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ETFRN NEWS

Forests and the Millennium Development Goals

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TROPENBOS INTERNATIONAL

PROFOR

THE NATIONAL FOREST PROGRAMME FACILITY

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This edition of the ETFRN News was sponsored by the National Forest Programme Facility (Facility) and the Program on Forests (PROFOR).

The Facility, hosted by the Food and Agriculture Organization of the United Nations (FAO), assists countries in developing and implementing national forest programmes (nfps) that effectively address local needs and national priorities, and reflect internationally agreed principles, through the informed participation of all relevant stakeholders. Facility assistance focuses on capacity building and knowledge sharing on the implementation of nfps as instruments to:
- integrate sustainable forest management into poverty reduction strategies and other broad processes linked to other sectors;
- develop a consensus on how to address issues relevant to forests at the national level;
- translate commitments made at the international level into national forest policy and planning. For more information, please visit: **http://www.nfp-facility.org/home/en/.**

PROFOR is a multi-donor partnership formed to pursue a shared goal of enhancing forests' contribution to poverty reduction, sustainable development and protection of environmental services. Through improved knowledge and approaches for sustainable forest management (SFM), PROFOR seeks to encourage the transition to a more socially and environmentally sustainable forest sector supported by sound policies and institutions that take a holistic approach to forest conservation and management. PROFOR is housed at the World Bank within the Sustainable Development Network (SDN). For more information, please see **http://www.profor.info/.**

I would like to thank James Mayers for all his work as guest editor, including the challenging task of bringing together the various bits and pieces of evidence on the essential role of forests in achieving the MDGs. Nicole Armitage and Erika van Duijl did a great job in editing the diverse and large number of contributions we received. I would also like to thank everyone who contributed to this edition. Finally, sincere gratitude to the staff and donors of both the Facility and PROFOR for supporting this issue. May it provide food for thought and discussion with people outside the forest sector.

Kindest regards,

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The European Tropical Forest Research Network is a network of European organisations and researchers involved in forest research in the tropics, sub tropics and Mediterranean.

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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Contributions to the ETFRN News are always welcome.

Theme for the next issue:

Financing Sustainable Forest Management

ETFRN NEWS

ETFRN has faced serious financial and organizational difficulties over the past years. Tropenbos International has sought to retain the ETFRN coordination unit through project funding for specific activities such as ETFRN News issues and workshops. Unfortunately, the costs were not fully covered during 2004 and 2005, and Tropenbos has recently indicated that while it wishes to remain an active member of the network, it can no longer host the ETFRN coordination unit. ECOFOR (France), VITRI (Finland), TBI (Netherlands) and KEF (Austria) have agreed to seek ways to continue ETFRN through their combined efforts, while seeking additional support from other core network members. Any practical suggestions and support will be most welcome.

Meanwhile, the ETFRN website continues to attract a large number of visitors: for the year 2006, the average number of visits per month was 30 000, with a peak of 50 000 last March. The ETFRN website was recently included in 'A good place to start', the IDS Knowledge services guide to finding development information online. IDS is the Institute of Development Studies at the University of Sussex in the United Kingdom. The booklet can be downloaded from **http://www.ids.ac.uk/ids/info/sli.html** or from **http://www.ids.ac.uk/ids/info/docs/Good%20place%20to%20start.v14.pdf** . Development organizations in low and middle income countries may request a free copy by sending their name, organization and address to **agoodplacetostart@ids.ac.uk**

The Eldis OnDisc initiative has sought and received permission from ETFRN to include recent editions of the ETFRN news on future discs. The Eldis OnDisc initiative provides offline access to development information via CD-Rom. The first disc was published November 2006. It is the first of a series, containing Eldis' selection of the best in recent development research, policy and practice. For more information on the Eldis OnDisc initiative, please contact **eldisondisc@ids.ac.uk**, or Eldis OnDisc, Institute of Development Studies (IDS), University of Sussex, Brighton,BN1 9RE, UK.

Results, presentations and background material for the Forum on Security, Development and Forest Conflict are available at **http://www.etfrn.org/etfrn/sdfc/index.htm** . The International Crisis Group, Fiona Hall, MEP, and Chris Davies, MEP hosted the forum in Brussels on 8 and 9 February 2006. It was supported by the United States Agency for International Development (USAID), the UK Department for International Development (DFID), and the Netherlands Ministry for Foreign Affairs, in partnership with the Centre for International Forestry Research (CIFOR), ETFRN, and ARD, Inc.

For links and information on international forest policy, please visit the pages developed together with the GTZ International Forest Policy group: **http://www.etfrn.org/etfrn/sdfc/index.htm**

The ETFRN webmaster has developed a new links page on forests and the Millennium Development Goals: **http://www.etfrn.org/etfrn/resource/frames/linkmdgs.html**

EC NEWS

The first calls under the European Commission's 7th framework programme for research and technological development were published 22 December 2007. For the list of calls, and the links to downloadable documents for specific calls, please see **http://cordis.europa.eu/fp7/dc/index.cfm .**

The following calls under the Cooperation programme may be of interest for forest research for development:
Food, Agriculture and Biotechnology: FP7-KBBE-2007-1, specifically:
KBBE-2007-1-2-06: Developing new methods for valuing and marketing of currently non-marketable forest goods and services and
KBBE-2007-1-4-12: Policy and institutional aspects of sustainable agriculture, forestry and rural development in the Mediterranean partner countries Call: FP7-KBBE-2007-1
Both themes above are open to proposals for small collaborative research projects, with a maximum EC contribution of 3 million Euro.
KBBE-2007-3-1-04: FOREST PRODUCTS - New forest based products and processes – for large collaborative project proposals with an EC contribution between 3 and 6 million Euro.
KBBE-2007-3-1-08: BIOMASS SUPPLY AND IMPACT – Identification of optimal terrestrial and aquatic biomass and waste for Bioproducts – for coordination of research proposals, up to 1 million Euro Ec contribution

And **Environment (including Climate Change) FP7-ENV-2007-1,** specifically:
ENV.2007.1.1.5.2. Climate change impacts on vulnerable mountain regions: for large-scale integrating project proposals with an EC contribution of 4 – 7 million Euro;
ENV.2007.1.1.5.3. Past and future climate change impacts in the Parana-Plata river basin of South America for small or medium-scale focused research projects, EC contribution up to 3.5 million Euro;
ENV.2007.2.1.2.4. Integrated resource management in international co-operation partner countries – this call focuses on Latin America, and is open to support actions
ENV.2007.2.1.4.1. Contribution of biodiversity to ecosystem services : small or medium-scale focused research projects, EC contribution up to 3.5 million Euro;
ENV.2007.2.1.4.2. Use of natural resources: the impact on biodiversity, ecosystem goods and services: small or medium-scale focused research projects, EC contribution up to 3.5 million Euro;
ENV.2007.2.1.4.3. Biodiversity values, sustainable use and livelihoods: small or medium-scale focused research projects, EC contribution up to 3.5 million Euro;
ENV.2007.4.1.1.2. Contribution to a global biodiversity observation system small or medium-scale focused research projects, EC contribution up to 3.5 million Euro;

Please note that the EC contributions above should be viewed as a maximum and the EC have indicated that proposals exceeding these values will not be evaluated.

The minimum number of partners in an FP7 project is 3 independent participants from 3 different Member States (MS) or Associated Countries (AC). Additional conditions can be established by the Work Programme (WP) or Specific Programme (SP) (e.g. number or type of participant, place of establishment) and the type of funding scheme. These include:
- Coordination and support actions – minimum of 1 legal entity (except actions to coordinate).
- Collaborative projects addressing the participation of international cooperation partner countries (ICPC) – minimum is 4 participants of which 2 in MS or AC and 2 in ICPC countries unless otherwise foreseen in work programme.
- Participation of international organisations and participants from third countries is possible but in addition to minimum criteria.

All legal entities from Member States and Associated Countries, international European interest organisations and legal entities in International Cooperation Partner Countries (ICPC) are eligible for Community funding. International organizations and third countries other than ICPCs can also be eligible if it is provided for in the work programme. Third country funding is also available if their participation is essential for carrying out the project or provision for funding is provided for in a bilateral agreement between the Community and the third country.

Collaborative Research
Research and technological activities: up to 50% of eligible costs except for:
Public bodies: up to 75%
Secondary and higher education establishments: up to 75%
Research organisations (non-profit): up to 75%
SMEs: up to 75%
Demonstration activities: up to 50%
Other activities: up to 100% including e.g. management
Coordination and Support Actions
Up to 100%

To submit a proposal, please download the relevant documents from the CORDIS website and closely study the eligibility criteria and conditions. No matter how good the proposal, if it does not fulfill the EC format and criteria, it will not be considered.

For those working in EU member states, National Contact Points can provide help; their addresses may be found at **http://cordis.europa.eu/fp7/ncp_en.html**

Goal 1. Eradicate extreme poverty and hunger

Target 1: Reduce by half the proportion of people living on less than a dollar a day

Target 2: Reduce by half the proportion of people who suffer from hunger

Goal 2. Achieve universal primary education

Target 3: Ensure that all boys and girls complete a full course of primary schooling

Goal 3. Promote gender equality and empower women

Target 4: Eliminate gender disparity in primary and secondary education preferably by 2005, and at all levels by 2015

Goal 4. Reduce child mortality

Target 5: Reduce by two thirds the mortality rate among children under five

Goal 5. Improve maternal health

Target 6: Reduce by three quarters the maternal mortality ratio

Goal 6. Combat HIV/AIDS, malaria and other diseases

Target 7: Halt and begin to reverse the spread of HIV/AIDS

Target 8: Halt and begin to reverse the incidence of malaria and other major diseases

Goal 7. Ensure environmental sustainability

Target 9: Integrate the principles of sustainable development into country policies and programmes; reverse loss of environmental resources

Target 10: Reduce by half the proportion of people without sustainable access to safe drinking water

Target 11: Achieve significant improvement in lives of at least 100 million slum dwellers, by 2020

Goal 8. Develop a global partnership for development

Target 12. Develop further an open, rule-based, predictable, non-discriminatory trading and financial system Includes a commitment to good governance, development, and poverty reduction — both nationally and internationally

Target 13. Address the special needs of the least developed countries Includes: tariff and quota free access for least developed countries' exports; enhanced programme of debt relief for HIPCs and cancellation of official bilateral debt; and more generous ODA for countries committed to poverty reduction

Target 14. Address the special needs of landlocked countries and small island developing States

Target 15. Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term.

Target 16: In cooperation with developing countries, develop and implement strategies for decent and productive work for youth.

Target 17: In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries

Target 18: In cooperation with the private sector, make available the benefits of new technologies, especially information and communications

Source: http://www.undp.org/mdg/goallist.shtml

List of Articles

EDITORIAL

FORESTS AND THE MILLENNIUM DEVELOPMENT GOALS: COULD DO BETTER!

By James Mayers

Why bother with the Millennium Development Goals?

There has not been anything quite like the Millennium Development Goals before. The eight MDGs and their associated targets developed by political leaders adopted by the United Nations General Assembly (www.un.org/millenniumgoals), form one of the boldest international commitments ever made. Now the clock is ticking – there are eight years to go until the MDG target date, 2015.

Dramatic action will be needed to achieve the MDGs. High-income nations will need to reform their domestic and international policies related to agriculture, trade and sustainable development; enhance the effectiveness of their aid programmes; and help poor countries to reduce their debt burdens. Low-income nations will need to address fundamental issues related to governance, rights and social justice.

So, will they do it? Or is this another case of lofty goals that create the illusion that something is being done whilst being allowed to quietly fizzle out as short political attention-spans move on? Some say that the MDGs are irrelevant anyway – that only the aspirations of people who experience poverty and environmental degradation on a daily basis are worth listening to. Yet many local groups and social movements see the high profile of the MDGs as a crucial lever with which they can call their governments to account.

In 2006 the combined UN agencies took stock of progress on the MDGs. They estimated that some of the targets were within sight, but a good many are falling well short as the half way mark to 2015 is approached. In particular, the overarching goal to eradicate extreme poverty and hunger (MDG 1) is looking increasingly like a pipe dream, as is the goal to ensure environmental sustainability (MDG 7). But the heads of state at the 2005 World Summit had already reaffirmed their commitment to the MDGs and declared *"We underline the need for urgent action on all sides, including more ambitious national development strategies and efforts backed by increased international support"*. They seem to be serious.

Where are the forests in the MDGs?

Forestry's protagonists are good at making goals too. Since the 1980s there has been a proliferation of international dialogues dealing with forests and, a bit like the football World Cup, every four years or so they come up with a feast of goals. If forestry goals were all we needed to make progress then sustainable and pro-poor forestry would long since be a worldwide reality. Of course, implementation as yet lags well behind aspiration but at least there exists a considerable body of international knowledge and agreement on how forests can contribute to development.

But where are the forests and trees in the MDGs? There is no sign of them in the eight Goals, nor in the eighteen Targets. Target 9 seems to come close to giving forests a mention: *'Integrate the principles of sustainable development into country policies and programmes; and reverse the loss of environmental resources'*. But only in one indicator for Target 9 (Indicator 25 out of 48 indicators in total) does a small spotlight shine on forests: *"proportion of land area covered by forest (FAO)"*. Yet unlike the other MDG targets, Target 9 has neither a quantitative measure, nor a target date whilst this Indicator is about the physical area of forests, asking us nothing about their quality, the goods and services they provide, and the capacities and governance systems that most reliably ensure environmental management for poverty reduction.

It may be clear in the world of forestry that all life on earth, and thus people's well-being, depends on environmental services like those provided by forests, that MDG7 must therefore be understood as a foundation for all other MDGs, and that the MDGs form an integrated set demanding integrated responses. But this is poorly recognised in the wider world, as evidenced by the country reports to the UN on progress towards the MDGs: less than 5% of countries report that they will achieve environmental sustainability by 2015; some countries barely report on MDG 7 at all; and those that do report on MDG7 invariably give little attention to the environmental aspects of the other MDGs.

This seems to confirm the fears of many that foresters have been spending far too much time and money talking to each other, and have not made enough effort to understand and influence macro-planners and economists, health professionals and educationalists, governance gurus and political strategists. The forest world needs to shoulder at least part of the blame for its failure to be recognised.

How can forests contribute to the MDGs?

There are good reasons why those concerned with poverty reduction are wary of forests. Forest resources have become known as a 'resource curse' in some contexts, and as a 'poverty trap' in others. The sector has been a political minefield for donors and institutions like the World Bank. Some consider it best left well alone. Despite this, and forests' poor showing in the MDGs, the opportunity to re-affirm and improve the links between forests and development, specifically poverty reduction, is not yet lost.

Two main outcomes for poor households seem to be possible from the use of forest resources: poverty avoidance or mitigation – in which forest resources serve as subsistence 'safety nets' (to fall back on in lean times or when crops fail) or low income 'gap fillers' (to make a little cash from a few products managed or cultivated as a side-line); and poverty reduction – in which forest resources help lift the household out of poverty by functioning as a source of permanent increases in income, assets, services, civil and political rights, voice and the rule of law.

Considerable emphasis in analysis and dialogue has rightly been put on the safety net functions of forests in poor peoples' lives – and on what forms of management and control of forest resources are appropriate for this. Much less emphasis

has been put on the prospects for pulling people out of poverty – and the attention that has been given has tended to focus on the potential of non-timber forest products (and, more recently to a lesser extent, on environmental services). Rather little evidence has yet been marshalled for direct or economy-wide poverty reduction from commercial timber use.

What is the evidence?

It is remarkable how much recycled assumption, and how little hard evidence, there is about how crucial forests are to poverty reduction and development. This edition of *ETFRN News* makes a small contribution to rectifying this. The articles that follow provide a wide variety of perspectives on the issues. Below I attempt to draw out some of the main nuggets of evidence relating to each of the MDGs.

Eradicate extreme poverty and hunger (MDG 1) The fight against poverty is the over-arching goal of the MDGs. Many millions of people use forest and woodland resources to sustain livelihoods, or as a basis for risk mitigation and provision of contingent needs. Some examples from particular developing countries:

- In **Tanzania**, amongst the 833 villages (approximately 2.22 million people) of Shinyanga region, the value of **restored woodlands** to rural people's livelihood is US$14 per person per month (or about US$1,200 per household per annum), which is significantly higher than the national average monthly spending per person in rural Tanzania of US$8.50 (Barrow *et al*, p.17).
- In **Lao PDR**, 3,600 households (approximately 24,000 people) in 160 villages, bordering the Nam Et-Phou Loei Protected Area, use **forest assets** to the value of US$229 for subsistence, and to generate a cash income of US$84 per household per year. These assets support 44% of subsistence needs, 55% of cash needs and account for 46% of the total household economy (Barrow *et al,*p.17)
- In **Malawi**, poor households tripled their annual income from US$43 to US$130, and withstood a drought-induced famine, through **sustainable forestry** activities, especially guinea-fowl rearing, baobab fruit juice production and beekeeping, following a donor-supported programme in Mwanza District (Thies and von Pfeil p.20; Brodbeck, p.65)
- In **South Africa**, a **charcoal** producing company in Kwa-Zulu Natal, Black Gold, is 10% owned by Mondi the large timber and paper company, 30% by a trust owned by a previously disadvantaged community, and 60% by local entrepreneurs. It has 10 kiln sites using timber waste from Mondi's plantations. The charcoal is sold to an intermediary which in turn supplies an international market that includes the supermarket chain Tesco. This low-environmental impact business has created jobs (80% of the workforce are women) and enhanced entrepreneurial capacity (Wilson, p.36)
- In **Cameroon**, harvesting ***Prunus africana*** bark is a lucrative activity around Mount Cameroon. Nine villages have set up the Mount Cameroon Prunus Management Common Initiative Group to develop the resource sustainably. Average monthly income for each Group member from *Prunus* bark is about US$67. Members have used their income to: send children to school (71%), build houses/toilets

(51%), buy food/medicine (40%), buy a radio/TV/cell phone (41%) and buy clothes (8%) (Chupezi *et al,* p.38)

- In **Ethiopia**, smallholders in Amhara Region growing **eucalyptus** have become self-sufficient in fuel and construction wood and they derive about 26% of total family income and an important source of savings and security from the trees. Labour input is low compared to growing crops (Asnake, p.63)
- In **Indonesia**, there is an increasing call for government to throw its weight behind **small-scale fast-wood forestry** where environmental and social conditions are right. It is estimated that one full-time job equivalent is created for every 3.5 hectares of land planted with fast-growing species such as *Acacia mangium* and this provides a net present value profit of $4.5 per day over eight years (Purnomo, p.41)
- In **Nigeria**, a study of 180 **peri-urban households** in the state of Abia, showed that 31 percent were involved in **multi-storey home gardening**, to ensure family food security, provide different fruits all season long, maintain soil fertility and generate additional income (Gauthier, p.76)
- In **Sub-Saharan Africa**, the multipurpose commodity **gum-arabic** from the soil-fertilizing tree *Acacia senegal* Willd is collected by smallholders in countries like Senegal, Niger, Cameroon and Kenya, and traded on both local and international markets. It is worth about US$0.5 per kg to the smallholder families who can collect up to 10 kg per day yielding a potential income of about US$150 per month (Lesueur and Chikamai, p.91).

Other examples stem from review work in the types of forestry activity that have received most attention over the last couple of decades: development of non-timber forest products; participatory forest management; small-medium forestry enterprises; and industrial scale commercial forestry.

- **Non-timber forest products** can play an important role in gap filling for the rural poor, and under certain conditions can provide a stepping-stone out of poverty. International review work reveals a critical combination of factors required to create such stepping stones in: the enabling environment, product characteristics, market conditions, sustainable use and household capacity to engage in different activities (Marshall and Schreckenberg, p.58; Pinto and May, p.55)
- **Participatory forest management** has been supported initially for conservation reasons and more recently on the assumption that it reduces poverty. But solid evidence on impacts is weak. New work shows the differences between newly established and more mature PFM programmes. In some Nepali communities, community forests host valuable enterprises, and user groups manage activities benefiting the poorest people. But in some new PFM approaches in Kenya and Tanzania, communities are expected to invest a great deal of unpaid labour in 'their' forests for little gain (Schreckenberg and Luttrell, p.60)
- Timber is often out of poor people's reach but new international review work shows that **small-medium forestry enterprises** represent some 80-90% of forestry enterprise in many countries and more than 50% of forestry employment in many. One estimate puts the value added of SMFEs worldwide at more than $130

billion per year. Where the rights and policy framework is favourable, evidence is growing that small and medium forestry enterprises can reduce poverty (Macqueen, p.82; Stoian and Donovan, p.28).

- **Industrial scale commercial forestry jobs and income** have at best avoided exacerbating poverty - evidence that they have reduced poverty is scarce. However, some see prospects for the social standards in industrial-scale sustainable forest management bringing major potential for poverty reduction and leading other sectors in sustainable development (Street, p.31; Pacheco, p.87)

Achieve universal primary education, promote gender equality and empower women (MDG 2 and 3). Use of forest resources can mean costs as well as benefits. If you have to search far and wide for fuelwood, you have no time for school or beating gender inequities. But forest assets can help build schools, cover school fees and provide access to clean water and natural fruits to strengthen children and women.

- In **Tanzania**'s Shinyanga region, **forest-derived contributions to education** average about US$23 per household per annum, amounting to a regional total of approximately US$8.5 million a year. Woodland restoration has also reduced the time taken to collect fuelwood by up to four hours and has **freed up women's time** to engage in activities that empower and improve gender equity (Barrow *et al, p.17*)
- In eastern **Nepal**, over the last ten years community **forest user groups** have re-invested US$327,000 generated by the sustainable use of forests in schools, literacy programmes for women and the poor and grants for needy pupils (Thies and von Pfeil, p.20)
- New international review work shows how **forestry**, within a broader framework of sustainable natural resources management, can provide the means to tackle the **interrelated areas of schooling, health, poverty and nutrition** in rural areas (Taylor, p.79)

Reduce child mortality, improve maternal health, and combat HIV/AIDS, malaria and other diseases (MDG 4, 5, and 6). Forests can provide a wide range of benefits to health. Medicinal plants can be vital where formal health care systems are too distant or costly to access. Restoring woodlands can reduce the time spent collecting water, fuel and food – enabling mothers to spend more quality time with their children and face less hardship during pregnancy. Clean and easily available water, often associated with forests, can reduce the incidence of water born diseases. Disease burdens often rise when forest is degraded.

- In **Tanzania**, improvements in **health from restored woodland** are impressive. 10-30% percent of households in Shinyanga region note an improved availability and quality of water in the dry season. The value of the improved dry-season water was estimated to be worth between US$2 and US$50 per household per year and that of medicinal plants sourced in the forest is up to US$36.3 million for the region as a whole (Barrow *et al,* p.17).
- **Foods from tropical forests** are extremely important in many contexts. New international review work confirms that they often supply vital **nutrients** to forest communities and serve as sometimes

life-saving safety nets during seasonal shortfalls and crises (wars, severe droughts, floods etc.) (Colfer *et al,* p.67)

- **Forest people** are badly affected by **disease** because their remote locations make public health facilities inaccessible and because national health systems tend not to prioritise them, due to the higher costs for fewer people (Colfer *et al,* p.67)
- **Industrial-scale logging operations** are often closely linked to the spread of **HIV/ AIDS and malaria**. In some cases, forms of forest clearing resulted in improvements in health; but more often the reverse seems to be true. The development of new habitats in which diseases and vectors flourish and the introduction of new animals, as well as the mixing of indigenous people with migrants, all make a potent mixture for exacerbating diseases (Colfer *et al,* p.67; Counsell, p.70)
- In **India**, which reportedly harvests 90% of its medicinal plants from uncultivated sources, there are an estimated 9000 manufacturing units with an annual domestic market valued at almost US$1 billion. Manufacturers of **plant-derived pharmaceuticals** have entered into contracts with local communities for large volume production of certain species, e.g. groups of rural cultivators and collectors are eligible to buy shares and supply direct to the Gram Mooligai Company Ltd (Bodeker, p.72)
- In **China**, cultivation of high demand medicinal plant species has been initiated by the Chinese Ministry of Agriculture. Over 300,000 hectares are now under cultivation with **seabuckthorn** (*Hippophae rhamnoides*) alone employing 10,000 people and generating over US$40 million annually (Bodeker, p.72)
- Popular compounds from **plants with medicinal value** include cola, caffeine, chocolate, chili pepper and cocaine. In the absence of 'modern' alternatives, systems of traditional healing are thriving. In many areas, however, medicinal plants are threatened by commercialization and global markets, loss of traditional mechanisms and competing uses of the same species (Colfer *et al,* p.67)
- In the **USA**, the Urban Ecosystem Analysis of the Washington DC metropolitan area concluded that tree cover had reduced **storm water storage** costs by US$4.7 billion and generated annual **air quality** savings of US$49.8 million (Gauthier, p.76)
- In **China**, strategic **urban forestry** plans anticipate that 70 percent of China's cities will have 45 percent of tree and forest cover by the year 2050. Today, several Chinese cities, e.g. Changchun, Nanjing and Guangzhou, have a forest cover of more than 40 percent. Cities located in different parts of the country emphasise different forest functions but all prioritise urban forestry's ability to retain dust and absorb SO2, NO2 and other pollutants (Gauthier, p.76).

Ensure environmental sustainability and develop a global partnership for development (MDG 7 and 8). Policy that fails to deal with the complex relationship between conservation and poverty reduction risks failure. Poor people depend more on forest assets than the non-poor, and yet they find these assets both difficult to access and increasingly degraded. Elites are able to capture the benefits, often whilst degrading the resource. Partnerships need to be at the heart of attempts to tackle these issues.

- In eastern **Nepal**, **forest user groups** have managed some 20% of the forests in the area. Forest cover and quality has improved significantly, compared to state owned forests not managed by communities. Plant and animal biodiversity in community forests has risen again. In three districts, 62,000 households have taken part in the 350 forest user groups linked to the 309 community forests covering 54,000 hectares. Nationally, the Federation of Community Forest User Groups of Nepal, representing 14,000 user groups has become an important political player (Liss and Thies, p.88)
- The **International Model Forest Network** is a voluntary partnership approach to bringing about sustainable development over large landscapes. Whilst only a few of the 40 model forests to date are in developing countries, they show much promise in delivering some of the MDGs because they are explicitly long-term processes that begin by tackling the social aspects of sustainability (Bonnell *et al*, p.24)
- In the **Congo Basin** a partnership of agencies is working with a decision-guiding modelling tool on the synergies and trade-offs between conservation and development in the Tri-National de la Sangha landscape (of over four million hectares) spread over three nations: Cameroon, the Republic of Congo and Central African Republic (Sayer *et al,* p.26)
- In **Africa and Asia fuelwood** as a source of energy is particularly vital. The number of people using fuelwood and other biomass fuel in Africa is estimated to grow by 40% to 700 million by 2030, and there will still be about 1700 million users in Asia. Whilst in most regions there is no fuelwood crisis requiring major interventions devoted just to the provision of fuelwood, its importance for poverty reduction and environmental stability demands major new partnerships (Arnold, p.46)
- **Forest-based associations** can play a key role in poverty reduction according to new international review work in China, Brazil, Guyana, India, South Africa and Uganda. For example, there are 2000-3000 active forest-based associations in Uganda alone. Some fail, but many succeed and are particularly effective where support improves information flows, e.g. on bureaucratic procedures, product design, markets, finance and technological innovation (Macqueen, p.82).

How can forestry's protagonists do better?

This evidence helps demonstrate the significant contribution that forests can make to poverty reduction, improved health, education and gender equity. It calls for greater recognition of the value of sustainably managed forests. The value of forests, biodiversity and tree-based assets is hugely underestimated in national statistics and accounting and largely un-recognised in investment and development decision-making.

But knowing that forestry can contribute to many aspects of poverty reduction, knowing that it can be a cost-effective way of achieving the MDGs, is not enough. Whilst forestry can deliver, often it does not. Even where forestry does deliver, how do we know if another investment might have done better for poverty reduction and sustainability? We

need still better evidence, better used. How can the role of forests be better recognised by those primarily concerned with health, education, child mortality and gender? How can forest-linked priorities be better integrated in poverty reduction strategies, other macro planning frameworks and investment decisions? Practical answers to these are context-specific and really should be attainable.

After several years of dwindling world attention, forests are now set to return to 'flavour of the month' status. Climate change discussions will bring incentives for 'avoided deforestation' to the serious negotiations stage. Biofuels and other energy issues linked to forest and land use will be the focus of increasing attention. The continuing economic rise and resource needs of middle-income nations - notably Brazil, Russia, India and China – bring many new issues to the fore. The MDGs are silent on these dynamics and all of them are political minefields that need to be negotiated with trees and people in mind.

Governance frameworks that work with these dynamics and enable poverty reduction and forest sustainability should be the central focus of attention. Instruments that encourage investment in the pro-poor productivity of forest assets are a key component of this, as are capacities and tools geared to developing and assessing this productivity. Increased resource mobilization will be needed for the above, all of which will require dedication to make new partnerships work. Forestry's protagonists can and should rise to this challenge and help install environmental investment as the key driver to achieving the MDGs.

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A. ALL MILLENNIUM DEVELOPMENT GOALS

FORESTS AND THE MILLENNIUM DEVELOPMENT GOALS

By David Kaimowitz

Forests currently contribute in many important ways to achieving the Millennium Development Goals. Here follows my thinking on this, taking each Goal in turn.

Goal 1 - Eradicate extreme poverty and hunger. Target 1 is to halve the proportion of the population in extreme poverty. Collecting, processing, using and selling wild and semi-domesticated plants and animals provide a significant part of the livelihoods of most extremely poor people. Detailed household surveys frequently find that these people receive an average of more than 20% of their income from such sources. Typically between 15-30% of non-farm rural enterprises involve wood based activities.

Forest resources sometimes provide incomes that allow people to get out of poverty. Much more often they help families to keep from falling further into poverty. They provide seasonal employment and food when other options are not available, resources in periods of personal distress (e.g. sickness, death, crop failure) and social stress (e.g. war, economic crisis, and drought). Without this, other attempts to get families out of poverty will be short-lived, as people will accumulate in good periods, but then disaccumulate in the bad periods.

Approximately 340 million people live in forested regions. Of these some 50-60 million people are indigenous people. These tend to be among the poorest people in the world. Marginal, fragile and remote areas have made slower progress on poverty reduction and need specific attention if the MDGs are to be achieved.

Forest-related activities that can help achieve Target 1 include: 1) forest tenure reform, 2) providing financial, market and technical services for forest-based activities, 3) eliminating forestry regulations that discriminate against poor people, and focusing conservation efforts on plants and animals poor people rely on.

Target 2 is to halve the proportion of people that suffer from hunger. In 62 of the Least Developed Countries people rely on wild meat and locally captured fish for over 20% of their protein. Much of this animal protein is associated with forest ecosystems. In many places those protein sources are under threat.

Wild fruits and vegetables are an important source of vitamins and minerals particularly for women and children. They are used mostly by the poorest sectors. Forest famine foods are very important in periods of war, drought, and economic collapse.
The measures required to protect forest foods are similar to those required for the previous target. However, bushmeat requires particular efforts to promote sustainable community wildlife management and the development of alternative protein sources. In some cases humanitarian food aid can replace forest famine foods but it has not been well-documented where this works and where it does not.

Goal 2 - Achieve universal primary education. Forests have no clear and direct relation to this Goal. Forested regions like other remote and marginal regions require particular attention in education investment.

Goal 3 - Promote gender equality and empower women. Target 4 is to eliminate gender equality in education. Forests have no direct relation to eliminating gender inequality in education. Women are heavily involved in the collection, sale and processing of fuelwood and non-timber forest products. Organizing women around these activities is often a good way to raise their status and political profile.

Goals 4 - Reduce child mortality, 5 - Improve maternal health, and 6 - Combat HIV / AIDS, malaria and other diseases. I will discuss these Goals together. In the mid-1980s, WHO estimated that some two billion people relied on medicinal plants and animals as their primary source of medicine. No more recent global estimate exists. Nor has there been any global assessment of the overall effectiveness of medicinal plants and animals and the traditional medical

systems associated with them in addressing public health concerns. (There are, of course, thousands of studies on the efficacy of specific products.) Similarly, there are no good global overviews that review what portion of the medicinal plants and animals come from home gardens and domestic production, from semi-managed environments or from more natural environments. We do know that a large portion of medicinal plants and animals come from forests. We have only a limited knowledge of the conservation status of those plants and animals. Some countries have excellent policies and programs to fully integrate traditional medicine into their overall health approaches - China being the most obvious example. Given that most extremely poor people will have little access to western medical facilities for the foreseeable future, understanding more about what these traditional medical systems can and cannot do, and what opportunities and threats they pose, is urgent.

Examples of possible useful interventions include: tree domestication of medicinal plants, community management of medicinal plants and animals, conservation measures to protect medicinal plants and animals, training of traditional healers to improve their effectiveness, and the incorporation of traditional health care into public health planning efforts.

Land use affects many vector borne diseases, including malaria. The introduction of logging often promotes malaria because of the tendency to disturb the soil and leave stagnant areas of water. In other cases deforestation can reduce vector borne diseases. The links between land use and disease requires significant additional research.

Goal 7 - Ensure environmental sustainability. Target 9 is to integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources. The links between forests and this Target are pretty self-evident. Poverty Reduction Strategies, Country Assistance Strategies and similar mechanisms require more attention to forests and the environment. In many cases that will require significant additional data collection and the development of best practices for forest-related investments. To reverse the loss of forest resources will require specific efforts to promote more environmentally friendly patterns of development at the regional level, as well as a mixture of regulatory and incentive mechanisms

Target 10 is to halve the proportion of people without access to sustainable drinking water. Forests play a key role in maintaining water quality in rural areas and possibly in some urban areas as well. They filter the water to reduce the amount of silt, chemicals, and faecal material reaching the water supplies and simply having a forest next to the sources of water means that other polluting activities are avoided there. This has been well documented in terms of the processes involved, but not very well-documented in terms of the numbers of people involved and the economic value of this hydrological service.

In some cases forests may also help maintain stream flow - and hence rural water availability - during the dry season. But despite all of the rhetoric about forests serving as a “sponge” we know remarkably little about this, and it may be more myth

than fact. Forests and other land uses that allow significant infiltration of water deep into the ground are essential to maintain major aquifers. This is particularly important for urban water uses. The main threat in these cases is often that the forest will be replaced by roads and urban construction, which does not allow any water to infiltrate into the aquifer. This area requires watershed projects focused specifically on ensuring the availability of drinking water. Additional hydrological research is also required.

Target 11 is to achieve significant improvement in the lives of at least 100 million urban slum dwellers. There is only a rather indirect link between forests and this target.

Goal 8 - Develop a Global Partnership for Development. There are no strong links between forests and the aspirations developed within this Goal.

What does all this amount to? In my view, forests underpin many of the main ways in which the Millennium Development Goals can be achieved. But to come good on this promise, governments must adopt appropriate policy reforms, donors must increase their support, and civil society organizations must support forest-based micro-enterprises much more vigorously.

