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CFA Newsletter

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Editor: Alan Pottinger

Contact: Crib, Dinchope, Craven Arms, Shropshire SY7 9JJ, UK

Tel: + 44 (0) 1588 67 28 68

Email: cfa@cfa-international.org

Web: www.cfa-international.org

The views expressed are not necessarily those of the CFA.

Australia's State of the Forests Report



Boob trees in woodland forests in north western Australia

The Bureau of Rural Sciences in the Australian Government Department of Agriculture, Fisheries and Forestry has recently published two important new reports: Australia's 2008 State of the Forests Report and The Changing Face of Australia's Forests, both of which can be found at <http://www.daff.gov.au/brs/forest-veg>. The 2008 State of the Forests Report is the third five-yearly report set against Australia's framework of seven criteria and 44 indicators of sustainable forest management. The nationally agreed criteria and indicator framework is consistent with the Montreal Process and enables Australia to describe and evaluate progress towards sustainable forest management at the national level. Australia originally had 74 indicators, but some of these proved difficult to measure and some were repetitive. In 2005, Australia's

Montreal Process Implementation Group held a series of workshops to review the indicators and as a result some indicators were reworded, some dropped and the framework now has 44 indicators. As well as the data for each Criteria and Indicator the report contains 69 case studies about aspects of Australia's sustainable forest management system.

Criterion 1: Conservation of Biological Diversity

The 2008 report indicates that Australia has 149 million hectares of forest, including 1.82 million ha of plantations and 147 million ha of native forest, defined as trees greater than 2 metres in height with a crown cover of more than 20%. This includes large areas of woodland forest in the more arid parts of Australia as well as the more traditional taller eucalypt forests of the coastal fringe.

While the total area of forest has declined from 164 million hectares in the 2003 report, most of the change is associated with improved accuracy of remote sensing measurements of the dryer forest types. However, about 260,000 ha/yr of forest was lost in the years between 2000 and 2004, due to clearing for agriculture and urban development. The deforestation rate has declined from around 600,000 ha/yr at the beginning of the 1990s and will decline further as a result of further restrictions on land clearing.

Only about 10% of Australia's native forests have been classified in terms of growth stages, with most of this being in areas that were subject to Regional Forest Agreement (RFA) processes. There is about 5.03 million hectares of old growth forest in the RFA areas. This is about 200,000 hectares less than reported in 2003, due to the impact of severe fires in 2003. Australia now has 23 million hectares of forest in formal nature conservation reserves. This means that 16% of the total forest area is now in reserves, an increase of 1.5 million hectares since 2003.

Criterion 2: Maintenance of Productive Capacity of Forest Ecosystems

Over the last five years the area of public native forest managed for multiple uses, including timber production, declined by 11.4 million hectares, with these areas being transferred to conservation reserves. The area of plantations has increased by 12% over the last five years to 1.82 million hectares in 2006, predominantly due to the establishment of 300,000 hectares of new hardwood plantations over the last six years. Plantations now produce about two thirds of Australia's log supply and this proportion is increasing each year.



Pinus radiata plantation

Criterion 3: Maintenance of Ecosystem Health and Vitality

An estimated 24.7 million hectares of forest was burnt by fire between 2001 and 2006, 80% of which was due to unplanned fire. Significant areas of Australia were in severe drought from 2003, which contributed to the severe wildfires and considerable tree death as well as very significant reductions in water yield from forests.

Criterion 4: Conservation and Maintenance of Soil and Water Resources

The area of public forests managed primarily for protection of soil and water values has increased by 8% since 2003 to over 30 million hectares. In most Australian forests, Codes of Practice are used to regulate activities that cause disturbance in order to minimise on soils and water quality. Major wildfires in recent years affected soil erosion and water values across many forests and the natural regeneration will reduce water yields in affected catchments for decades. Australia's National Water Initiative contains measures aimed at reducing the impacts of water use by new plantations in fully allocated catchments.

Criterion 5: Maintenance of Forest Contribution to Global Carbon Cycles

Plantations offset about 3.5% and managed native forests about 5.5% of Australia's greenhouse gas emissions in 2005. Deforestation for agriculture and urban development contributed about 9% of Australia's greenhouse gas emissions in 2005, but these emissions are continuing to decline each year due to regulation of land clearing. In 2005 about three times more carbon dioxide was sequestered than emitted in managed native forests subject to timber harvesting and regeneration.



Eucalyptus regnans wet forest in South West Victoria

Wildfires in 2003 released about 40 million tonnes of carbon dioxide although this is expected to be sequestered by the regrowth forests over the coming years.

