guianas, especially French Guyana, and stored in the Guyana Herbarium (CAY).

For more information:

<http://www.cayenne.ird.fr/aublet2/>

CULTURED TREES: TRANSFORMATIONS IN AGROFORESTRY SYSTEMS

Diane Russell from ICRAF and Stefanie Klappa are organising a panel on agroforestry systems at the Ninth International Congress of the International Society for Ethnobotany to be held in Kent, United Kingdom next year. They welcome ideas for contributions.

Agroforestry is the cultivation and nurturing of trees on farms and in landscapes. On the one hand, it is central to some ancient forms of land use. On the other, it is a key element of scientific approaches to integrated natural resource management. The former, often termed indigenous agroforestry, and the latter, labeled as scientific agroforestry, both feature trees as essential components. Both combine typically a high degree of vegetal cover with high utility for humans, which makes them prime candidates for Conservation and Development approaches. Both tend to differ, though, in terms of their underlying principles; indigenous agroforestry itself forms a highly heterogeneous category. Both indigenous and scientific agroforestry are experiencing transformations, sometimes indeed through

transfer of knowledge and technology between each other. Apprehending the characteristics of the various forms of agroforestry, the dynamics of their transformations, and the socio-economic and environmental effects of change is crucial for assessing their potential to contribute to sustainable development and biodiversity conservation in the present and future. Anthropologists, human ecologists, human geographers, and ethnobotanists have been instrumental in identifying indigenous agroforestry systems, the principles that govern them and the way they are changing in the modern world. Anthropological studies have also looked at the consequences of introduction of certain agroforestry practices within government and NGO projects. Conversely, they have provided information about locally established agroforestry practices for the enhancement of such projects. The tentative papers in this session provide a wealth of ethnographic insight into transformations of agroforestry systems. The geographic range of cases spans Amazonia, middle and north America, central and east Africa, and New Guinea. The thematic range reaches from adaptations of ancient agroforestry systems to meet the market economy to the evolution of systems within the context of 'modern' concepts of agroforestry. Examples of enduring systems are presented, which lead to an understanding of management principles that can inform scientists and policymakers working in agroforestry. Emerging issues such as carbon trading, niche markets, the role of non-timber forest products, agroforestry around protected areas, and the very definition of agroforestry systems are addressed. The session highlights the importance of a holistic approach incorporating cultural and historic aspects in understanding and 'improving' agroforestry systems. Contributions to this session are so far provisional and we encourage those with suggestions pertinent to our theme to get in

Research Cooperation Sought

contact.

For more information please see the conference website:
<http://www.kent.ac.uk/anthropology/ice2004/>

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QUERY ON VANILLA GROWING AND BIODIVERSITY

Charlotte Stanton writes: I am with Conservation International's Conservation Enterprise Department and am looking into the

benefits to biodiversity of vanilla growing for a small-enterprise project.

Do you know of any relevant studies on vanilla and biodiversity? If not, can you suggest a person or organization that may know of such studies?

Many thanks in advance,

Charlotte Stanton

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Internet Features

By *Jelle Maas*

A previous ETRN News (No. 35; www.etfrn.org/etfrn/newsletter/news35/index.html) dealt with **Innovative Financing Mechanisms for Conservation and Sustainable Forest Management**. Like the present Newsletter it provided background information for an international meeting. The results of that seminar (held March 2002 in The Hague) are available online at www.tropenbos.org/files/proc_ifm.htm. There is also a fact sheet summarizing the main recommendations of the seminar, which were presented during CoP-6 of the Convention on Biological Diversity (UNCBD, www.biodiv.org), April 2002 in The Hague www.tropenbos.org/publications/FactSheets/FactSheet001newupweb.pdf.

The Society for International Development (SID) (<http://www.sidint.org/index.htm>) has some interesting international programmes, such as 'conflicts over access to natural resources'.

The **Sustainable Tree Crops Program** (STCP), at the International Institute of Tropical agriculture (IITA), is a public-private partnership between industry, producers, researchers, government agencies, public sector institutions and conservation groups aiming to improve the economic and social well-being of smallholders and the environmental sustainability of tree crop farms (<http://www.treecrops.org/htm> or <http://152.61.128.58/>).

Canadian experience on **certification and commercial extraction of Non-Tree Forest Products** (NTFP) is accessible at <http://www.island.net/~ntfp/index.html>, and international experiences at

<http://www.fallsbrookcentre.ca/>.

The Fair Trade Federation and FAO are also involved in the discussion; www.fairtradefederation.com/n_cert.html; www.fao.org/docrep/x5593e/x5593e00.htm. Also see the publication by Guillén, Laird, Shanley and Pierce 'tapping the green market' (Earthscan 2002) in the publications section.