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FORESTS, LIVELIHOODS AND THE MDGS IN TANZANIA AND LAO PDR

By Edmund Barrow, R.J. Fisher, Lucy Emerton, and Andrew Ingles

The value of forests as a means of addressing the Millennium Development Goals (MDGs) is often underestimated. This paper presents evidence from Tanzania and Lao PDR, which demonstrates the significant contribution of forests to poverty reduction, improved health, education and gender equity.

The MDGs are a major international challenge, but also a basis for re-affirming our linkages with the environment and natural resources as key assets for our livelihoods. Biodiversity and tree-based assets are undervalued in national statistics and accounting, and are grossly under-invested in development decision making. Based on evidence from Tanzania and Lao PDR, we show that forests have been making a significant contribution to the MDG indicators. The evidence calls for greater recognition of the value of sustainably managed forests for poverty reduction. Our case studies show that forests can contribute to meeting several of the MDGs.

Eradicating extreme poverty and hunger (MDG 1)
Many millions of people use forest and woodland resources to sustain livelihoods, add variety to otherwise bland diets, or as a basis for risk mitigation and provision of contingent needs.

In the 833 villages (approximately 2.22 million people) of the Shinyanga region, Tanzania, the value of restored woodlands to rural people's livelihood amounts to US$14 per person per month (or about US$1,200 per household per annum), which is significantly higher than the national average rural consumption of US$8.50 per person per month (Monela et al. 2005). This translates into an asset value of over US$31 million per annum across the whole region. Ninety per cent of the people living in the Shinyanga have their own 'ngitili' (locally managed and enforced forest enclosure). By the year 2000, between 300,000 and 500,000 hectares of ngitili had been restored in the 833 villages of the region (Barrow and Mlenge 2003).

In Lao PDR, 3,600 (approximately 24,000 people) households in 160 villages, bordering the Nam Et-Phou Loei Protected Area, use forest assets to the value of US$229 for subsistence, and to generate a cash income of US$84 per household per year. These assets support 44% of subsistence needs, 55% of cash needs and account for 46% of the total household economy (Emerton 2005). Other non-cash inputs, e.g. wood for fuel and timber, medicines, and resins account for 12% of the household budget.

Supporting education (MDG 2)

Natural resources can either be an asset, a cost, or a combination of both to education. Non-attendance at school, due for example to fuelwood collection or livestock herding, reduces the chances of completing primary education. But it is common to undervalue, or ignore the critical role environmental assets play in covering school fees, providing materials to construct school buildings, providing easier access to clean water, and as a source of natural fruits to supplement children's diets. In Shinyanga, 36% of families use income from the sale of woodland products to pay for education costs (fees and contributions to school buildings) (Monela et al. 2005). Many schools have their own restored ngitili, which provide fuelwood, building timber and fruit. Other people have used income from the sale of forest products to pay for university and tertiary education. Forest-derived contributions to education in Shinyanga average about US$23 per household per annum, amounting to a regional total of approximately US$8.5 million a year.

Gender empowerment (MDG 3)

As a result of the woodland restoration in Shinyanga and the close proximity of the ngitili, women have quick and ready access to fuelwood and other forest materials. This has reduced the time taken to collect fuelwood by up to four hours and has freed up time for them to engage in other productive activities that can improve gender empowerment and equity.

Health (MDGs 4, 5, and 6)

The woodland restoration in Shinyanga has led to improved household nutrition and the ready availability of a diverse range of edible products including fruit, vegetables and insects. Over 22% percent of households in the region have used the restored woodland as a source of food and fruit (Monela et al. 2005). About 14% of households regularly use medicinal plants from the woodland (Monela et al. 2005). Medicinal plants may be used alongside, or in many cases instead of a formal health care system that may be too distant or costly to access. The value of such medicinal plants sourced in the forest is high – up to

US$36.3 million for the whole region.

Many factors can contribute to improved maternal health care. Reducing the time spent collecting water, fuel and food means that mothers can spend more quality time with their children and face less hardship during pregnancy. Clean and easily available water reduces the incidence of water born diseases. Throughout the dry season, 10-30% of Shinyanga households noticed an improved availability and quality of water following the restoration of woodland areas. This was estimated to have a monetary value of between US$2 and US$50 per household per year (Monela et al. 2005).

In Lao PDR (Nam Et-Phou Loei Protected Area), forest foods provide an average 4% of a person's daily energy intake, 40% of calcium, 24% of iron, and 40% of vitamins A and C (Emerton 2005). Increasingly the effectiveness of many herbal remedies is being recognized and valued. Although this is important for local level health care, formal health systems have been reluctant to acknowledge the role of herbal remedies.

Ensuring environmental sustainability (MDG 7)

There have been significant biodiversity gains in both sites. Over 152 species of tree, shrub and climbers were found in the restored woodlands in Shinyanga, together with up to 30 families of grasses and herbs and 145 species of bird (Monela et al. 2005). In Lao PDR, communities living around the Nam Et-Phou Loei Protected Area use 40 species of tree, 15 of bamboo, 6 palm, 34 wild vegetable, 12 wild fruit, 7 grasses, 4 vines, 13 mushrooms and 56 medicinal plants (a total of nearly 200 species) as well as a number of wild fauna (Emerton 2005).

Forests and trees – a critical livelihood asset

Policy interventions that fail to take into account the complex relationship between conservation and poverty reduction risk failure (Adams et al. 2004). The overall value of biodiversity to national economies is consistently under-valued. Environmental goods and services have to be more visibly taken into account and invested in at the local, district and national level. Forest assets represent important livelihood opportunities for many rural people, providing a cash income (to cover education), fuel and timber for building, valuable medicines, and an improved ground water supply. Failure to place appropriate value on forest assets is not just an accounting problem – but leads to under-investment, and is detrimental to sustainable livelihoods and conservation. It also undermines the very social and economic development that the global and local community aspires to, and compromises the achievement of the Millennium Development Goals.

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DO FORESTS CONTRIBUTE TO ACHIEVING THE MDGS? Some arguments from German Development Cooperation

By Wibke Thies and Evy von Pfeil

In September 2000 the member states of the United Nations unanimously adopted the Millennium Declaration to define the priorities for international cooperation in the twenty-first Century. Peace and security, development, poverty reduction and environment, as well as democracy and good governance head the list of tasks set out in the Declaration. To tackle these challenges eight Millennium Development Goals were formulated, each with a set of indicators, with the overarching common goal of winning the fight against extreme human poverty.

MDGs target more than economic poverty

The first thing that comes to many people's minds when asked to define poverty is a lack of money. However, for most people living in developing countries poverty means much more than this. To these people, poverty may represent any number of factors including a lack of access to infrastructure, natural resources, education and health services. Poverty can also imply an exclusion from participation in political, social and economic decisions, and a disregard of human dignity and human rights. The MDGs take these different facets of poverty into account. While MDG 1 targets the reduction of economic poverty and hunger, goals 2-7 focus on other dimensions of poverty, namely, education, health, equality and environmental sustainability.

Forests can help achieve the MDGs and fight all aspects of poverty. They are vital for human existence, providing goods (timber and non-timber products) and services. They serve, for example, as protection against flooding and as water reservoirs, they maintain and contribute to biodiversity, and provide carbon storage. Harnessing forests' full potential not only helps generate commercial opportunities and employment for the poor but can also indirectly help to achieve gender equality, access to education and improved health.

How German Development Cooperation (GTZ) helps

German development policy is part of the global community's approach to achieving the Millennium Development Goals. The MDGs serve here as orientation and a measuring rod. The German Action Programme 2015 describes the German approach to implementing the Millennium Declaration and achieving the MDGs. With the overarching task of poverty reduction, the German government follows the three principles of coherence, partnership and outcome orientation. This means that poverty reduction is considered an integral part of *all* German policies including financing, foreign affairs and security. German policy initiatives refer to the MDGs as a benchmark for measuring the government's contribution to achieving sustainable development. To meet its forest sector commitments, the German government provides €125 million each year to more than 50 forest projects in over 30 countries worldwide.

Achieving the MDGs by 2015 will be a difficult task. The biggest challenge lies in convincing decision makers and macro-economists of the important link between forests, their sustainable management and poverty reduction. Only if current national strategies for sustainable development take this link into account can the full potential of forests be tapped and forest loss reversed. However, there is no doubt that efforts to achieve the MDGs must be complemented by local level field action.

Helping developing countries to achieve the MDGs requires support at all levels – at the international level to give national needs a voice; at the national level to raise the profile of forests in policy making; and at the local level to protect and manage forests sustainably so that they can be used to help lift people out of poverty. German Development Cooperation supports initiatives across all of these levels and facilitates the transfer of knowledge between them. This way Germany helps to communicate community interests and achievements to political decision makers and feeds back the experiences of local projects to international policy fora such as the United Nations Forum on Forests.

The following paragraphs reveal evidence from community projects supported by German Development Cooperation that forests are helping to achieve the MDGs.

Forests contribute to eradicating hunger and income poverty (MDG 1)

The World Bank estimates that roughly a quarter of the world's poor depend on forests for their livelihoods. But the role of forests goes beyond meeting basic needs in times of hunger and crisis. By using them sustainably, forests provide opportunities for additional income, and thus poverty reduction. In Zimbabwe, for example, by collecting and selling Baobab seeds to a processing company, local producers

doubled the income they previously earned from growing cotton. In Malawi, households tripled their per capita income from 3,000 kwacha (US$22) to 9,000 kwacha (US$67) by shifting to sustainable forestry activities, including guinea fowl rearing, baobab fruit juice production and beekeeping. In Namibia, income-generating forestry activities have also made a significant contribution to improving livelihoods and have allowed some community members to earn an average N$780 (US$132) per year more than before. This additional income has mainly been used to supplement the staple millet food with other food items, to improve homes and to buy school materials for children.

Forests help achieve primary education (MDG 2)

Parents can use the additional income from forest products to pay for their children's education. For example, in eastern Nepal, communities were granted the right to use small forest areas. Following a management plan, they begun using these areas sustainably and in the last ten years have generated and invested an additional income of US$327,000 in local development projects: Initiatives have included building schools, creating literacy programmes for women and the poor and providing grants for needy pupils.

Forests promote gender equality and empower women (MDG 3)

In many developing countries, women's household responsibilities include gathering forest products for fuel and fencing, as well as food for the family and fodder for livestock. However, in areas where there are no forests nearby, these tasks become very time consuming and limit women's opportunities to engage in other community activities. To address this problem in the Tanzanian village of Shinyanga, native trees were planted close to the village, reducing the time spent collecting fuel wood by 80%. As a result, women had more time for other activities including education and meeting social responsibilities.

Including women in forest management processes is also an obvious way to help empower them. In eastern Nepal women have been allowed to participate as members in community forest user groups. Today they account for one quarter of the group's board members and are actively involved in decision making. Many women from these user groups have now been elected to leading posts in village and district development committees.

Forests improve health, reduce child mortality and combat diseases (MDGs 4, 5 and 6)

Bush meat and many other non-timber forest products are an important part of the diet of many people in developing countries. For example, forest-dwelling wild animals account for 75% of the meat consumed in the Democratic Republic of Congo and Liberia. A steady and nutrient rich food supply can benefit new mothers in particular, allowing them to breast-feed for a longer period, which in turn increases their babies' chances of survival.

Natural products are the only source of medicine for 75-90% of people living in developing countries, since modern drugs are expensive and not easily accessible in rural areas. The immense biodiversity of tropical forests and the traditional medicinal knowledge of forest-living people offers a huge potential for finding cures to diseases

like malaria and HIV/AIDS and reversing the devastating effect of these diseases on the social development and economies of countries throughout the world. Only by managing these resources sustainably will communities be able to tap them in the future also.

Forests ensure environmental sustainability (MDG 7)

Forests can serve to ensure global environmental sustainability. As well as maintaining the balance of our global climate, forests throughout the world are the source of 70% of all biodiversity. Protecting forests will conserve these biological resources for future generations. In eastern Nepal where forest user groups have protected and sustainably managed 44,000 hectares of forest, illegal logging of community forests has dropped dramatically. After only five years forest quality had improved significantly, compared to state owned forests that were not managed by communities. Almost 50% of the community forests increased in forest cover while in the other half there was little or no change in canopy cover indicating a degree of stability in forest condition. The areas which experienced the greatest gains in forest cover were those that were the most degraded at the beginning of the project. This shows that community forestry can be very successful in re-greening degraded areas. Community forests can even have a 'fence' effect, by halting the degradation of national forests beyond their boundaries. As an important by-product, plant and animal biodiversity in community forests has also risen.

Forests contribute to building a global partnership for development (MDG 8)

Germany is one of the 30 partners of the Congo Basin Forest Partnership (CBFP) which was established in 2002 during the Johannesburg World Summit on Sustainable Development. The CBFP supports the six African countries of the Congo Basin to establish cross-border protected areas, harmonise forest policies and develop new approaches for sustainable forest use. This way the CBFP helps to maintain the world's second largest rainforest.

A partnership of 39 countries, including Germany, supports the African Forest Law Enforcement and Governance (AFLEG) process to combat illegal logging. It encourages the establishment of control systems and policy reform in partner countries, supports administrative and civil society capacity building for law enforcement and discourages corruption.

Forest partnerships between developing and developed countries are now being established all over the world. These initiatives will help to achieve the eighth MDG by building a framework for joint action towards the sustainable use and management of the world's forests.

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BUILDING LOCAL CAPACITY TO ADDRESS THE MDGS: THE INTERNATIONAL MODEL FOREST NETWORK

By Brian Bonnell, Christa Mooney and Peter Besseau

Model forests are platforms through which individuals and organizations representing a diversity of values can work together to address the sustainable management of large landscapes. Model forests draw together stakeholders with an interest in their region's natural resources — including those who do not generally work together or agree with one another. Through a typical model forest partnership, stakeholders come together to set priorities, assess alternatives, and demonstrate innovative approaches to sustainable landscape management and use that are locally acceptable and nationally relevant. The process focuses on achieving sustainable development in tangible ways from field to policy levels.

Model forests typically represent stakeholders with legal authority over the land, as well as local and indigenous communities and representatives from research, conservation and academic fields. Participation is voluntary and the partnership model recognises that there are shared problems requiring shared solutions, as well as a willingness to try new ideas.

In the early 1990s, the question of how to involve different interest groups as active partners in sustainable forest management led to the creation of Canada's Model Forest Program. Today, with 40 model forests operating in 18 countries, the network continues to grow. Membership in the International Model Forest Network (IMFN) creates opportunities for learning and sharing of knowledge and innovative techniques between model forests.

The characteristics that define a model forest (including broad-based partnerships, large landscapes, voluntary participation, and diverse activities) have generated many positive impacts over the past decade, including a number that respond directly to the Millennium Development Goals (MDGs). The model forest combination of place, partnership and process has resulted in a greater integration of sustainable development principles in locally driven development initiatives. Local communities have been able to engage as full partners in implementing practical solutions to the multiple challenges of sustainability.

IMFN experience has shown that in developing countries, priorities identified by local stakeholders for achieving sustainability include addressing issues of governance (participatory processes) and reducing poverty. In the context of the MDGs, model forests play an active role in ensuring environmental sustainability (goal 7) and developing a global partnership for development (goal 8) through the IMFN. We will consider the relevance of model forests to the MDGs in further detail below.

MDG 1 and poverty reduction

As poverty and natural resource degradation are intrinsically linked, many model forests

— particularly in Africa, Asia and Latin America — identify goals such as poverty alleviation and how to balance conservation and biodiversity values with local economic needs. For example, China's Lin'an Model Forest (312,000 ha) has worked with marginalized groups, including disabled farmers, to improve their economic situation. Training has been provided for more than 30,000 households in cultivation and processing techniques for bamboo, hickory and tea. Free seedlings have also been provided as part of a larger forest management plan.

The Western Formoseño Model Forest (800,000 ha) is located in one of the poorest and most isolated regions of Argentina where unsustainable activities have left the soil compacted and degraded. Local farmers who depend on livestock as their principle source of income have been affected, as well as indigenous Wichi and Toba peoples who live by hunting and gathering in the area. One of the Model Forest's projects seeks to introduce principles of sustainability to current activities (including livestock grazing, timber extraction, honey production and fuelwood collection) by recovering the capacity of the soil. This is being achieved by allowing the growth of native grasses and reforestation.

Population growth, poverty and the lack of an integrated management framework are three of the most pervasive underlying causes of forest degradation throughout the Congo Basin. The flexibility of the model forest concept recently motivated the government of Cameroon to join the IMFN and support the creation of two model forests — Dja et Mpomo (700,000 ha) and Campo Ma'an (768,445 ha). With access to decision-makers, stakeholders hope to work toward a common vision of sustainable development while addressing long-standing poverty issues faced by many forest-dependent groups.

MDG 7 and environmental sustainability

Model forests support conservation efforts and the stewardship of natural resources by encouraging collaboration between protected areas, industry and communities. The world's watersheds play an important role in assuring the quality and quantity of water available to human and wildlife populations and plant life. In the Ulot Watershed Model Forest (87,536 ha) in the Philippines unregulated wildlife collection, illegal logging and slash and burn agriculture was leading to the degradation of the forest. To address these problems, a diverse range of stakeholders (including the State forest department, the army, non-governmental organizations, academics and local communities), has come together to prepare an integrated watershed plan. The participatory planning process helped widen stakeholders' perspective on the landscape, as well as their own roles in overall watershed management.

MDG 8 and developing a global partnership for development

A fundamental attribute of model forests is the commitment to sharing knowledge, experiences and lessons. Model forests primarily carry out this work through networking, professional exchanges, workshops, web-based tools, seminars and educational programs. This exchange of knowledge works to increase the chances of each model forest succeeding, and at the same time strengthens global partnerships for development.

Conclusion
The partnership and landscape-level approach upon which model forests are based encourages good governance and local capacity building for sustainable development. As long-term processes that begin by tackling the social aspects of sustainability, model forests can provide a solid foundation for making effective and lasting progress toward the Millennium Development Goals.

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CONSERVATION AND DEVELOPMENT IN THE CONGO BASIN FOREST: CAN MULTIPLE MDGS BE REACHED?

By Jeffrey Sayer, Bruce Campbell, and Marieke Sandker

The Congo Basin forest is the second largest forest block in the world. At its heart, the Tri-National de la Sangha landscape (of over four million hectares) spreads over three nations: Cameroon, the Republic of Congo and Central African Republic. This forest landscape allows various indigenous people, such as the Baka pygmies, to live according to their traditions and customs, and is home to some highly charismatic megafauna, such as the forest elephant, chimpanzee and gorilla. The landscape is at the same time a fascinating and dramatic scene; it has high levels of biological and cultural diversity, but also high levels of poverty, and there is a host of major threats to animal populations and the traditional lifestyle of forest dwelling people. In this setting, two MDGs in particular are major challenges: MDG1 – related to poverty alleviation, and MDG7 – related to environmental sustainability. Though there are definite tradeoffs in some cases, the search for synergies between conservation and development is essential if environmental gains are to be maximized and poverty is to be alleviated.

It is within this landscape that that the Center for International Forestry Research (CIFOR) is working with WWF and GTZ to explore these synergies and trade-offs. CIFOR has used a modeling tool to visualize and simulate how conservation and development are interrelated. The model demonstrates that to make progress on either conservation or development outcomes, both must be considered simultaneously. As idealistic as the goals of big conservation organizations might be in their efforts to protect large mammals, they are in many cases not very popular with local people who are often being restricted in their search for food and income – a popular complaint being that *"they only care about animals, not people"*. In the fight against poaching, conservation agencies are not likely to gain the sympathy and collaboration of local people, unless the population is supported with alternative options for income generation.

The modeling tool has been used to explore possible scenarios with the populations of large mammals – as indicators of conservation, and household revenue and village budgets as indicators of development. Different scenarios can be explored as shown in Figure 1. This figure illustrates the possible effects of closing logging sawmills in the region on elephant poaching. Under this scenario, the reason for such a closure is envisaged as a decrease in forest productivity and the withdrawal of logging companies in about 20-30 years when the biggest and most commercially attractive species have all been cleared under an unsustainable logging scenario (as has occurred in some forests in west Cameroon). From previous experiences, it is evident that the closure of logging concessions and the lack of alternative employment leads to an increase in poaching.

The model reveals that even if anti-poaching initiatives provide an effective short-term tool for species conservation, in the longer term poaching becomes difficult to control unless possibilities for alternative incomes exist. This is especially the case in countries with weak law enforcement. Collaboration with the local population is essential for biodiversity management to be sustainable. To facilitate local involvement,

1. Total number of elephants killed outside the national park
2. Total number of elephants killed inside the national park

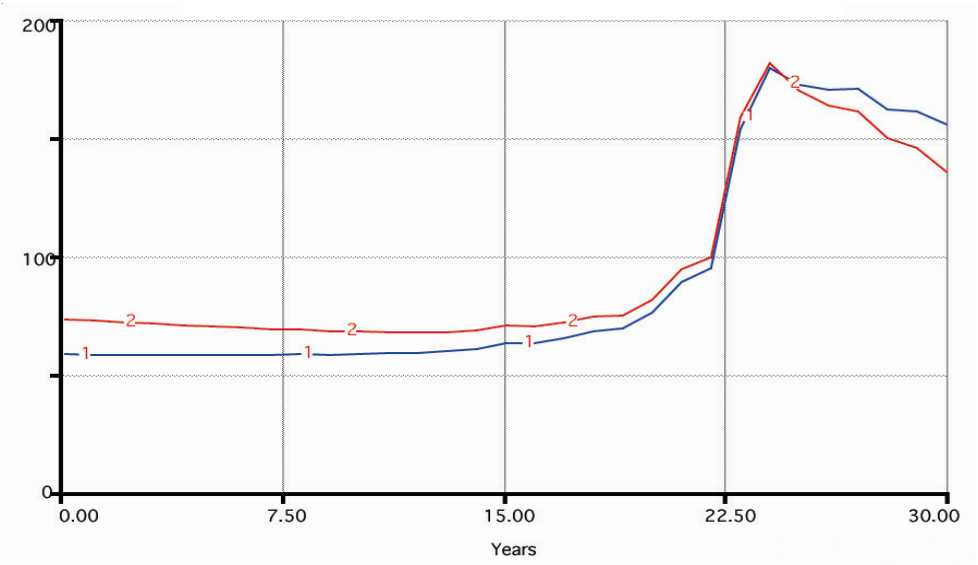

Figure 1: Model output under the scenario of closure of logging concessions in approx. 22 years.

and to acknowledge the sacrifices made by local people, alternative options and benefits must be provided.

Some examples of collaborative conservation efforts are now underway in the region. In Cameroon, the fauna in a buffer zone of approximately one billion hectares is now being managed by the local population. The buffer zones surrounding the national parks consist of concession forests, national safari hunting zones, agroforestry zones, community hunting zones and recently some community managed safari hunting zones. The communities' management efforts are supported through safari hunting taxes. The funds generated finance development projects for the villages and in some cases eco-guards to control poaching. Whether or not these efforts become a real success will depend largely on the support provided by conservation and development organizations. The purpose of this model is to support decision making around options for intervention: the simulation of scenarios helps agencies consider the possible impacts of different management decisions. Through visioning, and the creation of a management strategy that builds on the synergies between conservation and development, both MDG1 and MDG7 might become a reality in this landscape.

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DEVELOPMENT OF SMALL AND MEDIUM FOREST ENTERPRISES FOR POVERTY REDUCTION

By Dietmar Stoian & Jason Donovan

Sustainable forest management has been advocated as a means to ensure both livelihood security of forest-dependent people and forest conservation. Throughout the tropical belt, indigenous and peasant communities have long been managing forests and are increasingly gaining legal access to the resource base. It is only recently, however, that they have started to form small and medium forest enterprises (SMFEs) to add value to their timber and non-timber forest products (NTFPs) involving both men and women. SMFEs thus represent a promising option for contributing to poverty reduction and resource conservation through sustainable forest management and downstream processing. Their development into economically viable businesses requires an enabling environment of laws and policies that promote legal access to the resource base, provide incentives for sound forest management, support increased value adding, and promote the formation of human, social, physical and financial capital for effective forest and business management.

The development of SMFEs contributes to the Millennium Development Goals (MDG) # 1 ("Eradicate extreme poverty and hunger"), # 3 ("Promote gender equality & empower women"), and # 7 ("Ensure environmental sustainability"). Joint international efforts to create enabling

environments for SMFE development also hold the potential to achieve MDG # 8 ("Develop a global partnership for development"). This became evident in an international conference on "Small and Medium Enterprise Development for Poverty Reduction: Opportunities and Challenges in Globalizing Markets" held at the Tropical Agricultural Research and Higher Education Center (CATIE) in Turrialba, Costa Rica, on May 23-25, 2006. The conference, funded and co-organized by FAO, IDB-MIF, ICCO, CIFOR, SNV, Rainforest Alliance and RUTA, brought together nearly 200 experts, practitioners and business and community leaders from around the world to discuss institutional and policy options for promoting more viable and sustainable SMFEs. The conference concluded by stating that there are still significant challenges to the development of viable SMFEs and that government and non-governmental agencies, as well as SMFEs and their business partners, have important roles to play to overcome them. This article highlights some of the major findings that should help steer and strengthen related processes.

The role of governments

Governments can play a critical role in strengthening SMFEs to reduce poverty. They can create enabling environments for SMFE development by defining clear rules to access forest resources, simplify business registration and export procedures, and adjusting tax and incentive schemes to the needs and realities of these enterprises. Improving, or simply enforcing, forest legislation to curb illegal logging and unsustainable harvesting of NTFPs will help reduce unfair competition. Simplifying bureaucratic procedures for SMFE registration can reduce costs and enhance value adding opportunities. Financial incentives, including tax breaks for start-up SMFEs, are an additional positive step. Green purchasing policies, involving the purchase of timber and wood products originating from sustainable forest management, send a positive signal to legally and sustainably operating SMFEs. Government agencies can facilitate information flows along supply chains, help organize trade fairs for sustainable timber and NTFPs, and facilitate multi-stakeholder platforms for conflict management and community-company links. Finally, governments can support research for increased understanding of successful cases and sound practices of SMFE development, the underlying critical success factors, and the potential for scaling up.

The role of SMFEs

SMFEs can improve their competitiveness in national and international markets for forest-based products by seeking out new business opportunities and acquiring the capacities to initiate new business models and form mutually beneficial partnerships with other businesses along the supply chain. At the very beginning of this process, business organization among small-scale producers is crucial, as is the right choice of the legal form and business management model. The process also requires upgrading technical, business and financial capacities to add value to timber and NTFPs and reduce production and administration costs. The organization of SMFEs into second-level associations may facilitate the upgrading process, allowing for increased economies of scale in processing and marketing, and greater bargaining power. Upgrading processes strongly benefit from strategic alliances with

technical, business development and financial service providers both from the public and private sectors.

The role of business development service providers

While many SMFEs have made significant progress in terms of technical aspects of forest management and processing, most of them reveal deficiencies in business administration and marketing. Providers of business development services (BDS) can help overcome these by improving quality, direction and coverage of their services. Special emphasis needs to be put on services that effectively promote business development and supply or value chain integration. This requires access to and provision of up-to-date, precise and low-cost market information. BDS providers also need to assist SMFEs in identifying their service needs through a process of awareness raising, critical self-assessment, negotiation and mutual trust building. Market-based mechanisms for service delivery, including effective cost/benefit sharing mechanisms, are essential to ensure impact and sustainability of these services. Strengthening core competencies and establishing partnerships with other service providers and businesses that can provide complementary services also works towards this end.

The role of financial service providers

Financial services are crucial for the start-up and further development phases of SMFEs. Specific credit lines and related services and mechanisms need to be developed according to the needs and nature of SMFEs. Many financial service providers are not aware of the potential and necessities of SMFE development. Existing credit and saving products may need to be expanded and measures be taken to reduce transaction costs, for example, by allowing for alternative forms of collateral, improving management information systems, and reducing excessive paperwork. Public-private partnerships ensuring the promotion of and investments in SMFE development can help share risks and benefits.

The role of NGOs and development agencies

In addition to commercial service providers, non-governmental and development agencies can strengthen the capacities of SMFEs. Facilitating access to market and technical information is a priority. SMFE communication networks can be funded to improve information flows, stimulate community-company links, and facilitate access to trade fairs and better articulation among technical, business development and financial service providers. Facilitating multi-stakeholder negotiations for better policies, improved business environments, and conflict management can help address context-specific challenges. Support is also needed to obtain access to niche markets (e.g., for certified timber or fair trade NTFPs) and to improve marketing and negotiation skills. Clear labour division is needed among NGOs, development agencies and commercial service providers.

Conclusion

Progress towards achieving the Millennium Development Goals has not been encouraging to date. Broad-based, multi-stakeholder and innovative approaches will be needed to address this challenge. The role of forests in general, and the development of small and medium forest enterprises in particular, have not been adequately acknowledged in such

approaches. SMFE development holds a largely untapped potential to contribute to achieving the MDGs. National governments, NGOs, development agencies, and SMFEs and their service providers have an important role to play in this process by creating an enabling environment conducive to adding value to timber and NTFPs based on sustainable forest management.

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FORESTRY AND POVERTY REDUCTION: CAN WE LEAD THE WAY?

By William Street

Reducing deforestation and achieving poverty reduction for forest dependent people will require considerable international assistance. In the meantime, however, a sizeable exodus of public investment out of forestry continues. Conventional wisdom cites two reasons for the decline of public capital investment in forestry (specifically ODA assistance). First, the sector is too politicized creating a no-win zone for donors. Second, forest activities are perceived as poverty traps that do not lead to poverty reduction. In some situations, where money is shifted from forestry to other activities like agriculture, market forces are introduced or reinforced that contribute to deforestation and poverty.

While the forestry wars continue on various fronts, common ground has begun to emerge over the past few years. While still more a concept than a consensual management system, sustainable forest management (SFM) with its social, environmental, and economic foundations is making progress in providing conflicting parties with a blueprint for consensus. The social criteria of SFM are the least developed of the three components. These will need to be developed if SFM is to address the poverty trap concern and the Millennium Development Goals (MDGs).

The needs of forest dependent populations vary, ranging from those whose cultures are based on non-market economies to those either in transition to market based economies or those already in market based societies. These differences pose a challenge for those seeking to clarify SFM's social criteria.

Forest dependent communities in partially industrialized market economies rarely possess the social structures required to cope with the powerful and frequently de-humanizing force of a market economy. For the majority of such residents the most common and sometimes only opportunity for income generation is through informal work During a recent study, almost two-thirds of those surveyed said that they would accept formal work if it was available. Lacking formal employment, proper social

protection, and the power to organize, these workers are generally condemned to poverty level incomes (according to a survey by Builders and Woodworkers International).

Yet, donor strategies to meet the MDGs generally seek to avoid conflict and in doing so fail to address the root causes of poverty. In their efforts to avoid the inevitable tensions of funding large-scale forestry projects, many donors instead support initiatives around small and medium sized forest based enterprises (SMFEs). Unfortunately, promoting informal work through these SMFE initiatives frequently compounds the risk and reality of poverty. Without the necessary support to engage with and participate in large-scale forestry activities, few poor communities have been able to withstand the devastating effects of a forced economic restructure or the arrival of a multinational corporation.

The avoidance of large-scale forest projects, because of the fear of bad press and the difficulties of enforcing social standards on privately funded projects, serves to reinforce the conventional perception of forestry as a poverty trap and a source of conflict. It is ironic that the inappropriate funding of other non-forest areas to avoid political fallout may be contributing to deforestation.

The way forward involves sharing power and sharing wealth. For non-market based communities, this requires a culturally sensitive approach and acknowledging the possibility that a market economy may never be appropriate. For communities that are already in a market economy the focus should be on empowerment with ongoing regulation and monitoring of the market. Without controls, through either soft law (e.g. forest certification) or enforceable public policy, wealth will remain in the hands of a small minority and conflict over the remaining spoils will continue.

SFM has an important role to play in the sharing of power and wealth but the social criteria must be addressed head on to insure success. Unlike environmental criteria which many capitalists seek to monetize, market, and profit from, the focus of social criteria tends to be the redistribution of wealth and income – running counter to the core principles of most market based systems. Similarly, efforts to re-distribute power will run counter to most political systems. The challenge presented by these dominant principles is not unique to forestry, what is unique is that SFM has been able to take up this challenge in some key locations.

The MDGs offer the forestry sector an opportunity to address social issues through the evolving SFM framework. The forestry sector should seek to integrate the MDGs, and especially poverty reduction, into SFM in a way that empowers workers and communities. The fact that most major forest certification schemes have already codified the International Labor Organization's (ILO) core labor standards is a positive sign that empowerment can occur within SFM systems. The fear of being denied market access has even led some large scale forest enterprises to voluntarily adopt ILO conventions that are not yet codified in national legislation.

In many places, SFM is still far from a reality. But the growing consensus marks the beginning of some hopeful signs of change, especially in terms of poverty reduction. This will be measured against what happens when value-added forestry production

corporations such as IKEA seek to minimize costs and maximize profits by disinvesting in countries where labor standards are upheld.

By incorporating social criteria (such as those outlined in the ILO's core labor standards) into the entire chain of custody, forestry could take a leading role in tackling the root causes of global poverty and simultaneously demonstrating a realistic model of sustainable development. Likewise, integrating cultural concerns into SFM could replace the perception that forests are poverty traps, with an understanding that local populations can manage and thrive on their forest assets without the need for economic growth or even a market based economy.

The forestry sector is at a crossroads. It could fight to maintain its current position, with a set of imbalanced power relationships and unequal distribution of wealth. Alternatively, it could take up the challenge of leading global efforts to meet the MDGs and incorporating social criteria into SFM. Today, the choice is still ours. But if we fail to position ourselves wisely and respond to the world around us, this decision will be taken away from us and made elsewhere.

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Further reading:
The nature of informal work in the wood and forestry sector: A survey of informal workers from developing countries. Builders and Woodworkers International, publication pending, 2006.

B. POVERTY REDUCTION

FOREST-BASED POVERTY ALLEVIATION AND THE MILLENNIUM DEVELOPMENT GOALS

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

The first Millennium Development Goal (MDG) has as its aim to reduce by half the number of people suffering from extreme poverty and hunger by 2015. This paper sets out some of the key considerations for addressing this goal through the forestry sector and in ensuring environmental sustainability (MDG 7). The paper concludes with an overview of the policy implications for achieving MDGs 1 and 7 through forest-based poverty alleviation initiatives.