Criterion 6: Maintenance and Enhancement of Socio-economic Benefits

Australia's forest industries are now worth \$19 billion annually (a real increase of 10% since 2000) and support more than 120,000 direct jobs. The total value of wood products imports increased by A\$0.6 billion to A\$4.3 billion over the past 5 years while the value of exports by A\$0.4 billion to A\$2.4 billion. About 14% of Australia's forests are under indigenous ownership and legislation ensures the protection of indigenous sites and places of significance.

Criterion 7: Legal, Institutional and Economic Framework for Sustainable Forest Management

A comprehensive legal, institutional and economic framework exists at the national and sub-national levels and this has been strengthened in recent years by new measures related to vegetation clearing and water management as well as the implementation of forest certification schemes. Australia now has more than 9 million hectares of certified native forest and plantations.

The Changing Face of Australia's Forests report summarises

the changes in Australia's forests and forest industries since the National Forest Policy Statement was agreed in 1992. This is a useful document as it demonstrates the significant outcomes that can be achieved through the implementation of long-term forest policies. In summary Australia has substantially increased the area of native forest set aside for conservation while increasing overall wood production through increased plantations.

The area of native forest in nature conservation reserves has more than doubled since 1990, from 6-16% of all Australian forests. The area of public native forest that is available for timber production has declined from 13.4 million hectares in 1998 to 9.4 million hectares now. Australia's plantations have expanded from about one million hectares in 1994 to over 1.8 million hectares in 2006 and the proportion of native hardwood plantation has increased from 15% in 1994 to 44% now. Australia's total wood production has grown from about 17 million m³ in 1992 to over 27 million m³ today. During this 15 year period the proportion of wood produced from plantations has increased from 44% to 67%. Despite a significant rise in the value of forest product exports the forest products trade deficit has remained about \$2 billion per year, mainly because of the increasing value of imported paper products.

Tony Bartlett
CFA Governing Council
Canberra, Australia

Association News

2008 CFA Queen's Award for Forestry winner announced

The CFA is pleased to announce that the winner of the 2008 CFA Queen's Award for Forestry is Shashi Kant, Professor of Forest Resource Economics at the Faculty of Forestry, University of Toronto, Canada. Professor Kant was given the Award in recognition of his contribution to the fields of forest resource economics and management.

The purpose of the Award, which comprises a cash prize and a travel grant to the combined value of £2000, is both to recognise the achievements and support the future work of an outstanding mid-career forester.

Professor Kant said " I am honored and thrilled with the news of the Queen's Award for Forestry. The award has provided the greatest strength to my belief system of cooperative behavior and collective good. Einstein once



Professor Shashi Kant

observed that problems cannot be solved at the same level of thinking that leads to their creation, but it seems that we have been ignoring this basic phenomenon when we are dealing with the issues related to sustainable development in general and sustainable forest management in particular. The Queen's Award recognizes my belief that a new economic theory, rather than a new public policy based on the old theory, is essential to guide humanity towards sustainability."

I plan to use the prize money to travel to few countries in south America to present my

research on sustainability, economics and natural resources and to promote the basic objectives of the Commonwealth Forestry Association.

Prof. Shashi Kant has made exceptional and innovative contributions to the area of Economics of Sustainable Forest

Management. His research has challenged traditional models of forest economics by introducing a new paradigm of economics, termed post-Newtonian economics, that incorporates the basic features of sustainable development and sustainable forest management. Kant is editor-in-chief of a new book series, Sustainability, Economics and Natural Resources, which aims to integrate the concept of sustainability into forest economics as well as reflect the multi- and interdisciplinary nature of economics. Professor Kant, for his pioneering work, has also received Ontario's Premier's Research Excellence Award (2004), International Union of Forestry Organizations (IUFRO) Scientific Achievement Award (2005), and the Canadian Institute of Forestry (CIF) Scientific Achievement Award (2007). Shashi Kant's greatest strength is his ability to seamlessly combine research and activism. His research is continually complemented by his activism for sustainability, his advocacy for sustainable societies, his community work with local groups working towards sustainability, and his demonstration of the relevance of Gandhian philosophy and tools to sustainable societies through his actions. Kant has helped transform the value systems of hundreds of students with respect to

forest conservation and co-operative behavior. He has also transformed the research philosophy of many organizations and forestry professionals worldwide.