An Action Plan to **combat illegal logging and the trade in illegal timber** (http://europa.eu.int/comm/external_relations/flegt/intro/ip03_718.htm) was adopted by the European Commission in May 2003. Information on the Asia Pacific Task Force on Forest Law Enforcement and Governance (FLEG) is on the IISD site: www.iisd.ca/sd/sdfile/sdvol60num1.html. ITTO also launched a project to combat illegal logging www.itto.or.jp/inside/archived/illegal_06.html.

The goal of a **nationwide community forestry network in China** established in 1992, the Forestry and Society Network, is to collect, disseminate and exchange information on experiences and methods of community forestry. The English version of the Network website is now available: <http://www.cfnetwork.com.cn>.

The Australian Mekong Resource Centre (AMRC) at the University of Sydney aims to support development paths that maintain the integrity, diversity and symbiosis of local livelihoods, cultures and ecosystems by fostering a deeper and wider understanding of **contemporary changes in the Mekong region**: www.mekong.es.usyd.edu.au/publications/index.htm.

FUNDING FOR SUSTAINABLE FOREST MANAGEMENT

Welcome to the Collaborative Partnership on Forests (CPF) (www.fao.org/forestry/cpf) electronic Sourcebook on Funding Sustainable Forest Management (SFM).

The objective of the Sourcebook is to identify and collate information on sources of funds, the funding policies and delivery mechanisms of donor countries, international organisations, development banks, private sector entities and other relevant groups, in support of sustainable forest management in developing countries.

The Sourcebook seeks to act as both a broker between the supply and demand sides of funding programmes and as a catalyst in mobilising new financial resources and developing new partnerships for SFM.

The Sourcebook has been developed by the CPF with technical assistance of FAO and in collaboration with the National Forest Programme Facility.
[Http://www.fao.org/forestry/foris/webview/cpf/index.jsp?geold=0&langld=1&siteld=2225](http://www.fao.org/forestry/foris/webview/cpf/index.jsp?geold=0&langld=1&siteld=2225)

CTFS RESEARCH GRANTS PROGRAM: FUNDING SCIENTISTS THROUGHOUT THE TROPICS

The CTFS Research Grants Program recently completed its first two rounds of award announcements in November 2003 and April 2003. During these grant cycles, CTFS received 68 grant proposals. In total, \$1 million was requested, and out of this pool, 21 proposals were selected for full or partial funding for a total of over \$200,000.

The CTFS Research Grants Program is open to all researchers - from graduate students to senior scientists - for projects three months to three years in length. This program, designed to catalyze research linked to the CTFS network of Forest Dynamics Plots, provides opportunities for scientists and students to work in or with data from one or more of the Forest Dynamics Plot. One of the objectives of this program is to attract and support scientists from across the globe, especially countries where the CTFS plots are located.

The next two deadlines for applications are August 29, 2003 and February 27, 2004/

For more information please visit:
<http://www.ctfs.si.edu/>

The CTFS Research Grants Program is made possible through the generous financial support from the Celerity Foundation at the Peninsula Community Foundation.

A VEGETATION MAP OF SOUTH AMERICA

By H.D.Eva¹, E.E. de Miranda², C.M. Di Bella³, V.Gond⁴ et al.

The Land Cover map of South America for the year 2000 presented here offers a combination of spatial and thematic detail previously unavailable. The map uses data from microwave and optical sensors on Earth Observing satellites to map South America's land cover into more than 40 classes at a spatial resolution of 1 km. Mapping to these levels of detail has only been possible because of recent advances in Earth Observing satellite technology and because of the involvement of scientists from South America and Europe with profound expertise in the continent's regional land cover. The quality of the final product stands testimony to the advantages of international scientific co-operation and provides an essential assessment of the continent's land resources at the turn of the new millennium.

The map of South America along with these explicative notes can be requested from the Joint Research Centre, either through the Web pages of the GLC 2000 project or by electronic mail.

Contact Information:
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⁴CIRAD / ECOFOR, Cayenne, French Guyana

GLC Products page:
<http://www.gvm.jrc.it/glc2000/productGLC2000.htm>

Bibliographic reference:
 H.D.Eva, E.E.de Miranda, C.M.Di Bella, V.Gond, et al., 2002, A Vegetation map of South America, EUR 20159 EN, European Commission, Luxembourg.

FORESTRY AND SOCIETY NETWORK

Forestry and Society Network, established in 1992, is a nationwide community forestry network in China. The goal of Forestry and Society Network is to collect, disseminate and exchange the experience, mode and relevant information of community forestry. The English website of the Network is now available: www.cfnetwork.com.cn

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UK- FUNDED RESEARCH ON THE IMPACTS OF COMMUNITY FORESTRY IN NEPAL in JOURNAL OF FOREST AND LIVELIHOOD

The fourth issue of the Journal of Forest and Livelihood, which is also the 26th mailing of the Rural Development Forestry Network (RDFN) showcases some UK- funded research on the impacts of community forestry in Nepal.