Factors to be taken into account in forest-based poverty alleviation efforts

Several scientific developments have contributed to the recognition that forests may contribute to poverty alleviation. There is now a better understanding of the scope of forest-based poverty alleviation and the various household strategies that exist in this respect. It is now acknowledged that forests provide multiple livelihood assets (and not only productive ones), and also that forest-based livelihood activities usually form part of multiple-component livelihood strategies, which may include farming, animal keeping, wage labour and migration. There is also a greater awareness of the

new opportunities for trading forest products and services, including non-timber forest products (NTFPs), aesthetic values (ecotourism) and environmental services (such as the provision of regular water supplies for domestic needs or CO_2 sequestration). However, there should be some caution against becoming overly optimistic about the role forests play in contributing to poverty alleviation because markets in these often isolated areas are generally poorly developed and characterised by weak producer organisations and high transportation costs. Furthermore, densities of NTFP resources may be low and their availability subject to seasonality. Several aspects need careful attention when stimulating forest-based poverty alleviation:

- *Recognition of various livelihood strategies and various dimensions of poverty alleviation.* It should be recognised that there are different categories of poor households, with varying degrees of dependence on forests and forest resources.
- *Recognition of the multiple-component strategies of poverty-stricken rural households.* Most poor rural households are engaged in multiple activities involving multiple environments. Both natural and man-made forests, including agroforestry fields, play a role in these strategies.
- *Recognition of the full range of forest products and services.* The NTFP versus timber distinction is a false dichotomy when it comes to poverty alleviation, all the more so because increasing portions of forest land are falling under local community ownership and control.
- *Recognition of the importance of clear tenure arrangements.* Forest-based poverty alleviation is impossible without clear tenure and forest use arrangements.
- *Recognition of the importance of (equitable) access to markets.* People need access to markets to capitalise on forest resources. Care must be taken to ensure that the benefits of developing new market opportunities for forest goods and services are distributed equally within communities and do not lead to the creation of new elites or the exclusion of, or negative effects on, other groups. This is also of crucial importance when considering the development of new payment schemes for environmental services.
- *Recognition of the role of forest quality and management in enhancing forest products and services.* The quality of the forest (in terms of its biodiversity, structure etc.) and of its management is linked in complex ways with its ability to deliver multiple goods and services for human livelihoods. The importance of forest quality varies for individual products and services. Poorly managed forests are likely to lose their ability to provide at least some services and this may impact on their potential to alleviate poverty.
- *Recognition of the need to stimulate not only sustainable forest management, but also forest-based enterprise development.* The subsistence and cultural importance of forests for indigenous and other local people has received increasing attention, but much less attention has been given to the commercial value of forests for forest-dwelling and adjacent households and

to the scope for diversification and specialisation based on forest resources.

Implications for policy and achieving MDGs 1 and 7

Forest policies, National Forestry Programmes and Poverty Reduction Strategies should link up with the commitments in Millennium Development Goals 1 and 7. This implies the need for strategies that stimulate linkages between forestry development and poverty alleviation.

Other policy implications include:

- In developing integrated strategies, explicit attention should be given to the distinction between poverty mitigation and poverty reduction. In some cases this will imply supporting subsistence economies and safety net functions, and in other cases (depending on location-specific conditions) enhancing income-generating activities.
- Forests contribute significantly to subsistence needs and offer a safety net in times of shortfall, but the potential to lift people out of poverty on the basis of forest resources alone is limited. This implies that forest-related poverty alleviation policies should be multifaceted and tailor-made to fit in with multiple-component livelihood strategies and varying degrees of forest dependence. The poverty-alleviating role of man-made and other non-natural forests and cultivated fields deserves specific attention in this respect.
- Programmes aimed at stimulating forest-based poverty reduction should not assume that NTFPs offer better opportunities than timber products. Rather than taking different kinds of forest products as a starting point for development strategies, attention should focus on ways in which the poor can use and exploit a range of forest products, including timber, in an integrated and sustainable way.
- Any strategy to enhance the poverty-alleviating role of forests should prioritise the clarification of tenure rights and act upon factors that limit poor people's access to forest resources. Specific attention should also be paid to the decentralisation and devolution of land and forest-use rights to local communities and forest user groups.
- Special measures are required to improve poor people's access to markets, such as breaking down the bureaucracy of exploitation and transport regulations, strengthening producers' organisations, stimulating small-scale forest-based enterprises, and forging public-private and company-community partnerships and other alliances that may enhance poor people's access to lucrative (niche) markets for timber, NTFPs and environmental services. In addition, forest-based poverty alleviation programmes should focus on improving the organisation and quality of forest management, and on the development of business skills.
- In addition to external markets, more attention needs to be paid to the role of local markets in poverty alleviation and the way in which performance in these markets (which absorb the majority of forest-based products sold by poor households) can be improved.

Note:

The Wageningen-based North-South Centre recently published a policy brief that

summarises the present state of scientific understanding of the contribution of tropical forests to poverty alleviation. This article provides a summary of this policy brief, the full text of which is available at http://www.wi.wur.nl/UK/Resources/Policy+briefs/

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BLACK GOLD- A CASE STUDY

By Rosalind Wilson

Integrated forestry and paper manufacturer Mondi needed to look no further than the company's waste products to create an innovative and commercially sustainable social enterprise in Kwa-Zulu Natal.

In 2002, Mondi, an integrated forestry and paper manufacturer, received a grant for £114,000 from the DFID funded Business Linkages Challenge Fund (BLCF)[1], administered by Emerging Markets Group, to implement a 3 year project to establish the charcoal producing company, Black Gold. Mondi also invested £115,880 of its own funds in the initiative, resulting in a successful partnership between the private sector and a donor funded programme.

Black Gold transforms Mondi's waste timber into charcoal which can be sold on as a value added product to larger charcoal distributors for a profit. Not only has this been a successful business venture, achieving commercial sustainability by 2004, but the company's activities have had positive social and environmental impacts. Black Gold's charcoal production units give rise to entrepreneurial and employment possibilities for the local community by creating new business opportunities and providing access to domestic and international markets. In addition, by removing waste timber for charcoal production, the business has contributed to a reduction in the risk of forest fires in the area, which have previously been a serious and common problem affecting both the environment and the community. The venture has directly contributed to poverty reduction in the area (MDG1), and has also addressed environmental sustainability (MDG7), and has contributed to empowering women (MDG3).

The Model

Mondi started with a 30% stake in the company, the remaining 70% being split 10% with a community trust and 60% with a consortium of local entrepreneurs called Firing Trading. An investment was made by Mondi and together with funds from the BLCF. Black Gold was able to finance the construction of kiln sites which could be used for the production of charcoal and the training of the local entrepreneurs and their employees. The extensive training program for entrepreneurs included topics such as

forestry entrepreneurial skills, supervisory skills, chainsaw operating, health and safety skills, first aid, and getting drivers licenses.

For each kiln site that is active, Black Gold has employed a local entrepreneur to lead the business. There are currently 10 active kiln sites, 1 bagging site and another bagging site in the pipeline.

The kiln sites employ their own timber collectors who are given access to Mondi's timber sites. They collect any timber that has been deemed as 'waste material' due to the size (diameter) of the wood being too small for the paper making process. The local entrepreneurs manage staff engaged in the collection and processing of this timber into charcoal and are consequently building their managerial and HR skills. The entrepreneurs are also engaged in quality control of the final product, ensuring that smaller pieces of charcoal and ash are sifted out.

The bagging site is run by Black Gold's first female entrepreneur and its workforce is currently comprised of over 80% women. Black Gold charcoal which has been bagged at this site is sold on to an intermediary company which in turn supplies an international market that includes the supermarket chain Tesco, illustrating the high quality of the Black Gold product.

Now that Black Gold is a self sufficient business, Mondi has reduced its stake to 10%, transferring the remaining 20% over to the community trust. All of the entrepreneurs are entitled to join Firing Trading, the consortium with the largest equity stake in the business. The model is in line with the Black Economic Empowerment (BEE) initiative in South Africa as the local entrepreneurs represent people from a previously disadvantaged background.

Commercial success

In 2003, the first year of operation, Black Gold issued dividends to the entrepreneurs who are part of Firing Trading. In the second year it doubled its turnover to 6.5 million ZAR and an un-audited profit of ZAR850,000 By 2005 at the end of the project, turnover was at ZAR2.2million with each site earning between ZAR70,000 to ZAR100,000 monthly. With the entrepreneurial ethos behind the project, opportunities for scaling up have been identified in an additional refinement stage to produce charcoal for water filters and some medicinal purposes. Capturing the diverse market for charcoal will be a good way to keep the company in high production levels and with an assured market. Black Gold can also market its product to environmentally conscious buyers, as the firm has a Forest Stewardship Council certification which guarantees high environmental standards in its forestry practice. In addition to this it obtained an environmental award at the 8th World Health and Environmental Congress in Durban, South Africa.

In spite of its commercial sustainability, there is still much that Black Gold can do to grow and increase its market share both domestically and internationally. Selling to intermediaries denies Black Gold potential profit margins due to the large difference between the buying price of charcoal from producers and the final selling price to large scale buyers such as supermarkets. One way that Black Gold can break through the barrier provided by intermediaries is to

expand their packaging lines and supply their own branded bagged charcoal ready for direct distribution to supermarkets. The demand for charcoal briquets has provided Black Gold with an additional market for any wasted small charcoal and ash from the production process. There is even a possibility that they will be able to charge a premium for their product, as Black Gold represents a BEE company that pays fair wages and has certification to support its high environmental standards. Consumers are increasingly wiling to pay more for a product that makes efforts to provide a positive environmental or social impact, as demonstrated by the increased demand for FairTrade products.

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Notes:

[1.] The **Business Linkages Challenge Fund (BLCF)** supports private sector partnerships that bring commercial benefits to the businesses that participate and help to reduce poverty in target developing countries. Companies have access to grants between £50,000 and £1,000,000 to increase access to markets, transfer technology, improve competitiveness, or address the policy and regulatory environment for business. The BLCF is financed by the UK Government's **Department for International Development** and managed by Emerging Markets Group (EMG) Ltd. More information on the BLCF can be found at www.businesslinkageschallengefund.org

PRUNUS AFRICANA HARVEST ON MOUNT CAMEROON AND THE MILLENNIUM DEVELOPMENT GOALS

By Tieguhong Julius Chupezi, Ousseynou Ndoye and Mambo Okenye

In Cameroon, World Bank Development Indicators show that some 40% of the population still lives on less than one dollar a day. This article provides evidence that investment in developing forest assets and markets can be a cost-effective way of contributing to the Millennium Development Goals (MDGs) – by improving poor people's access to better education, nutrition, healthcare, housing, sanitation, potable water, electricity and sustainable income opportunities. Out of the eight MDGs which aim for a total 18 targets, this article is directly relevant to four goals (1, 2, 7 and 8) and eight targets (1, 2, 3, 4, 9, 10, 12 and 18).

Around Mount Cameroon, harvesting *Prunus africana* bark is a lucrative livelihood activity for local people. In light of this, nine villages have set up the community-based organization, the Mount Cameroon Prunus Management Common Initiative Group (MOCAP-CIG). Members of the group are able to earn an average US$10.8 a day for every 32 kg of bark collected. Non-members, however, have been found to earn between US$6.4 and US$9.6 for the same quantity and quality of bark.

Prunus revenue and household development

In the first eight months of MOCAP-CIG's existence, members earned an average

US$533 (with individual incomes ranging from US$249 to US$846). During this period and for the remaining four months of the year, many harvesters were engaged in additional income generating activities (e.g. farming, trading, fuelwood gathering). The average income earned from *Prunus* harvesting alone is already very close to Cameroon's GNI of US$550 – and is therefore, a very encouraging achievement.

To assess the poverty reduction potential of *Prunus* revenues, each harvester's monthly income from *Prunus* was calculated over a period of eight months. The result showed an average monthly income of US$67 with a variation from US$31 to US$106 – implying an income of at least one dollar a day. The potential for poverty reduction (in line with the first MDG of halving extreme poverty by 2015) is clear.

Revenue generated from *Prunus* sales has been used to improve conditions at both an individual and community level. The results of a survey show that individuals have used their income to support a variety of livelihood and development functions: sending children to school (71%), building a house/ toilet (51%), buying food/drink/medicine (40%), buying a radio/TV/cell phone (41%), buying clothes/shoes (8%), and marriage/ family care (3%).

These statistics help us identify the ways in which *Prunus* harvesting is contributing to the MDGs:
An overwhelming 71% of harvesters use revenue from *Prunus* harvesting to send their children to school, indicating the high value attributed to education. At a local level, this is an important step in supporting the second MDG of achieving universal primary education by 2015.

It is widely agreed that well-fed and healthy people can make a greater contribution to economic development (Commission for Africa, 2005). The fact that 40% of harvesters use *Prunus* revenue to buy food, drinks or medicine indicates the importance of *Prunus* to household economies. This bears a direct relevance on the first MDG which seeks to reduce by half the number of people suffering from hunger, and is also of significance to the health-related MDGs (4, 5 and 6).

In most rural areas in Cameroon, only 33% and 41% of the population have access to improved sanitation and improved drinking water respectively (WHO/UNICEF, 2004). However, 51% of harvesters reported using their *Prunus* income to build better houses and toilets and 8% used some of their money for personal hygiene (buying clothes and shoes). As indicated below, villages in the area with limited or no potable water identified water projects as a high priority. Individual and community use of *Prunus* revenue to improve access to clean water will help achieve the MDG indicators on health (goals 4, 5 and 6) and safe water provision (goal 7, target 10).

Target 18 (attached to the eighth MDG) seeks to make the benefits of new technologies available – especially information and communications technologies. The *Prunus* harvesters are beginning to realize this goal for themselves – as demonstrated by the fact that 41% have used some of their income to buy a radio/ TV/cell phone.

Prunus revenue and community development

In accordance with MOCAP-CIG's benefit-sharing scheme, 15.4% of *Prunus* revenue

is allocated to the village development fund, 69.2% to individual harvesters, 11.55% for MOCAP-CIG's management and monitoring activities and 3.85% for government tax. Out of the 15.4% community share, 90% is shared equally among the various development projects of member villages, 7.5% is shared between the natural resource custodians (chiefs) and the remaining 2.5% is given as compensation to the village hosting the harvesters over any given period (Tieguhong et al, 2005; Tieguhong and Ndoye, 2006).

Revenue generated from harvesting the first 100 tons of *Prunus* under the scheme, led to the allocation of US$66.7 to each custodian, and US$800 to each village for development projects agreed upon by the villagers. Several of these projects are now coming to fruition. Villagers reported that they would like to see funds spent on the following types of projects: community hall (56%), potable water (33%), electricity (11%), health center (11%), building a market (11%), building a school (11%) and others (22%) (Tieguhong and Ndoye, 2006).

When the villagers were asked why they had identified the construction of a community hall as a priority (rather than a school or hospital) they responded that they needed a venue to hold discussions on their common development goals and how to reach them. It is clear from this that local level commitment and enthusiasm is essential for securing not only village development goals but also global targets such as the MDGs. In rural villages around Mount Cameroon, *Prunus* harvesting is supporting achievements in both of these areas.

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NEW FORESTS, EMPLOYMENT AND MDGS

By Herry Purnomo

The main goals set by developing countries are to improve economic growth, create jobs and alleviate poverty. In 2004, the Indonesian government declared its aim of creating 15.6 million new jobs with the goal of decreasing unemployment from the 2004 level of 9.9% to 5.1% by 2009. It was also anticipated that this would reduce poverty from 16.6% in 2004 to 5.1% in 2009. However, by 2005 unemployment had risen from 2004's figure of 10.3 million to 10.9 million in 2005, and is projected to increase further still to 12.15 million in 2006. In addition, people termed 'under-employed' or persons working less than 35 hours per week were numbered at more than 30 million in 2005. The economic growth of 6.35% in 2005 was generated by capital intensive industries and did not significantly reduce unemployment.

International Labour Organization estimates reveal that there were one million formal forestry sector workers in Indonesia in 2001. However, the Indonesian Ministry of Forestry (MoF) reported that 150,000 people lost their jobs in forest industries in 2003, and that this figure increased to 600,000 in 2004 due to a shortage of logs. MPI (Society of Indonesian Forestry) reported that 60% of forest employees lost their jobs in 2005 due to the shortage of logs. This loss of jobs corresponds with the destruction of Indonesian natural forest.

While the extent of forest coverage in Asia is increasing due to China's forest plantations, Indonesia forests, which currently number 110 million hectares, continue to degrade at a rate of 2.8 million hectares annually. This paper presents a dynamic model and scenarios of forestry employment in Indonesia and how it relates to MDGs. This model aims to contribute to the development of storylines for alternative futures, for use as a policy development tool.

Forestry employment trends

According to International Standard Industrial Classification (ISIC) Revision 3.3, the forestry sector is comprised of the sub-sectors: forestry, wood industry and pulp and paper industry. In the forestry sub-sector most jobs are found in land clearing and illegal logging, followed by industrial forest plantations and legal logging. Woodworking and the pulp and paper industries provide more jobs than plymills and sawmills.

A computer simulation projects a decrease over the next 20 years (2007-2027) in forestry employment in the natural forest concessions of the three main forestry provinces: Riau, East Kalimantan and Papua. However, due to illegal logging, land clearing, industrial forest plantation and pulp and paper industries, total forestry employment is increasing. In these three provinces, employment is estimated to grow from 160,000 to one million in next 15 years. Current projections suggest, however, that

the forestry sector will collapse after five years in Riau, 10 years in East Kalimantan, and 15 years in Papua. This means these provinces will experience both booms and busts of forestry employment if current forestry practices continue.

Indonesia annually faces the tragedies of floods, fires and landslides. The government of Indonesia has to deal with about 60 million ha of degraded forest and more than 42 millions of unemployed and underemployed. Can the government keep its promise to decrease employment and alleviate poverty?

Future Scenario of "New Forests New Future"

A simple solution is to give local community members individual or collective rights to plant and manage Indonesia's 60 million hectares of degraded forest. Since planting trees is a long-term investment, the forest management rights must also be long-term, perhaps around 75 years. Each 'right holder' can decide by his or herself which species to plant. The 'right holder' can select fast-growing species like acacia and sengon (*Paraserianthes falcataria*) or long term rotation trees such as teak and mahogany. The government monitors the execution of this right. If the degraded land is not planted, then the government can take back the right with a penalty if necessary. A 'right holder' is able to sell the rights to the forest she or he planted, not the land, to someone else.

If the government implements this scenario, forests will be restored and will belong to millions of small farmers. This development of new forests will create 12.6 million permanent jobs, which makes up 81% of the government's 2009 employment target. The investment needed is 9 billion USD. This is equal to the amount of money lost over three years to illegal logging. Most of this investment will be done by the local communities themselves. This option will require government confidence in small farmers' ability to plant trees using their own resources. Farmers can find tree seedlings in forested areas. They have traditional knowledge and a culture of planting, maintaining and harvesting trees. They can plant the degraded land piece by piece every week, so that, in few years all the degraded land they manage will be completely planted.

In Indonesia, a small-scale forestry operation needs approximately 3.5 hectares of land to support one job. If it is planted with fast-growing species such as acacia then it will provide a net present value profit of $4.5 per day during eight years. This can be used to 'Eradicate extreme poverty and hunger' (MDG 1), which is monitored by among others proportion of people living on less than a dollar a day. The MDG 7 to 'Ensure Environmental Sustainability' means integrating the principles of sustainable development into country policies and programmes; and reversing the loss of environmental resources. Giving long-term rights to local communities ensures reforestation of 60 million hectares of degraded forests in forms of new and diverse small-scale forests.

Forestry can significantly contribute to MDG achievements before 2015 through fast wood small-scale forestry. All the government needs to do is give and secure rights by legalizing local communities' current land claims: not the right to own but the right to manage and benefit from the new forests they plant. The current scheme, to utilize forests through free auctions of

large-scale land areas ranging from 20,000 – 100,000 hectares only benefits large-scale and multinational companies. The current revision process of Government Regulation (*Peraturan Pemerintah*) No. 34 must clearly prioritize local communities: small-scale actors managing small-scale forest land areas. Such new forests will generate a new future, moving from 'rich forest poor people' to 'new forests new future'.

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THE WEALTH OF THE DRY FOREST: How African Dry Forests can Contribute to the Millennium Development Goals

By Lisa Petheram, Bruce Campbell, Daniel Tiveau and Crispen Marunda

African dry forests are found in Sub-Saharan Africa (SSA) and cover approximately 43% of the continent. They are inhabited by nearly 236 million people; many of these the poorest in the world.

Although greatest attention has previously been directed towards tropical humid forests and their biodiversity, the importance of dry forests for rural livelihoods is increasingly recognized. A number of recent studies indicate that dry forests can play a critical role in helping mitigate effects of extreme poverty in SSA – yet in many countries their contribution is ignored in terms of national development policies and forest management. This, and the increasing poverty in these regions point to the need to focus much more attention on dry forests than in the past. In doing this we need to explore some important questions, such as: what type of livelihood contributions can dry forests provide and who do they benefit? How can these contributions be maximised to help alleviate poverty? And can dry forests help address the Millennium Development Goals (MDGs)?

Contributions of dry forests

Dry forests in SSA are known to provide a range of indirect and direct benefits, from ecosystem services to timber and non-timber products (NTFPs). Ecosystem services from the forests include maintenance of soil fertility, watershed functions, and carbon dioxide (CO_2) sequestration. Timber products include woodfuel, sawn and round timber; and major NTFPs are medicinal plants, fruits, leaves, game meat, fungi foods, beeswax and honey. In Mozambique, for example, 80% of the population use wildlife meat and fish as their principal source of animal protein (Saastamoinen 2003). And in Burkina Faso, more than 80% of the population relies on traditional medical treatments for common illnesses (Wittig *et al*. 2005). Many of these forests products (timber and non-timber) also provide cash income for the rural population. In the North

Western Province of Zambia, the local honey and beeswax industry is the second largest employer after the government (Mickels-Kokwe 2006). Finally, dry forest areas are important for supporting agriculture, livestock, wildlife and tourism.

It appears that the poorest households are the most dependent on dry forests. In Zimbabwe wild resources provide up to 20% of cash income for poor households compared to 5% for better-off households. Another study in eastern Tanzania's dry miombo forests found that rural households derived more than 50% of their cash income from sale of forest products such as charcoal, honey, wild fruits and fuelwood, while peri-urban households derived almost 70% of their cash income from the woodlands (CHAPOSA, 2002).

A degree of access to 'freely' available resources for subsistence and income often offers the only survival option for many poorer households in these regions. Some studies show how dry forests could play a crucial role in mitigating poverty for households impacted by HIV/AIDS (e.g. Kengni et al 2004). It has been found for example, that many children from HIV/AIDS affected households rely heavily on dry forests for collecting foods for themselves and their remaining family members. In other cases, forest-based home industries provide a good income for home-bound single parents or grandparents looking after children.

The role of dry forests in alleviating poverty

While claims that SSA dry forests are the panacea to achieving the MDGs may be over-zealous, it is clear that dry forests play a major role in supporting millions of people, especially those in extreme poverty. It seems vital that this role of dry forests is acknowledged in all SSA countries and included in their poverty reduction strategies. Major improvements in forest management, institutional support and policy designed specifically for these areas should be taken into account. Sound management and support for dry forests would ensure that poor people can continue using dry forests for their livelihood needs - and especially as safety nets in response to shocks and pressures such as impacts of HIV/AIDS and drought (Anderson et al. 2004). Afforded proper attention, dry forests can allow some families to lift themselves out of poverty, for example through development of sustainable enterprises such as honey (Mickels-Kokwe, 2006). The increased use of dry forests for products and services can also enhance their value, creating incentives for good forestry stewardship by people and ultimately better conservation strategies.

Continued degradation of dry forests and worsening poverty levels in SSA, would mean many people are likely to fall further into poverty traps. Sustainable management and improvement of the contributions of dry forests will be a difficult and complex task, requiring an integrated and multi-sectoral approach with different yet complementary activities at multiple levels. It will be necessary to continuously refer to tenure, rights and access issues as these have a significant bearing on the accrual of benefits from dry forests. We need to ensure that macro-economic conditions are improved for the protection of safety nets. And we need to work towards removing ineffective national- and district-level regulations related to woodlands and grazing areas, and empowering local leaders (Campbell et al 2002). Addressing these and other issues

will help prevent further forest degradation and alleviate poverty.

Endnote

Many of the facts presented in this article can be found in: Agra, F. (2006) Livelihoods from forests: facts and figures, Center for International Forestry Research (to be published)

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WOODFUELS AND LIVELIHOOD AND SUSTAINABILITY GOALS

By Michael Arnold

Fuelwood and charcoal remain the principal sources of domestic energy for poor rural and urban households in much of the developing world. This has implications for the Millennium Development Goals that seek to eradicate extreme poverty and hunger, and to ensure environmental sustainability.

Discussion of energy and MDGs in these regions has tended to focus on measures to accelerate shifts away from household use of fuelwood to energy sources perceived as being more efficient, convenient and environmentally friendly. However, though the share of fuelwood as a source of energy is now falling with increasing urbanisation and rising incomes (Whiteman *et al.* 2002, Barnes *et al.* 2005), the numbers who continue to use it remain huge. It has been estimated that if present patterns of energy use continue, the number of people using fuelwood and other biomass fuel in Africa will grow by 40% to 700 million by 2030 (IEA 2002). In addition, there would still be about 1700 million users in Asia. Moreover, charcoal is often the energy source to which such users shift to first, and its use is growing rapidly, notably in Africa.

It is therefore necessary to consider how to meet the needs of those for whom woodfuel is the only available source of energy. This has important implications for meeting their nutrition needs, and also for reducing poverty among those generating an income from woodfuel production. It also has implications for the sustainable use of woody resources.

Meeting subsistence needs

Most fuelwood used in rural areas is still gathered or harvested by user households. In both Africa and South Asia formal and informal privatisation of what were previously common pool resources has widely restricted public access to gatherable supplies. For many people, the main result of this has been an increase in the time spent gathering fuelwood. Others have dealt with this by seeking to: generate more fuelwood from existing trees or agroforestry; reduce fuel needs; downgrade to other biomass fuels; or purchase fuelwood.

Overall, recent research shows that most users can generally adjust to a declining availability of fuelwood. However, for those that are unable to adjust in the ways described above appreciable welfare losses can be expected (Arnold *et al.* 2003).

Generating household income

Ease of access to the resource and markets enables large numbers of people to generate some income from the production and sale of fuelwood and charcoal. This can be an important component of coping strategies for poor households. For some, it is a seasonal or transitional activity, but it can also become the main source of income for very large numbers of the poor, for example in parts of Sub-Saharan Africa where urban charcoal markets are expanding rapidly.

The low value of the product means that profit margins are usually very low. Research in Africa has shown that measures to put

management on a more sustainable footing would raise costs to levels that would probably disadvantage both poor producers and poor urban users. There are therefore inherent conflicts between livelihood and sustainability objectives, which have yet to be resolved (SEI 2002, World Bank 2002). This is of particular relevance in the main charcoal producing areas in Africa where this trade is likely to play an even greater role in the future.

Woodfuel use and deforestation

The results of recent studies support earlier conclusions that fuelwood is seldom a primary cause of forest clearance, although in some concentrated areas of charcoal production this may be the case. In most countries a very large share of fuelwood supplies is drawn from trees and other woodstocks outside forests (RWEDP 1997). Where it is sourced from forests it is usually a by-product of clearance for agriculture. However, fuelwood harvesting can result in heavy depletion of non-forest tree stocks on or adjacent to farmland and settlements, and production of large quantities of wood for charcoal can substantially alter the structure of woodlands from which it is sourced (SEI 2002).

Implications for forestry

Overall, the information currently available is broadly consistent with the conclusions arrived at in the late 1980s – that in most regions there is not a fuelwood crisis of such a magnitude as to often require major interventions devoted just to the provision of fuelwood. However, it is also clear that woodfuel provision is not attracting levels of attention in forestry strategies and practices commensurate with its magnitude as an output of, and demand upon, forests and other tree resources.

Supply responses tend to be constrained by the fact that continued availability from natural resources keeps prices low, which discourages investment in renewing woodfuel stocks. However, a small but growing share of fuelwood supplies is now coming from planted sources, often as a by-product or co-product of other more valuable tree products. This fact needs to be better reflected in agroforestry programmes.

Woodfuels could also feature more prominently and effectively in shifts to local forest management. In practice, there have often been biases against fuelwood within new local management bodies. Community decisions about resource management are often dominated by men, who favour uses that produce higher value products for sale. Problems in developing sounder woodfuel production systems at local levels have also been aggravated by poorly designed and implemented regulations and charges, which often need to be revised or removed.

Overall, given its importance in pursuing the poverty, hunger and environmental aims of the MDGs, and the likelihood that in some regions demand will increase substantially, the woodfuel sub-sector of forestry appears to warrant closer attention than it has received over the past decade.

Note

This article is based on a review of recent research carried out for CIFOR. For a more detailed discussion and fuller references see: Arnold, J.E.M, Köhlin, G, and R. Persson. 2006. Woodfuels, Livelihoods and Policy Interventions: Changing Perspectives. World Development, 34(3): 596-611.

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FORESTS FOR POVERTY REDUCTION: Opportunities in the Asia-Pacific Region

By Rowena Soriaga and Peter Walpole

The role of forests in reducing poverty

State forest agencies have a critical responsibility to support efforts for national level progress towards the Millennium Development Goals. This is especially true given the extent of national land under their jurisdiction and the magnitude of extreme poverty found on these lands. In five countries in Southeast Asia, state forests cover between 33% and 60% of the country, while the proportion of the rural population living below the poverty line ranges from 12%-40%. In South Asia, 27%-53% of the rural population falls below the poverty line, and state forests cover 2%-37% of land resources.

The evolving definition of poverty, and improvements in monitoring criteria and indicators (e.g. the MDG indicators and the Human Development Index - HDI) enable poverty reduction strategies to be put at the forefront of solutions for sustainable forest management. In the future, refined statistics on forests and poverty may be more easily available as definitions for 'forest dependency' and 'poverty' are further elaborated and quantified.

Forests can make a significant contribution to poverty reduction in countries with relatively high forest resources (more than 50% forest cover) and a medium HDI score (e.g. Bhutan, Lao, Cambodia, Myanmar, Indonesia and Malaysia). However, in

countries with lower HDI scores and fewer forest resources, the needs of the poor are harder to meet.

Impact of reduced poverty on forest sustainability

The first six MDGs are prerequisites for environmental sustainability. This factor enables the forestry sector to hold simultaneous discussions on how to meet basic needs and practice sustainable forest management. Over the past few years, such discussions have occurred more widely with a growing recognition of the importance of good governance.

Reducing poverty in rural areas can lead to a decreased pressure on forest resources and thus improve chances for sustainability. Other factors can also promote sustainability – for example, increased participation by women in managing household finances can lead to a more judicious use of forest-derived income, and a keener respect for sustainable harvesting techniques.

Five of the nine indicators for MDG7 (forest: land ratio, coverage of protected areas, access to safe drinking water, access to sanitation, use of solid fuel) relate directly to forest-people dynamics and as such, reaffirm the importance of addressing poverty through forest management.

Forest-dependent populations and the poor

An estimated 1.2 billion of the world's extreme poor are dependent on forests in one way or another. Under current circumstances, however, forest dependence can be a poverty trap. Raw forest products fetch low prices. Population growth and inward migration lead to a further division and sharing of the resource base. Conflict with governments or other external parties regarding access and tenure are common.

External pressures are now reaching even the most far-flung forests to such an extent that these areas are now rarely able to provide security of tenure to the estimated 60 million indigenous people or the further 350 million living in or near forests (World Bank 2002). Inappropriate corporate investments in resource extraction, insurgency, and illegal logging activities may be fuelling this insecurity. The chronic poverty that forest-based communities often experience ranges from a depravation of assets through to social exclusion and lack of rights.

Opportunities for moving from poverty to sustainability

Many groups are working to reduce poverty in forest areas in ways that protect, enlarge, and ensure an equitable distribution of the 'forest pie'. Some groups are working towards social equity in resource access/ tenure and in the market value chain. Others focus on adding value to forest products and services, improving market transparency, or the quality of governance. Many are facilitating joint actions for tackling poverty and ensuring sustainable development.

The Millennium Development Goals can help societies focus their efforts on poverty reduction. In this sense, the MDGs have provided some windows for forest-based communities to claim their rights to basic services.

Opportunities abound, but these are still poorly charted. While questions and criticisms have been raised regarding the success and replicability of many

established forest management models, attention is yet to be given to the diversity of social programs and actions that have created an improved security of tenure for local communities. Although these actions often go un-acknowledged, they have become part of the future for sustainable forest management.

Note:
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INSTITUTIONAL RESTRICTIONS FACED BY AMAZONIAN COMMUNITIES FOR MANAGING THEIR FORESTS

By Gabriel Medina, Benno Pokorny and Bruce Campbell

Traditional and indigenous Amazonian communities hold considerable areas of continuous forest which have potential for improving their livelihoods. The advance of development frontiers is increasing the market for forest products, especially timber. Forests would thus seem to have a role in helping to meet the Millennium Development Goals in the Amazon. In transforming the potential of the forest into concrete benefits for livelihoods, communities are forced to deal with external stakeholders: loggers negotiating their timber rights, and government agencies and NGOs supporting community forest management initiatives.

This article is based on research carried out under the ForLive project (http://www.waldbau.uni-freiburg.de/forlive/), which has explored how relationships with external players influence the opportunities for communities: (1) to benefit from the use of their forests and (2) to develop forest management systems on their own, based on their interests and perspectives. Fieldwork was undertaken between 2005 and 2006 in the Bolivian, Brazilian, and Peruvian Amazonian frontiers.

Paternalistic loggers and the depletion of community forests

From the 1960s to the 1980s South American governments implemented policies to promote the economic integration of the Amazon by creating incentives for the expansion of the private sector, including commercial logging companies. As a result, loggers are currently negotiating timber rights with local communities in many of the frontiers across the Amazon. The established logging sector contends that partnerships with logging companies represent a great opportunity for the development of Amazonian communities.

In the study areas, small-scale loggers often negotiated with community members,

offering 'favours' such as access to credit and support in case of emergencies (e.g. sickness). In addition, large-scale loggers offered advance cash payments to community members that they were negotiating with. During these negotiations, community members have often accepted the incentives on offer and chosen to maintain good relationships with the loggers, rather than bargaining for more direct benefits. These relationships can be characterised as paternalistic (Medina and Shanley, 2004).

Based on this paternalistic structure, communities have sold their timber rights without defining any rules for timber extraction. Loggers have decided how the forests are to be managed, identifying species and numbers for extraction and the logging techniques to be used. In all of the case study sites, the species of interest were depleted within a few years, providing only limited benefits to the communities concerned.

Top-down development organizations and *'sustained' forest management*

Since 1990 an alternative model of development through forest conservation by sustainable management has been implemented by international donors, government agencies and NGOs. A number of pilot initiatives have provided technical support to communities for implementing this approach. Support organizations contend that community forestry reconciles development, conservation and poverty reduction.

These initiatives, as observed in the study areas, were generally characterized by top down decision-making processes. The main benefits to communities have often been indirect, such as improved access to information and better legal status. The direct benefits, most notably payments received, have been relatively low and have not offset the large amount of time spent on forest management activities and workshops.

In cases where external support has been provided, and based on donors' perspectives of forest use, some progress has been made in securing improved rights in accordance with national legal norms. However, since these norms have generally been determined and set by external experts their viability has often been tied to ongoing external support. Where support has ended, local communities have abandoned these dysfunctional legal systems and their associated management practices. In Brazil, for example, no more than 46 communities (which receive strong external support) are currently able to comply with the legal norms of forest management (Costa, 2005).