Professor Kant's journey started in a small village, Ahrola Noabad, Uttar Pradesh, India. After his education (B.Sc.) at S.M. College, Chandausi, U.P., and B.E. (Hons) at B.I.T.S. Pilani, Rajasthan, India, he joined Uttar Pradesh Forest Service in 1980, and later Indian Forest Service in 1985. His research career started with an exceptional work on Community-based Forest Management Systems in Orissa, India, and the Gandhian approach of many communities in Orissa towards forest management transformed his world view. After his Ph.D., he joined the Faculty of Forestry, University of Toronto, in 1997, where he is widely recognized by his colleagues, students, and alumni, as one of the leading figures. Professor Kant is Indian by birth and Canadian by nationality, but he has contributed greatly to the global forestry sector. In 2007, he provided leadership to an International Congress which contributed to the development of a global vision of forestry in the 21st century.

CFA Young Forester Awards 2009

The Commonwealth Forestry Association is pleased to announce the launch of the 2009 Young Forester Award competition, funded by the CFA, the Commonwealth Foundation, and supported by the Uganda Sawlog Production Grant Scheme.

The Young Forester Award is designed to support the professional development of foresters below 35 years of age through the provision of a short-term work placement in a country other than their own and consists of a designated placement combined with a bursary of between £1000 and £1500 to cover a stay of between three- and six-months

(depending on the cost of travel to the location) with established and renowned forestry organisations in order to meet their professional interest.

In 2009 we are pleased to announce that the hosts for two awards will be the Uganda Sawlog Production Grant Scheme (www.sawlog.ug) who share with the CFA the desire to support the development of the next generation of foresters.

Visit our website for more information on the Young Forester Award and how to apply for one of the awards to be presented in 2009.

SPGS / CFA 2008 essay competition

During August 2008, the Uganda Sawlog Production Grant Scheme (SPGS), together with the Commonwealth Forestry Association, ran an essay competition open to all members of the general public entitled "**Discuss the**

impact of forests (both natural and man-made) on climate change." The response was overwhelming with over 60 entries from more than fourteen districts and from primary school pupils, university students to forestry consultants. The judges had a rough time sieving out the top three essays out of the many great entries received and we even learnt a few facts we didn't know about forests and climate change! Eventually, three winners were selected.



The three winners of the SPGS/CFA essay competition are flanked by Allan Amumpe, SPGS Project Manager on the left, and Fred Babweteera of CFA Uganda.

1. Ms. Miranda Nabbanja – a finalist student of Bachelor of Tourism Management at Makerere University and also working as a Marketing Executive at Excel Graphics in Kampala.

2. Mr. Bernard Sabiti – a radio journalist with Straight Talk Foundation with a passion for nature and the environment.

3. Mr. Daniel Wandera Naku – a consultant for Environment and Development Issues with PED Group of Consultants, and now moving on to lecturing at St. Johns' University of Tanzania.

Miranda's winning entry is reproduced in the Forest Scenes section. Her prize was a high quality Sony digital camera. All prize winners were also given annual membership of CFA.

Pro-poor forestry and carbon finance

The Commonwealth Policy Studies Unit (CPSU) held a workshop in London on the 1st and 2nd September 2008 attended by international experts. The workshop concluded that making carbon finance work for forest dependent poor people is an ethical issue of critical importance.

Participants at the event came from across the developed and less-developed world and included representatives from business, academia, policy-making and policy implementing institutions.

The workshop was chaired by Alan Pottinger of the Commonwealth Forestry Association (CFA) and Dr. Thomas Tata of the Bioresources, Development and Conservation Programme (BDCP) Cameroon. Keynote opening and closing remarks were delivered by Vijay Krishnarayan of the Commonwealth Foundation and by Professor James Manor – the Anyaoku Chair of Commonwealth Studies in the School of Advanced Study (SAS) University of London.

Proposals from the workshop included:

- Continued engagement between pro-poor forestry and carbon finance stakeholders from the global to the local scale.
- Closer examination from the pro-poor forestry sector of

the strengths, weaknesses, opportunities and threats from forest-carbon markets.

- Better sharing of best practice from existing carbon finance projects, particularly in the developing world to promote south-south learning.
- Greater appreciation and tolerance by the carbon finance sector of the different land tenure systems in the developing world.
- Formulating governance criteria and indicators that encourage equitable, sustainable, poverty-alleviating forest-carbon programmes and projects.

Full policy recommendations are now being prepared by the CPSU and will help policy makers develop an effective framework for forest-carbon markets that helps to mitigate climate change and improve livelihoods of forest dependent people.

For further information on the workshop proposals and the carbon finance pro-poor forestry programme please contact CPSU by email at mike.smith@sas.ac.uk or by calling 0207 862 8847.