There are seven papers based on research projects, all funded by the UK Department for

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International Development (DFID). These papers outline some of the key issues arising in the application of community forestry in Nepal today and they can all be found on the ODI forest policy and environment group website: -

<http://www.odifpeg.org.uk/publications/rdfn/26/index.html>

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REVISED VERSION OF THE ECOCROP CD-ROM

The Land and Plant Nutrition Management Service (AGLL) is pleased to announce the release of a revised version of the popular ECOCROP CD-ROM which has been produced in collaboration with the Crop and Grassland Service (AGPC) of FAO. The ECOCROP database includes information on arable crops, grasses, trees and other plant species with economic uses. ECOCROP primarily holds information about the climate and soil requirements and uses of plant species, but it also provides a range of other information, such as a brief description of the species, common names in different languages and possible yields. It gives textual information about the interaction of environmental factors and the influence of these factors on plant growth. ECOCROP includes a digitized climate zone map. With ECOCROP one can: identify a suitable crop for a specified environment, identify a crop with a specific habit of growth, identify crop for a defined use and look up the environmental requirement and uses of a given crop. The revised version, apart from being more user-

friendly, has been increased from 1700 to more than 2100 plant species and the descriptions and search options now also include plant habit, detail use and used parts of plant. The ecological description has been extended and many species now also have a cultivation description and an ID photo.

ECOCROP is also available on-line at <http://ecocrop.fao.org>
For more technical information please contact: Per.Diemer@fao.org
To order a free copy please contact wolfgang.prante@fao.org

The editor:
David Boerma@fao.org

INTERNATIONAL SYMPOSIUM FOR SUSTAINABLE DRY LAND AGRICULTURE SYSTEMS

Organized by ICRISAT and IPALAC

Venue: International Crops Research Institute for the Semi Arid Tropics (ICRISAT) Sahelian Center, Niamey, Niger
Dates: December Tuesday 2 to Friday 5, 2003

Mission and Scope of the Conference:
The long-standing low crop and livestock productivity of arid areas in Africa is a major perpetuator of hunger and poverty among communities inhabiting these areas. The constraints to dry land agriculture are intertwined, and include low erratic rainfall, poor soil fertility, land degradation, pests, and inadequate access to agricultural technologies. These are compounded by un-sustainable use of land, e.g. uncontrolled falling of trees for firewood without replanting, continuous monoculture cultivation of land without rotation, wind and water erosion. Sustainable agriculture could be looked at as cultivation without reducing the future

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productive potential of the resource base. This International Symposium for Sustainable Dry land Agriculture Systems (ISSDAS) seeks to search and formulate sustainable and practical agriculture systems that farmers could apply in the dry areas of Africa. Towards this goal, answers are sort to these questions:

- Are there sustainable rain-fed farming systems in semi-arid lands?

- What is the optimum value generated per unit area and volume of rainfall water in some of the sustainable systems used?

- How do we improve participation of partners to use their comparative advantage and enable prompt feedback into research for increased impact?

Following the presentations a roundtable will try to synthesize the various approaches presented into principles for sustainable dry land agriculture.
Languages: English, French.

Conference Topics and Symposia:
Topics to be covered at the conference include: agro ecology and sustainable agriculture, soil conservation and fertility management, crop improvement and physiology, crop protection from pests and diseases, post harvest handling and food processing; rural socio-economics; participatory research, agricultural extension and education, plant biotechnology. Both oral and poster presentations will be delivered.
Conference fee and activities: The conference fee is US\$ 100 per participant, which covers a registration package, conference abstracts, twice daily tea breaks, lunches, a mid-conference excursion, an opening social gathering and the closing gala dinner.

Timeframe and Deadlines:

13 April 2003 First announcement and call for

titles 19 June 2003.
Second announcement and call for titles and abstracts 31 July 2003.
Deadline for submission of titles to the organizing committee.

31 August 2003 Deadline for submission of abstracts 30 September 2003. Tentative program available through email on request.

30 October 2003 Deadline for submission of full papers .

02 December 2003 The International Symposium for Sustainable Dry land Agriculture Systems begins.

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ISSDAS Scientific Advisory Committee

Dr. Steve Franzel, World Agroforestry

Dr. Sara J. Scherr, Future Harvest

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Foundation
Dr. Andre Bationo, TSBF

ISSDAS Organizing Committee
Prof. Dov Pasternak, ICRISAT/IPALAC Center
(formerly ICRAF)
Dr. Gospel Omany, ICRISAT
Mr. Arnie Schlissel-IPALAC
Mr. Saidou Abdoussalam

PARTICIPATORY ACTION RESEARCH (PAR) FOR COMMUNITY BASED NATURAL RESOURCES MANAGEMENT (CBNRM)

International course: 8-19 December 2003

Training base: IIRR, Cavite, Philippines
Costs: US\$2500. This includes food and accommodation, course materials, airport pick-up and health insurance but excludes costs of visas, transportation costs of getting to and from IIRR (apart from airport pick-up and drop off) and pocket money (US\$ 100 per week is suggested).