Conclusions

Paternalistic loggers and top-down development organizations have led communities to manage their forests according to external interests and perspectives. Under such conditions, communities have only indirectly benefited from the use of their forests, with limited improvements to their livelihoods.

Local Amazonian groups have been successful in defining their own concepts for working in other fields, such as fishing (Moreira, 2003) and land tenure (Allegretti, 1990). And they have also been successful in advocating their concepts through representative organizations. In the forestry sector, however, the relationships with

loggers and development organizations tend to:

1. Prevent communities from developing concepts of forest management based on their own interests and perspectives. Instead, forest management has been defined by loggers, who have bought communities' timber rights or development organizations, who have implemented forest management initiatives based on externally-defined concepts.

2. Bar communities from getting organized and expressing their interests through representative organizations. Instead, families in case study communities that have directly collaborated with loggers and development organisations have found themselves separated from their neighbors as advocators of external interests.

3. Silence the community's voices in the current debate about Amazonian development strategies. Instead, loggers (contending for partnerships with communities) and development organizations (contending for sustainable use of forests) have promoted their interests over those of the community.

This leads us to conclude that the current institutional context for community management of forests in the Amazon is not as promising as it may first appear. Without restructuring existing institutional arrangements, it is unlikely that Amazonian forests can contribute to the MDGs. This would, however, be possible if local groups were able to play a more active role in the ongoing debates on Amazonian development.

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PONGAMIA-A POTENTIAL BIOFUEL TREE FOR INDIA

By Ajit, Nighat Jabeen and A.K.Handa

India ranks 6th in the world in terms of energy demand. However, a large part of India's population, living mostly in rural areas and including the poorest people, does not have access to fossil fuel, oil-dependent sources of energy. The increasing gap between demand and domestically produced petroleum is a matter of serious concern. It is estimated that the import of crude oil will increase from 85 mmtpa [million metric tones per annum, equals to 20,000 barrels per day] to 151 mmtpa by the end of 2006-2007, correspondingly increasing the import bill from US$ 17-18 billion in the present to US$ 31.3 billion in 2006-07 (World Energy Council, 2006 : http://www.indiaworldenergy.org/oil.php) which is an enormous burden on the balance of payment condition of the country. Thus, oil security has become most important and key issue for the country.

These energy issues are directly related to two of the Millennium Development Goals, i.e. MDG1 on eradicating extreme poverty and hunger, and MDG 7 on ensuring environmental sustainability. Energy issues also influence the achievement of the health-related MDGs, nos 4,5 and 6, on combating child mortality, improving maternal health and combating diseases such as HIV/AIDS and malaria. Air pollution, through smoke or diesel exhaust fumes, and a lack of available and affordable energy for cooking, heating and lighting all affect people's health. Women and children are particularly vulnerable, as they are often responsible for the collection of fuel and for cooking, frequently on smoky fires.

In this context, fuels of biological origin have drawn a great deal of attention during the last two decades. Biofuels are renewable liquid fuels derived from biological raw materials and they have proven to be a good substitute for mineral oil-based fuels in the transportation sector. Biofuels are gaining worldwide acceptance as a solution for problems of environmental degradation, energy security, restricting imports, rural employment and agricultural economy. The Indian national mission on biodiesel proposed to produce biodiesel in quantities sufficient to enable its blending with HSD (High Speed Diesel) to the extent of 20% in 2011-12. There are about 90 tree species bearing seeds rich in oil, with potential for biofuel use. Of these, some promising tree species yielding biofuels are *Pongamia pinnata* and *Jatropha curcas*. Both are very suitable for Indian conditions. Using non-edible oil from tree borne oil seeds (TBOs) of these species, which are easily available in India, may reduce the cost of biofuel. The availability of some of these non-edible oils in India is shown in table I. There is a large gap between the potential and current use for all of the listed oils due to their alternative uses such as for fish feed, fat, pesticides and pharmaceutical use.

Both *Jatropha* and *Pongamia* may contribute directly to alleviating poverty and improving the environment, not only through production of biofuel, but also as multipurpose trees providing a range of products and services. *Jatropha* can provide oil for domestic energy needs, including lighting; an additional source of household income and employment through markets

of fuel, fertilizer, medicines, biopesticides, and industrial raw material for soap and cosmetics; and reclamation of wastelands.

Pongamia pinnata, a native species in India, yields between nine to ninety kilograms (20 to 200 pounds) of seeds per year. The seeds contain pongam oil, a bitter, red brown, thick, non-drying, non edible oil, 27–36% by weight, which has great potential as biofuel, as tanning leather, soap, as a liniment to treat scabies, herpes, and rheumatism and as an illuminating oil. One kg of seeds produces one-quarter of a litre of oil. The oil cake is a good source of manure, and is described as a "useful poultry feed". Both the oil and residues serve as biological pesticides. One litre of oil generates three units [1 unit=1kilo watts hour) of electricity. The current cost (2006) of Pongamia diesel Rs. 13 per litre (1US$ = 46 Indian Rs.) is less than one third than the current price of diesel (Rs. 36 per litre). *Pongamia* trees produce many other useful products, including bark fibre for ropes and several herbal medicines. It is recommended as a shade tree for pastures and windbreak for tea and avenue plantation. The leaves are scarcity fodder, especially in arid regions. It is sometimes intercropped with pasture, and the pasture grasses grow well in its shade. Dried pongamia leaves are used in stored grains to repel insects. Its spreading roots make it valuable for checking erosion and stabilizing dunes. Twigs are used as a chewstick for cleaning the teeth. The ash of the wood is used in dyeing.

Multi-purpose tree species such as *Pongamia* have a role to play in achieving the Millennium Development Goals. It is worth exploring the scope for expanding the

Table 1: Non-edible oil sources in India

Oil	Botanical name	Potential	Utilized	Percent utilization	Uses
Rice bran	*Oryza sativa*	474000	101000	21	As cooking medium, cosmetics etc.
Sal reclamation	*Shorea robusta*	720000	23000	3	Cosmetics, oil edible, land
Neem	*Azadirachta indica*	400000	20000	6	Pesticidal properties, as illuminant, used to treat malaria, reclamation of land
Karanj	*Pongamia glabra*	135000	8000	6	Pesticidal properties, reclamation of land, bio fuel

(Source: Report of the Committee on Development of Biofuel, Planning Commission, Government of India: http://planningcommission.nic.in/reports/publications/pubbody.htm)

use of these trees for biofuel and other products and services such as land reclamation, for the benefit of the Indian rural and urban poor, and the environment. To this end, the Indian National Research Centre for Agroforestry has developed a bibliographic database on *Pongamia* research conducted in India to allow not only the scientific community but also students, researchers, policy makers, planners and the public to search information on *Pongamia* through a very simple user friendly and menu driven interface. The database is available on-line at http://mirror.inaris.gen.in/net/.

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SUPPORTING COMMUNITY NTFP ENTERPRISES IN THE AMAZON

By Daniela Gomes Pinto and Peter H. May

The potential contribution of markets to the poverty alleviation and environmental sustainability aspects of the Millennium Development Goals (MDG) is much debated. In the Brazilian Amazon, this concern is pertinent when small-scale producers engage in commercial forestry production. On one hand, there may be a potential for commercial forestry to support economic development, but on the other the effects of market integration may leave forest people more vulnerable to external conditions than ever before. Engagement in forestry markets may thus pose a risk for local communities, whose business acumen, marketing skills and access to capital are not sufficiently robust to withstand the pressures of a competitive market (Scherr and Kaimowitz, 2003).

In Brazil, access to markets, credits, technology and marketing strategies are rarely available to rural small-scale forestry producers, especially in remote areas of the Amazon. Nonetheless, the growing number and diversity of local productive enterprises seeking to adhere to sustainable business practices has now attracted the attention of domestic and foreign traders. Great uncertainties still prevail about the real contribution of such undertakings towards improving wealth, health, education and environmental sustainability – these are all concerns within the realm of the MDGs.

Since 2002, Friends of the Earth – Brazilian Amazon has supported community forestry activities and small-scale community enterprises, primarily focusing on non-timber forest products (NTFPs), through the Services Help Desk for Sustainable Businesses Program (hereafter referred to as Help Desk). Services provided include legal support, training in finance and business management, and access to incentives and exemptions. Other activities sponsored by the program have included building producer-industry channels and laying the groundwork for product certification. The program also facilitates relevant institutional arrangements with state, federal or private institutions to make services available on a permanent basis. The logic behind the initiative is to help

generate income and other long-term social benefits for the local community, whilst mitigating the risks associated with dependence on natural resources.

The Help Desk initially identified around 400 small-scale forest enterprises in the Amazon, of which around 250 were visited. 40 enterprises were subsequently selected to receive program services. Target communities include nearly 5,000 families, comprising smallholders, extractivists and tribal groups dependent on these enterprises.

A preliminary evaluation of four of the community enterprises the Help Desk supports shows impressive results in income generation, natural resource conservation and land tenure security. The four enterprises in question are:

1. The Community Association of Santo Antônio do Abonari (Abonari), in Presidente Figueiredo, Amazonas. 17 member families. Support provided since 2003 to improve Buriti (*Mauritia flexuosa*) extraction and oil processing.
2. The Comaru Cooperative of Producers and Extractivists of Iratapuru River (Comaru), in Laranjal do Jari, Amapá. 32 member families. Support provided since 2003 for Brazil nut (*Bertholletia excelsa*) oil production.
3. The small-scale enterprise Amazonfruit, in Belém, Pará. 109 member families. Support provided since 2004 for activities associated with buying açaí (*Euterpe oleracea*) fruit pulp from members to produce and export a mix for juices.
4. The indigenous community of Baú (Kayapó tribal group). 164 members. Support provided to achieve Forest Stewardship Council (FSC) certification for their Brazil nut extraction and oil production.

Income generation

In Abonari, until 2001 individuals were responsible for marketing their own products to local markets. During the four month harvest period in 2002, the association made an income of R$1505 (about US$700). During the same four month period in 2003, and following support from the Help Desk, 4735 kg of buriti pulp was sold to a national cosmetics industry, generating an income of R$9470 (US$4400). Per-capita income during this period increased from R$89 (2002) to R$557 (2003) – an increase of nearly 470%. In the Baú indigenous community in 2005, Help Desk support facilitated the sale of 4295 liters of Brazil nut oil to the cosmetics sector, providing a per-capita income of roughly R$710 (US$330). This is a significant achievement in a community that lacks other sustainable sources of cash income. Support has also included a participatory process for new definitions of benefit sharing within the community.

Vulnerability

Improvements in management practices have contributed to a potential increase in income stability through the diversification of production. In the case of Amazonfruit, açaí seeds, previously discarded in the production process, are now being used by the community for the production of handicrafts, which are currently being exported to the USA (generating approximately US$5500 in 2005). Abonari has acquired a mini-processor for the production of buriti oil that will also make the production of pulp and oil from other abundant natural resources (e.g. açaí and cupuaçu (*Theobroma grandiflorum*) possible. For Comaru, closer contact with buyers has stimulated production of additional extractive products, such as breu

branco (*Protium pallidum*) and copaiba (*Copaifera sp*) oil. In Baú, the production of Brazil nut oil generates a 'press cake' as a by-product, which has been used in the confection of cakes, biscuits and other food items, enriching the indigenous diet with its high protein content.

Land security

Among the four enterprises evaluated, two experienced clear improvements in land tenure security, arising from legal recognition of their property rights. In the cases of Abonari and Amazonfruit, certification of their NTFPs has led to communal formalization of their borders and initiated the process for official land titling. Secure access and land use rights are of primary importance to realize the poverty-alleviating potential of forest resources (Wiersum and Ros-Tonen 2005). Besides reducing tenure insecurity, once land titles are obtained communities may also access public or private financing with greater ease.

Environmental sustainability

At least one enterprise (Abonari) changed its extractive practices during the period of support. Community members have collectively agreed upon clear rules for buriti management thus mitigating the risk of resource exhaustion. In the Baú case, FSC Brazil nut certification has indirectly assured the formal protection of their indigenous forest land, which was constantly threatened by illegal logging, gold mining and fishing. Awareness was significantly raised regarding the risks of illegal practices within a certified area (including loss of FSC certification and the consequent impact on sales, and greater attention to the area from external actors such as governmental bodies, NGOs and certifiers). Additional income is also expected to improve maintenance of boats and vehicles used by the community to protect their land from invasions.

Conclusion

Short-term investments in forest enterprises, especially those focused on improving resource management and capacity building may help break the vicious circle that ties forest communities to poverty. Preliminary results from the evaluation of four enterprises have shown that even in the initial phases of support, improvements were visible. In all cases, the community level contribution to the MDGs was significant, particularly with regards to goals 1 and 7 (poverty reduction and environmental sustainability) through reducing vulnerability, improving land tenure security, and avoiding loss of biodiversity. Impressive results were also achieved in income generation, although little is yet known about revenue distribution among community members, or the long-term stability of such improvements. A complete assessment will be held in 2006 and 2007.

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WHAT CONTRIBUTION DOES SUCCESSFUL NTFP COMMERCIALISATION MAKE TO THE MILLENNIUM DEVELOPMENT GOALS?

By Elaine Marshall, Kathrin Schreckenberg and Adrian Newton

This article presents a brief summary of findings from 'CEPFOR' – a multidisciplinary research initiative funded by the DFID-Forestry Research Programme to examine the factors influencing successful non-timber forest product (NTFP) commercialisation. Through socio-economic and market research, the project evaluated the impact of different NTFP value chains on poverty reduction, women's livelihoods, natural resources, and rights/access of the poor in eighteen communities in Bolivia and Mexico. Based on the evidence collected, it is apparent that NTFP commercialisation can contribute to the achievement of the MDGs in several ways as highlighted below.

Goal 1. Eradicate extreme poverty and hunger

Collection of edible NTFPs, from fruit and flowers to mushrooms, roots, shoots and leaves can directly reduce hunger, while NTFP commercialisation activities contribute to household incomes, thus enabling families to buy food. NTFPs regularly provide a safety net for the poor to fall back on when other activities, such as subsistence agriculture or cash crops like coffee, fail to deliver as expected. It is important to note that NTFP income varies greatly even between households that are engaged in the same activity. NTFP activities can contribute between 7% and 95% of a household's annual cash income. In a few cases, people are able to save enough to engage in other, often more secure activities that will enable them to escape poverty outright.

The degree of importance of NTFPs in household livelihood strategies is closely linked to their seasonality and the way they may be combined with other income-generating activities. NTFP activities, particularly at collection level, require little formal education, relying on skills learned 'on the job'. Many require no capital or access to private land. However, as labour is often the key input for NTFP harvesting activities, good health is an important requirement. And although NTFP activities are typically considered to be the preserve of the poorest, some require capital investment (e.g. for establishing plantations or funding long collection trips) and are therefore more attractive to the less poor.

Goal 2. Achieve universal primary education

The timing of much NTFP income is critical for enabling households to pay for school fees and books.

Goal 3. Promote gender equality and empower women
Those activities that involve women play an important role in raising their status within their households and communities by providing them with an independent source of income. NTFP activities are one of the few cash-generating opportunities for women in marginalised rural communities. However, few product value chains involve only women and the involvement of both men and women can make an activity economically viable at household level, because skills and time are shared. As women are more likely than men to be involved in processing and cultivation activities, labour-saving technical innovations can improve the low returns to labour of women's NTFP activities.

Given the more limited livelihood options available to women, they are more likely to feel the impact of changes in NTFP commercialisation than men. Some of the more difficult changes for women to deal with include a declining resource base, which may result in a switch from collection to purchase; and changes in processing and selling locations, which can move employment opportunities away from rural communities.

Goal 4. Reduce child mortality
Goal 5. Improve maternal health
Goal 6. Combat HIV/Aids, malaria and other diseases
The impact of NTFP commercialisation on Goals 4, 5 and 6 is likely to be indirect. In the case of Goals 4 and 5, the accrual of income to women from NTFP commercialisation can lead to a higher level of expenditure on children's and women's health. Organisation into groups gives women the opportunity to share experiences in the area of health and, in some cases, provides access to minor sources of credit that can help women maintain their own and their children's health.

Goal 7. Ensure environmental sustainability
In the majority of cases, increased NTFP commercialisation initially leads to overexploitation of the resource. Tenure is an important factor in determining the variety of strategies used by communities and individuals to ensure that NTFP supply is sufficient to meet the demands of increased commercialisation. With communally owned resources, improved resource management and better harvesting practices are most common. Where land is held privately and the plant can be easily propagated, individuals begin to engage in small-scale domestication. If well managed, both of these options can decrease overexploitation of the specific resource and possibly reduce forest degradation.

Goal 8. Develop a global partnership for development
The impacts of NTFP commercialisation on this goal are marginal. However, global NTFP commercialisation can benefit from the development of an open, rule-based predictable and non-discriminatory trading and financial system (Target 12). Expansion of NTFP commercialisation activities with greater recognition of the environmental services rendered could provide decent employment for young people in rural areas (Target 16).

Is investment in forestry a good way of achieving the MDGs? NTFP activities can play an important role in gap filling for the rural poor, and under certain conditions **can**

provide a stepping-stone out of poverty. Much of the potential of NTFPs is context specific, and many factors, much wider than the NTFP sector, determine how much of an impact forest activities will have on the MDGs. Their contribution cannot be considered in isolation. Instead, our findings highlight the importance of a combination of factors, including the enabling environment, product characteristics, market conditions, sustainable use and combined influence of household capacity to engage in different activities.

Note:
All key project outputs, including a pdf of the 2006 publication, are freely downloadable from: www.unep-wcmc.org/forest/ntfp.

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WHAT CONTRIBUTION DOES PARTICIPATORY FOREST MANAGEMENT MAKE TO THE ACHIEVEMENT OF THE MDGS?

By Kathrin Schreckenberg and Cecilia Luttrell

Background: Participatory forest management and poverty reduction

The Forest Policy and Environment Programme of the Overseas Development Institute is leading a two-year action research project ('ARPIP') to investigate the impact of participatory forest management (PFM) on poverty reduction. Funded by the Ford Foundation and Care International, the ARPIP project is being carried out with partner organisations in Germany, Nepal, Tanzania, Kenya and Vietnam.

The background to this project is the widespread promotion around the world of varying forms of community participation in the management and use of natural forests and woodlands. While early support for PFM was principally motivated by donors' interests in improving the conservation status of forests, current interest is motivated by the assumed potential of PFM to reduce poverty. This shift in emphasis took place within the context of a global focus on poverty reduction (as illustrated by the Millennium Development Goals and the promotion of national poverty reduction strategies), and the recognition that the very location of many of the world's poorest people in and around forests implies an important role for forests in poverty alleviation. Because of PFM's direct engagement with local communities, this

management approach appears to be an obvious way to achieve poverty reduction through the use of forest resources.

There is a growing recognition, however, that for the past two decades PFM has been increasingly promoted on the basis of unsubstantiated assumptions about the likely benefits and virtues of this approach. The lack of solid evidence for the impacts of PFM is in part due to the difficulty of measuring the range of costs and benefits for different groups of people. The lack of methods to assess the impacts of PFM on the rural poor, and the resulting lack of data linking these impacts to national policies and institutions, prevents PFM featuring as a component of national poverty reduction strategies. There is little guidance for donors and governments on how to design and encourage pro-poor forest institutions, or on how different types of PFM can fit in with government decentralisation initiatives and contribute to a wider pro-poor rural development strategy.

The ultimate aim of the ARPIP project is to increase the poverty-reducing impact of PFM initiatives by answering the following key questions:

1 Can PFM contribute to poverty reduction by providing rural people with a sustainable and equitably distributed stream of net benefits greater than those obtained under a non-PFM situation?
2 If yes, how significant are the benefits (in relation to other income-generating activities and sources of livelihood) for different well-being groups? If no, what are the key negative impacts of PFM – and on whom do they fall – and are there ways of minimising, mitigating or reversing these?
3 How do the impacts (both positive and negative) on poverty and equity of different forms of PFM compare? What changes in policy, institutions and legal frameworks have the potential to enhance the contributions of PFM to poverty alleviation?

Progress so far

The project began in April 2005 by (a) preparing a literature review outlining existing evidence of the poverty reduction impacts of different types of PFM, and (b) developing a methodology for investigating the benefit (and cost) streams resulting from the implementation of PFM, and their distribution within and between communities. Fieldwork is now ongoing in Nepal, Kenya and Tanzania and is planned for Vietnam.

The two Millennium Development Goals for which PFM has clear relevance are Goal 1 'to eradicate extreme poverty and hunger' and Goal 7 'to ensure environmental sustainability'. Multiplier effects associated with both the process and the outcomes of PFM have the potential to contribute to other MDGs such as those relating to health and education. We hope to be able to comment on all of these by taking a sustainable livelihoods approach to examine the impacts of PFM not just in relation to financial benefits, but also with respect to natural, physical, human, social and political capital.

Very preliminary findings relating to the achievement of the MDGs 1 and 7 include the following:

MDG 1. Can PFM help to eradicate extreme poverty and hunger?

There is a clear difference between newly established and more mature PFM

programmes in terms of the returns they provide to local people. In some Nepali communities, for instance, community forests have become very valuable community-based enterprises, with new members having to buy a share and people getting paid out if they leave the area. User groups have identified specific 'pro-poor' activities designed to help the poorest people in their communities. This contrasts strongly with some new PFM communities in Kenya and Tanzania, where communities are expected to invest a great deal of unpaid labour in 'their' PFM forests, e.g. in protection and cutting paths, for which they might previously have been paid by forest departments. Income from permits for collection of fuelwood or posts is, however, still being managed by forest departments. Where they exist, new forest-related, income-generating activities are available for only a few people in the community with no preference given to the poorest.

MDG 7. Can PFM help to ensure environmental sustainability?

Definitions of what constitutes PFM are extremely variable both between and within countries. Some of the communities in which we are working (particularly those in Kenya and some in Tanzania) are participating in the management of protected areas. In these cases, PFM is often taken to include many 'substitution' activities that occur outside the forest and reduce people's dependence on the forest itself (e.g. fuelwood plantations, agroforestry activities). While these so-called 'PFM' activities are clearly bringing benefits to some people, the long-term link to the forest (and hence justification for its conservation) is not clear.

In almost all cases, the first 'PFM' activity consists of increased (often complete) protection of the forest, sometimes accompanied by active regeneration efforts, usually leading to a fairly rapid improvement of the forest condition. In some areas of Nepal, where PFM is very widespread, all local forests are under the management by one or other user group. However, in countries where PFM is still at an early stage, there is a concern that the introduction of PFM could displace some forest uses to other nearby forest areas. This could occur, for example, where stricter enforcement of permits in the PFM forest means that people begin to collect fuelwood and poles in an unregulated way from open access forest areas. In the longer term therefore, such a piecemeal approach to PFM is unlikely to ensure wider environmental benefits.

Final outputs of the project will include briefing papers in each country and a cross-country analysis by mid 2007. In the meantime, more details can be obtained from the project's website at http://www.odifpeg.org.uk/activities/environmental_governance/SO137/index.html

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YIELD AND ECONOMICS OF GROWING *EUCALYPTUS CAMALDULENSIS* BY SMALLHOLDER FARMERS OF AMHARA REGION, ETHIOPIA

By Asaye Asnake

Population growth and land scarcity has severely strained the land resources of Ethiopia, particularly in Amhara region. As major effects of this strain, forests have been declining in size (deforestation) and quality (degradation) mainly during the last century. Gondar Zuria district in northwestern Amhara is one of the main areas where many farmers have been planting eucalyptus woodlots on a significant portion of their arable land in response to forest degradation.

This area was considered to be suitable for expanding private tree planting for several reasons. A fuelwood project operated in the area for more than 10 years, during which period farmers received tree seedlings and gained knowledge on tree planting; the area was extremely short of fuel and construction wood, forcing the farmer to grow and expand eucalyptus; there was good access to market and roads.

The study aimed to explore the establishment and management practices, growth performance and financial returns of growing *Eucalyptus camaldulensis* woodlots by smallholder farmers of the Amhara region compared with agricultural crop production. Woodlot owners were selected and interviewed to describe the establishment and management practices adopted for eucalyptus woodlots. Growth or volume data were collected by taking sample plots randomly based on three site conditions (best, medium and poor), two common planting densities (10 000 and 20 000 trees/ha) and three widely used rotation periods (4, 5 and 6 years). Production costs and prices for eucalyptus and agricultural crops were assessed, analysed and compared.

Most farmers (85%) in the study area planted eucalyptus to meet their own demand for construction material (85% of the respondents) and fuelwood (73%), and to generate cash income from the sale of poles (75%). On average, a farmer allocated 13% of the land to growing eucalyptus. The woodlot area varied considerably among farmers: between 0.01 and 1 ha. Some farmers did not have any woodlots because of land shortage or insecure access.

The type of plantation and number of trees planted varied as well. Most farmers planted in farm woodlots (70%), followed by planting within the homestead (17.5%) and on field boundaries (12.5%).

The study showed that farmers with eucalyptus woodlots had a much better standard of living than farmers without woodlots. They could fulfil the household's demand of fuel and construction wood, were able to send their children to school and bought medicine when needed. These farm families were well fed and dressed, and lived in tin-roofed instead of grass-roofed houses. Besides fulfilling household needs, these farmers could invest in other business sectors as well, such as buying more livestock (sheep, goats, cows) for breeding.

All farmers, both with and without woodlots, perceived shortage of land as the main constraint. Other setbacks mentioned were related to land tenure (30%) and a fall in the market price of poles (mentioned by 15% of the farmers).

Ploughing for site preparation, the use of furrows to plant seedlings, clean weeding, hoeing, fencing and guarding by the family appeared to be the best tree establishment and management practices for survival of seedlings and volume production. A planting density of 20 000 trees per ha proved to be the most effective management option in best and medium sites: a volume production of 112 to 361m^3 per ha in a rotation period of 6 years, compared with 92 to 210m^3 per ha for 10 000 trees per ha.

The financial returns of eucalyptus woodlots were compared with teff and sorghum, the common and widely grown agricultural crops in the area, for best and medium site conditions at the rotation age of five years. The financial analysis confirmed that growing *Eucalyptus camaldulensis* woodlots in both planting densities and all site conditions was financially profitable. The Net Present Value (NPV) at optimal rotation age (5 years) on best sites were $2945/ha for eucalyptus woodlot, $760/ha for teff and $753/ha for sorghum. In this case the NPV for eucalyptus woodlot was almost four times that for teff and sorghum.

The sensitivity analysis indicated that the financial return is highly sensitive to price, yield, interest rate and distance of woodlots from the main road, but that the establishment and management cost had little impact on financial return.
Woodlots located far from the roadside resulted in a lower price for the poles, which reduced the financial return by 41 to 59% compared to woodlots near the road. Farmers with woodlots near the road have a better bargaining position and were able to sell the poles at a higher price than farmers with woodlots far from the road. Therefore, farmers wishing to grow eucalyptus for cash should take into account access to the market and thus the distance from the plot to the main road when planning a woodlot. Growing eucalyptus will reach a break-even point with teff and sorghum at a certain distance from the road, where the lower financial return will be similar to that of the main food crops.

Nevertheless, the results showed that growing *Eucalyptus camaldulensis* woodlots in both planting densities and at all site conditions remains profitable under a wide range of uncertainties. In general, farmers in the study area are satisfied with growing eucalyptus because it makes farm households self-sufficient in fuel and construction wood; it is an important source of cash income, about 26% of the total family income; the woodlot is used as a means of saving and security; and the labour input is low compared to growing crops. The data on the distribution of seedlings showed that eucalyptus plantings by individual farmers have been increasing since 1992.

Tree farming in the Amhara region has thus become an important component in ensuring household food security and increasing the cash income of a large majority of farmers, with direct positive effects on poverty reduction (Millennium Development Goal No. 1), children's education (No. 2), and family health (Nos 4, 5 and 6).

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PROMOTING SUSTAINABLE MANAGEMENT OF INDIGENOUS DRY FOREST IN SOUTHERN AFRICA: a SADC project experience in addressing poverty and environmental degradation

By Frank Brodbeck

The Southern African Development Community (SADC) project, "Sustainable Management of Indigenous Forests", was set up in 1996 to address poverty and unsustainable use of forest resources in the Miombo woodlands. SADC developed the project, which effectively targets MDG1 and MDG7, in collaboration with GTZ, the German organization for international cooperation for sustainable development. The SADC comprises 14 Member States, covering a total area of more than 9 million km^2 , with a population of about 200 million people. With an area of 2.7 million km^2, Miombo woodlands (dominated by *Brachystegia* spp.) are the predominant vegetation type within the SADC region. Roughly 60 million people live in and around these Miombo woodlands. Most are poor and depend heavily on natural resources for firewood, charcoal production, wildlife, water, medicinal plants, timber, fruits etc. Over the past decades, population growth in combination with poverty has led many communities to unsustainable utilization of forest resources, thus threatening their own base of existence. Charcoal production was often the only substantial source of cash income in these poor rural areas with low precipitation and poor soils. Combined with a lack of clarity on land rights and forest management responsibilities, this led to alarming deforestation rates.

The project sought to break this vicious cycle by identifying and promoting alternative sources of income which would clearly depend on well-managed forests, such as non-timber forest products (NTFPs) and eco-tourism. Once the communities began to earn money from NTFPs, such as guinea fowl, honey, fruit juice from wild fruits, cane furniture and herbal teas, or from eco-tourism, they regarded the forest as a source of income requiring protection and sustainable management. The project subsequently assisted the communities in developing participatory forest management plans and in all the formal and legal steps for applying for the declaration of community forest areas with full user-rights.

The project works at the regional (SADC) and at local level, with project components in Malawi, Botswana, Namibia and Mozambique. Project partners include the respective national Directorates of Forestry in these countries and the following local NGOs: "Grupo de Trabalho Ambiental" (Mozambique), "Wildlife and Environmental Society of Malawi" (Malawi), and "Veld Products Research & Development" (Botswana).

Results

The project area in **Namibia** covers 20 villages in the Ohangwena region with a total

of approximately 1000 inhabitants. The project assisted the newly established Forest Management Committee (FMC) to develop a management plan for the community forest (75,000 ha). The approved plan was a precondition for the official declaration of the Community Forest by the Ministry of Environment and Tourism, which now gives full user rights to the communities. The mean annual income of community members involved in income-generating forestry activities increased by 132 US$ per capita. 63% of the beneficiaries are women. The additional income was invested primarily to buy food products, to improve homes and to buy school materials for the children. Thus, the project contributed to MDG 1 (eradicating extreme poverty and hunger), MDG 2 (achieving universal primary education), MDG 3 (promoting gender equality and empowering women), while also contributing to MDG 7 (ensuring environmental sustainability).

In **Botswana**, five villages in Western Kweneng, with a total population of 3,450 inhabitants are involved in project activities. The project area is part of the Kalahari Sandveld, with an average annual rainfall of about 250 mm. Due to the harsh climatic conditions, possibilities for sustainable utilization of "veld" products are very limited. Therefore, project activities concentrated on the harvesting and processing of devil's claw (*Harpagophytum procumbens*). The project, which is largely run by women, developed an ecological assessment tool for the communities to estimate the sustainable yields of devil's claw. The 250 harvesters in the project area earn up to 17,300 US$ from the sale of devil's claw per year, or approximately 70 US$ per person per year.

The project component in **Mozambique** covers two villages with a total of approximately 1000 inhabitants. The community area of these two villages is 170,000 ha, mostly Mopane (*Colophospermum mopane*) forest and woodland. Charcoal production is the major economic activity for the local population. Before the project started, charcoal was produced without any plan, without knowing the sustainable yield, and mostly without a licence. The project therefore facilitated the establishment of a Natural Resource Committee (NRC) in the villages, which acquires licences for the harvesting of forest products from the National Directorate of Forestry and Wildlife. The NRC then establishes quotas and allocates the harvesting areas to the community households, according to the newly developed Forest Management Plan. A Finance Committee collects fees from the sale of these forest products (poles, firewood, charcoal) for the community fund. Since 1998 the communities generated revenues of 14,000 US$ in total. This money was used for local development, e.g. the rehabilitation of the local clinic and school, and improving the water supply. Thus, the project contributed to MDG 2, MDG 4 (reducing child mortality) and MDG 5 (improving maternal health).

In **Malawi,** the project area in Mwanza District includes 13 villages, with more than 10,000 inhabitants. About 79% of the population now have an income from forest related activities, such as bee keeping, guinea-fowl rearing, or fruit juice production. The annual income per household increased from 43 US$ to 130 US$ for those involved in these income generating activities. During the drought in Malawi in 2001/2002, the sale of guinea-fowls in the

project area helped the population to survive without food-aid from outside, while in other parts of Malawi people died of hunger.

On the **SADC** level, the project regularly participates in the meetings of the Technical Committee on Forestry and participated actively in the elaboration of the SADC Forestry Protocol. Toolkits with the lessons learned from the project were formulated and integrated into the project database, which is disseminated throughout SADC.

Conclusion

The project managed to improve rural livelihoods through income from the forest, while reducing the pressure on the forests by promoting sustainable management. It has contributed to achieving MDG 1 and 7, as well as 2, 3, 4 and 5. This approach has been tested in four countries with very different basic conditions, in terms of climate, soils, and the political and administrative systems. The project adapted its approach to the respective conditions and problems of each country and is now able to provide a wide range of tested solutions and best practices. To encourage the replication of the project approach in other SADC member states, these best practices are compiled on a database CD which is available from the project.

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C. EDUCATION AND HEALTH (MDG 2,3,4,5,6)

TROPICAL FORESTS AND HUMAN HEALTH

By Carol J. Pierce Colfer, Douglas Sheil and Misa Kishi

Between June 2003 and April 2005, CIFOR researchers conducted a survey of the literature on human health and tropical forests. Our purpose was to assess what was available on forests and human health, given the increasing recognition – through such modalities as the Millennium Development Goals – that human health is important in maintaining forests as well as human well being. We hoped to find systematic, replicable, longitudinal and cross-cultural studies demonstrating elements of causality in the tropical forest-people link. This hope was not realized. There do not appear to be such studies, or at best, very few.

We did, however, find a huge amount of literature on specific and relevant topics. That literature was scattered across a vast range of disciplines: agriculture, anthropology, botany, conservation, development studies, ecology, entomology, epidemiology, ethnobotany, forestry, geography, medicine, nutrition, political science, public health, sociology, soil science, zoology, and more. Although we examined over 650 studies and analyses, we will certainly have missed some relevant studies.

However, within that body of material, most of which came from the last decade or so, we identified and focused on four main topics: food and nutrition, diseases, health care (including medicines), and forest-based cultures.

We found that although tropical forests are often characterized by poor soils, and plants with defenses that render them inedible, forests are important genetic reservoirs. Foods that do come from such forests are extremely important in many contexts, often supplying vital nutrients to forest communities and serving as sometimes life-saving safety nets during seasonal shortfalls and crises (wars, severe droughts, floods etc.). Landscape modification, logging, hunting and invasive species, as well as different stages of forest regrowth (and probably climate change) result in variations in food availability, with varying impacts on local people. Commercialization of edible (and other) forest products has led to problems of unsustainability. Disease and inequity of food distribution within households result in varying effects on household members' nutritional status. We also found 'development' (infrastructure, forest clearing) to have both positive and negative efforts on people's health.