This workshop took place at the Institute of Commonwealth Studies (ICS) University of London. It was convened by the Commonwealth Policy Studies Unit (CPSU) with financial support from the Commonwealth Foundation.

Forest scenes

UN Adopts REDD

Reduced Emissions from Deforestation and Forest Degradation (REDD) has been attracting a lot of attention in the past year or more, as several forest-rich tropical countries have pressed to include payments for conserving forests and the carbon they contain in the successor agreement to the Kyoto Protocol on global warming (which is due to be re-negotiated by 2012).

Now a joint UN Collaborative Programme on REDD in developing countries has been established through a partnership of the Food and Agriculture Organization (FAO), the UN Development Programme (UNDP) and the UN Environment Programme (UNEP). The aim is *To assist forested developing countries and help to facilitate international cooperation on various methodologies, risk management formulae, payment structures and support to the UNFCCC process.*

The Programme will start with support to nine countries in fields such as capacity-building, the drafting of national strategies, the testing of financial approaches to the arrangements needed to monitor the reductions in deforestation and degradation. The countries are: Bolivia, Democratic Republic of Congo, Indonesia, Panama, Papua New Guinea, Paraguay, Tanzania, Viet Nam and Zambia, and Norway has given financial support – as it promised in Bali in 2007.

Launching the Programme in New York on 25th September,

the UN Secretary-General noted that the challenge of curbing climate change could not be won without involving the world's forests, since tropical deforestation accounted for nearly 20% of all carbon emissions caused by human beings. "Reducing deforestation in developing countries is a key element of addressing the global climate change challenge" he said, while conceding that it would be a complex, challenging and long-term task in terms of establishing the incentives and the means of implementation. And Achim Steiner, Executive Director of UNEP, said "Forests are worth more alive than dead... their ecosystem services and benefits are worth billions if not trillions of dollars."

The idea is that rich countries would buy tradable carbon credits from REDD countries to meet their own emission limits, in the same way that European Union countries have invested in carbon credits in clean energy projects in developing countries. The potential for raising funds for the forestry sector of REDD countries is enormous: it has been estimated that Indonesia could generate \$1 billion yearly if it reduced its annual deforestation rate to 1 million ha from nearly 2 million ha in 2000-05.

But the idea has also met criticism, notably from the UK where Barry Gardiner, the Prime Minister's special envoy for forests, said that the model of avoided deforestation was flawed

and risked alienating voters in rich countries. Mr Gardiner, however, subsequently joined calls for a leadership challenge to Gordon Brown. He is now the ex-special envoy and no further comments have been heard.

You can find out more at http://unfccc.int/files/methods_and_science/lulucf/application/pdf

www.un.org

Where to from here?: a review of a workshop on research needs for high value hardwood timber plantations in northern Australia

Introduction

One of the most remarkable developments in Australian forestry in recent years has been the upsurge of interest in the establishment of plantations of high-value hardwood timber species in the tropics of northern Australia.

When a groundbreaking workshop was held at Mareeba in October 2004 (Bevege *et al.* 2004, Underwood 2006), the extent of plantations of high value timbers in northern Australia was very restricted. There were about 1200 ha of Indian sandalwood (*Santalum album*) in the Ord River region of Western Australia, but no large-scale commercial plantations of any other high value hardwood timber species. These other hardwoods, including but not confined to *Kbaya*, *Tectona*, *Chukrasia* and *Eucalyptus*, were restricted to small and scattered investment plantings on private farmland, numerous trial plots, arboreta and provenance trials established by government agencies over many years, and individual trees planted for amenity purposes or in botanical gardens.

This situation has since changed dramatically. In addition to the continuing expansion of the Indian sandalwood estate at the Ord River, large areas of commercial plantations of high value timber tree species have been established in north Queensland, the Northern Territory and northern Western Australia since 2005. The focus has been on three species: African mahogany (*Kbaya senegalensis*) in the seasonally-dry tropics, and teak (*Tectona grandis*) and red mahogany (*Eucalyptus pellita*) in the wet tropics. The area of African mahogany plantations at the time of the workshop in 2006 was only 863 ha, mostly in Queensland. Mahogany plantations by mid 2008 exceeded 4,000 ha, mainly in the Northern Territory with lesser areas in Queensland and Western Australia; these are expanding at a rate of about 2,000 ha y^{-1} (Geoff Dickinson *pers. comm.*) All of these plantations are funded by private investors, either small individual growers or through managed investment schemes.

There have been parallel and significant developments in research into African mahogany tree breeding, plantation establishment and silviculture, funded mainly by the governments of Queensland and the Northern Territory, with limited (but growing) funding and technical and logistic support from commercial growers.