For application and more information, contact:
Education&Training@iirr.org

Is this course for you and your network contacts?

- * Are you senior decision makers working with CBNRM?
- * Do you have critical insights on the current barriers to advancing CBNRM?
- * Would you like an opportunity to share ideas on how learning in CBNRM can be made more effective? *
- * Would you like to critically examine and contribute to the international discourse on CBNRM?

What is the course approach?

* It will be set-up as a think tank and not primarily as an instructive course. This course will emphasize providing a stimulating learning environment for sharing of ideas between participants, facilitators and others.

* It will be focused on exploring 'people' issues of relevance to CBNRM through PAR approaches. E.g. issues such as rights, power relationships, multiple perspectives and participation, rather than technical issues.

* It will have a mixture of exploring concepts, experimentation (using participatory approaches with different stakeholders to explore and analyse different perspectives), reflection and action (developing a 'think piece' paper).

* This will be the chance to exchange experiences on the current barriers to advancing CBNRM and evaluate whether PAR could make a contribution in addressing such challenges.

What will this course cover?

* A reflection upon and sharing of experiences on CBNRM

* A thorough exploration of the principles of PAR

* Experimentation with a range of tools for examining different perspectives relevant to CBNRM with actual stakeholders

* A critical analysis on the PAR approach and its relevance to advancing CBNRM in the specific contexts of the participants

* An opportunity to document insights to add to the discourse on CBNRM

Customized course

From October 2003 onwards, RECOFTC and IIRR can provide a customized PAR for CBNRM course in any appropriate requested location. When requesting such a course, the provision of 3 months notice to either IIRR or RECOFTC would be appreciated. The costs for the customized course will be determined on a case by case basis.

About the course organizers

The International Development Research Centre (IDRC) is a public corporation created by the Canadian government to help communities in the developing world find solutions to social, economic, and

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environmental problems through research.
<<www.idrc.ca>>

The International Institute of Rural Reconstruction (IIRR) with headquarters in the Philippines is an international NGO with its origins in the Rural Reconstruction Movement started by IIRR's founder, James Yen in China in 1923. IIRR today is a research and training institute working in Asia, Africa and South America, working with and learning from the rural poor in its field programs while promoting positive change through its international training courses and publications.
<<www.iirr.org>>

The Regional Community Forestry Training Center for Asia and Pacific (RECOFTC) based in Bangkok, Thailand is an international organization that actively supports community forestry development in the region. As a learning organization, RECOFTC designs and facilitates learning processes and systems that support the capacity development of community forestry institutions and organizations. <<www.recoftc.org>>

For information about IIRR publications, please see:
<http://www.iirr.org/publicationbdate.htm>

To learn more about our international courses contact us via e-mail at:
Education&Training@iirr.org

HIMALAYAN BIODIVERSITY CONSERVATION

Ram Bhandari

The Himalayas form one of the world's richest ecosystems in terms of biological biodiversity. However biodiversity in the Himalayas is threatened and species loss is alarming. There is a great need of conservation and

management of biodiversity in the region. Realizing the importance of these natural resources, an International Conference on Himalayan Biodiversity (ICHB-2003) was organized by Himalayan Resources Institute (HIRI); Biodiversity Research Group (BRG)/ Central Department of Zoology (Tribhuvan University); The Ecological Association of Nepal (ECOAN); and Biotechnology Association of Nepal (NBA) on February 26-28, 2003 in Kathmandu, Nepal as an event of the International Year of Mountains (IYM-2002).

The main themes for the conference included (a) Himalayan Flora and Fauna, b) Biodiversity Conservation, c) Indigenous Knowledge on Biodiversity Conservation, d) Trade Related Intellectual Property Rights (TRIPs), and e) Eco-tourism. The objective of the conference was to identify issues and options of biodiversity conservation, exchange ideas, and explore areas of cooperation in research, implementation of action plans, and integration of crosscutting disciplines like eco-tourism. More than 200 scientists, researchers, planners, and managers and development professionals representing over 15 countries and over 50 national and international organizations participated in the conference.

One of the conference outputs was the seven-point Kathmandu Declaration, which is as follows:

1. Realizing the lack of effective implementation of earlier convention and treaties (such as CBD, Kyoto, Johannesburg), this conference strongly demands that nation state in the region incorporate/translate the provisions of the treaty, convention into national legislation.
2. This conference strongly recommends for the creation of Himalayan Biodiversity database for the long-term research and monitoring of natural resources for sustainable development including human

dimension.