In terms of disease, forest people are badly affected – partly because their remote locations make public health facilities inaccessible. But also because national health systems tend not to prioritize them, due to the higher costs for fewer people. We found considerable information on HIV/AIDS, malaria, and mercury poisoning as diseases/illnesses that commonly affect forest populations. We also looked at about 20 other diseases, the most notable of which are vector-borne. As with nutrition, local context and specificity ruled (in the absence of large scale, longitudinal and comparative studies), in terms of the causal relationships between forests and disease. In some cases, forest clearing resulted in improvements in health; but more often the reverse seemed to be true. The development of new habitats in which diseases and vectors flourish and the introduction of new animals, as well as the mixing of indigenous people with migrants, all make a potent mixture for exacerbating diseases.

Many forest plants and animals use toxins as defense mechanisms, and these compounds sometimes have a medicinal value. Cola, caffeine, chocolate, and chili pepper, as well as cocaine are popular forest compounds. We found extensive evidence of indigenous knowledge of forest plants and animals, that is applied for medicinal purposes by both women and men. In the absence of 'modern' alternatives systems of traditional healing are thriving. In many areas, however, medicinal plants are threatened by commercialization and global markets, loss of traditional mechanisms that previously contributed to sustainable use, and competing uses of the same species. One of the most controversial issues is the use of indigenous knowledge by the pharmaceutical industry and the distribution of benefits. Attempts to work together with local communities have had mixed results.

Human cultures that evolve in forested areas tend to be intimately linked to the forest environment. This means that changes in forest cover can have serious implications for local people's way of life, and hence their mental health. This is

particularly true of groups that live by hunting and gathering and by swidden agriculture, but can also be true, to a lesser extent, for more purely agricultural communities on the fringes of forested areas. The variety in the world views of different cultural groups came out clearly in our literature review – people from different cultural groups can have totally different assumptions about life, death, health and their natural and human environments. We concluded that improved health in these contexts will require a better understanding of the different ways people perceive health and illness, and how these perceptions relate to the forest and the rest of their way of life. Like biodiversity, such cultural diversity has an intrinsic value of its own, which may serve as an 'insurance policy' should the ways of the West fail.

Improved communication in three areas would go a long way to advancing the health of forest people:

1 Better communication between communities and researchers, practitioners, and policy makers. Direct involvement with local communities is necessary.
2 Better interdisciplinary communication. The complex and dynamic nature of forests, cultures and diseases requires a broad range of expertise.
3 More effective communication of research results to policy makers and other relevant entities. Participatory action research with both communities and policy makers may be one way of accomplishing this.

We call for three types of large-scale research to fill the gaps we have discovered:

1 Interdisciplinary research specifically designed to gain a better understanding of the relationships between landscape change and human health.
2 Long term monitoring of climate change and human health in forests – for improved understanding, and for anticipation and timely intervention when problems emerge.
3 Long term process-oriented, participatory work with forest communities to strengthen capacity at all levels to identify, monitor and solve local human and environmental health problems.

Improving communication and filling the research gaps in this way will help highlight, and more importantly build upon, the significant role of forests in meeting human health needs and contributing to the health related Millennium Development Goals.

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LOGGED TO DEATH: THE IMPACTS OF THE TROPICAL TIMBER INDUSTRY ON HUMAN HEALTH

By Simon Counsell

The human health aspects of the tropical logging industry are usually overlooked. However, there is growing evidence that the human health costs of rainforest logging are significant, if difficult to estimate fully. This paper suggests that, at best, the tropical logging industry, and those that advocate its continuance and expansion, are directly undermining the achievement of Millennium Development Goal 6, which seeks to reduce suffering from diseases including malaria and HIV-AIDS.

Malaria

The relationship between the incidence of malaria and modification of tropical forests has long been appreciated. Several governments, including those of Uganda and Guyana have recognised the relationship between loss of, and damage to, their forests and the incidence of malaria. A recent study in the Peruvian Amazon has shown that the incidence of malaria vectors, *Anopheles darlingi*, increased more than 200-fold in deforested areas compared with intact rainforest (Vittor and Patz 2006). The increase in mosquito populations appears to be due to the availability of standing water suitable for reproduction. This is often caused by ponding of streams and rivers through road and skidder-track construction, blocking of watercourses by erosion and logging debris, deep ruts and gullies caused by heavy equipment and lorries, as well as stagnant pools occurring in and around logging camps. Clearance of overhead vegetation can also cause a reduction in the acidity of surface water, thus creating better conditions for anopheles mosquitoes to breed (Patz 2000).

HIV-AIDS

There is evidence that HIV-AIDS may have originally been transmitted to humans via bushmeat, and subsequent adaptation, of Simian Immunodeficiency Disease (SIV), which is present in various sub-species of chimpanzee in West-Central Africa's forests[1]. This indicates the danger of proximity of humans to such sources of disease, but there is also growing evidence of the role of commercial logging in the spread of HIV-AIDS.

Logging concessions, in Africa and elsewhere, create conditions in which sexually-transmitted diseases are likely to proliferate: high concentrations of mostly male manual workers, often migratory and without their families, enjoying regular cash income, located in remote areas where levels of wealth amongst the local female

population is often also very low. One recent study in Cameroon, carried out in a village where a sawmill and logging camp is located and two nearby villages, has shown that nearly one quarter of women aged 25-34 were infected with HIV (compared to an 8.3% infection rate for this gender-cohort in Cameroon's East Province as a whole) (Laurent et al 2004). In a context in which loggers had relatively high salaries (US$60 to US$530 per month), sexual networks were extensive and complex. An estimated 40 female sex workers were permanently living in the logging camp. In addition, around 100 women from towns or neighbouring villages visited the camp once a fortnight at the time of salary distribution, to trade or offer paid sex. This would be a fairly typical scenario for most logging operations across the Congo Basin.

In addition to the introduction of HIV into remote forest areas, it is likely that logging camps also serve as a nexus for infection, with the disease being spread out along log extraction and transportation routes by truck drivers – though this aspect has not yet been the subject of specific study.

Outside Africa, the only other reports of a relationship between the forest industry and HIV-AIDS have come from Burma where, according to Global Witness (2003), logging and an associated influx of migrant workers in Kachin state has led to an increase in social problems including prostitution, HIV-AIDS and drug abuse.

Other diseases

The full range of diseases likely to be promoted by the combined effects of forest habitat change and new settlement has not been fully documented. However, as noted in a Harvard Medical School study, 'the majority of important vectors of human and animal diseases [are] found in the rich biodiverse tropical rain forest ecosystems, woodland savannahs, and the edges of these ecosystems' (Chivian 2002).

The proximity of humans to such vectors encourages their adaptation to human hosts, especially when alternative hosts in the form of large mammals become locally scarce (Chivian 2002). The killing of bushmeat by logging workers, their dependents, and other people attracted along logging roads, to supplement their usually meagre incomes, is only adding to this problem.

Much of what has been noted above concerning malaria is also true of dengue and dengue hemorrhagic fever; any environmental or cultural changes encouraging the proliferation of mosquitoes is likely to promote the spread of dengue if the disease is present in the area or in those traversed by logging industry workers (Gratz 1999). A study in South America reveals the links between the human invasion of forests and exposure to diseases including yellow fever, and rabies transmitted by vampire bats (Brandling-Bennett and Francisco Pinheiro 1996).

Conclusions and recommendations

There is strong evidence that industrial-scale logging operations in tropical forests are closely linked to the spread of a range of serious, often fatal diseases, especially malaria and HIV-AIDS. In addition, there are good reasons to fear that further new diseases will emerge from forest areas undergoing modification, both because of environmental change as well as the proximity of larger numbers of humans to disease vectors. This strongly suggests that

the promotion of commercial logging in tropical forests runs directly counter to Millennium Development Goal 6, which aims to combat HIV/AIDS, malaria and other diseases.

To a certain extent, these problems could be mitigated through improved health-care provision and screening. However, in other cases, it is difficult to see what steps can be taken in practice, as the causes for the spread of disease are fundamentally related to the nature of tropical logging. Therefore, the hidden human health costs associated with tropical logging concessions should be assessed and internalised within the calculations of national governments and international agencies that promote the expansion of industrial logging in the tropics, and compared with the net economic value of alternative forms of forest management.

Footnotes

[1] http://www.med.harvard.edu/chge/biobrief.html

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Note: This article has been adapted from a longer essay, which can be obtained on request from the author.

MEDICINAL PLANT BIODIVERSITY, LOCAL HEALTHCARE AND THE MDGS

By Gerard Bodeker

In the developing world, a large proportion of the rural population depends on forest biodiversity for their livelihoods, nutrition and health. Clearing forest land for agriculture may, in the short term, slightly enhance the nutritional status of some people, but at the same time leads to a loss of important medicinal plants. Due to ecosystem imbalance it can also increase human exposure to a range of diseases including malaria, cholera and schistosomiasis. Human health, biodiversity, and poverty

reduction represent a nexus of interrelated issues that lie at the centre of human development, with biodiversity in turn being dependent upon human health (Epstein et al. 2003). It is a clear implication then, that conserving forest biodiversity by valuing and harnessing it as medicine is consistent with efforts to achieve the health related Millennium Development Goals, namely, Goal 4 – to reduce child mortality, Goal 5 – to improve maternal health, and Goal 6 – to combat HIV/AIDs, malaria and other diseases.

Recent policy interest in the importance of traditional medicine in meeting the health needs of the developing world has underscored the significance of this topic for the health of the poor and indigenous groups, as well as in meeting the pluralistic health requirements of more affluent consumers internationally.

Issues pertinent to local, national, regional and international communities

Local: Throughout the non-industrialised world, hundreds of millions of rural households are estimated to use medicinal plants for self-medication. While reliable data is scarce, it has been estimated that in India approximately two million traditional health practitioners use over 7500 species of medicinal plants (FRLHT 2002).

However, unsustainable harvesting practices by herb gatherers, often for commercial purposes, has resulted in the depletion of many medicinal species in otherwise healthy forests. This shift from a subsistence to a commercial focus in harvesting is also accompanied by a lengthy marketing chain that offers very low rates of return to gatherers. In Mexico for example, collectors are reported to receive a mere 6% of the consumer price for medicinal plants (Parrotta 2002). These low rates of return have discouraged gatherers from cultivating their own plants and have led to large volumes of wild plant material being harvested.

National: While forestry policies have focused on trees and the forest canopy as priorities for conservation, for the most part, they have overlooked the forest under-storey and ground level non-timber forest products including medicinal plants.

If local gatherers are to secure a fair price for their work and participate willingly in sustainable harvesting and local cultivation, new models of trade are called for which will shorten marketing chains. Cooperatives of gatherers supplying direct to manufacturers, or linked chains of local bio-enterprises combining cultivation with managed wild harvesting and value-added processing, may offer new directions. Intiatives such asthese could offer enhanced returns to local communities and hence a moresound basis for the sustainable management of medicinal plant resources.

Other national factors of significance include inadequate regulatory infrastructure, absence of legal protection, including intellectual property rights (Bodeker 2003), and inadequate access to appropriate technology for harvesting and plantation development. Steps to redress this could include identification and protection of threatened medicinal species through national legislation and implementation of international trade regulations via CITES, as well as promotion of good-practice regimes within industry that are supportive of long term sustainability rather than simply short term sustainable production.

Regional and international: Improved transportation networks near and into areas of tropical forest biodiversity have increased trade, thus creating national and international supply chains and increasing human dependency on forests to meet health needs and development indicators. There is a high medicinal plant use across regions, with Asia representing the greatest volume of production (to meet domestic and export demands) and use. India, which reportedly harvests 90% of its medicinal plants from uncultivated sources, has an estimated 9000 manufacturing units with an annual domestic market valued at almost US$1 billion.

Emerging and current trends

A World Bank commentary observes that despite the small scale of medicinal plant cultivation 'this activity is poised for "dramatic growth" in the coming decade'. In Namibia, the NGO, CRIAA SADC is seeking to redress the minor role of cultivation projects in international trade by assisting rural communities to establish quotas and sustainable harvesting techniques for high quality production. Results indicate that despite conditions of extreme poverty, communities are willing to harvest their resources sustainably (Lombard 2001).

In China, cultivation of high demand species has been initiated by the Chinese Ministry of Agriculture. Over 300,000 hectares are now under cultivation with seabuckthorn (*Hippophae rhamnoides*) alone employing 10,000 people and generating over US$40 million annually. In South Africa, parts of Asia and the Caribbean, manufacturers of herbal medicines and plant-derived pharmaceuticals have entered into contracts with local communities for large volume production of certain species. In India, the Gram Mooligai Company Ltd. (GMCL), together with local NGOs has organised rural cultivators and collectors into groups that are eligible to buy shares and supply direct to GMCL. In 2000/1 GMCL organised cultivation of 400 acres and around 1000 acres in 2002.

NGOs are playing the lead role in this work, with countless small projects underway constituting an as-yet-undocumented series of models for *ex situ* conservation. Clearly, a strategic international audit of this field is needed in order to establish a frame of reference within which decisions can be made on conditions and strategies for optimal conservation and production. Throughout the world, there are now moves towards certification of sustainably sourced medicinal plant products and eco-labelling to bring consumers in as a market force in support of conservation.

Next steps

To achieve real progress towards the health related Millennium Development Goals, there is a pressing need to actively conserve the world's medicinal plant biodiversity. This will serve to maintain the resource that has sustained human health for time immemorial, to meet the prospects for new enterprise with viable actions at the local level, and to support the economic hopes of nations for participating in a burgeoning new industry.

In this current day spirit of inter-sectoral development, management and conservation of forests must be integrated with programmes in other sectors: in health, to foster better use of plant materials; in education, to build awareness of the need for protection and judicious development;

and in agriculture, to strengthen farmer extension methods for plant cultivation. Such a strategy would give priority to ensuring affordability in local health care through sustainable medicinal plant production. At the same time, it could also help support a demanding export trade driven by the health needs of the world's more affluent countries.

While small scale projects are the crucible for new direction and progress at the community level, the importance cannot be underestimated of developing networks across biodiversity zones, reflecting integrated and well managed local, national and regional integrated strategies. New funding mechanisms and commitments will be needed to support such developments. Nothing less than this is called for if the MDGs are to become a reality.

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URBAN FORESTRY AND GREENING : TOWARDS ACHIEVING THE MILLENNIUM DEVELOPMENT GOALS

By Michelle Gauthier

Six years ago, leaders from every country agreed on a vision for the future – a world with less poverty, hunger and disease, greater survival prospects for mothers and their infants, better-educated children, equal opportunities for women, and a healthier environment. A world in which developed and developing countries work in partnership for the betterment of all. The question regarding the potential of trees and forests in cities and their surroundings for achieving these Millennium Development Goals (MDGs) leads mainly to goal 7 for ensuring environmental sustainability. The MDG Report 2006 (UN-DESA, 2006) emphasised the following targets for this goal: i) to integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources; ii) the access to safe drinking water; and, iii) to achieve a significant improvement in the lives of at least 100 million slum-dwellers. Achieving these targets requires well-managed trees and forests, particularly in urban areas.

Challenges related to urbanization are very complex. This is especially true for developing countries, where the provision of food, housing, water, sanitation and employment is urgent. Cities in developing countries face specific problems such as poverty, slums and urban sprawl, and the supply of essential goods, including agricultural and non-wood forest products, wood-energy and water. Mismanagement of the land surrounding cities may lead to soil erosion, landslides, sand encroachment or floods. These disasters are likely to affect the urban poor most. The fight against pollution and search for recreational and leisure areas are common worldwide.

A green city is more than a pleasant environment to live. In the quest for healthy, liveable and sustainable cities, urban green spaces with an optimum tree cover have a key role to play: they temper harsh urban climates and save energy for air-conditioning; maintain corridors between ecosystems to conserve biodiversity; reduce air pollution; and contribute to human health. In the peri-urban area, forests and trees can protect water catchments; provide fuel, food, medicine and areas for recreation. Therefore, a green sustainable city should : i) be planned against the principles of watershed and landscape management, using trees and forest to protect soil, land, biological diversity and water; ii) develop or support a multifunctional network of urban green spaces and trees to respond to food, energy and income needs of the poor. The conditions to achieve this include secure resource and land access or tenure; inclusive participation and good governance; interdisciplinary and sectoral work. Urban forestry planning must be strategic, with long-term policies and plans responding to the needs for tree resources and urbanisation prospects, connecting to different sectors, agendas and programmes, and taking into account the continuous tendencies of expansion and densification of cities (Mock, 2004; Ottitsch

& Krott, 2005). This is particularly true when poverty, conflicts and natural disasters force the rural population to migrate into cities (UN-Habitat, 2004).

Economic valuation translates urban forest services and functions into terms that enhance public value. For example, the Urban Ecosystem Analysis of the Washington, D.C., metropolitan area concluded that tree cover had reduced storm water storage costs by US$4.7 billion and generated annual air quality savings of US$49.8 million. (Wolf, 2004). Over the past 40 years, most of the urban forestry research and capacity development has taken place in Europe and North America, followed by Latin America and Asia in the past 20 years. In Africa, urban forestry receives very little attention, despite the fact that in practice, urban and peri-urban agroforestry is an important source of food, fuel and income in African cities. For instance, a study conducted in 2003, in the state of Abia in Nigeria, on the agroforestry practices of 180 households in peri-urban areas showed that 31 percent of the respondents were involved in multi-storey home gardening, to ensure family food security, provide different fruits all season long, maintain soil fertility and generate additional income (Odurukwe, 2006)

Strategic Urban forestry in China

China plans to expand the cover of urban forests and trees to 45 percent in 70 percent of its cities by the year 2050. Today, several Chinese cities, e.g. Changchun, Nanjing and Guangzhou, have a forest cover of more than 40 percent. Urban forests are managed for multiple purposes, including recreation, protection of water sources, biodiversity conservation, atmospheric CO2 sequestration, air pollution reduction, and others. Cities located in different parts of the country may emphasise different urban forest functions. Due to the heavy air pollution in most Chinese cities, however, all of the trees and forests in a city are expected to have a high capacity to retain dust and absorb SO2, NO2 and other pollutants (Guan & Liu, 1999, Wu et al., 2004).

Forestry outlook study: urban and peri-urban forestry in West and Central Asia

The Forestry Outlook Study for West and Central Asia (23 countries), by FAO with member countries, examined the trends in the development of forests and forestry, with a special attention to the urbanization process and the livelihoods of urban and periurban populations. Specific case studies in the cities of Amman, Abu Dhabi, Izmir, Kabul and Yerevan confirmed the potential of urban forestry, but highlighted the general lack of technology, best practices and knowledge, the lack of harmony and coordination between sectoral institutions, disciplines, and inadequate policy and legislative frameworks.

Ways forward: how urban and periurban forestry can contribute to achieving the MDGs

The potential of trees and forests to contribute to achieving the Millennium Development Goals needs to be communicated widely, and taken up in policy development. Ideally, this potential should be translated into the MDG progress indicators.

Current research results should be used and replicated elsewhere. Recent US-based research has for instance provided policy information for national and municipal governments; including the quantification of

environmental benefits of urban forests, such as air pollution reduction and climate amelioration (Dwyer et al., 2000), the social and community impacts of urban forests (Kuo 2003 for an overview), and the economic impacts of trees (Wolf, 2004). Innovative research projects involving country-based scientists include: the impacts of urban forests on human health (Grahn & Stigsdotter, 2003); economic valuation of urban forest benefits (Tyrväinen et al., 2005); and the development of participatory tools for the planning and management of urban woodlands (Van Herzele et al., 2005). Recent urban forestry research in Latin America has included a study on the role of Santiago de Chile's urban forest in air pollution reduction (Escobedo et al., 2005), and a first compilation of experiences with municipal forest management (CIFOR & IDRC, 2003). The link between urban forestry and livelihoods, poverty reduction and food security, particularly in the context of developing countries has not been gathered and analysed on systematic basis and requires further research.

Networking, partnerships and capacity building initiatives such as city twinning are essential tools supporting the development of local evidence-based policies and actions, based on research and practical experience. Existing initiatives include the EC COST Action E12 on Urban Forests and Trees, funded by the European Commission's Directorate for Research; the Resource Centre for Urban Agriculture and Forestry (RUAF, www.ruaf.org), US-based TreeLink (www.treelink.org), and the European Urban Forestry Research and Information Centre (EUFORIC, www.sl.kvl.dk/euforic); the International Union of Forest Research Institutions (IUFRO) working group 6.14.00, http://www.iufro.org/science/divisions/division-6/60000/61400/ ; United Cities and Local Governments (UCLG, www.cities-localgovernments.org/uclg); the International Development Research Centre (www.idrc.ca) (IDRC, Canada) and its Guidelines for policy-making on urban agriculture in support of sustainable municipal development; the Urban Management Programme for Latin America and the Caribbean of UN-Habitat (www.pgualc.org); Africities "Building local coalitions for the implementation of the MDG in Africa Local Governments" (http://www.africites.org/index_eng.php) ; as well as the FAO programme on urban and periurban forestry and the FAO Multidisciplinary Area Group "Food For The Cities", which promotes integrative and comprehensive actions in urban and periurban environments for poverty alleviation, e.g. considering nutrition, health, agriculture, forestry and fisheries (www.fao.org/fcit/index.asp.).

A sustainable city responding to people's needs has to value its green capital and adapt itself to the environment. Trees and forests are indispensable assets to reach the MDGs. Significant steps will need to be taken to highlight their importance and to put them on the agenda of all those concerned. A first step would be to identify indicators for their contribution to food security, poverty alleviation and livelihoods in urban and periurban environments.

Note: This article is mostly based on Cecil Konijnendijk and Michelle Gauthier. Chapter 14 "Urban Forestry for Multifunctional Urban Land Use". P. 314-342. In: *Cities Farming for the Future. Urban Agriculture for Green and Productive Cities*. Edited by René van Veenhuizen. IIRR/RUAF/IDRC 2006. 474 pp.

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FORESTRY, PRIMARY SCHOOLING AND THE MDGS

By Peter Taylor

Forestry and primary education may not at first sight seem to have particularly strong links, but for both children and trees to grow, mature and reach their full potential a long-term view of development is essential. Forestry requires us to believe that seeds and saplings will grow over time into trees that can bring us multiple benefits – for example timber, shade and food. And, it is also true that every child in the world should have access to quality, basic education, so that they too can grow, flourish and contribute to a society which ensures they are free from poverty, their rights are assured, and their voices are heard.

Unfortunately, it is only too apparent that many children throughout the world do not have access to primary education, and that many of those that do are not receiving a quality education that prepares them

effectively for their future lives. Two major global frameworks – The Dakar Framework for Action on Education for All (EFA), and the Millennium Development Goals (MDGs) - have set the target date of 2015 for the achievement of a number of child-related goals. The EFA framework has six main goals addressing: early childhood care; free and compulsory primary education of a good quality; learning and life skills programmes for all young people and adults; adult literacy; gender equality in education; and improving all aspects of the quality of education. The MDGs include two goals that are of particular relevance to EFA:

- Goal 2: Achieve universal primary education
- Goal 3: Promote gender equality and empower women

Another global target for 2015 (often referred to as 'Food for All') is to reduce by half the number of undernourished people. But these are huge tasks, and the achievement of the targets is already in some doubt. Although a lot of progress has been made, in the year 2000 there were still 125 million children not attending school; more than 1.3 billion were living in poverty, three-quarters of whom were living in rural areas; and every day, an average 30,000 children below the age of five were dying primarily due to malnutrition and related illnesses. Children who are sick and malnourished are unable to take advantage of primary schooling, even if it is available. Other constraints to their education may include living too far from a school, gender-based exclusion and inequity, or having to care for siblings and other family members following the loss of their parent/s through HIV/AIDS. Many children who do attend school under these difficult circumstances, are often too tired and unwell to learn, and face additional challenges including overcrowded or inadequate classrooms, and poorly trained or ill-equipped teachers.

The challenge, therefore, is to find ways of strengthening and integrating the links between schooling, health, poverty and nutrition. In the past, national and international development strategies have failed to properly address access to education and food as related issues. Forestry, within a broader framework of sustainable natural resources management (NRM), provides one means of tackling the interrelated areas of education, food and health in rural areas.

A number of initiatives demonstrate how this might be done. Some of these are of significant and global scale, and were started as a means of moving beyond business as usual. For example:

- A joint flagship policy-oriented initiative on education for rural development convened jointly by FAO and UNESCO, calls for an integrated view of education, focused on access to quality basic education for all. To meet the needs of the rural labour market, and to achieve food security and poverty reduction rural development policies should prioritise basic education and strategies developed with full recognition of the rural environment. Agriculture is given a particular focus, and is interpreted broadly, to include fisheries, marine products, forestry and primary forest products. Particular strategic areas are resource availability/access, quality teacher training and support, and institutionalisation of innovative methods and approaches.

- The Farmers of the Future initiative, convened by the World Agroforestry Centre, is based on the premise that the livelihoods of farming households in rural areas of developing countries depend on their ability to integrate agroforestry and natural resource management into sustainable agricultural production systems. To achieve this, young people need supporting through formal primary schooling to develop the necessary knowledge, skills and attitudes for sustainable agriculture and forestry. This initiative has a number of strategies, which include the integration of agroforestry and NRM concepts into the existing curricula of primary schools, and helping to develop the capacity of teachers to frame their teaching in a local context, drawing on the experience, skills and knowledge of the children they teach, and other members of the community (e.g. parents, farmers, foresters,) as well as their own. Stakeholder involvement, developing collaborations and partnerships, and strengthening links between schools, homes and communities are seen as key ways forward.

There is also a very wide range of regional, national and local initiatives that aim to address forestry within a broad understanding of agriculture and primary schooling. For example:

- The PACE (Pan-African Conservation Education) project aims to help share simple solutions to environmental problems between communities, with particular attention to forestry and forestry products. The project develops learning and teaching materials for primary and secondary schools, and supports teacher education (Norris, 2005).
- Environmental education initiatives also exist such as The Training and Information Programme on the Environment (TIPE), Mali, which develops curriculum and learning materials, supports continuous teacher education, and provides basic resources to help practical teaching. Strong links are created between primary schools and communities, so that children learn to analyse environmental problems in their neighbourhoods, to create potential solutions, and to view themselves as messengers for responsible practices, such as planting trees as a means of preventing desertification.
- The Social Forestry Education and Participation Project in Thailand, links rural schools and communities in northern Thailand in new ways. Thai students in primary and lower secondary schools study local forest-related problems and work with adults in their communities to address the effects of deforestation through a variety of small-scale social forestry projects. Students learn both in and out of school, in communities, and can study real world problems related to forestry. Communities thus become laboratories for information gathering and students are able to share their new knowledge, which in turn helps them address community-based problems around forestry issues.

These are just a small number of examples from a vast range of initiatives. There are of course many challenges in achieving more

holistic, integrated approaches which link forestry and primary schooling, but the benefits are potentially enormous: to provide a form of education that supports real learning by all children who attend school whilst at the same time supporting the growth of forest resources. Most importantly, each outcome has the potential to support the achievement of the other. Still, such approaches require one thing above all – time. We need to recognise that educational change, like the growth of forests, does not happen over night. Many projects and initiatives are not given enough time to develop and show their real potential to improve the lives of young people and future generations. We need to provide support and resources that will help them do this – whilst promoting gender equality and contributing to the achievement of primary education for all.

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D. ENVIRONMENT AND GLOBAL PARTNERSHIPS (MDG 7 & 8)

FOREST-BASED SMALL AND MEDIUM ENTERPRISE ASSOCIATIONS

By Duncan Macqueen

Support for forest-based small and medium enterprise associations can make a substantial contribution to the MDGs. Achieving the MDGs is an intensely local affair – it involves meeting the needs of hundreds of millions of people who derive local livelihoods from natural resources. An estimated 60 million people live in rainforests. A further 350 million in developing countries rely on dense forests for subsistence and income and 1.2 billion people use trees on farms to generate food and cash. Some rough extrapolations from existing information suggest that small and medium forest enterprises (SMFEs) are highly significant, comprising:

- About 80-90% of forestry enterprises in many countries
- Over 50% of all forest sector employment in many countries

- Employment for over 20 million people worldwide[1]
- Over US$130 billion/year of gross value added worldwide[2]

For many, SMFEs therefore provide the basic subsistence and cash income required to address MDGs 1 - 6. They are also the local embodiment of environmental responsibility addressed by MDG 7. But most importantly, they comprise key local partners with whom a global partnership for development needs to be struck (MDG 8).

The contribution of SMFEs to the MDGs faces many constraints – which include the:

- Complexity of establishing links with SMFEs in often remote locations
- Diversity of constitution of SMFEs (plagued by informality, and insecure tenure and resource access)
- Lack of managerial capacity and political power to deal with the demands of bureaucracy
- Inadequate market information, design capability and technology
- Unfair market deals due to small sales volumes and low bargaining power
- Lack of collateral to attract investors or offset risks themselves

Associations can overcome such constraints where few other support structures exist. Unsurprisingly, an ongoing project on SMFE associations in China, Brazil, Guyana, India, South Africa and Uganda found many thousands of forest-based small and medium enterprise associations. For example, there are 2000-3000 active forest-based associations in Uganda alone. Many such associations arise spontaneously from strong collective interest. Some fail, but many succeed.

The objective of ongoing research is to improve the understanding of how forest-based associations can work better for the poor. Results suggest that successful associations help to overcome the constraints listed above in three important ways:

- Reducing transaction costs
- Facilitating strategic adaptation to new opportunities
- Lobbying for more supportive policies

Reducing transaction costs is a central function of associations. For example, in South Africa the Kwangwanase Association of small timber growers hires a truck at harvest time to reduce members' transport costs. Associations improve information flows and skills training. For example, In Uganda the Uganda Community Tourism Association was formed to promote community tourism by providing training in marketing, organisational strengthening and craft making. Associations can also cut out unnecessary intermediaries. For example, the Brazilian Cooperativa dos Agricultores de Medicilândia (COOPERSAME) formed with the express intention of restructuring the cocoa market chain such that producers in the State of Para could challenge the power of middlemen and large traders to obtain prices comparable with elsewhere in Brazil. Associations can also act to improve the bargaining power of marginalised groups including women. The Kamuni Women's Handicraft and Sewing Development Association in Guyana has played a key role in building women's entrepreneurial

capacity in handicraft production and marketing and thus contributing to the empowerment of women (MDG 3).

Strategic adaptation is also a feature of successful forest-based associations. For example, the Indian Madhya Pradesh Minor Forest Produce Cooperative Federation has opened a retail outlet (Sanjeevani) in Bhopal for medicinal plant sales. It has also invested in drying, grading powdering and packing in various districts to enhance product value. The Brazilian Cooperativa de Produção Agropecuária e Extrativista dos Municípios de Epitaciolândia e Brasiléia (CAPEB) has established a processing plant for Brazil nuts and hopes to add value through salting, flaking, fillings etc. Initiatives such as these all have an important role to play in supporting efforts for poverty reduction (MDG 1).

Political lobbying is also an effective role for associations. For example, the Uganda Wood Farmer's Association successfully sued the Uganda Investment Authority for creating an industrial park and overlaying areas of trees managed by farmers. In short, lower costs, strategic adaptation and political lobbying can lead to an improved income for SMFEs and impacting directly on the achievement of the MDGs 1-6.

Most associations have strong social and environmental objectives as well as economic goals. In India, the Harda District Timber Merchant Association collects money and provides loans to particularly needy members who have suffered losses beyond their control. The Chico Mendes Association in Brazil both collects Brazil nuts and manages tree nurseries set up to produce superior genotypes with which to reforest degraded areas. The strong environmental aims in many articles of association are an excellent entry point for ensuring environmental sustainability (MDG 7).

How then might a global partnership for development (MDG 8) include forest-based associations? Research findings suggest that the most useful support tends to be responsive rather than imposed – making associations both easy to set up and a conduit for securing central support. Appropriate support through umbrella groups can often strengthens associations. For example, the Budongo Forest Conservation and Development Organisation and the Uganda Honey Association in Uganda help to represent diverse interests of member associations and target support more effectively.

Support that improves information flows is particularly valuable (e.g. on bureaucratic procedures, product design, markets, finance and technological innovation). Making available finance work for such associations is also crucial – but often best managed through the association itself. For example, the North Rupununi District Development Board in Guyana runs a women's revolving loan scheme for small loans at 5% interest. It also finances a larger North Rupununi Credit and Development Trust geared towards business start up – initially repayable in 6-9 months at which time a second larger loan can be accessed.

In summary, the evidence suggests that forest-based associations can play a pivotal role in achieving in the MDGs. But the question in the age of direct budgetary support is: "Are donors willing to work with them?"

Notes:
[1] There may be an additional 140 million people working in informal forestry micro-enterprises mainly in developing countries
[2] For comparison: total global value of imports of wood based products is about US$141 billion/ year – most of which is produced by large enterprises.

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LOW-COST VEGETATIVE PROPAGATION AND FOREST BIODIVERSITY CONSERVATION

By Ronald Bellefontaine

The low-cost vegetative propagation of multi-purpose tree species can contribute to at least four of the UN Millennium Development Goals, i.e. the eradication of extreme poverty (MDG1), promoting gender equality and empowering women (MDG3), combating HIV/AIDS, malaria and other diseases (MDG6), and ensuring environmental sustainability (MDG7). In many countries, certain multi-purpose tree species are becoming rare and threatened with local extinction. These species frequently provide a combination of the following: food, medicine, fuel, fodder, wood, and income through sale of products. As women are usually in charge of producing food and medicinal plant items, mastering vegetative propagation of those species important to them provides women with greater control over their family's welfare. Targeted promotion of these techniques can thus help promote food security, local health care, and enhance income, while empowering women.

Sustainable forest management, and conserving biodiversity of farmlands, pastoral areas and woodlands can contribute to reversing the loss of environmental resources (MDG7). Vegetative propagation can play an important role here. Multi-purpose tree species can help meet the demand for wood and non-wood products while contributing to biodiversity. This is particularly true in areas with very low forest cover, such as fields, pastoral land or small plantations. Regenerating a variety of local tree species can help maintain or revive local biodiversity, and create a habitat for other plants and animals. When large areas of woodland have been cleared for cropping, the negative impact of the clearing process on the area's biodiversity may be reduced by encouraging the community to propagate useful species around the edges of the fields and in other areas not suitable for arable farming. Many tree species found in open woodlands and outside forests have a good potential for root suckering, root cutting or ground layering. Compared with sexual reproduction, these vegetative propagation techniques have important socio-economic advantages such as their low cost, the availability of labour just before the rainy season, reduced hole-digging (and subsequent erosion), and the

reproduction of trees with physical characteristics preferred by farmers.