It was in the context of this burgeoning enthusiasm, allied to concerns from some observers that our knowledge about the genetics, silviculture and management of these species was far from adequate, that a second workshop dealing with high value hardwood timber plantations in northern Australia was convened at Townsville (Queensland) in May 2006.

The three-day workshop was jointly organised by Private Forestry North Queensland Association Incorporated (PFNQ) and

the Queensland Department of Primary Industries and Fisheries (DPI&F), with significant support from the Northern Territory Department of Primary Industry, Fisheries and Mines (DPIFM). Participants represented government agencies, plantation companies, the forestry profession, private forest growers, nurserymen, academia, local government and forestry research institutions. The proceedings of this workshop have now been published by PFNQ as a CD-ROM (Bevege *et al.* 2006).

Objectives

The workshop was introduced by Garth Nikles. He made it clear from the outset that the principal objective was to identify the research and development needs for the new high value hardwood timber plantation industry, and the focus was on growing African mahogany in the seasonally-dry tropics. Specifically, it was hoped that participants would (in relation to African mahogany):

- Seek to maintain the momentum and build on the outcomes of the 2004 Mareeba workshop;
- Share the current state of knowledge and identify gaps requiring further R&D;

FIGURE 1 *Kbaya senegalensis* planted 1989 at 157 trees per hectare at Clare north Queensland on a shallow yellow Sodosol soil, mean annual rainfall 840 mm, altitude approx. 30 m. Aged 15 years in 2004, current stocking 140 trees per hectare, merchantable bole volume MAI 1.85 cubic metres per hectare per annum, mean DBH 27.4 centimetres, mean height 10.8 metres. Note large crowns and short boles. Seed from Darwin street trees, African provenance unknown. Photo, Geoff Dickinson.



FIGURE 2 *Khaya senegalensis* planted 1997 at 1100 trees per hectare near Katherine, Northern Territory on a deep red Kandosol soil, mean annual rainfall 980 mm, altitude approx. 150 m. Unthinned. Selected tree next to Dr Garth Nikles DBH 22.6 cm at age 9.5 y. Note excellent survival, superior growth and straightness, and better bole development compared to Clare stand. Seed from "local" stock, African provenance unknown. Photo, Don Reilly.



- Identify R&D priorities for each of the major components of the new industry;
- Identify mechanisms for acquiring resources for R&D;
- Explore collaborative arrangements among stakeholders;
- Develop recommendations on actions to support the further development of the industry.

The workshop

The workshop comprised an introductory session and eight technical working sessions over two days preceded by a field trip to look at local trial plantings of African mahogany. The field trip was edifying. As with older African mahogany plantings all over northern Australia, the plantings near Townsville are characterised by excellent survival and growth rates, but poor form and short boles. However, variability is high, and all of the stands on better sites contained individual trees of superior quality. The value of the field trip was enhanced by the availability of permanent plot growth data including stem volume MAIs for each stand visited.

Each working session of the workshop was organised around an individual theme, viz:

- The plantation estate and opportunities for expansion
- Current seed sources and the seed supply and demand situation
- Status of genetic improvement and breeding programs
- Establishment, silviculture, site, nutrition and stand management
- Pests and diseases and their risks and management
- Plantation productivity and inventory
- Log and timber quality and properties
- Identification and prioritisation of R&D needs

Sessions involved presentation of a group of technical papers by specialist researchers or plantation managers followed by plenary discussion. In all, 25 papers were presented involving

23 authors; however all but eight papers had multiple authors. This highlights the degree of cooperation currently manifest among workers in this field.

In the final session workshop participants sought collectively to reach consensus on R&D needs and priorities, and on mechanisms for future communication, collaboration and cooperation. The CD ROM contains an extended Summary, which encapsulates these plenary discussions, R&D needs, conclusions and future directions. Most papers were presented in PowerPoint format; this has been carried through into the CD ROM, supplemented by extensive notes. This approach has also enabled the liberal use of coloured photographs, which provide a highly visual appreciation of the African mahogany development scene.

The papers

The introductory paper by Eddie Gilbert, Regional Director North, Queensland DPI&F provided the strategic context for industry development in north Queensland. He emphasised that plantation forestry is a priority area for the region under the Department's strategic plan.