3. Realizing the rapid depletion of biological resources and the indigenous knowledge system (IKS), this conference strongly recommends the meaningful participatory Biodiversity Conservation approach based on indigenous knowledge.

4. Realizing the Mountains Ecosystem as fragile and unique repository of immense biological and cultural diversity, this conference recommends that the international community pay special attention to the conservation and sustainable development of these mountain ecosystem and cultural landscape.

5. Recognizing the lack of coordination and communication among scientific community and institution involved in Himalayan Biodiversity conservation, this conference strongly recommends for the establishment of institutionalized networking of policy maker, scientists/researchers and institutions.

6. This conference strongly recommends that WTO respect the convention on Biological diversity in particular in protecting the rights of the communities and farmers who are the true custodian of biological diversities.

7. The conference opposes the extension of Intellectual Property Rights (IPR) regime specifically patenting on to life forms and genetic process, which are the creation of million years of natural evolutionary process.

For more information, please contact:

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INTERNATIONAL TEAK UNIT

Coillte Consult Ltd is a subsidiary company of Coillte (Irish Forestry Board) which owns and manages 450,000 ha of FSC certified plantations. Since 1993, Coillte Consult has worked in **Latin America** (Costa Rica, Panama, Brazil, El Salvador, Belize), **Africa** (Ghana, Benin, Cameroon, Kenya, Tanzania), and **Asia** (Indonesia, Sri Lanka, Thailand, Vietnam), providing a range of independent services to **growers, investors, traders** and **development agencies** in the tropical timber plantations sector - with emphasis on teak. To consolidate these services and to provide greater customer focus, Coillte Consult established the **International Teak Unit (ITU)** in 2003. **For more information please see http://www.coillte.ie/international_consult_ancy_services/english-teak.htm**

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By Bert van der Linden

**CHALLENGES OF A CHANGING EARTH
PROCEEDINGS OF THE GLOBAL CHANGE OPEN SCIENCE CONFERENCE, AMSTERDAM, THE NETHERLANDS, 10-13 JULY 2001**

W. Steffen et al (eds.) 2002

This book presents a state-of-the-science overview of global change and its consequences for human societies. It highlights four areas of critical importance - food, water resources, air quality and the carbon cycle - from both science and policy perspectives, and points the way towards the new scientific approaches needed to study the Earth System in the future. The book also summarises recent advances in understanding in global change science: the climate system, global biogeochemistry, land-ocean interactions and changing land cover and the Earth System.

Orders:
Springer-Verlag
Tiergartenstrasse 17
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**GLOBAL-REGIONAL LINKAGES IN THE EARTH SYSTEM
THE IGBP SERIES**

P. Tyson et al (Eds.) (2002)

This book synthesises current knowledge of regional-global linkages in four regions to demonstrate that study of environmental change on a regional scale can enhance

understanding of global-scale environmental changes. The International Geosphere-Biosphere Programme (IGBP) is an international co-operative scientific programme to addressing the issue of global environmental change in order to understand the way in which global biogeochemical cycles have changed over different time scales in the past and are likely to do so in the future. In this book it is demonstrated that an integrated approach to studying regional environmental change in its own right is a powerful tool for enhancing understanding of the Earth System at a global scale. Four case studies of individual aspects of integrated regional studies are presented to illustrate how their outcomes may contribute to a better understanding of the Earth System as a whole. The four regions are Southern Africa, South Asia, South-East Asia and East Asia.

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LAND-WATER LINKAGES IN RURAL WATERSHEDS

FAO Land and Water Bulletin 9

This is the report of the electronic workshop "Land Water Linkages in Rural Watersheds" hosted by the FAO Land and Water Development Division from 18 September to 27 October 2000. The workshop examined relationships between land use and water resources in rural watersheds. It identified mechanisms and instruments for sharing benefits and costs resulting from land use impacts on water resources between upstream and downstream stakeholders in a watershed context, as well as priorities for further work.

About 470 people from all over the world subscribed to this electronic forum. Discussions were grouped around three main questions:

1. What are the biophysical impacts of upstream land uses on downstream water resources in rural watersheds?
2. How can these impacts be valued in terms of benefits and costs to downstream people?
3. Which mechanisms can be identified to share these benefits and costs among upstream and downstream land and water users?

The complete workshop documentation, including discussion archive, background papers and case studies, is included on the CD-ROM that accompanies the document.

For more information:
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updated, is also available on-line at <http://www.fao.org/icalog/inter-e.htm> offering shopping cart and secure payment facilities.