Despite the fact that the survival rate of seedlings is usually very low, the strong sprouting capacity and sucker producing potential of many tropical tree species is currently barely used in sustainable forest management plans. Pre-logging inventories tend to include only seedlings and stump sprouts, while root suckers and layering are rarely considered as possible propagation techniques (Bellefontaine 2005a). Trees can colonize ecosystems by producing adventive stems from the root system and from branches and trunks. Stress caused by, for instance drought, fire, or ploughing may induce a tree to produce sprouts from the basis of the stem (basal sprout, root crown), from its branches (layer, rhizome, runner) or from its roots (sucker). Sometimes, this appears to be the only way that trees growing in harsh environmental conditions (such as droughts, cold temperatures, seasonal flooding, natural range limits, forest fragmentation) can propagate themselves. Rural people could benefit from the root cutting method by propagating additional trees at a low cost for medicinal, foliage or fruit purposes. Two groups, the Legumes (Rhizobial plants) and Actinorhizal plants, can thrive without any fixed nitrogen or with a minimal supply in the soil. Propagating trees from root cuttings would overcome the problem of introducing the root fungus (or bacterium for Legume trees) in order to get them to grow successfully. It would therefore make sense to try and grow trees from roots.

Vegetative propagation techniques, and their potential to contribute the MDGs, merit attention as their social and economic viability is promising. But many technical and scientific questions still remain. Local tree-tending practices are based on empirical knowledge that is rarely documented. People in different countries may have developed their own successful methods of terrestrial layering, root suckering or root cutting. Women are often especially knowledgeable of the vegetative propagation potential of certain tree species. There is now an urgent need to document, study and disseminate this local and traditional knowledge.

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CONTRIBUTION OF INDIGENOUS COMMUNITY LOGGING TO THE MILLENNIUM DEVELOPMENT GOALS: The case of indigenous groups in Bolivia

By Diego Pacheco

Since a large proportion of the world's poor is concentrated in and around forests, the use of forest resources may provide poor forest-dependent people the means to grow out of poverty. For some time, commercial community logging under conditions of sustainable forest management has been seen as one of the most straightforward ways of achieving this. Providing poor people with more options and opportunities to enter into community logging can help to achieve several Millennium Development Goals (MDGs) – but only if conditions are right, and practical ways of doing this have not been well-proven on the ground.

Forest governance is being decentralized in Latin American countries, particularly in Bolivia, in the context of an ongoing municipal-driven decentralization process aiming to attain, *inter alia*, the MDGs. This decentralization comprises political, organizational and fiscal reforms with transfer of responsibilities to lower levels of governance or municipal governments; provision of secure property rights for indigenous people and other small-scale loggers over forest lands; and promotion of local social participation.

The author's study in Bolivia has shown that decentralization is having a great impact in facilitating commercial timber harvesting by indigenous groups in their recently titled common-property forests, called Original Community Lands (*Tierras Comunitarias de Origen*, TCO). There were three indigenous groups harvesting timber before decentralization, now there are 11 and the number of beneficiaries has multiplied by ten. This is in spite of the slow and bureaucratic process of common-property forests legalization: of the 20 million ha to be legalized for indigenous people since 1996, only 5 million ha have been titled so far.

Municipal-driven policies and forestry regulations have not particularly favoured indigenous people's participation in community logging businesses, since: the forestry sector is still the most centralized in Bolivia; forestry has not been a priority for municipal governments; and the time-consuming and costly regulations are still a hurdle for some groups. The most important factors favouring indigenous community forestry logging are the processes of securing common-property rights over indigenous forest lands and the strengthening of common-property organizations and participatory policies at the local level. The effects of these three aspects of the decentralization policies are quite disparate in terms of motivating indigenous people to concertedly engage with the timber business.

Community forestry needs to overcome three groups of problems to become feasible and profitable. First-level problems are ecological and institutional: a forest held by an indigenous group must have some timber potential, and the group must have secure property rights over the forest. Second-level problems are those concerning basic organizational,

institutional, and technical capabilities for developing commercial logging. Third-level problems are the lack of external conditions favouring the development of commercial community logging to achieve higher levels of profitability: infrastructure availability, networks of relationships, competitiveness.

A timber user group thus may have secure ownership of a forest with potential but still have second-level problems. Also, a user group may have overcome first- and second-level problems but still have difficulties in realizing optimal benefits of logging because it is facing third-level problems. The problems are not necessarily sequential; they are generally intertwined in indigenous groups' daily lives. Overcoming all three groups of problems – a difficult and costly process – can make a real difference in raising the earnings from timber harvesting.

Decentralization policies help solve poor forest-dependent people's first-level problems by securing their rights to forest land, but second-level problems must be solved by people themselves. Family incomes from timber in six Bolivian indigenous groups was related to the timber potential of the managed forest area, the size of the total area devoted to timber harvesting, and the degree of institutional development of the groups. The achievement of higher timber incomes is an incentive for creating better rules for developing timber harvesting – which usually include decision-making rules the people have developed over centuries. Once created, such institutions have another clear effect: more sustainable timber management that preserves forest regeneration.

Indigenous groups in Bolivia are still far from overcoming most of the third-level problems, so while community logging is a feasible livelihood, it is not yet sufficiently profitable. Only indigenous groups aiming for the integral well-being of the whole community with sustainable forest management are likely to be heading for success in the local achievement of the Millennium Development Goals .

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HOW PROTECTING AND MANAGING COMMUNITY FORESTS IN EASTERN NEPAL HAS CONTRIBUTED TO ACHIEVING THE MDGS

By Bernd-Markus Liss and Wibke Thies

The history

The Churia hills rise along almost the entire length of the Himalayan range in Nepal, up to an altitude of 1,000 m. They used to be densely forested, but over-exploitation and agriculture have forced the forests back.

For decades, people have been migrating to the Terai plains south of the Churia hills. They flee to this fertile area to escape the poverty in other parts of Nepal and even in India. With a growing population, however,

land is becoming scarce. More and more people are settling on the slopes of the Churia hills, clearing the forest, cutting firewood and gathering non-timber forest products. The forest ecosystem has long been under excessive strain. The result is soil degradation and flooding, a declining water table, and poor harvests. As impoverishment grows, pressure on the forest's remaining resources further increases and a vicious circle emerges leading to even greater levels of poverty.

The project

In 1992, the German government initiated the Churia Forest Development Project (ChFDP) jointly with the government of Nepal and the inhabitants of the three poorest districts in the area (Siraha, Saptari and Udayapur). The goal of the project was to restore the ecological balance of the Churia hills as a basis for improving local livelihoods. For the first time in this area, forest protection was clearly linked to poverty reduction. To restore the ecological equilibrium of the Churia forests and to generate benefits for the people the following steps were successfully taken:

- Forest users joined user groups to protect and manage community forests and reverse degradation;
- A savings and credit programme was created to allow the poor and landless to start up their own economic activities;
- An agro-forestry programme was designed to identify alternative sources of firewood and construction timber as well as new sources of income;
- A soil protection programme was initiated to improve water supplies and quality.

The project was implemented by the Nepalese Ministry of Forest and Soil Conservation with the German consulting firms GOPA and APEG. Commissioned by the German Ministry for Economic Cooperation and Development (BMZ), technical assistance was provided by German Development Cooperation (GTZ). The project became fully operational in 1995 and ended in 2005, when sole responsibility for implementation was transferred to local communities.

Before the project started, forest settlers or users were expelled by the authorities. Today, Nepal's new forest policy legalises and promotes the forest user groups, which are officially registered as the owners of the forest. The project helped them select usable areas, survey the community forest and produce a management plan. For the first time people have the right to manage parts of *their* forest independently and can benefit from the opportunity to improve their economic situation.

Project achievements and their contribution to specific MDGs

Most of the project's achievements contribute directly to MDGs 1 and 7 (eradicating extreme poverty and hunger and ensuring environmental sustainability). However, by using the new income from the community forests the forest user groups contribute – indirectly but very impressively – to achieving other MDGs, such as MDG 2 (achieving universal primary education), MDGs 4 and 5 (reducing child mortality and improving maternal health). Furthermore, the new democratic structures established within user groups have contributed to MDG 3 (promotion of gender equality) and to reaching overall good governance in the area. Some of the project's key achievements are outlined in more detail below.

By the end of the project almost 50% of the population living in the three districts had experienced its benefits at some level – more than half of those impacted were women. 62,000 households have taken part in one or more forest user groups – the total number of which is over 350. 309 community forests covering a total of 54,000 hectares have been handed over, with rights of use transferred to local communities. To date, forest users have attained an income of more than US$500,000 from their community forestry activities.

Forest user groups have re-invested most of this income in local development projects, including literacy programmes for women and the poor, grants for poor school pupils, construction of schools, village roads and drinking water facilities, as well as medical care and hygiene. 25% of the total income from forests (US$120,000) has been deposited in saving accounts.

As a result of the project, user groups created 953 new full-time jobs for teachers, forest workers, craft workers and employees in small enterprises. 12,000 temporary jobs have been created in agriculture, forestry and the construction of infrastructure. Women occupy 41% of the new full-time and 27% of the temporary jobs.

Livelihoods, especially those of the communities' poorest members, have improved greatly. Many user groups dedicate up to 20% of their income to development projects for households that were formerly excluded from any form of decision making. About 24,000 households participate in the savings and credit programme with women accounting for more than 90% of all participants. Savings totalling more than US$500,000 have been accrued with a credit investment of close to US$10 million in a wide range of income generating opportunities to reduce pressure on forests and improve living standards. The savings and credit programme has significantly improved food security in around 80% of the households covered by the programme, securing food supply for two to six months longer per year than before.

Today, more than 30% of the forested area in the three districts is protected and managed on a sustainable basis by user groups. Furthermore, about 50% of all the degraded areas have been regenerated through the hard work of user groups and are now managed at a profit. With the recovery of the forests, biodiversity is returning and rare plants and animals that had not been seen for a long time can be observed again.

As a result of the project, democratic structures have been established. All stakeholders decide jointly on the use of natural resources which has strengthened individual and community self-confidence. Today, the user groups are well accepted and benefit from improved access to information, services and training. Women in particular are benefiting from the new democratic culture. Formerly, they were not involved in decision making. Today, they account for one quarter of the board members of all user groups. Furthermore, 136 women from user groups have been elected to leading posts in the village and district development committees.

The user groups uphold a local level democratic culture and are regarded as the seeds to recultivate democracy once the country has overcome its internal crisis. In

this regard, the Federation of Community Forest User Groups of Nepal (FECOFUN), has become an important political player as an umbrella organisation for more than 14,000 user groups throughout the country.

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CAN BETTER MANAGEMENT AND PRODUCTION OF GUM-ARABIC IN SUB-SAHARAN AFRICA CONTRIBUTE TO REACHING THE MDGS?

By Didier Lesueur and Ben Chikamai

Approximately 55% of Africa's land surface is arid and semi-arid, characterized by an annual rainfall of 100-600 mm in a short wet season of 2-4 months. Land degradation, resulting from inappropriate land use is a common phenomenon. As Petheram et al. (this issue, P 39) state, the dry African forest covering much of this area is home to many of the world's poorest people. Trees and shrubs, especially multi-purpose species such as *Acacia* are essential to the survival of both people and animals in these harsh climatic conditions. Climate challenges are often aggravated by human-induced factors such as unsustainable agricultural practices, overgrazing and deforestation.

Reversing land degradation, whilst providing a source of income to the people living in these areas thus directly contributes to achieving Millennium Development Goals 1 (eradicating extreme poverty and hunger) and 7 (ensuring environmental sustainability). Indirect contributions to the health-related Millennium Development Goals are also likely.

Acacias dominate many of the semi-arid ecosystems of tropical Africa. They provide a source of fodder, fuel, timber and gum as well as a potential solution to the declining soil fertility caused by shortened fallow periods (as their fertilizing properties generally allow the soil to recover more rapidly than under natural fallows). *Acacia senegal* Willd is particularly interesting because it is the source of the multipurpose commodity gum-arabic which is traded on both local and international markets, and it is already used in several Sub-Saharan African agricultural production systems. As a raw product, gum-arabic is worth US$0.5 per kg to the local community. Families can collect up to 10 kg per day yielding a potential, and substantial income of US$150 per month.

Acacia senegal Willd is currently under utilized in Sub-Saharan Africa but has the potential to be incorporated into agricultural systems throughout the region. For this reason, we are aiming to obtain data that will promote gum-arabic production, while at the same time, encouraging the sustainable management of renewable natural tree resources, forest ecosystem restoration and conservation of biodiversity. A new research project - "Innovative management of *Acacia senegal* trees to improve resource productivity and gum-arabic production in arid and semi-arid Sub-Saharan Africa", coordinated by CIRAD's Forest Department (Dr Didier Lesueur) has recently been selected for funding by the International Cooperation Programme of the European Commission's Directorate for Research.

This 4-year project will involve partners from Senegal, Niger, Cameroon, Kenya, UK, France and the Netherlands. It aims to enhance the sustainable management and use of natural *Acacia senegal* tree resources to improve livelihoods and the environment in arid and semi-arid Sub-Saharan Africa, both of which are extremely relevant for the MDGs. Results of these studies will be disseminated to other gum-arabic producing countries through the Network for Natural Gums and Resins in Africa (NGARA) which currently has a membership of 14 countries.

Gum-arabic production peaked at about 70,000 tons during the early 1970s, but fell to around 20,000 tons during the Sahel drought in the mid 1970s and 1980s. Although drought and insect attack affected many trees, an unreliable supply and unstable prices on the international market were believed to be the principal causes of the decline. Without equitable and secure rates of return for local producers, market instability is inevitable. Price fluctuations damage the international market and seriously undermine the prospects for sustainable production.

The European Community is the world's largest gum-arabic importer (35,000 tons per year^{-}) and world imports have risen by 25% between 2000 and 2004 (Muller and Okoro, 2004). According to data available for 2002, the main gum producing and exporting countries were Sudan, Chad and Nigeria, accounting for 63% (34,162 MT), 20% (10,664 MT) and 12% (6,556MT) of world production, respectively (Muller and Okoro, 2004). Chad whose recent market share rose from 5% to nearly 30% within ten years, is evidence of how new competitors or small producers can successfully enter markets or expand their market share.

Gum quality can be compromised by collecting and mixing gums from different botanical sources and selling unprocessed material; there is also no organized tapping in most producing countries. Currently, the highest quality gum comes from Sudan. There is a tendency for producers to use gum from other sources when supplies are limited. This seriously reduces batch quality and acceptability for food uses and hence there is a need for guaranteed origins throughout the supply chain to maintain an authentic and high quality product. The development of a certification system will enhance marketing efforts and ensure the delivery of a quality product.

Where *A. senegal* trees are incorporated into agriculture, we can expect to see improved soil fertility through their nitrogen fixing capacity and breakdown of organic matter (see for instance Deans et al. 1999). Inoculating seedlings and adult trees can further stimulate the performance of nitrogen fixing trees and gum production Faye et al, 2005), and we believe that inoculations may point the way to the sustainable management of gum-arabic through improved soil fertility. Through our research, we are seeking to better understand this process and hope that these efforts can support the achievement of the first and seventh Millennium Development Goals.

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Muller D and Okoro C. [Eds]. 2004. Production and marketing of gum-arabic. FAO/NGARA/ITC, 80 pages.

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GREENHOUSE GAS INVENTORY EXPERTS NETWORK INVITES PARTICIPANTS

The UNDP/UNEP/GEF National Communications Support Programme (NCSP) is inviting anyone with an interest in greenhouse emission gas inventories to participate in the Greenhouse Gas Inventory Network. Developing country teams working on their GHG inventories are especially welcome.

The GHG Network is a community of individuals working on emissions data by quantifying greenhouse gas emissions from sources (and removals by sinks). Visit the GHG Network at **www.ghgnetwork.org** to: (1) get more information; (2) join the electronic mailing list; (3) post messages to ask questions or start a discussion; and (4) join the professional directory and find colleagues working on similar issues anywhere in the world.

The objectives of this network, sponsored by the Swiss Government, are to provide technical assistance to developing countries for the preparation of GHG inventories, and to build a larger and more capable community of inventory practitioners.

To join, go to: http://www.ghgnetwork.org
Or contact:
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Fax. + 1 212 906-6998
Website: http://ncsp.undp.org/about.asp

Source: IISD climate change info list
Subscribe to IISD Reporting Services' free newsletters and lists for environment and sustainable development policy professionals at http://www.iisd.ca/email/subscribe.htm

INDIAN INSTITUTE OFFERS STATISTICS AND BIOMETRICS CONSULTANCY

The Institute of Biometrical Studies (IBS) is a nongovernmental institution dedicated to the promotion of research and training in biometrics. The Institute undertakes research and training projects in the field of applied statistics related to forestry, agriculture and allied fields.

Vision: To become one of the excellent research and training institutions in biometrics.
Mission : To indulge in creative research efforts in applied mathematical biology and impart training to professionals both in basic and advanced biometrical applications.
Funds: To generate funds for its functioning, the Institute undertakes statistical consultancy works benefiting both institutions and individuals at nominal rates. Areas currently covered include design and analysis of experiments; sampling theory and methods; time series analysis and forecasting; multivariate analysis; statistical ecology; growth and yield modeling; and statistics in genetics.
Those who are interested may contact at the following address.
Email: inbist@yahoo.co.in

Institute of Biometrical Studies
Priyam, Penta Gardens, Kalathode,
680655 Thrissur, Kerala, India

FOREST RESTORATION INFORMATION SERVICE WELCOMES INPUTS AND CASE STUDIES

The Forest Restoration Information Service (FRIS: **http://www.unep-wcmc.org/forest/restoration/**) is being developed by the UNEP World Conservation Monitoring Centre (WCMC) with support from the UK Forestry Commission, DFID and the School of H.M. King William III and H.M. Queen Emma of the Netherlands Foundation in collaboration with a range of NGOs.

It aims to:

- provide an open-access internet information service to support forest restoration projects world-wide, including site-scale and landscape-scale efforts;
- facilitate exchange of knowledge and experience among forest restoration projects, and provide a basis for analyzing factors determining success;
- facilitate the prioritization, design and execution of forest restoration efforts by FRIS users.

The FRIS includes:

- Definitions of key terms and concepts in forest restoration
- Case studies of forest restoration
- A searchable database of restoration projects and initiatives
- Maps and datasets
- A bibliography of forest restoration publications

UNEP-WCMC seeks collaboration in the further development of FRIS and especially invites restoration practitioners to contribute case studies or information on forest restoration efforts worldwide.

If you have any information on Forest Restoration that you would like to see featured in the FRIS, please contact us at:
restoration@unep-wcmc.org

Forest Restoration Information Service
UNEP World Conservation Monitoring Centre
www.unep-wcmc.org/forest/restoration

REQUEST FOR COLLABORATION WITH INSTITUTE OF FORESTRY IN NEPAL

Bimal Keshari Paudyal writes: "I am interested in conducting research in tropical countries in the areas of simulation modelling. Presently, I am working as M.Sc. programme coordinator at the Institute of Forestry, Tribhuvan University, Nepal. I am teaching forest management, silviculture and Biometrics courses at M.Sc. and B.Sc. levels. I have conducted research in the areas of silvicultural aspects of thinning, pruning and forest fertilization. Also, I have worked for the rehabilitation of degraded lands by incorporating agroforestry practices and using indigenous fast growing tree species.
I do not have any package or programme to learn about simulation modelling. Thus, I

would be interested in research cooperation in this area. I would also like to develop linkages in other areas of research between the Institute of Forestry and European countries. "

Please contact:
Bimal Keshari Paudyal, Ph.D.
Institute of Forestry, Tribhuvan University, Pokhara, Hariyokharka, Nepal
E-mail: bkpaudyal@yahoo.com

THE NATURE VALUATION AND FINANCING NETWORK.

The Nature Valuation and Financing network (NV&F) at **www.naturevaluation.org** aims to stimulate the development and exchange of practical tools and best practice for the valuation and financing of ecosystem goods and services. It is NV&F's philosophy that decisions concerning economic development need to be made with full awareness and understanding of all the costs and benefits involved.

An increasing amount of information on the ecological and socio-cultural and economic value of ecosystem services is being documented. However, much of this information is scattered. In addition, data on ecosystem goods and services are often published at incompatible scales of analysis, and are classified differently by different authors and organisations.

NV&F aims to bring together those scattered pieces and sources of information. It offers a starting point for those interested in assessment and valuation studies based on comprehensive ecological, socio-cultural and economic analysis tools. At naturevaluation.org, NV&F offers a publication database for down- and uploading relevant information, a case study database for identifying case studies from around the world, discussion platforms where members can communicate online and national platforms, specifically tailored to a certain country.

Today, NV&F is a growing organisation with over 500 registered members and 5 national platforms dedicated to demonstrating the contribution of ecosystems to the local and national economy. NV&F is cooperating with the government, NGO's and the private sector to attract investments and factor nature into development planning through more balanced cost-benefit analysis. Since 2003, over 20 projects have been carried out and a well-attended National Symposium was organised in December 2006 and a second one is planned for February 2007.

There are a number of ways in which you can assist us in achieving these objectives. In addition to offering support for national platforms (see above), we always welcome any correspondence of news, events, reports, research and/or case studies that may help strengthen the network and the depth and quality of information delivered. You are encouraged to join the Nature Valuation & Financing Network and register at **www.naturevaluation.org**. This will give you access to a large network of similarly interested experts, a comprehensive publications database, a case study database, discussion fora to exchange and share your views and invitations to our annual symposium.

Visit our website:
www.naturevaluation.org
Or contact: bas.verschuuren@fsd.nl

By Dineke Romeijn

The general United Nations Millennium Development Goals website offers news, documents and webcasts.
http://www.un.org/millenniumgoals/

The United Nations Development Programme (UNDP) has published a sourcebook on its activities in over 140 countries 'The sustainable difference: energy and environment to achieve the MDGs', PDF, 343 pages. **http://www.undp.org/energyandenvironment/sustainabledifference/PDFs/SustainableDiffIntro.pdf** .
The general UNDP MDGs website is :
http://www.undp.org/mdg/

The Development Co-operation Directorate (DAC) of the Organisation for Economic Co-operation and Development (OECD) on MDGs, with downloadable documents.
http://www.oecd.org/department/0,2688,en_2649_34585_1_1_1_1_1,00.html

OECD has also published the 'OECD Factbook 2006 - Economic, Environmental and Social Statistics', a global overview of world economic, social and environmental trends. **http://titania.sourceoecd.org/vl=3009287/cl=34/nw=1/rpsv/factbook/about.htm**

Publications

The North-South Centre of Wageningen recently published the North-South Policy Brief 2005-6: 'The Role of Forests in Poverty Alleviation: Dealing with Multiple Millennium Development Goals" , PDF, 8 pages.
http://www.wi.wur.nl/uk/resources/policy+briefs

'The Millennium Development Goals and Conservation, Managing Nature's Wealth for Society's Health' was published in 2004 by the International Institute for Environment and Development, PDF, 199 pages. **http://www.iied.org/Gov/mdgs/documents/9511IIED.pdf**
Another IIED publication focuses on the role of local organisations: 'How to Make Poverty History – the central role of local organizations in meeting the MDGs', PDF, 197 pages.
http://www.iied.org/Gov/mdgs/documents/mdg3/11000IIED.pdf More publications by IIED on the MDGs can be found at: **http://www.iied.org/Gov/mdgs/publications.html**

The Poverty Environment Partnership is an informal network of development agencies. Their website offers publications, presentations and case studies.
http://www.povertyenvironment.net/pep/
See for instance: 'Sustaining the Environment to Fight Poverty and Achieve the MDGs: the economic case and priorities for action', PDF, 20 pages. **http://www.povertyenvironment.net/files/SustainingEnvironmentFightPoverty%20-%20PEP%20summary.pdf**

Many relevant documents can be found at the UNDP/UNEP Poverty and Environment Initiative (PEI): Linking Poverty Reduction and Environmental Management to Achieve the MDGs.**http://www.undp.org/pei/peppapers.html**

In 2006, The European Commission has published a policy paper 'Halting the loss of biodiversity by 2010 - and beyond. Sustaining ecosystem services for human well-being'PDF, 15 pages. **http://ec.europa.eu/environment/nature/biodiversity/current_biodiversity_policy/**

biodiversity_com_2006/pdf/com_en.pdf

The Millennium Ecosystem Assessment (MA) is an international work program designed to meet the needs of decision makers and the public for scientific information on the consequences of ecosystem change. Note the downloadable reports and resources.
http://www.maweb.org/en/index.aspx
One of the reports is 'Ecosystems and human well-being: health synthesis,' Report of the Millennium Ecosystem Assessment, World Health Organization: Geneva, by Carlos Corvalan, Simon Hales and Anthony McMichael, 2005. **http://www.millennium assessment.org/en/Article.aspx?id=72**

Forest Vocation Lands and Forest Policy: When Simpler is Better by José Rente Nascimento. An Inter-American Development Bank publication PDF, 69 p. **http://www.iadb.org/sds/doc/RUR% 2DForestVocationLands.pdf**

News and links on MDGs
News page on the Millenium Development Goals by the Commission for Development Studies of the Austrian Academy of Sciences. **http://www.oeaw.ac.at/kef/kef_enews/ 2006_01/kef_enews5.htm**

ELDIS links related to MDGs and the environment: **www.eldis.org/aid/mdgs.htm**

Facts and figures
FAO Forestry facts and figures. Answers questions like: "The annual deforestation rate in the world?" "How many people are employed in the formal forestry sector worldwide?" " The total number of mountain people worldwide?"
http://www.fao.org/forestry/foris/webview /forestry2/index.jsp?siteId=6772& sitetreeId=28679&langId=1&geoId=0

The Inter-American Development Bank offers an online information system called EqxIS, Equity and Social Indicators. In the website you will find disaggregated data that can be displayed by MDG, country or Sector using charts and tables of choice for at least two points in time for countries in Latin America. **http://www.iadb.org/sds/ xindicators/index.cfm?pagePos=**

ID21 - Research Highlights on Natural Resources. One sheet research summaries with links to further information. There are more then 400 highlights in this section. **http://www.id21.org/nr/index.html**

SME development

Small and medium forest enterprise (SME) development for poverty reduction: Opportunities and challenges in globalizing markets
This conference held at CATIE, Turrialba, Costa Rica, May 23-25, 2006, brought together representatives from the private sector including forest-based communities, development and donor agencies, governmental and non-governmental organizations, and research centers to reflect on the critical issues facing forest SME development in the tropics and how to best support forest SMEs for the benefit of the rural poor. Presentations and abstracts in Spanish and English, background, organizers, programme and list of participants are all available on the conference website: **http:// www.catie.ac.cr/econegociosforestales/ conference**

ROBERT BOSCH JUNIOR PROFESSORSHIP

Robert Bosch Junior Professorship Research into the Sustainable Use of Renewable Natural Resources

This junior professorship may be fulfilled at a German university or research institution of the applicants' choice. We expect joint applications of promising young scientists and potential host institutions. Prerequisite for an application is the willingness of the host institution to guarantee a tenure track position after the expiry of the grant to successfully evaluated position holders.

Areas addressed
We seek an outstanding scholar in the research area "sustainable use of renewable natural resources" as it relates to agriculture, forestry, fisheries, use of biodiversity (animal and plant genomic resources) and water. Research approaches can root in the natural sciences as well as in the social, economic and political sciences. Focus areas should lie in developing and emerging countries. With this new program we seek to contribute to a better standing of the emerging field of sustainability science in Germany. Scientists who explore this area with new concepts and methods and possess international experience are especially encouraged to apply. Promising concepts are inter-disciplinary and integrating research methods that explore interconnections between global and regional environmental problems. We expect that research results should contribute to the solution of urgent environmental problems.

Scope
The successful applicant can expect a grant up to 1 million euros, for a period of five years. It is expected that the candidate will assemble a research group. The funds can be allocated flexibly to-wards covering the candidates' and personnel's salaries as well as towards meeting research expenditures (working lab space, access to resources, equipment, travelling, consumables). The host institution is expected to guarantee successful applicants a tenure track position after expiry of the grant and after a successful evaluation (that means it assumes the obligation to install a regular professorship ad personam).

Candidate profile
- excellent doctorate, no more than 5 years prior to the application deadline of February 28, 2007 (adjusted for documented parental leave)
- compelling independent past scientific achievements and publications in peer-reviewed journals
- international research experience in one of the areas mentioned above
- excellent proficiency in English
- non-German applicants should be prepared to learn German.

For guidelines and application procedure, please visit the web site of the Foundation www.bosch-stiftung.de/juniorprofessorship

Application deadline: February 28, 2007

Source: R. Benz, Robert-Bosch-Stiftung (via ATSAF News list)

SEED FUNDING FACILITY: CALL FOR PROJECT CONCEPTS

Wetlands International's Wetlands and Poverty Reduction Project will support partnerships to prepare project proposals that address poverty-environment issues in wetlands

The Wetlands and Poverty Reduction Project (WPRP) is a 4-year project that aims to influence policy and practice at all levels to enhance the recognition of the interconnection between human well-being and wetland management. Through activities focused on local demonstration, capacity building and awareness-raising, the WPRP will contribute to the wise-use of wetlands and poverty reduction. Over the next 2.5 years, the WPRP's Seed Funding Facility will make €350,000 available to support partnership processes in Africa, Asia and Latin America. Additional details on the Wetlands and Poverty Reduction Project are available from Wetlands International's website at **www.wetlands.org/WPRP**

What is the Seed Funding Facility?
The Seed Funding Facility will provide funds to support conservation and development sectoral organizations to work collaboratively together and engage with local and regional actors in the development of project proposals that address wetlands-poverty issues. Supporting these processes and partnerships will result in up to 20 new project proposals being submitted to donors (i.e. bi-lateral and multi-lateral development agencies, conservation and/or development NGOs, private foundations and/or the corporate sector) for future funding consideration.

The Seed Funding Facility **will not** fund projects – only the development of project proposals.

The maximum amount that can be requested from the Seed Funding Facility is €25.000. The maximum amount under the Seed Funding Facility will be granted only in exceptional cases.

When to submit a project concept to the Seed Funding Facility
2007 : June 15th 2007 (Third call)

Applicants wishing to submit a project concept should visit the website for details and requirements, or contact:

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Fax: +31-317-478850

ERASMUS MUNDUS MSC SCHOLARSHIPS WITH SUTROFOR AND SUFONAMA

We would like to draw your attention to two Erasmus Mundus MSc programmes that may be of interest to students at your own institution or at institutions within your professional net-work. Both programmes are two-year integrated Masters Courses in Forestry but with a different profile:

SUFONAMA (Sustainable Forest and Nature Management): The overall objective is to qualify graduates to deal with the challenges of modern natural resources management in Europe and other temperate regions, that is, sustainable management of forests and nature areas in an integrated landscape context.

SUTROFOR (Sustainable Tropical Forestry): The overall objective is to qualify graduates to deal with the challenges in contemporary tropical forestry, that is, sustainable tropical forestry management is becoming increasingly complex due to improved knowledge and a growing demand for products and services.

Full descriptions of the two Erasmus Mundus MSc programmes, inclusive of application procedure and forms, are found on:

www.sufonama.net
www.sutrofor.net

There are fifty scholarships available: each of € 42,000 (€ 21,000 annually for two years). Application deadline for non-EU students is 1 February 2007, for EU students 17 August 2007.

We would appreciate if you distribute this information about the two new MSc programmes as widely as possible. They have a different profile but both of them offers great opportunities to highly motivated and internationally minded students.

Dr. Carsten Smith Olsen
Director of SUTROFOR

Dr. Niels Strange
Director of SUFONAMA

Centre for Forest, Landscape and Planning
Rolighedsvej 23
DK-1958 Frederiksberg C
Denmark

FAO FORESTRY FUNDING E-NEWS

This monthly electronic news compiles information about forestry funding from a wide range of sources. It serves as an informal means to share current funding information, mainly targeting forestry and forest-related projects and programmes worldwide.

If you wish to subscribe, you can send your email address to e-mail below.
CPF-Sourcebook@fao.org

Website:
www.fao.org/forestry/site/7148/en

FORESTRY'S CONTRIBUTION TO POVERTY REDUCTION

The Proceedings of the 17th Commonwealth Forestry Conference have been published by the Forestry Commission in the UK on behalf of the Standing Committee on Commonwealth Forestry.

A Commonwealth Forestry Conference has been held every 4-5 years since 1920 in a member nation of the Commonwealth. It is organised by the host country in co-operation with the Standing Committee on Commonwealth Forestry which provides continuity between the Conferences and is chaired by the Forestry Commission Director-General.

The most recent Conference took place in Sri Lanka in March 2005 against the backdrop of the devastating Indian Ocean tsunami of December 2004. With eradication of poverty and hunger at the top of the global agenda, the theme "*Forestry's Contribution to Poverty Reduction"* could not have been more relevant.

Through wide-ranging papers, presentations and discussions, the Conference clearly recognised that forests make a significant contribution to the welfare and livelihoods of the poorest in society and identified actions that need to be taken. These are set out in Resolutions that form part of the Conference proceedings.

If you would like to receive a copy of the proceedings, please contact Libby Jones: libby.jones@forestry.gsi.gov.uk or +44 131 314 6137.

THE RIGHTS AND RESOURCES INITIATIVE

The Rights and Resources Initiative encourages people and organizations to combine efforts to:

· Substantially increase the forest area under local ownership and administration, with secure rights to use and trade products and services;

· Dramatically reduce poverty in the *forested* areas of the world.

Around half of all those surviving on less than US$2 a day – some 1.6 billion people – live in and around forests. Poor women, in particular, shoulder much of the burden for hauling wood, and collecting and marketing forest products. The lack of clear rights to own and use land and trade in forest products has driven millions of forest dwellers to poverty, and encouraged widespread illegal logging and forest loss.

National and global goals of reducing poverty and protecting the environment will not be met unless poor people's rights to their lands and resources are strengthened. The next two decades are critical – both for the poor and for the forests. The world faces a historic opportunity to advance human rights and improve the well-being of forest communities by establishing the institutional foundations for sustained conservation and forest-based economic development.

The Rights and Resources Initiative marshals the efforts and expertise of leading community, conservation and development organizations. Together we will catalyze

greater global commitment and action on pro-poor tenure, policy and market reforms.

Founding partners of the Rights and Resources Initiative include The World Conservation Union (IUCN), Asociación Coordinadora Indígena y Campesina de Agroforestería Comunitaria Centroamericana (ACICAFOC), Center for International Forestry Research (CIFOR), Foundation for People and Community Development (FPCD), Regional Community Forestry Training Center for Asia and the Pacific (RECOFTC), InterCoopearation, Forest Trends, and World Agroforestry Center (ICRAF). The Initiative is supported by the International Development Research Centre of Canada, the Department for International Development of the UK, the Ford Foundation, the US Forest Service, and USAID.

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INTERNATIONAL POVERTY CENTRE WORKING PAPERS

The Working Paper series by the International Poverty Centre disseminates findings from work in progress to encourage policy debate and help consolidate good poverty reduction practices.