The first two technical papers set the scene for the whole workshop. These were *The Khaya estate in north Queensland* by Geoff Dickinson and Nick Kelly, and *The estate of African mahogany in the Northern Territory* by Don Reilly. Both papers described the growth of the new industry and outlined the strengths and weaknesses of African mahogany as a plantation species for the dry tropics of northern Australia. African mahogany's strengths include its broad climatic and site adaptability, toughness and resilience, its capacity for fast growth under seasonally-dry tropical conditions, and its magnificent timber. Weaknesses included the dearth of information about its site and nutritional requirements and silviculture, and the lack of genetically improved seed, which has in the past led to generally poor form and short bole length. All of the new plantations have been established using unimproved seed, in some cases seed whose native (African) provenance is unknown.

These issues re-occurred and were re-stated throughout the workshop. They came up in the papers on seed sources for African mahogany and the status of tree breeding programs, silviculture and nutrition, and pests and diseases; in every case the conclusion was that there is a great deal of research yet to be done. However, progress has been made. A cooperative tree improvement program with provenance trials and clonal trials based on superior selected parents has been initiated. First approximations for site requirements and nutrition have been made, establishment techniques (including weed control) fine-tuned, and surveys and monitoring of pest occurrences are in place.

The question of measuring stand productivity was particularly interesting. There are as yet no yield tables for any of the high value species being grown in northern Australia. Growth data is limited mainly to African mahogany for which Geoff Dickinson has developed, and presented at the workshop, individual stem volume tables based on a comprehensive set of Queensland sample trees growing on a wide range of sites. This has enabled estimation of stem volume MAI and CAI from limited periodic measurement of sample plots representing a wide range of conditions. Merchantable volume MAIs ranging from 8-14 m³ ha⁻¹ y⁻¹ in 8-10 year old plantations, with diameter growth of above 2.5 cm y⁻¹ have been measured.

The workshop included a promising report by Mathew Armstrong of sawing trials he had conducted into the timber qualities of 32 year old plantation-grown African

mahogany. The trials revealed that the best trees produced timber with excellent appearance characteristics and wood quality properties, including durability; these trees have been incorporated into the new breeding program. However it was to be remembered that he was assessing timber from trees generally older than the projected rotation age for current African mahogany plantations of <20 years.

The workshop devoted only a passing interest in teak, which to date has been regarded as a species for planting only in the wet tropics, but Don Reilly gave an engrossing paper on the prospects for "Indian mahogany" (*Chukrasia velutina*) as a high-value timber species for the dry tropics. Anyone who has seen the trial plantings of this species in the Northern Territory will wonder (as I do) why it has been so far almost completely ignored as a commercial plantation species for this region, although I am aware of concerns in some quarters about its potential as an environmental weed.

In the final working session, Ian Bevege presented a sobering view on the potential for development of a new plantation industry in northern Australia, reiterating issues covered in more detail at the Mareeba Workshop (Bevege *et al.* 2004). He drew attention to the characteristics of northern Australia that have always limited past forestry and agricultural development, for example the harsh and unforgiving physical environment, the social isolation, the scarcity of infrastructure and services, poor and costly market access, limited skilled labour at an economic price, and inconsistent (or non-existent) government development policies. To succeed, the new industry must set itself to provide a high quality product to niche markets, and the forestry system must be based on the best possible genetics and on intensive silviculture and management. It will be a costly forestry enterprise but the reward differential from the successful export marketing of high-value products with high global demand should be very strong.

Conclusions

Workshop participants identified 5 key requirements to progress the new high value timber plantations industry in northern Australia. The industry needs:

1. A communications and information-sharing network;
2. Cooperative research and development, based on an agreed strategic R&D plan;
3. A cooperative approach to genetic improvement;
4. A formal mechanism for sharing Intellectual Property between cooperative partners;
5. Follow-up workshops to inform stakeholders and to continue to progress cooperative arrangements.

Some 26 research needs were identified within the major fields of genetic improvement, silviculture and stand management, plantation productivity (inventory and mensuration), site suitability, soils and nutrition, log and timber quality, and pests and diseases. The need for a structured approach to R&D management involving development of R&D strategies, coordination of effort, cooperation among networked researchers and intellectual property management was stressed.

Evaluation

The two great values of a workshop such as this are that they provide the opportunity for (i) a snapshot of the current state of technical knowledge about an issue; and (ii) interpersonal networking between people with shared scientific and managerial interests. In these respects, the Townsville workshop was a success, and the CD-ROM of proceedings is an important outcome, both historically and as a communication medium. It is also noteworthy that the workshop was followed by the publication of a further excellent summary paper in *Australian Forestry* (Nikles *et al.* 2008).

Furthermore, the workshop confirmed the intense and wide-ranging interest in growing tropical hardwood species to produce high value timber in northern Australia, and it has been followed by a significant expansion in the establishment of commercial plantations, increased research, and a new professional interest in the whole subject among Australian foresters and forest growers.