STAKEHOLDER INCENTIVES IN PARTICIPATORY FOREST MANAGEMENT: A MANUAL FOR ECONOMIC ANALYSIS

Richards M., J. Davies & G. Yaron (2003)

This manual stems from a widespread concern that there is insufficient understanding of the costs and benefits to local communities and small farmers of participatory forest management (PFM) and a realisation that this has been a contributory factor in the limited success of many PFM experiences. The manual provides a toolbox of economic methods, which will help maximise the understanding and ownership of local people. Designed for use at the project or micro level, the book integrates economic analysis with other decision-making criteria to provide a systematic yet flexible approach to analysing stakeholder incentives in PFM. Part I introduces the economic concepts applied to PFM. Part II sets out a step-by-step approach to economic stakeholder analysis - from the identification of stakeholders to establishing a participatory monitoring system.

The book can be ordered on line from ODI by going to:
<http://www.odifpeg.org.uk/economicsofPFM/bookdetails.html>
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**WAY OUT OF THE WOODS
LEARNING HOW TO MANAGE TREES
AND FORESTS**

Paul van Mele (ed.) 2003

The Way out of the Woods is an account of how well forestry and agroforestry projects in three countries (Nepal, Kenya and Bolivia) have succeeded in generating knowledge for the benefit of the rural poor and the environment. The book explores the roles the scientists and rural people play in finding a way towards sustainable development of trees and forests. The book contains three case studies describing the relationship and dynamism of biological and cultural diversity and its implication for researchers and development workers aiming to improve livelihoods of local communities and environmental stability. The first case study concerns the Nepalese NGO SEACOW working with indigenous forest users. The second study presents findings from a group of international scientists at ICRAF in Kenya, who over the past 7 years have conducted three different types of on-farm research with varying levels of farmer participation, depending on the research objectives. The third study is on autonomous knowledge generation by an indigenous community in the Bolivian Andes.

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MAKING FOREST POLICY WORK

Alastair I. Fraser (2002)

This book is concerned with the process of developing policy and the subsequent implementation rather than with specific content, though many of the important issues which policies must address are discussed. It is based on a review of many case studies with which the author has been personally involved over the past 40 years. An explanation is given of what forest policy implies, including resource management policy, fiscal policy, conservation policy, energy policy, land use policy and distribution policy. Other chapters address topics like the implementation of policy, the causes of policy failure, factors that have contributed to successful policies, a framework for successful policy formulation and implementation and a revision of policy.

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**ILLEGAL LOGGING: SPECIAL ISSUE
OF THE INTERNATIONAL FORESTRY
REVIEW**

Logging for wood products is responsible for about one-third of total global deforestation, and possibly over half of all the logging activities in the most vulnerable regions are conducted illegally. Estimates suggest that illegal activities may account for over a tenth of a total global timber trade, itself worth over

\$150bn a year. Illegal logging costs governments millions of dollars in lost revenue, it threatens livelihoods and it a major environmental problem.

The International Forestry Review in its September 2003 Special Issue examines the causes and effects of illegal logging and reports on the most recent research and policy developments by foresters, scientists, NGOs and policy makers. Contributions from DFID, the World Bank, Greenpeace, ADB, Forest Monitor, CIRAD-Forêt, RIIA, US Department of State, ITTO, FERN, Timber Trades Federation, ODI, CIFOR and others provide the most complete picture available of illegal logging.

Copies of "Illegal Logging" can be purchased from the publishers, the Commonwealth Forestry Association, by contacting the editor, Alan Pottinger, at cfa@cfa-international.org

**TREES ON THE FARM: ASSESSING
THE ADOPTION POTENTIAL OF
AGROFORESTRY PRACTICES IN
AFRICA**

S. Franzel and SJ. Scherr (Eds.) (2002)

This book intends to fill the gap left by most published books on agroforestry caused by a lack of scientific information about the socio-economic features of agroforestry, and the adoption of agroforestry practices by farmers. The book assesses the adoption of selected agroforestry practices developed with African farmers, describing methods, and drawing out the implications for research, development, and policy. The volume includes five case studies of research conducted in Kenya and Zambia to evaluate the adoption potential of agroforestry. The cases illustrate methods of farm and village technology design, testing, and analysis that are applicable to a wide range of natural resource management practices. Along with the case

studies, the contents also include chapters on: methods for assessing agroforestry adoption potential, promoting new agroforestry technologies: policy lessons learnt and future directions.

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Website: www.cabi-publishing.org.

**TAPPING THE GREEN MARKET:
CERTIFICATION AND MANAGEMENT
OF NON-TIMBER FOREST PRODUCTS.**

By Abraham Guillén, Sarah A. Laird, Patricia Shanley and Alan R. Pierce (2002)

Non-timber forest products (NTFPs) are increasingly recognized as providing critical resources across the globe, fulfilling nutritional, medicinal, financial and cultural needs. However, despite the rapidly growing interest in, and demand for, such products as Brazil nuts, baobab bark, rattans, pine resin, maple syrup, bromeliads and chicle, NTFPs have largely been overlooked in mainstream conservation and forestry politics. This volume explains the use and importance of market-based tools such as certification and eco-labelling for guaranteeing best management practices of NTFPs in the field. Using extensive case studies and global profiles of NTFPs, this book furthers our comprehension of certification processes and broadens our understanding of NTFP management, harvesting and marketing. This practical volume includes valuable guidelines on assessment of NTFP management and species-specific certification. It will prove indispensable for forest managers, policy-

Publications

makers and conservation organizations as well as academics in these areas.