You are invited to post your comments on publications at the IPC Open Forum: http://www.undp-povertycentre.org/forum.htm

Recent working paper titles include:

- "Inter-country Comparisons of Poverty Based on a Capability Approach: An Empirical Exercise." Sanjay Reddy, Sujata Visaria and Muhammad Asali. Working Paper # 27. August 2006.
- "Chinese Poverty: Assessing the Impact of Alternative Assumptions." Sanjay G. Reddy and Camelia Minoiu. Working Paper # 25. July 2006.
- "Addressing Global Imbalances: A Development-Oriented Policy Agenda." Alex Izurieta and Terry McKinley. Working Paper # 23. July 2006.
- "Can Privatisation and Commercialisation of Public Services Help Achieve The MDGs? An Assessment." Kate Bayliss and Tim Kessler. Working Paper # 22. July 2006.
- "Cash Transfer Programmes in Brazil: Impacts on Inequality and Poverty." Fabio Veras Soares, Sergei Soares, Marcelo Medeiros and Rafael Guerreiro Osório. Working Paper # 21. June 2006.
- "Poverty among women in Latin America: Feminization or over-representation?" Marcelo Medeiros and Joana Costa. Working Paper # 20. May 2006
- "How costly is it to achieve the Millennium Development Goal of halving poverty between 1990 and 2015?" Nanak Kakwani and Hyun H. Son. Working Paper # 19. May 2006.

To view or download, please visit: http://www.undp-povertycentre.org/ipcpublications.htm

Or contact:

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WEBSITE ON HUNGER AND VULNERABILITY IN SOUTHERN AFRICA

The Regional Hunger and Vulnerability Programme (RHVP) promotes change and provides support to practitioners and policy makers in southern Africa on hunger and vulnerability issues. RHVP has launched a website on 5 April. **www.wahenga.net** will reach a wide and diverse audience and encourage them to engage in the hunger and vulnerability debate.

The website contains a range of material including comments (short editorial pieces on topical issues), briefings (providing more in-depth analysis on hunger and vulnerability issues), reports (substantive presentation and analysis of evidence-building work) and monthly newsletters. Interactive features encourage the user 'to have your say' and a library directs users to a wide range of related information about hunger and vulnerability.

RHVP's Learning Network is responsible for the operation of www.wahenga.net and its associated range of communication products.

For further information contact:
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ForLive

Forest management by small farmers in the Amazon: An opportunity to enhance forest ecosystem stability and rural livelihoods

In the Amazon, forest management concepts and policies for small farmers are usually externally defined, and do not adequately relate to their livelihood systems and competence. Forest policies and management concepts incorporating the needs, concerns, views and capacities of small farmers may be more effective in providing incentives to small forest owners to manage their forests for the common good.

The ForLive project analyses promising local forest management initiatives in the Bolivian, Brazilian, Ecuadorian and Peruvian Amazon, in partnership with smallholders and local organizations, in order to identify locally viable forest use options contributing to local livelihoods and the ecological stabilization of landscapes. The project also aims to identify possibilities to promote these options as a basis for sustainable development in rural areas of the Amazon. The project combines Participatory Action Research (PAR) and traditional research approaches, to ensure local relevance and

constructive learning processes to develop key indicators for sustainable forest management by Amazonian smallholders.

The INCO-programme of the European Commission's Directorate for Research contributes 1.85 Million Euros to the project budget, which is complemented by significant contributions from the partner organisations involved. The project consortium, coordinated by the University of Freiburg in Germany includes the following partners: the Instituto do Homen e Meio Ambiente da Amazônia (IMAZON) and the Universidad Federal Rural da Amazônia (UFRA), both from Brazil, the Asociación para la Investigación y el Desarrollo Integral (AIDER) in Peru; the Universidad Autónoma de Beni (UAB) in Bolivia, the Servicio Forestal Amazónico (SFA) in Ecuador, the University of Wageningen in the Netherlands, the Universidad de León in Spain, and the Centre for International Forestry Research (CIFOR). The project started on 1st of February 2005 and will conclude on the 31st of January 2008.

For further information on the project, please see: www.waldbau.uni-freiburg.de/forlive/Home.html

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ForLive

Investigación del manejo forestal por pequeños productores en la Amazonía: Una oportunidad para mejorar la estabilidad de ecosistemas forestales y los medios de vida rurales

En muchos casos, conceptos de manejo forestal para pequeños productores son establecidos externamente y no corresponden a las realidades y posibilidades locales de forma adecuada. Esta es una de las razones, por lo que solamente un numero limitado de pequeños productores usa su bosque eficientemente para mejorar sus medios de vida. Se requiere una consideración más adecuada donde se toma en cuenta las necesidades, vistas y capacidades locales.

Por tal motivo, el proyecto – en colaboración con los pequeños productores y organizaciones locales - va a analizar iniciativas locales promisorias de manejo forestal en la amazonia boliviana, brasilera, ecuatoriana y peruana para identificar opciones de manejo forestal localmente viables que contribuyan a los medios de vida y a la estabilización ecológica de paisajes. Asimismo, se pretende definir posibilidades para promover estas opciones como base hacia un desarrollo sostenible en las áreas rurales de la Amazonia. Mediante la aplicación de Investigación de Acción Participativa y enfoques tradicionales de investigación el proyecto va a asegurar la relevancia local y procesos de aprendizaje constructivo como base de desarrollo de indicadores claves para un manejo sostenible por pequeños productores en la Amazonia.

El proyecto está financiado con 1.85 Millones de Euro del programa INCO de la Unión Europea (PL 510903) y recibe contribuciones significantes de las organizaciones contrapartes involucradas. El consorcio, coordinado por la Universidad de Freiburg en Alemania es compuesto por los siguientes socios: Instituto do Homen e Meio Ambiente da Amazônia (IMAZON) y la Universidad Federal Rural da Amazônia (UFRA), ambos en Brasil, la Asociación para la Investigación y el Desarrollo Integral (AIDER) en Perú; la Universidad Autónoma de Beni (UAB) en Bolivia, el Servicio Forestal Amazónico (SFA) en Ecuador, la Universidad de Wageningen en los Países Bajos, la Universidad de León en España y el Centro de Investigación Forestal (CIFOR). El proyecto empezó el 1 de febrero de 2005 y va a terminar el 31 de enero de 2008.

SAHELIAN FRUIT TREES

The European Commission and the Agricultural Economics Research Institute (LEI), The Netherlands have entered into an agreement to strengthen the potential of indigenous fruit trees in the agro forestry parklands of Burkina Faso, Mali and Niger to improve local livelihoods. With a total budget of 1,5 million euros for 4 years (2006-2009), this project, SAFRUIT, is a joint effort with the Danish Centre for Forest Landscape and Planning (leading partner), University of Wales Bangor (United Kingdom) and six leading African research institutes.

The LEI contribution to SAFRUIT aims to assess the potential of fruit trees for local livelihood improvements, to identify institutional and legal opportunities and constraints for enhanced use of fruit trees and their sustainable management, and to improve the marketing of fruit tree food products to increase local incomes. LEI researchers will pilot a participatory learning and action approach that will address the immediate concerns and issues of local communities and encourage their participation in sustainable parkland tree management. Its application in three pilot areas will be used to demonstrate the utility of this approach across West Africa.

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GLOBAL HORTICULTURE INITIATIVE LAUNCHED

Research to make a change for the resource-poor

The geographical focus of the Global Horticulture Initiative is the developing world, with sub-Saharan Africa and South Asia, where most of the world's extreme poor live, as primary focal points. Secondary regions of emphasis will be in Central Asia, Southeast Asia, and Latin America.

The primary beneficiaries of the Global Horticulture Initiative are resource-poor households working within the agricultural sector and food processing industries in rural, peri-urban and urban areas. Special efforts will be made to empower women, the principal workers in most horticultural crop production and related industries.

The initiative will initially focus on alliaceous, cucurbitaceous, leguminous, and solanaceous vegetables, tropical and subtropical tree fruits, and indigenous horticultural crops. Activities for ornamentals, aromatic and medicinal plants will follow.

The Global Horticulture Initiative will coordinate activities in a framework of broader issues, such as
1. Creating added-value along horticulture commodity chain, from production to consumption
2. Improving health and enhancing the nutritional value of diets in rural, peri-urban and urban areas
3. Contributing to sustainable and ecologically sound practices in horticulture and strengthening organizations
4. Providing opportunities for horticulture in urban areas, that are the last frontier of agriculture in some developing countries

The Global Horticulture Initiative was launched by 74 participants representing 55 organizations on March 22-24, 2006 in Montpellier France, under the auspices of AVRDC - The World Vegetable Center, the Centre de Coopération Internationale en Recherche Agronomique pour le Développement (CIRAD), and the International Society for Horticulture Science (ISHS).

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BRAZIL'S FLORA ON-LINE

Flora Brasiliensis, said to be the largest publication of its kind on the biodiversity of Brazilian plants, has been placed on the internet. **Flora brasiliensis** was published between 1840 and 1906 by the editors Carl Friedrich Philipp von Martius, August Wilhelm Eichler, and Ignatz Urban, with the participation of 65 specialists from various countries. It contains taxonomic treatments of 22.767 species, mostly Brazilian angiosperms, held in 15 volumes, divided in 40 parts, with a total of 10.367 pages.

The projects' aim is to develop an on-line information system about Brazil's flora, using Martius' *Flora brasiliensis* with high resolution digitized images of the plates as a base. Missouri Botanical Garden is responsible for digitizing all plates. Researchers from the The Department of Botany of the Biology Institute of Unicamp are responsible for organizing the scientific community to produce a validated checklist

of names. CRIA is responsible for the development of the system.

The information system has the following modules:
a. database with high resolution images of the digitized plates
b. database with metadata on the images (scientific name, volume, number, page, etc.)
c. a database with the list of all names cited in *Flora brasiliensis*
d. a system with adequate tools for specialists to feed, update, and validate a list of names (*Flora brasiliensis revisited*)
User's comments, suggestions and doubts are very welcome.

The project was sponsored by the São Paulo State Research Support Foundation (FAPESP), Natura and Fundação Vitae.
The address is:
http://florabrasiliensis.cria.org.br.

Source: SOUTHEM Online 140 distributed by: FOREST-LIST Mailing list on forest research and studies [FOREST-LIST@JOYX.JOENSUU.FI] and Flora brasiliensis website

TROPICAL FORESTS AND CLIMATE CHANGE ADAPTATION (TROFCCA)

The Centre for International Forestry Research (CIFOR) and the Tropical Agriculture Centre for Research and Higher Education (CATIE) have initiated regional activities for the project "Tropical Forests and Climate Change Adaptation (TroFCCA)". The project objective is to promote adaptation of tropical forests to the adverse effects of climate change through the assessment of vulnerability and the development of policy-oriented adaptation strategies.

Tropical forest ecosystems, in particular those on which the livelihoods of people from several regions of the world depend, are among the most vulnerable ecosystems to climate change variability and long term changes in temperature and rainfall. TroFCCA is an effort to contribute to the limited understanding of climate change impacts over forests, as well as to the scarcity of robust methodologies to assess vulnerability and plan for adaptation for these systems in particular.

During its four years, TroFCCA will develop targeted methodologies, it will undertake policy analysis and will coordinate regional policy dialogues in the following countries: Costa Rica, Nicaragua and Honduras in Central America; Burkina Faso, Mali and Ghana in West Africa; and Indonesia and the Philippines in South East Asia. In coordination with national governments, the project will focus its activities on specific development policies for which goods and services from forest ecosystems play a significant role. TroFCCA is supported by the European Commission.

More information is available on the project website, http://www.cifor.cgiar.org/trofcca.

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EUROPEAN CITIES AND INDIGENOUS RAINFOREST PEOPLES ALLIANCE PLEDGE TO REDUCE GREENHOUSE GAS EMISSIONS

The Climate Alliance of European Cities with Indigenous Rainforest Peoples has pledged to reduce greenhouse gas emissions by ten per cent every five years. The long-term strategy will result in a halving of emissions below the 1990 baseline by 2030. Climate Alliance cities and municipalities will cut emissions through energy conservation and efficiency measures and the use of renewable energy sources. They are also committed to avoiding procuring tropical timber derived from destructive logging and helping indigenous partners to conserve the rainforests.

"The new target... extends far beyond the year 2010, but also permits short-term monitoring of performance," reported Joachim Lorenz, a Munich city councillor. "It allows local authorities who are only just starting their climate protection activities to pursue concrete quantitative goals," he continued. The goal was announced at the 14th International Climate Alliance Annual Conference, held 4-6th May in Vienna, Austria. At the meeting, participants from across Europe exchanged experience and discussed strategies, measures and barriers affecting climate protection at the local level.

For more information, please see http://www.klimabuendnis.org/english/update/frameset.htm

Or contact:
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Source Tiempo Climate Newswatch: http://www.tiempocyberclimate.org/newswatch/

ADAPTING TO CLIMATE CHANGE: INFORMATION AND NETWORKING

The **Climate Change and Disasters Group**, part of the Vulnerability and Poverty Reduction Team at the Institute of Development Studies, University of Sussex, UK, have launched a new website as part of the **Linking Climate Adaptation (LCA) Network:**
www.linkingclimateadaptation.org

The aim of LCA Network is to help communities, policy-makers, practitioners and academics share experiences and knowledge about adaptation to climate change. The website supports this objective by providing:

- an introductory guide to climate change adaptation topics
- access to web-based climate adaptation publications, each individually summarised
- an index of organisations conducting work in this field with links to appropriate

online information
- a platform for the LCA Network and list-server for sharing information and announcements across the wider adaptation community
- a base for adaptation discussions - currently focusing on NAPAs and shortly to cover disasters and climate change, and future adaptation policy.

The LCA Team welcome comments, additions and suggestions and would be happy to include additional organizations and publications for inclusion on the website.

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EUROPEAN CAPACITY BUILDING INITIATIVE (ECBI) ON CLIMATE CHANGE NEGOTIATIONS

A key limitation of the United Nations climate change negotiations is the lack of a level playing field between many delegations, particularly North-South, and South-South. Other major obstacles are mutual misunderstanding and a lack of trust, above all between industrialised and developing countries.

The European Capacity Building Initiative (ECBI) aims to reduce and overcome these limitations and obstacles through a number of capacity- and trust- building activities, subsumed under three complementary integrated Programmes:
- a primarily trust-building Oxford Fellowship Programme with an informal (senior level) exchange of institutional and procedural knowledge;
- a Workshop Programme to enhance negotiating skills; and
- a Policy Analysis Programme to enhance analytic capacity.

The core of the ECBI is focused on collaborations with European and developing countries from Sub-Saharan Africa, and South Asia - including the regional leaders South Africa and India - and the Group of Least Developed Countries (LDCs). Outside these core regions, there is also participation from Brazil and China, as well as from OECD non-Annex B 'Advanced Developing Countries' (ADCs), such as Mexico and Turkey.

Three ECBI Fellows, Amjad Abdullah

(Maldives), Bubu Pateh Jallow (The Gambia) and Mohammad Reazuddin (Bangladesh) have recently written an Opinion Piece on Operationalising the Kyoto Protocol's Adaptation Fund, a topic on the agenda for the Climate Change Conference in Nairobi, November 2006.

The piece is available at
www.EuroCapacity.org

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IGES INFORMATION ON THE CLEAN DEVELOPMENT MECHANISM IN ASIA

The Institute for Global Environmental Strategies (IGES) has upgraded their "CDM and JI in Charts" to Ver. 5.1. All the changes from previous versions are listed in the book.

"CDM and JI in Charts" is a booklet providing a plain and easy-to-understand description of the Clean Development Mechanism (CDM) and other Kyoto mechanisms. It is published by IGES as part of the Integrated Capacity Strengthening for the CDM/JI (ICS-CDM/JI) Programme under the Ministry of the Environment, Japan.
To download:
http://www.iges.or.jp/en/cdm/report01.html

IGES has also produced 6 CDM Country Guides, a series of manuals for CDM project development for each Asian country. Guides are now available for Cambodia, China, India, Indonesia, the Philippines, and Thailand.

The Guides aim to facilitate CDM project developments in Asia by providing necessary information to both project developers and potential investors. The main focus of the Guides is to provide country-specific information from a practical aspect of preparing CDM projects in the selected countries. The information goes far beyond that of currently available CDM guidebooks and includes: CDM potential sectors, project approval procedures, legal aspects, financing issues and government incentives which may affect project developers and/or investors.

In addition, the guides have many annexes that vary among the countries based on information availability. These include such things as a contact list of major stakeholders, a Project Concept Note (PCN) form and other valuable information.

The Guide was compiled under the Integrated Capacity Strengthening for the CDM/JI (ICS-CDM/JI) Programme initiated by the Ministry of the Environment, Japan.
'CDM Country Guide' can be downloaded from the IGES website at:
http://www.iges.or.jp/en/news/topic/0512cdm.html

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UP IN SMOKE? Latin America and the Caribbean: The threat from climate change to the environment and human development

The third report from the Working Group on Climate Change and Development, a coalition of 20 major environment and development groups is now available. With a foreword by Juan Mayr, former Colombian Environment Minister and President of the first Conference of the Parties to the UN Convention on Biological Diversity, the report catalogues the impact of climate change and environmental degradation ranging from drought in the Amazon to floods in Haiti and elsewhere; vanishing glaciers in Colombia to extreme cold in the Andes; and hurricanes, not only in Central America and the Caribbean, but also in southern Brazil.

The Working Group on Climate Change and Development includes ActionAid, Bird Life International, CAFOD, Christian Aid, Columban Faith and Justice, Friends of the Earth, Greenpeace, IIED (International Institute for Environment and Development), MedAct, nef (the new economics foundation), Operation Noah, Panos, People & Planet, Practical Action (formerly ITDG), Progressio (formerly CIIR), RSPB, Tearfund, teri Europe, WWF, Worldvision International.

Up in smoke? Latin America and the Caribbean: The threat from climate change to the environment and human development can be downloaded in English http://www.neweconomics.org/gen/uploads/15erpvfzxbbipu552pnoo1f128082006213002.pdf

The Spanish version available at: http://www.neweconomics.org/gen/uploads/15erpvfzxbbipu552pnoo1f128082006213236.pdf

Source: message by Andrew Simms on the IISD climate change info mailing list. You may subscribe to IISD Reporting Services' free newsletters and lists for environment and sustainable development policy professionals at http://www.iisd.ca/email/subscribe.htm

SATELLITE IMAGES FOR CHINA, BRAZIL AND NEIGHBOURING COUNTRIES

The China-Brazil Earth Resources Satellite (CBERS2) images are now available for download at no cost for requests coming from South American countries. The CBERS Programme was initiated in 2004 as a result of a partnership between Brazil and China to develop the remote sensing satellites technologies required to monitor their huge territories.

CBERS-2 was launched in 21 October 2003, from a Chinese base. It has three imaging sensors:

- a CCD Camera (113 km swath; 5 bands: blue, green, red, NIR and pan; 20 m spatial resolution; 8 bits; 26 days revisit; cross track viewing 32 degrees);
- a IRMSS Scanner (120km swath; 4 bands: 2 SWIR and a pan with 80m, and a TIR with 160m; 8 bits; 26 days revisit); and
- a Wide Field Imager (890 km swath; 2 bands: red and NIR; 260m spatial resolution; 8 bits; 5 days revisit).

The opening of the CBERS Catalogue of Images without restrictions and cost for neighbouring countries to Brazil and China, was decided in the last meeting of the CBERS Joint Committee of Program, last March in Pequín, following the directions given by the two governments on the pacific aim of the initiative.

This new service was presented by the National Institute of Espaciais Searches (INPE), organ of the Ministry of Science and Technology, in charge of the CBERS Programme in Brazil, on 28 and 29 of March, in Chile, during the preparatory meeting of the 5th Space Conference of the Américas.

The extension of the free distribution of images will benefit the following countries of South America: French Guyana, Surinam, English Guyana, Colombia, Ecuador, Uruguay, Paraguay, Bolivia, Argentina, Chile, Peru and Venezuela.

The digital images of all sensors are distributed for free in Brazil and in footprint from around the ground station in Cuiaba-MT, Brazil, which covers parts of South America. To access to the images, please see the Catalogue of Images on the Web site **www.dgi.inpe.br/CDSR** and fill in the form with latitude and size of the area of interest. The required images will be sent through the Internet in a matter of minutes. Brazil is one of the greatest distributors of satellite imagery of the world, thanks to its policy of free distribution since June 2004. Up to March 2006, 190 thousand images were distributed to Brazilian users only.

(source: FAO Global Land Cover Network News http://www.glcn.org/news/)

POWERPOINTS OF UNEP'S ATLAS RELEASED FOR EDUCATIONAL PURPOSES

One Planet, Many People: Atlas of Our Changing Environment, announced in the previous issue of the ETFRN News, provides a comprehensive, visual presentation of scientifically verifiable information about changes in the global environment, shown through state-of-the-art remote sensing technology.

A collection of 405 Powerpoint slides divided into Regional and Thematic sets covering 11 contemporary and dynamic themes – Introduction to the Planet, People and Planet, Atmosphere, Coastal Areas, Urban Areas, Water and Lakes, Forests, Cropland, Grassland, Tundra and Polar Areas and Extreme Events – and 6 geographical regions – Africa, Asia and the Pacific, Europe, Latin America, North America and Polar Regions – can now be downloaded free of charge at http://www.na.unep.net/OnePlanetManyPeople/powerpoints.html.

This presentation of environmental hotspots and issues is based primarily on satellite imagery taken over 30 years showing how human actions and geophysical activities have changed various parts of the world. Examples include the shrinking ice in the Arctic, melting glaciers, growth of cities like Las Vegas, forest loss in the Amazon, and the decline of the Aral Sea and Lake Chad. Satellite images found in the 334-page hard-bound Atlas are packaged in this Powerpoint presentation format to facilitate the use of imagery by environmental policy makers, non-governmental organizations, the private sector, academics, teachers and

citizens interested in using this material to visually demonstrate the changes resulting from natural processes and human-induced activities.

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Source: IISD climate change info mailing list
Subscribe to IISD Reporting Services' free newsletters and lists for environment and sustainable development policy professionals at http://www.iisd.ca/email/subscribe.htm

ENVIRONMENTAL ASSESSMENT AND THE FOREST SECTOR

Strategic Environmental Assessment (SEA) is an instrument to enhance decision making on policies, plans and programmes in the forestry sector, such as a Forest Bill, a national forest strategy and forest management and use plans.

The final objective of SEA in the forestry sector is to contribute to sustainable forest management and good governance. More concretely:

- SEA is an integrated approach: SEA can assess the trade-offs between environmental, economic and social issues by identifying the value of forests.
- In setting objectives and transparent classification of forests, SEA can provide a structured and transparent mechanism for decision making.
- In changing management perspectives, SEA can support the establishment of a clear policy framework to guide forest management.

Supporting the introduction and application of SEA is one of the major tasks of the Netherlands Commission for Environmental Assessment (NCEA). We define SEA as a tool to bring people together in planning processes, and to structure and feed their debate on the consequences of strategic choices. Public participation, transparency and good quality information are key principles. Where needed, SEA also includes social and economic issues.

At present the NCEA is supporting the development of a SEA in Georgia for the National Forest Strategy. It is expected that FAO will be one of the partners involved. In this process, the recently adopted CBD Guidelines for Biodiversity in EIA and SEA (of which the NCEA is the major author) will be applied. The NCEA also closely follows the SEA process of the Forest Bill in Kenya, initiated by the World Bank. A two-page key sheet on SEA in the forest sector will become available soon.

Our advisory services are provided to governmental decision makers in those countries that have a bilateral relationship with the Netherlands Ministry of International Cooperation. Requests for support from other countries are considered, when we have sufficient staff time available and provided external funding is guaranteed.

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For any question or request, please contact the helpdesk@eia.nl
Website: www.eia.nl/ncea/index.htm

Key sheets on Strategic Environmental Assessment and Biodiversity in EIA and SEA are available at:
www.eia.nl/ncea/products/publications.htm

POLICY BRIEF ON CERTIFICATION FOR SMALL FOREST ENTERPRISES TO COMBAT FOREST DEGRADATION

The Institute for Global Environmental Strategies (IGES), based in Japan, has published a policy brief entitled **'Combatting Forest Degradation: Certification as a driving force for amelioration - Challenges for small forest enterprises'**

The natural forests of many Asia-Pacific countries are rapidly degrading or disappearing, threatened by a complex array of forces and appropriate measures for sustainable forest management are urgently required.

Forest certification provides a credible means of verifying the legality of timber/ wood products and ensures that forests are managed according to the recognised principles of sustainable forest management. However, present supplies of certified timber, especially from tropical countries, are expected to fall short of the future demand envisioned by Japan and other importer countries. Small forest enterprises are a feature of forestry in many tropical countries and could play an important role in supplying certified timber.

This policy brief introduces four measures to improve the accessibility of forest certification to small forest enterprises referred to in IGES case studies done in Papua New Guinea.

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The policy brief may be downloaded from:
http://www.iges.or.jp/en/pub/policybrief.html

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www.iges.or.jp

Source: IISD forest policy info mailing list
You may subscribe to IISD Reporting Services' free newsletters and lists for environment and sustainable development policy professionals at http://www.iisd.ca/email/subscribe.htm

RSPO SUSTAINABLE PALM OIL PRINCIPLES AND CRITERIA

The Roundtable on Sustainable Palm Oil (RSPO) adopted the Principles & Criteria (P&C) for Sustainable Palm Oil Production at its 3rd Roundtable Meeting on Sustainable Palm Oil, and 2nd General Assembly of members held in November 2005. Programmes were initiated to provide a framework for verification of the P&C, to develop a Code of Conduct for all members and a **Smallholder Task Force** and several other activities were launched. At its roundtable meeting in November 2006, the RSPO shared preliminary results of this two year trial P&C implementation period. The presentations given are available on the RSPO website.

RSPO accepted its 100th Ordinary Member on 22 May 2006, and has a total membership of around 140 members as of July 2007.

For more information, please contact:
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THE FUTURE OF TRADE, AID AND SECURITY - 6 KEY OBJECTIVES

Supporting peace and security through natural resource trade and aid policies

The Trade, Aid and Security (TAS) initiative is a research program jointly co-ordinated by the International Institute for Sustainable Development (IISD) and the World Conservation Union (IUCN) with funding from the governments of Norway and Italy.

Since 2000, the initiative has focused on the way in which the exploitation of natural resources for international commerce can contribute to violent conflict at the sub-state and international level, and on the role of development assistance and trade liberalization-in tandem or in isolation-in fuelling or alleviating this downward spiral.

On the basis of this understanding, our current research focuses on identifying practical policy solutions for domestic and international policy-makers.

To that end IISD and IUCN have produced a series of policy briefs that outline six key objectives that the international community should strive to achieve if trade and aid policy is to support peace and security rather than increasing the likelihood and longevity of violent conflict.

Those objectives are: developing conflict-sensitive trade and aid policies; restricting the trade in conflict resources; promoting 'good' governance and conflict-sensitive business practice; and improving the management of revenues from natural

resources and aid. The briefs (i) explain why each objective is critical to security between and within states; (ii) assess current initiatives that attempt to realize that objective; and (iii) make recommendations for future action.

The policy briefs may be downloaded from the IISD Trade, Aid and security website, which also includes background papers and case studies:
http://www.iisd.org/security/tas/

or contact:
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UNITED NATIONS FORUM ON FORESTS INVITES INPUTS ON PRIORITIES

The United Nations Forum on Forests is inviting 'major groups' to submit discussion papers to its next meeting, highlighting priorities for the negotiation process. To facilitate the groups' discussions, it has developed a web-based discussion forum for each group. To view or participate, please see
http://esaconf.un.org/WB/?boardID=unff

The following 'major groups' have been identified:

- Scientific & Technological Community
- Women
- Workers & Trade Unions
- Youth

For more information on the UNFF, please visit: http://www.un.org/esa/forests/

Or contact:
The UNFF secretariat
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The United Nations Forum on Forests Secretariat
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IPGRI CHANGES NAME TO BIOVERSITY INTERNATIONAL

The International Plant Genetic Resources Institute (IPGRI) is changing its name to Bioversity International or Bioversity (not biodiversity), according to a Special Message from the Director General, Dr Emile Frison, published on the IPGRI website.

Dr Frison writes: "Bioversity International echoes our new strategy, which focuses on improving people's lives through biodiversity research.The new name will take effect from 1st December 2006.

IPGRI's agenda has evolved over the past 10 years. At the end of 2004, IPGRI

developed a new strategy entitled 'Diversity for Well-being: Making the Most of Agricultural Biodiversity'. IPGRI then decided to review ways to better reflect its focus and work through its branding, which includes a name change.

In particular, IPGRI's new strategy recognizes the following changes:

- IPGRI no longer focuses just on plants but on **biodiversity that can benefit people**. IPGRI will continue to have its core strengths in plants but will apply its skills and knowledge to a broader range of biodiversity for improving people's well-being.
- Our new strategy focuses on **people and their livelihoods** rather than on genetic resources per se. The paradigm has shifted from one in which our success is measured by the achievement of conservation targets to one where impact on people's well-being is the yard-stick.
- IPGRI has moved from a focus on ex situ **conservation** of plant genetic resources to a wider agenda including the **use** of biodiversity to improve livelihoods.
- IPGRI has taken a stronger **international role** in supporting decisions and policies that impact on better conservation and use of biodiversity. "

The new IPGRI strategy may be downloaded from the IPGRI website: http://www.ipgri.cgiar.org/index.htm

Please note the new address of IPGRI headquarters:

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www.ipgri.cgiar.org

WWW.ENTERSCIENCE.COM

The Homepage of Basic Research

A new tool is available online for researchers and scientists worldwide: Enterscience.com, the new Homepage of Basic Research. The website provides continuously updated links to the best websites available for all activities and all researchers' needs, such as funding opportunities, lab protocols, conference search, travel planning, article search or product and kit comparison, etc…

The goal of Enterscience is to speed up internet search and save scientist's precious working time, by providing the best links by topic and location. The new Homepage of Basic Research www.enterscience.com is free, and requires no downloads nor subscriptions. Its goal is to become the reference website, the starting point for scientists working in basic research worldwide.

Website: www.enterscience.com
Email: info@enterscience.com

Source: message from Fabio Bianco University of Milano, Italy

INDIAN RESEARCH RESULTS ON *PONGAMIA, JATROPHA* AND OTHER AGROFORESTRY SPECIES

The Agroforestry Database Development Programme (INARIS), at the Indian National Research Centre for Agroforestry, Jhansi (UP), is making available bibliographic information on Indian research on *Pongamia, Jatropha,* and other agroforestry species. *Pongamia* and *Jatropha* seeds may be used to produce biodiesel, as discussed in the article on p.53 of this issue. Currently, the *Pongamia* database holds over 700 records of Indian research on the species, published between 1971 and 2005 in different journals and books. The INARIS programme also supports several other database initiatives and is funded by the World Bank.

For further information, please see: http://mirror.inaris.gen.in/net.

CGVLIBRARY: WEB GATEWAY TO GLOBAL AGRICULTURAL RESEARCH

The Virtual Library of the Consultative Group on International Agricultural Research (CGIAR) provides access to research on agriculture, hunger, poverty, and the environment. From one search engine, you can tap into leading agricultural information databases, including the online libraries of all the Consultative Group on International Agricultural Research (CGIAR) research centers. Use the CGVlibrary to discover resources, go directly to the full text of thousands of publications, and stay current on CGIAR research. Custom-select which databases you want to search or use the topic-based QuickSets preselected by CGIAR information specialists.

http://vlibrary.cgiar.org/

RECOFTC: NEW TRAINING AND STUDY TOUR PACKAGE FOR 2007

The Regional Community Forestry Training Center for Asia and the Pacific (RECOFTC) designs and facilitates learning processes and systems to strengthen the capacity of community forestry institutions. In 2007, RECOFTC training programs and study tours will be delivered on demand and customized, to meet the specific needs of clients. The programs will continue to include a broad combination of specialist presentations, case study exploration and analysis, and field visits to highlight the issues in any chosen training theme in community-based natural resource management. Course content builds upon participant's own experiences and work practice. RECOFTC can also adapt training courses to suit the national context and run training programs in many national languages from the region by working in collaboration with experienced national trainers or national training organizations.

For more information, please visit: http://www.recoftc.org/site/index.php?id=343.
Or contact: Ms. Noelle O'Brien,
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Phone: +66 2940 1212/ +66-2-9405700;
Fax: 66-2-5614880

HOW TO MAKE POVERTY HISTORY: THE CENTRAL ROLE OF LOCAL ORGANIZATIONS IN MEETING THE MDGS

Tom Bigg & David Satterthwaite (eds.) 2005

"In this book, IIED's colleagues and partners lay out the case for why local institutions matter. If we, as a global community, are to achieve the Millennium Development Goals and "make poverty history", our global ambitions must become more firmly anchored in local realities" (Camilla Toulmin, Director IIED)

The latest IIED booklet on MDGs aims to identify policies and practices that enhance local development processes. It also aims to challenge inadequate and inaccurate measures of poverty and development progress and increase the influence of civil society on key debates and high-level policy processes. This booklet has been produced for the UN 2005 World Summit in September 2005 and for IIED's conference, How to Make Poverty History, in December 2005.

Whether or not most of the MDGs are met depends on more effective and pro-poor local organizations being engaged in all aspects – from determining what should be done, to doing it, and to monitoring progress. So it also depends on donor agencies changing to support this. If this is neglected, it is unlikely that most of the MDGs will be met. If the poor lack voice and influence, rights and protection by the rule of law, then much-increased donor flows and even debt relief and fairer global markets are unlikely to bring them much benefit. The people on whose poverty the programmes of all donor agencies are justified surely have a right to a greater influence on what is done and by whom. As the examples given in this book show, this greater influence can transform the quality, scale and cost-effectiveness of development assistance. It can also contribute much to building more effective governance systems, but doing so from the bottom up – which is where it is most needed.

This publication starts with an introduction explaining why local organizations are central to meeting the MDGs. Other topics addressed are: the role of local institutions in securing land and property rights in Africa; the role of conservation institutions in reaching the MDGs; and appropriate support for associations of small and medium forest enterprises (The latter contributed by Duncan Macqueen, see his article in this issue). The role of local organizations in urban areas, in farming and people's access to food are discussed as well. Special attention is given to the impact of climate change in Africa, and which measures should be implemented to avoid achievements made in development being reversed by climate change. The last chapter explains how the implementation international procedural rights and obligations could serve the environment and poor communities.

The booklet can be downloaded from the internet, entirely or as separate chapters, at: http://www.iied.org/pubs/pdf/full/11000IIED.pdf

To order a copy, please visit the IIED website for more information (click on publications, and then the MDGs as topic). Alternatively, visit the Earthprint website directly at: http://

www.earthprint.com/go.htm?to=11000IIED

Price: £5.50 UK or $10.00 US, FREE for Non-OECD countries

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Other IIED publications about the MDGs are available at:
www.iied.org/Gov/mdgs/publications.html

PUBLICATIONS ON FORESTS AND POVERTY REDUCTION BY THE FAO REGIONAL OFFICE FOR ASIA AND THE PACIFIC

The Following publications are the result of a series of workshops on the theme 'Forests for Poverty Reduction, Exploring the Potential' organized by the Asia Pacific Association of Forestry Research Institutions (APAFRI) and the Forestry Research Support Programme for Asia and the Pacific of the Food and Agriculture Organization of the United Nations (FAO), together with other organizations in the region.