It is disappointing, but not surprising, that the aim of developing an effective communication network has not yet been achieved, nor has an overarching collaborative research approach eventuated. Traditionally these activities need strong and independent leadership, as provided by Australian state government forestry agencies and CSIRO in former more enlightened times. Collaboration is difficult to achieve with commercial enterprises competing with each other for the investment dollar and zealous in protecting their intellectual property.

One issue in the seasonally-dry tropics, which received almost no attention at the workshop, was bushfire management. The bushfire threat in these areas is relatively easily managed, but requires good planning, and personnel and infrastructure, which are often not readily available in these remote areas.

Clearly further workshops will be an essential aspect of the emerging high value timber plantation industry, and these will include a focus on the development of teak and red mahogany in the wet tropics. These workshops will be of intense interest now that the commercial plantations established since 2004 are starting to reach the age where the trees themselves will confirm (or otherwise) the research priorities and management needs discussed at the Mareeba and Townsville workshops.

Ian Bevege provided a timely warning about the risks inherent in tropical forestry ventures in northern Australia. However, there are counterbalancing factors. The world (and domestic) demand for high value hardwood timber is increasing just at the time when the Australian native forest industry is in terminal decline due to the conversion of State Forests to National Parks. Australia now has several large and well-resourced private forestry organisations with plantation experience, capable professional staff and a capacity for R&D, and several of these are vertically integrated into sawmilling and timber marketing. These companies are all involved in new tropical hardwood ventures. Our political system is stable, and private investment in forestry continues to increase. There are certainly risks involved, but there are also good prospects for success.

These prospects will be further improved if the initiatives behind the Townsville workshop flow on to future gatherings of interested scientists, foresters, growers and timber processors.

Complimentary copies of the Proceedings in CD-ROM format are available from Private Forestry North Queensland Inc., PO Box 27 Kairi Q 4872 Australia or via email from enquiries@pfnq.com.au.

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Roger Underwood

Consulting forester and forestry historian
Palmyra, Western Australia, Australia
yorkgum@westnet.com.au

The Billion Tree Campaign

The United Nations Environment Programme launched its first global tree planting project on 8 November 2006 in Nairobi during the 12th Conference of the Parties of the Framework Convention on Climate Change. Due to its success, and by popular demand, the campaign has been extended to cover 2008 and 2009. The campaign has won the UN 21 Award as a substantive programme in recognition of its "exceptional contribution towards improving efficiency in the United Nations".

Placed under the patronage of 2004 Nobel Peace Prize laureate Professor Wangari Maathai and His Serene Highness Prince Albert II of Monaco, the campaign is raising awareness of the inter-dependence between humankind and the planet's ecosystems, as well as the linkages between tree planting and climate change mitigation, the restoration of biodiversity, air and soil quality and food security.

Under the umbrella of the ***Plant for the Planet: Billion Tree Campaign***, governments, private sector companies, United Nations agencies, civil society organizations, farmers, local authorities and the public at large are encouraged to enter tree-planting pledges on the dedicated web-site www.unep.org/billiontreecampaign, with the objective of planting and caring for a total of seven billion trees world-wide by the end of 2009. This would represent one tree per inhabitant on the planet.

As of October 2008, the website recorded three billion 962 million tree-planting pledges from around the world and from all spheres of society, from the grassroots level to the highest

positions in decision-making. Over 2.3 billion trees have been planted under the umbrella of the campaign in 162 countries.

To define the pace of development, which is both equitable and sustainable, one has to take into account the increased vulnerability of ecosystems to the phenomenon of climate change. The Intergovernmental Panel on Climate Change provides specific information on the nature of future impacts. Climate change is projected to impinge on sustainable development in most developing countries as it compounds the pressures on natural resources and the environment associated with rapid urbanization and economic development. Glacier melt will be followed by decreased river flows, and freshwater availability is projected to decrease. By the 2050s, tens of millions of people could be adversely affected. Endemic morbidity and mortality are expected to rise due to increases in coastal water temperatures.

Therefore, in the face of recent alarming data, the Billion Tree Campaign offers hope and a simple solution for climate change mitigation, while enriching biodiversity.

The United Nations Environment Programme would like to invite Commonwealth Forestry Association to *UNite to Combat Climate Change* and to join the campaign, in the service of the Earth.