People and Plants series. Earthscan. 2002. ISBN 1853838101. UK£ 24.95; on-line ordered price UK£ 19.96 www.earthscan.co.uk/asp/bookdetails.asp?key=3827 .

Related books:
<http://www.earthscan.co.uk/asp/bookdetails.asp?key=3588> .

AGROFORESTRY MANUAL: AGRODOK 16

By Ed Verheij (2003)

This manual addresses agroforestry in the tropics. It focusses on so-called "auxiliary woody plants" which do not yield a marketable product, but play a supporting role in cropping systems, e.g. providing shade or shelter, serving as support or protection (a hedge to keep out cattle, or - on a slope - to stem erosion) and, last but not least, supplying fodder and/or fuel wood. Chapter 1 concludes that the supportive role implies that agroforestry cannot just deal with the woody plants; it must also study how the woody plants interact with the crops or animals they shade, shelter, support, etc.

Woody plants have a favorable impact on the environment. This may benefit farming, provided adverse effects are minimized, such as competition with crop plants for water, nutrients and light, or a well-adapted species becoming a noxious weed, infesting pastures, etc. Chapter 2 deals with these favorable and adverse effects. Rural people are generally quite familiar with the trees in their surroundings and manage them carefully. However, mounting population pressure and migration lead to a break-down of traditional customs regulating the use of trees, resulting in deforestation, and loss of trees through

overgrazing and excessive use of fuel wood. A thorough understanding of prevailing attitudes regarding trees and of the reasons why trees are disappearing is a prerequisite for successful agroforestry interventions.

Chapter 3 outlines the relations between climate, natural vegetation and farming system. In the humid tropics trees dominate the natural vegetation and they are very prominent in the farming system. Going towards drier climates the natural tree cover declines. In the farming system annual crops dominate in sub-humid climates, but in semi-arid conditions cattle dominate the farming system. Agroforestry interventions face their greatest challenge in these drier climates: where the trees are few and far between, each tree becomes more important. Also, the choice of species employed in agroforestry narrows and the interactions with animals are more critical.

In Chapter 4 the following agroforestry systems are described:

- live stakes, fences and hedges;
- hedgerow barriers or contour hedgerows, planted to control erosion on sloping land;
- windbreaks and shelterbelts;
- parklands, i.e. scattered trees in pastures or cultivated fields;
- alley cropping, i.e. hedges of woody plants flanking alleys of annual crops;
- improved fallows, i.e. a planted fallow of fast-growing woody plants to restore soil fertility;
- home gardens.

Design criteria for each system are given as well as management considerations and suitable agroforestry species.

Appendices include

- a glossary of terms;
- a list of agroforestry species with common names and brief particulars regarding habit, propagation, ecology and uses;
- a list of Further readings;
- a list of useful addresses where further

Publications

information, seed ,etc. can be obtained

Agrodoks are published by the Agromisa Foundation in Wageningen, the Netherlands. For further information on Agromisa, please see address below. This publication has been co-published with CTA.

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WOMEN AND PLANTS: GENDER RELATIONS IN BIODIVERSITY MANAGEMENT AND CONSERVATION.

By P. Howard (Editor) (2003)

This unique collection of largely unpublished, in-depth case studies drawn from Latin America, Asia, Africa, Europe and North America aims to increase our understanding of the importance of women and gender relations in plant biodiversity management and conservation. It provides a state-of-the-art overview of the concepts, relationships and

contexts that help explain the relatively hidden gender dimensions of people-plant relations.

The contributors come from a rich range of disciplines including ethnobotany, geography, agronomy, anthropology, plant breeding, nutrition, development economics and women's studies. They demonstrate how crucial women are to plant genetic resource management and conservation at household, village, and community levels; and how gender relations have a strong influence on the ways in which local people understand, manage, and conserve biodiversity. Continued access to plant biodiversity is crucial to rural women's status and welfare, and their motivations therefore are a principal driving force countering processes of genetic erosion.

The volume covers the following broad areas:

- * Women, the domestic arena and plant conservation
- * Gender relations, women's rights and plant management
- * Gendered plant knowledge in science and society
- * Plants, women's status and welfare
- * Gender, biodiversity loss and conservation.

The contributors highlight the gender biases evident in much contemporary scientific research, policy and development practice relating to biodiversity management. And they seek to contribute to a number of important debates, including the determinants of genetic erosion, the significance of gender in ethnobotanical knowledge systems, traditional intellectual property rights systems and women's entitlements therein, and other debates about the nature of gender-environment relations.