Forests for Poverty Reduction: Can Community Forests make Money? Proceedings of a workshop held on 1-2 September 2003 in Beijing, China.
H.C. Sim, S. Appanah and W.M. Lu (eds.) 2004

These proceedings present a compilation of the experiences of many countries in the Asian region in implementing community forestry. Working group discussions focused on the role of non-timber forest products in community forestry for poverty alleviation and the role of gender in community forestry. The participants also formulated general recommendations to strengthen the role of community forestry in poverty reduction. They agreed that only good community forestry can sustainably alleviate poverty, and that this would require good policy support. It was highlighted that income generation is only one of the many tools to alleviate poverty, and that community forestry should also include elements such as infrastructure development, better opportunities for education, good governance, and improved social and economic stability. In addition to a general introduction, the papers presented include country case studies exploring different types of community forestry, and case studies focusing on non timber forest products or gender aspects.

RAP Publication 2004/04
FAO 2004
ISBN No: 974-7946-51-3

Forests for Poverty Reduction: Opportunities with Clean Development mechanism. Environmental Services and Biodiversity Proceedings of a workshop held on 27-29 August 2003 in Seoul, Korea
H.C. Sim, S. Appanah and Y.C. Youn (eds.) 2005

What are the opportunities offered by global initiatives such as the Clean Development Mechanism (CDM), environmental services and biodiversity that could benefit the poor, and specifically the forest-dependent poor in the Asia Pacific region? What are the

strategies, policies, mechanisms or procedures that must be put in place to tap these opportunities? The workshop included group discussions on these questions, addressing the following issues:
- Establishing an information clearing house on the CDM in the Asia Pacific region.
- Encouraging small CDM projects to aid poverty alleviation,
- Institutional arrangements to mobilize inputs from private industry in implementing the Convention on Biological diversity,
- Economic incentives fro private investment in conservation.

This workshop brought together 47 experts from the Asia Pacific region to focus on improving the contribution of forests to poverty reduction strategies.
The publication includes the group discussion outputs and recommendations, a general introduction and 21 background papers ranging from thematic overview papers on a subset of the issues above, to specific country case studies.

RAP Publication 2004/22
FAO 2004
ISBN No: 974-7946-57-2

Forests for Poverty Reduction: Changing Role for Research, Development and Training Institutions. Proceedings of a workshop held on 17-18 June 2003 in Dehrahun, India.
H.C. Sim, S. Appanah and N.Hooda (eds.) 2005

This first workshop of the series dealt with the reformation of forest research institutions and the research agenda that are required to meet the challenges of poverty reduction. The proceedings include a general introduction on the history and required change of direction of forestry institutions in the region, pointing to the experiences of Nepal and India as models for adaptation. Twentynine papers provide further background in the form of thematic and country case studies and analyses.

RAP Publication 2005/19
FAO 2005
ISBN No: 974-7946-76-9

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IIED: SMALL AND MEDIUM FORESTRY ENTERPRISES SERIES

IIED 2003-2006

Small and medium forestry enterprises for poverty reduction and sustainability

Most international attention in forestry has been given to improving the conditions for large-scale or micro-scale forestry, and much less to the 'messy middle' - which produces a high proportion of forest products and involves huge numbers of people. Ways need to be found by which small and medium-scale forestry

enterprises (SMFEs) can better contribute to reducing poverty and improving the prospects for sustainability.

The International Institute for Environment and Development (IIED), with partners in Uganda, South Africa, India, Brazil, Guyana and China has been investigating these issues. Country diagnostics show that the SMFE sector is of major significance for livelihoods in these countries – the net effect of myriad small players represents a substantial part of local economies. Yet, these are largely invisible economies, and policy and programme developments almost completely ignore the SMFE sector. Raising the sector's visibility such that its impacts can be better assessed, and then going on to explore how the positive links to sustainability, livelihoods and poverty-reduction can be enhanced, is a major challenge to which this initiative seeks to rise.

The series already consists of 18 different reports, covering: country diagnostics of the small and medium forestry enterprise sector; market chains; role of small-scale timber production; forestry contractors; and raising forest revenues and employment. The most recent publications discuss forest based associations in the partner countries.

Discussion papers on the **Small and Medium Forestry Enterprise** sector for each of the partner countries: Uganda, South Africa, India, Brazil, Guyana and China (published in 2003 or 2004)

Forestry Contractors in South Africa: What Role in Reducing Poverty?
By Jeanette Clarke and Moenieba Isaacs 2005

South African large-scale forest industry has outsourced many operations to contractors to increase flexibility and cut costs. This study presents a national overview and seven case studies to investigate how forestry contracting contributes – and could better contribute - to reducing poverty reduction through providing either jobs or enterprise opportunities.

It appeared that forest contracting does not reduce poverty among forest workers: contractors appear to be unable to claim an equitable share because they are too dependent on large-scale grower-processors. The study concludes with suggestions to increase the contribution of forestry contractors to poverty alleviation. These involve: increase rates for contract work; support more effective increase collective bargaining power by contractor enterprises; provide better safety nets for workers and implement national social standards for forestry.

50 pages - ISBN: 1 84369 570 7

Small Scale Timber Production In South Africa: What role in reducing poverty? *By Howard M.; Matikinca P.; Mitchell D.; Brown F.; Lewis F.; Mahlangu I.; Msimang A.; Nixon P.; Radebe T 2005*

Forestry plays a diverse and significant role in reducing poverty in the rural areas and could even play a far greater role through coordinated efforts of government and the private sector.

This study assesses the contribution of small-scale forestry to poverty reduction through studying a variety of business models. It discusses impacts on: household incomes, access to market

opportunities, and on rights, capabilities and decision-making power. The authors make several recommendations to improve the impact on poverty reduction, namely: increasing participation in downstream processing, increase access to state land, providing better funding and financial services, improving extension support, and actively publicizing and spreading current successes.

ISBN: 1 84369 571 5; Price: $22.00 US

Raising forest revenues and employment: Unlocking the potential of small and medium forest enterprises in Guyana
by Andrew Mendes & Duncan Macqueen, 2006

Globalisation presents new challenges to forest business in Guyana. Knowing how to compete in the global market place is increasingly critical to the forest sector's long term prospects. Given the low stocking of valuable species and slow growth rates of Guyana's forest, large, capital intensive logging operations are proving unprofitable. Limited value is being added within country and few jobs are being created as a result. Given that small and medium forest enterprises with 16% of the allocated forested land pay 50% of the revenues of the Guyana Forestry Commission and employ 75% of people in the sector, the situation begs for a shift in emphasis. This report argues for such a shift, using new technology and better information about niche markets to improve both revenues and employment within the sector.

ISBN: 1 84369 602 9

Reports in the **Small and Medium Forestry Enterprises** series can be ordered from EarthPrint at www.earthprint.com for $9.00 US each. The papers (pdf) can also be obtained free when downloading from the publication section at www.iied.org.

Go to IIED website for publications(http://www.iied.org/pubs/) and search for series: "Small and Medium Forest Enterprise;
or go directly to: http://www.iied.org/pubs/search.php?w=&k=&t=&a=&s=FSME&g=&b=Submit

For the latest additions to the SMFEs series visit:
www.iied.org/NR/forestry/index.html

COMMERCIALIZATION OF NON-TIMBER FOREST PRODUCTS: FACTORS INFLUENCING SUCCESS: LESSONS LEARNED FROM MEXICO AND BOLIVIA AND POLICY IMPLICATIONS FOR DECISION-MAKERS

E. Marshall. K.Schreckenberg & A.C. Newton (eds.) 2006

This publication presents the results of a comprehensive DFID-funded investigation into whether commercialization of non-timber forest products can help support sustainable forest and resource management, and alleviate poverty. The multidisciplinary research initiative, involving partners drawn from the UK, Mexico and Bolivia was called the CEPFOR project (Commercialization of non-timber forest products in Mexico and Bolivia: factors influencing success). It examined the impact of different NTFP commercialization

networks (value chains) on poverty reduction, women's livelihoods, natural resources and rights and access of the poor, in eight communities in Bolivia and 10 in Mexico.

The project developed an analytical framework to compare the factors determining successful NTFP commercialization across a range of case studies. These factors form the basis of the CEPFOR decision support tool (CDST). This tool allows users to compare the potential success of different NTFP development options, to diagnose the reasons for failure of current NTFP initiatives, and to investigate the potential livelihood impacts of different policy options.

The 136 page book includes Chapters on Research context; methodology; case studies; definitions of success; NTFP commercialization and the poor; woen and NTFPs; Access rights and resources; Policies, laws and institutions; NTFP value Chains; Overcoming barriers to commercialization; Research Conclusions and Policy options; and references. It also contains a 3-page executive summary, and a CD-Rom with all key project outputs including the CEPFOR Decision Support Tool, its user guide and a methods manual for field/market-based research. These materials, and the publication, can also be downloaded free of charge from the project website: www.unep-wcmc.org/forest/ntfp.

A brief summary of findings of the CEPFOR project, grouped per Millennium Development Goal, is presented on p… of this issue.

UNEP – World Conservation Monitoring Centre, Cambridge, UK

Publication and the entire CD-Rom contents downloadable from project website: http://quin.unep-wcmc.org/forest/ntfp/outputs.cfm. This includes the text of the book in English and Spanish, plus the decision-making tools and additional project outputs and support materials in English and Spanish.

For more information about this project, contact:

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GENDER MAINSTREAMING IN POVERTY ERADICATION AND THE MILLENNIUM DEVELOPMENT GOALS: A HANDBOOK FOR POLICY MAKERS AND OTHER STAKEHOLDERS.

Naila Kabeer, 2003

The MDGs can only be achieved by addressing the disproportionate burden of poverty, lack of access to education and health services and lack of productive opportunities borne by women. Evidence shows that empowering women brings a huge development dividend.

This book highlights the interconnections between production and reproduction within different societies, and women's critical role

in straddling both, and points to the various synergies, trade-offs and externalities which these generate. Naila Kabeer concludes that although there does appear to be a trade-off between gender inequality and economic growth in the short term in some economies, policies aimed at achieving gender equality are essential for long-term, sustainable and equitable development.

Issues addressed in the publication are:

- The changing policy discourse and the processes that led to the greater visibility of both poverty reduction and gender equality (Chapter 1)
- Integration of gender into macroeconomic analyses (C2);
- The institutional framework for the analyses of gender inequality within the economy and its variation across the world (C3);
- A discussion on different approaches to poverty analysis and its gender dimensions; including the important role of institutional norms and practices in shaping gender inequality (C4);
- Women's role as economic actors – and its critical importance to the livelihoods of the poor across the world. Women's works is critical to the survival and security of poor households and an important route through which they are able to escape out of poverty. Therefore, greater importance should be given to women's contributions in the design of poverty. Constraints that undermine returns to women's labour should be addressed (C5);
- Human development concerns of the MDGs: Improving women's access to resources is one route through which the MDGs on human development can be achieved. (C6).
- Women's empowerment: Preconditions for women's empowerment: access to resources: education and literacy, to paid work and to political representation. The kinds of policies needed to realise the potential of these resources (C7).
- The implications of the relationships between gender equality and pro-poor growth for policy efforts to achieve the MDGs: institutionalising gender equity goals in the policy process (C8)

86 Pages, GBP 12.99
ISBN 0-85092-752-8

Copies of this publication can be ordered online at:
http://publications.thecommonwealth.org/publications/

Publication can be downloaded from:
http://www.thecommonwealth.org/shared_asp_files/uploadedfiles/{EEEA4F53-90DF-4498-9C58-73F273F1E5EE}_PovertyEradication.pdf
or do to the homepage of Gender at the Commonwealth Secretariat (http://www.thecommonwealth.org/subhomepage/34021/) and look under publications.

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www.thecommonwealth.org/gender

CHAINS OF FORTUNE; BEST PRACTICES IN LINKING LOCAL WOMEN PRODUCERS WITH GLOBAL MARKETS

Marilyn Carr (ed.) 2004

Globalisation opens up new economic opportunities if poor women producers and workers are enabled to take advantage of them. This edited volume brings together six case studies, which describe the successful integration of women into Global Markets. These include three studies that link local producers with global markets: a cocoa cooperative in Ghana, an organic coconut oil producer in Samoa and small cashew nut enterprises in Mozambique. The other three case studies focus on improving the working conditions of wage workers in global value chains: the fruit-exporting industry in South Africa which involves thousands of wage workers, the ready made garment producers in Bangladesh, and the newly created call centres in India.

Each case study is written by a team of international and national researchers, aiming to present decision makers with concrete examples of how the gains of globalization may be spread to poor working women through shifting the balance of access, power, and returns within global value chains.

220 pages. GBP 11.99.
ISBN 0-85092-798-6
Buy online at:
http://publications.thecommonwealth.org/publications/ : the book is listed under "gender"

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BETTER FORESTRY, LESS POVERTY: A PRACTIONER'S GUIDE

FAO 2006

This guide suggests ways to design and implement forest-based interventions that have the greatest potential to reduce poverty. Areas for action include timber production in both natural and planted forests, non-wood forest products, woodfuel, bushmeat, agroforestry and payment for environmental services. For each topic, the guide outlines key issues, summarizes successful case studies and identifies sources of additional information. The document highlights the importance of using participatory approaches and of tailoring activities to local circumstances. Emphasis is on making changes that will improve the livelihoods of people living in or near forests, and on helping users to gain a better understanding of the forms of rural poverty and of how decisions made at the local level affect segments of poor rural communities in different ways - women, children and the elderly being the most vulnerable. The guide will be of interest to forestry and rural development practitioners and the communities they serve, including district

forestry officials, extension workers, local planners and administrators, and owners of small-scale enterprises and their employees.

Publication can be downloaded at: http://www.fao.org/DOCREP/009/a0645e/a0645e00.htm

To order a hardcopy at $14.00, please visit: http://www.fao.org/icatalog/pub_cat.asp?lang=en&jobno=A0645/E

FARMING SYSTEMS AND POVERTY: IMPROVING FARMERS' LIVELIHOODS IN A CHANGING WORLD.

John Dixon, Aidan Gulliver & David Gibbon, 2001

Small farmers produce much of the developing world's food. Yet they are generally much poorer than the rest of the population in these countries, and are less food secure than even the urban poor. Meeting international commitments to halve hunger and poverty in the developing world by 2015, means reaching these farm households. To provide conditions that will permit poor farm households to improve their own lives, governments, non-governmental organizations and international agencies must understand the agro-physical, physical, economic and cultural environment within which farmers and their families live, i.e. their farming systems.

This book describes 72 major farming systems throughout the six developing regions of the world. The classification of the farming systems was based on a number of key factors, including (1) the available natural resource base; (2) the dominant pattern of farm activities and household livelihoods, including relationship to markets, and (3) the intensity of production activities. For each of these farming systems, the authors describe trends and issues, and identify the priorities and main strategies for poverty reduction.

Three to five farming systems were selected within each region for in-depth analysis. Although some of these systems may have only limited opportunities for growth, a majority possess the potential for achieving significant hunger and poverty reduction if appropriate support is made available. This book discusses the factors determining a farming system's growth potential.

The book **Farming Systems and Poverty: improving farmers' livelihoods in a changing world** presents the results of a joint FAO and World Bank study which contributed to the updating of the World Bank Rural Development Strategy.

FAO and the World Bank, Rome and Washington D.C

For more information, contact John Dixon at John.dixon@fao.org

The publication is downloadable, as pdf and html formats, at: http://www.fao.org/farmingsystems/
A 49-page summary is available at this site, as well as links to the French and Spanish version of the publication.

RURAL FUELWOOD MARKETS IN NIGER: AN ASSESSMENT OF DANISH SUPPORT TO THE NIGER HOUSEHOLD ENERGY STRATEGY 1989-2003

Dolf Noppen, Paul Kerkhof & Ced Hesse, 2004

Between 1989-2003, the Danish development cooperation was involved in the fuelwood supply sector in Niger, first through the World Bank and subsequently through the Household Energy Project. These initiatives contributed to the development of an approach known in Niger as the Household Energy Strategy. This strategy is supported by a number of legal instruments that formalise rural fuelwood markets with the objective of decentralising management and implementing proper financial procedures. This study is the assessment of the results of this period of intervention.

The study assesses the results achieved at local, national and international level. It includes a detailed survey of rural fuelwood markets covering the sociological, financial and environmental aspects related to the commercialisation of the fuelwood sector.

The book starts off with the context and the history of projects that have contributed to the elaboration of Niger's Household Energy Strategy, examining how the rural fuelwood market concept was designed and implemented. It continues with the internal dynamics of the rural fuelwood markets and local management structures. The study examines the principal impacts of rural fuelwood markets, particularly in relation to poverty, and the urban-rural trade-offs. After discussing the challenges and the opportunities, the study concludes with sketching ways to move forward for the rural fuelwood markets in Niger.

The results presented are useful for others working with natural resources management both in the Sahel and elsewhere. This IIED publication is available both in English and French.

Copies of the book can be ordered online at: www.earthprint.com

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MICROFINANCE AND FOREST-BASED SMALL-SCALE ENTERPRISES

FAO 2005

Communities around the world rely on forests for their livelihoods, not only for domestic uses but also for income, frequently obtained through small-scale,

often family-run enterprises. The sustainable development of such enterprises is increasingly recognized as a key to poverty reduction but is often hindered by lack of financial inputs or poor access to microfinance services. This publication reviews the specific microfinance needs of small-scale enterprises given the often seasonal and unpredictable nature of forest-based activities. It analyses the constraints they face when trying to obtain microfinance services and identifies ways to overcome these challenges. It examines the role that different types of microfinance institutions can play for small-scale enterprises and forest communities. It discusses, in addition to microcredit, a comprehensive range of services including savings, group lending, leasing, insurance and cash transfers. The strengths and weaknesses of different approaches are illustrated through four case studies in Nepal, Guatemala, the Sudan and Peru. This book will be a useful reference for those involved in designing policies and projects for the development of forest communities, as well as for those providing financial services to small enterprises in rural areas.

FAO Forestry Paper 146

Publication can be downloaded at: http://www.fao.org/docrep/008/a0226e/a0226e00.htm
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EXPLORING THE MARKET FOR VOLUNTARY CARBON OFFSETS

Nadaa Taiyab, 2006

Markets for Environmental Services 8

This paper explores the potential for financing small-scale, high-benefit, sustainable development projects through the voluntary and retail sector of the carbon market. Through a literature review and interviews with offset retailers and buyers from the private sector, the non-profit sector and government, the paper looks at how the voluntary and retail sectors fit into the overall carbon market; who the main buyers and sellers are; what motivates buyers to voluntarily purchase carbon offsets; and how this market can be further developed. The aim is to consolidate information on the voluntary and retail sectors in order to help potential buyers to understand the market and to provide a starting point for those on the supply side to discuss strategies for further developing the market.

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THE MARKET FOR VOLUNTARY CARBON OFFSETS: A NEW TOOL FOR SUSTAINABLE DEVELOPMENT?

Nadaa Taiyab, 2006

Heightened public awareness of climate change and its impacts has led to rapid growth in the market for voluntary carbon offsets over the past two years. By buying into a carbon offset project, organisations and individuals can negate their CO2 emissions by helping to prevent a similar amount of CO2 from being emitted elsewhere. Carbon offset projects may include hydro-energy, conversion of methane from landfills to energy, hydro-fluorocarbon destruction, tree plantations, wind farms, solar powered lamps in rural communities, fuel efficient cooking stoves and small agro-forestry schemes. The voluntary market has potentially more scope to invest in small-scale projects with high sustainable development benefits to local communities in low income countries, as project developers can avoid the bureaucratic procedures and high transaction costs of the Kyoto Protocol's highly-regulated Clean Development Mechanism.

Gatekeeper 121

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PEOPLE AND FORESTS – FAO PARTICIPATORY FORESTRY PUBLICATIONS

CD-ROM, FAO, 2004

The CD-RM contains 15 years of publications produced by FAO including more than 70 publications on participatory forestry and other related subjects. It is regarded as the final output of one of the best-known community forestry development programmes. It presents case studies ranging from conflict resolution, food security and forestry to natural resources management.

FAO CD-ROM; ISBN: 9250052081; Price: $30.00

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FIELD GUIDE TO THE FUTURE: FOUR WAYS FOR COMMUNITIES TO THINK AHEAD

Kristen Evans, Sandra J. Velarde, Rocio P. Prieto, Sheila N. Rao, Sandra Sertzen, Karina Davila and Wil de Jong 2006

Edited by Elena Bennett and Monika Zurek, Foreword by Doris Capistrano

This book is a practical, step-by-step manual describing methods that can help communities think ahead and prepare for changes in their environment and natural resources. These four methods are: Scenarios, Visioning, Pathways and Projections.

This guide is for communities who depend on natural resources and all of us who work with them. The authors have collaborated with communities in the management of forests, land, and water in many parts of the world, but particularly in tropical forest margins. In this manual they share their experiences and lessons learned about methods that can help communities prepare for the future.

"Field Guide to the Future" is a collaborative effort between the Center for International Forestry Research (CIFOR), the ASB system-wide program of the Consultative Group on International Agricultural Research (CGIAR), the World Agroforestry Centre (ICRAF) and the Secretariat of the Millennium Ecosystem Assessment (MA).

The publication can be downloaded from: http://www.cifor.cgiar.org/publications/pdf_files/Books/BCronkleton0601.pdf
Spanish and French translations will be available later this year.

To request a copy, please email Sandra Velarde at: s.velarde@cgiar.org.

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THOUGH ALL THINGS DIFFER: PLURALISM AS A BASIS FOR COOPERATION IN FORESTS

Eva Wollenberg, Jon Anderson and Citlalli Lopez, 2005

Pluralism is a political belief that acknowledges individuals' rights to pursue their interests, but requires society to resolve differences where they infringe upon each other. This guide shows how pluralism helps people to value social differences and provides clear principles and rules about how to coordinate those differences. The guide reviews pluralism's origins, key elements and strengths and weaknesses. It examines how people think about differences, including the psychological obstacles that cause us to exclude or ignore others. Practices are examined with examples drawn from forest-related contexts: legal pluralism, multistakeholder processes and diversity in work teams. Questions are provided to help the reader

assess and practice pluralism in their own settings. The guide concludes that understanding the political assumptions and principles of pluralism can enrich our understanding of current practices to develop fundamentally new approaches to fore st decision-making.
CIFOR, Bogor, Indonesia.

To download a copy, go to http://www.cifor.cgiar.org/scripts/newscripts/publications/detail.asp?pid=1805.

If you need a hard copy, please send your address to Dina Hubudin at:
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KNOWLEDGE MANAGEMENT FOR DEVELOPMENT (KM4D) JOURNAL

The September 2006 issue (Vol. 2, issue 2) of the KMD4 Journal on the subject of 'Capacity building for networking' is now online: http://www.km4dev.org/journal/index.php/km4dj/issue/current

The catalyser for this issue on capacity building for networking was a workshop on the 'Management of international networks for knowledge sharing', organised by Skat and Helvetas on the 25-28 April 2006 in St. Gallen (Switzerland). Two contributions ensuing from this workshop can also be found in this special issue that comprises articles and case studies ranging from analysis of what kind of capacity building is needed, to insights in capacity building programmes for networking from a grassroots perspective, as well as from the perspective of networking practitioners. The Guest Editors for this issue comprised: Urs Karl Egger, Georg Buchholz, and Marc Steinlin, working with Lucie Lamoureux.

The KM4D Journal is an open access, peer-reviewed, community journal on knowledge management in development - for and by development practitioners and researchers. It is linked to the KM4Dev community (www.km4dev.org) but has its own independent Editorial Board and aims to reach beyond the community.

Sarah Cummings
(co-Chief Editor of the KM4D Journal with Julie Ferguson and Lucie Lamoureux)

FOREST, TREES, AND LIVELIHOODS (VOLUME 16-1, 2006)

The journal "Forest, Trees and Livelihoods", edited by Michael S. Philip, recently published a special issue on: **Tree Domestication, progress towards adoption.** (Volume 16-1, 2006). Articles in this issue demonstrate that tree domestication can be an answer to poverty and environmental degradation, and a promising tool to achieve the Millennium Development Goals.

This special issue brings together papers presented at the Tree Domestication sessions of the 1st World Agroforestry Congress held in Orlando, Florida USA in July 2004. This was the fourth in a series of meetings focusing on the potential to domesticate the underutilized tree species that are important to subsistence farmers around the world. In the past, products from

these species were gathered from natural forests as Non-Timber Forest Products (NTFPs). Now many of these species are becoming new cash crops producing Agroforestry Tree Products (AFTPs).

Though the progress of domestication of perennial plants may be thought too slow to answer problems such as poverty and degradation, the results presented here demonstrate that rapid progress is made and that farmers are keen to adopt this approach to solve many of their day-to-day problems. Building on local traditions and culture, supporting local markets and providing products that meet the needs of the people appear to be key elements contributing to successful and rapid uptake.

The papers presented include: the concept of the ideotype and its application in the selection of cultivars of trees (Leakey and Page); participatory improvement programme (Cornelius et al); the domestication of fruit trees as a contribution to poverty reduction (Schreckenberg); putting participatory domestication in practice in West and Central Africa (Tchoundjeu et al); smallholder tree nursery operations in the Philippines (Carandang et al); planting *Myrciaria dubia* in the Peruvian Amazon (Penn) and the development of miombo fruit trees as commercial tree crops in southern Africa (Akinnifesi et al).

For more information on the journal, please visit the website:
www.foreststreesandlivelihoods.co.uk

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DEPLETION OF NATURAL RESOURCES – IMPLICATIONS FOR DEVELOPMENT

AN ASSESSMENT BY EXPERTS

Inforesources trends 2005

InfoResources Trends compiles personal assessments of predicted changes by experts from the realms of politics and science, as well as from NGOs around the world, and it makes these assessments accessible to a broader professional public. The current edition focuses on depletion of natural resources in an imaginary least developed country, implications for the poverty situation and promising measures in international cooperation for promoting sustainable development at the local, national and international levels. This slim brochure (15 pages, including annexes) is intended to contribute to the positioning process of international cooperation by fostering an understanding of the long-term challenges and needs for strategic action.

Published in English, French and Spanish, Inforesources Trends is available free of charge and may be ordered in pdf-format, or as a print publication from the address below.

InfoResources is a network providing and disseminating information on natural resources in international cooperation and is based on three information services: Inforest / Intercooperation, Info Service CDE, InfoAgrar SHL**.** InfoResources is financed by the Swiss Agency for Development and Cooperation (SDC).

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CLIMATE CHANGES, DESERTIFICATION, BIOLOGICAL DIVERSITY AND FORESTS

Jean Claude Bergonzini, with D.-Y. Alexandre, C. Barbier, F. Besse, A. Riedacker, B. Riéra 2004

This book is an expanded translation of "Changements climatiques, desertification, diversité biologique et forêts" by Jean Claude Bergonzini. It is part of a series which also includes the following titles: "Changements climatiques et forêts" by A. Riedacker; "Désertification et forêts" by C. Barbier, and Diversité biologique et forêts" by B. Riéra and D.-Y. Alexandre.

It presents a concise and jargon-free technical background to the International Conventions on Climate Change, Desertification, and Biological Diversity, and their pertinence to forests and trees. Definitions, background, greenhouse gases, and the role of forests in Climate, Desertification, and Biological diversity are covered by the first three chapters. The fourth and final Chapter on Conventions and Sustainable Development includes an overview of the context and history of the international environmental agreements such as the Conventions mentioned above, and the arrangements on forests; it also discusses different interpretations of sustainability.

This study is one of the results of a project initiated by the SILVA Association in 2001 at the request of the members of the Réseau International Arbres Tropicaux / International Tropical Tree Network (RIAT/ITTN). Financial backing was provided by the European Commission, FAO and the SILVA Association.

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FOREST POLICY AND SUSTAINABLE LOCAL FOREST MANAGEMENT IN FRANCOPHONE AFRICA AND MADAGASCAR: TWO RECENT FRANCOPHONE PUBLICATIONS

1. L'Etat et la Gestion Locale Durable des Forêts en Afrique Francophone et à Madagascar

Depuis 20 ans de nouvelles politiques forestières, rompant avec l'autoritarisme répressif hérité des politiques coloniales, confient la gestion locale des forêts aux populations pour qu'elles en assurent une gestion durable. Cela implique de faire de la forêt un outil de développement et de lutte contre la pauvreté.

2. Forêts Tropicales et Mondialisation: les mutations des politiques forestières en Afrique francophone et à Madagascar

En Afrique et à Madagascar, les politiques sont toujours plus influencées par les engagements internationaux. Ceci contraint les Etats à des adaptations importantes de leurs politiques forestières dans un contexte complexe de gestion locale et de décentralisation. Ces adaptations posent la question de la nature et du rôle de l'Etat.

Ces deux ouvrages préparés sous la direction d'Alain BERTRAND, Pierre MONTAGNE et Alain KARSENTY, éditeurs scientifiques et chercheurs au Cirad, viennent d'être publiés aux Editions L'HARMATTAN.

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WILD RESOURCES AND CULTURAL PRACTICES IN RURAL AND URBAN HOUSEHOLDS IN SOUTH AFRICA: IMPLICATIONS FOR BIO-CULTURAL DIVERSITY CONSERVATION

Michelle Cocks, 2006

This study assessed the importance of biodiversity with respect to cultural and utilitarian value amongst different categories of non-traditional community households in both peri-urban and urban contexts of South Africa and evaluated factors contributing to the persistent use of biodiversity for cultural practices. It is shown that cultural practices of biodiversity are divers and often still poorly recorded. Even in urban areas and amongst richer people several forms of

cultural use of biodiversity are maintained. The study gives credibility to the idea that the future of conservation movements depends on their ability to deal with the relation between history, culture and conservation in all its complexity.

This PhD thesis, defended at Wageningen University in the Netherlands, differs from most current research on the link between biological and cultural diversity, bio-cultural diversity for short, in that it focuses on an urban and peri-urban setting, rather than remote and isolated communities with production systems involving extraction of wild products from the natural environment. Rural conditions are rapidly changing in many tropical countries, and the livelihood strategies of communities are becoming increasingly diversified. As a result the worldviews, cultural values and knowledge of large sectors of the population can no longer be classified as 'traditional' nor as representative of western culture. Despite these changes, many of these communities are still reliant on wild resources both for utilitarian and cultural needs.

For further information, or for copies of the thesis, please contact:

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DIVERSITY IN HOMEGARDEN AGROFORESTRY SYSTEMS OF SOUTHERN ETHIOPIA

A. Tesfaye Abebe 2005

This PhD thesis discusses the diversity in crop and tree species in the homegardens of Sidama, southern Ethiopia, an area representative for the enset-coffee agroforestry homegardens. The study analyses the factors influencing the diversity of crops and trees at the farm level, to explain differences between farms. It concludes with the implications of changes in species diversity for agricultural sustainability.

Access to markets and major roads was found to have a significant impact on the crop diversity and structure of the homegardens. Farmers closer to markets tended to grow fewer crop species. While growing less coffee and enset, they cultivated more new marketable products, such as chat, maize, pineapples, and sweet potato. The latter crops, however, were mostly grown in monoculture plots. This altered the structure of the system: multi-storey cropping systems had gradually been changed into mosaics of monoculture plots of only one or two storeys. This development may negatively influence the stability and resilience of the farming system.

These changes in crop species had an impact on the diversity of tree species on farm. Coffee plots had the highest tree species diversity, followed by plots with enset. Plots with the 'new' crops had only a few associated trees, as farmers

deliberately reduced or avoided shade trees on these fields.

The trend of replacing perennials (enset, coffee and trees) with annual crops may adversely affect the ecological benefits of these complex integrated agroforestry systems and threaten their sustainability. Therefore, the study emphasized the importance of developing techniques that integrate high value marketable crops into the farming systems, while conserving the integrity of these systems.

Tropical Resource Management Papers, No.59
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To order a copy, please contact:

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POWERFUL RELATIONS: THE ROLE OF ACTOR-EMPOWERMENT IN THE MANAGEMENT OF NATURAL RESOURCE CONFLICTS. A CASE OF FOREST CONFLICTS IN GHANA.

Emmanuel Marfo, 2006

Increasingly, conflicts over natural resource (NR) use and management have attracted the attention of both scholars and professionals. While conflict has both constructive and destructive capabilities, the negative outcomes have been prominent in many cases, calling for innovations in conflict management. The question of 'power' is crucial in any such innovations in conflict management. However, current approaches to the study of conflict and power do not offer in-depth understanding of power and how it plays itself out in NR conflicts. The aim of this study was to contribute to current understanding of the role of power in conflict management interventions by investigating the strategies and resources that conflict actors used. Three forest conflict case studies in Ghana were analysed in detail: a forest-mining conflict at the national level; a forest-mining conflict at the local level; and a case of logging damage compensation at local level. The study established that actor-empowerment is highly context bound and conflict interventions cannot benefit from any predictive patterns such as strategy reciprocity. The study further showed that interventions will benefit from understanding the factors that constrain the mobilisation of resources for mutual influence and that our understanding of the role of power in conflict can be enhanced using chronological reconstruction of conflicts and studying conflicts as a two-actor game model.

This PhD Thesis was conducted within the framework of the Tropenbos Ghana programme at Wageningen University, Wageningen, The Netherlands.

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In the near future, PDF copies of the thesis may also be downloaded from the Tropenbos International website www.tropenbos.org

CROSS-SECTRAL POLICY IMPACTS BETWEEN FORESTRY AND OTHER SECTORS

Y.C. Dubé and F. Schmithüsen (editors) 2003

Public policy in many areas, such as agriculture, energy and economic development, has an impact on forests. Forestry must therefore engage with relevant sectors and policy domains to achieve its goals. In response to country requests, the Forestry Policy and Information Division of the FAO Forestry Department initiated a series of studies on available information and research needs, developed seven country case studies and organized a technical meeting in September 2002 in FAO, Rome, to discuss these inputs. The current paper builds on the findings and recommendations of this technical meeting and the previous studies. Its objectives are:

• to present current policy and legal frameworks to help understand cross-sectoral policy impacts;
• to present examples of specific country issues and solutions;
• to indicate potentially useful instruments and institutional arrangements to optimize policy impacts;
• to show the integrated system of environmental and economic accounting as a tool to collect, analyze, monitor and evaluate information on policy impacts across sectors; and
• to indicate ways and means to enhance the capacity of actors to coordinate their policy roles through better information and knowledge sharing and participation.

The target audiences are policy analysts, policy-makers, forest managers, representatives from stakeholders and non-governmental organizations, and researchers and teachers who need information on this subject and have to deal with cross-sectoral policy issues in their daily work. The public in general, concerned with the sustainable management of forests and their contribution to people's well-being, is another important target group.

FAO Forestry Paper 142; ISBN: 92-5-104937-8; 160 pages; Price: $40

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