The book can be ordered at <http://zedweb.hypermart.net/home.htm> or at Amazon.com or through Palgrave-Macmillan

<http://www.palgrave-usa.com/catalogue/index>

.asp? isbn=1842771574

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The Netherlands

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Price: £16.95 (US\$29.95) paper; £49.95
(US\$75.00) hardbound

Readership: Ethnobotany, biodiversity
conservation, forestry, indigenous knowledge,
gender studies, and development studies.

**TROPICAL FORESTRY REPORTS 25:
DOMESTICATION OF AN INDIGENOUS
TROPICAL FOREST TREE: IROKO**

by Mark Appiah (2003)

Tropical Forestry Reports published by the
Viiki Tropical Resources Institute (VITRI),
University of Helsinki contain (mainly English)
doctoral dissertations, original research
reports, seminar proceedings and research
project reviews, connected with
Finnish-supported international development
cooperation in the field of forestry. This report
deals with the domestication of an indigenous
tropical forest tree in Ghana: Iroko (*Milica
excelsa*). It provides an overview of silvicultural
and socio-economic studies on Iroko, with
special attention to indigenous forest
management.

For further information, contact VITRI,
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**PROCEEDINGS OF ADVANCES IN
GENETIC IMPROVEMENT OF
TROPICAL TREE SPECIES**

*Anto Rimbawanto & Mudji Susanta (Eds.)
(2003)*

This publication contains the proceedings of an
international seminar organised to present and
evaluate the progress in research on genetic
improvement of tropical tree species carried
out within the framework of a project that
started in 1992 as a technical co-operation
between Japan and Indonesia.

For more information:

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**SMALL-SCALE FAST-GROWING
FOREST PLANTATION PROJECT IN
MALAYSIA (1999-2002)
INTEGRATED REPORT**

This publication is a report of the "Small-Scaled
Forest Plantation Using Fast-Growing Tree
Species Project", implemented by the Japan
International Cooperation Agency (JICA).
During the project period, various studies were
conducted to achieve the project purpose, i.e.
developing effective methods for small-scale
forest plantation that will enhance private
investments. This integrated report is a
compilation of the results of those activities.

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Tel: 03-5332-5249 Fax: 03-5352-5079

**RECORD OF MULTI-STORIED FOREST
MANAGEMENT PROJECT IN
MALAYSIA**

This publication is a compilation of growth data
and photographs of the Multi-Storied Forest
Management Project, which was implemented
with the purpose to collect technical and
managerial information for establishing a
multi-storied forest management system to
promote forest plantation activities and
sustainable forests development and
management in the tropics.

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Malaysia

**PROSEA PLANT RESOURCES OF
SOUTH-EAST ASIA 15
(2) CRYPTOGAMS: FERNS AND
FERN ALLIES**

Winter, W.P. de & V.P. Amoroso (eds.) (2003)

Plant Resources of South-East Asia is a
multivolume handbook that aims to summarise
knowledge about useful plants for workers in
education, research, extension and industry.
This volume deals with ferns and fern allies
and addresses a variety of topics, such as
diversity, ecology, origin and geographic
distribution of species, propagation, genetic
resources and breeding, as well as their
importance in terms of resources for food,
medicine, structural materials, ornamentals
and other properties.

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**KEY SITES FOR CONSERVATION
DIRECTORY OF IMPORTANT BIRD
AREAS IN VIETNAM**

A.W. Tordoff (ed.) (2002)

This publication is a contribution to
conservation planning in Vietnam for the 21st
Century. Birds are used as indicators to identify
a set of internationally important sites for
biodiversity conservation, termed Important
Bird Areas (IBAs). IBAs are not only important
for birds, but typically support a wide range of
other important animal species and plant
species. Furthermore, many IBAs are also
significant for human welfare and economic
well being through protecting catchments,
providing flood control or as source of natural
resources. The global IBA programme, which
began in Europe in 1985, is co-ordinated by
Birdlife International. In the Vietnamese IBA
programme Birdlife International collaborates
with the Institute of Ecology and Biological
resources, and with financial support from
Danida.

Copies are available from

Birdlife International in Indochina

11 Lane 167

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Website:

www.birdlifevietnam.com (English),

www.birdlifevietnam.org (Vietnamese)

Publications

FOREST INITIATIVES NEWSLETTER

This publication is produced by the Forest Liaison Bureau, a part of the European Commission-Indonesia Forest Programme, and provides information on objectives and aim oriented activities of the Planning Agency of the Ministry of Forestry of Indonesia.

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The European Tropical Forest Research Network - ETFRN

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For further information on ETFRN, please contact your National Focal Point (see inside back cover) or the Coordination Unit (address below).

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