Meryem C. Amar

United Nations Environment Programme (UNEP)
Kenya
meryem.amar@unep.org

Blurring the lines between science and political activism

A recent paper by economist Dr Judith Ajani of the Australian National University's Fenner School of Environment and Society, states that: *Deforestation and the degradation of native forests account for an estimated 20 per cent of Australia's annual net greenhouse gas emissions. Most of the degradation occurs*

via (wood) chip exports ... (See CFA Newsletter 42, September 2008.) Pardon? This is completely at odds with the Department of Climate Change (formerly the Australian Greenhouse Office) whose website quotes figures based upon the United Nations Framework Convention on Climate Change (UNFCCC) showing that emissions from the "land use, land use change

and forestry” sector comprise just 2.5 per cent of Australia’s annual greenhouse emissions.

Dr Ajani’s paper (ANU E-press, Agenda, Volume 15 No. 3) goes on to explain that her estimation of annual emissions from forest “deforestation and degradation” is compromised of 11-13 per cent from land clearing for agriculture, with 7 per cent (or 38 million tonnes of CO2 equivalent) from logging native forests. However, this latter figure studiously excludes carbon capture by regenerated forests and, while said to be based on AGO figures, has actually been calculated by prominent “green” activist Margaret Blakers using a briefing paper from the Wilderness Society. In reality, according to the Australian Emissions Information System reporting for 2006 against UNFCCC categories, harvested wood products and forest land are the only Australian sub-categories where carbon sequestration and storage outweigh emissions.

In view of this, Dr Ajani’s claims are quite extraordinary. Particularly given that logging largely involves transference of stored carbon from trees into the community via usable products; and that the forests from which these products are derived are being sustainably managed as a renewable resource that continually sequesters and then stores atmospheric carbon.

However, it appears that the major aim of Dr Ajani’s paper was to build-on an earlier paper, also published by ANU E-press, entitled Green Carbon - the Role of Native Forests in Carbon Storage - Part 1 (August 2008). This was authored by four ANU scientists, also from the Fenner School of Environment and Society, led by Professor Brendan Mackey.

Both the Mackey *et al.* and Ajani papers advocate supposedly superior carbon accounting outcomes if native forest timber production is ended to enable forests “to regrow their carbon stocks towards their natural carrying capacity”. This mirrors a message that Australia’s mainstream environmental movement have adopted since climate change has gained political prominence.

In recent years, the environmental movement has sought to gain scientific credibility through developing close links with academia. This is evident in the Wilderness Society’s partial funding of the Mackey *et al.* Green Carbon paper and the joint development and funding of an ANU Wild Country Research and Policy Hub based on the Wilderness Society’s Wild Country Vision. Professor Mackey is the current Director of the Hub, while Emeritus Professor Henry Nix chair’s the Hub’s Advisory Committee.

In return, the university supports the Wilderness Society through the provision of academic input to its Wild Country Science Council. ANU Emeritus Professor Henry Nix is Council Co-Chair, while Professor Mackey is a Council member. The existence of these linkages raises questions about the influence of the Wilderness Society in the preparation of the Green Carbon paper, particularly given its uncompromising opposition to native forest logging. This is emphatically articulated in its Forests and Woodlands Policy (revised September 2005) which states that: The Wilderness Society “does not support the use of native forests to supply woodchips for pulp, wood for power generation, charcoal production, commercial firewood, or timber commodities”.

Further to this, it “believes that all of Australia’s pulpwood, commercial firewood, and timber commodities should come from extant plantations of softwood and hardwood”.

In the latest edition of the Wilderness Society’s magazine, Wilderness News, an article describing the organisation’s Wild Country Vision for Victoria states that “securing our future starts with protecting our forests, one of the world’s biggest

carbon stores;”... and “removing threats like woodchipping”. Indisputably, the findings of the Mackey *et al.* Green Carbon paper, and the more recent Ajani paper, fit neatly with the Wilderness Society’s vision for the future of Australia’s native forests - a future without a native hardwood timber industry. Presumably, this is why scientific findings from the Green Carbon paper were launched at a Wilderness Society function in Bali during last December’s UN Climate Conference - some nine months before the paper was formally published on ANU E-press. Lead author, Professor Mackey was reported as presenting “new scientific research highlighting the critical role of forest protection in addressing climate change”.

A blog of Mackey’s Bali presentation by the Zero Emission Network gushed that his new research showed that “if the forestry sector was included in a carbon pricing mechanism ... the native forest industry would collapse overnight”. It also noted that “the report is only in limited release, but people interested in it should contact the Wilderness Society”.

The Green Carbon paper was at that time undergoing peer review, but the authors seemed to have no qualms in publicly releasing its findings. This smacks of a departure from normal academic process specifically to serve the requirements of political activism. The additional implication that the Wilderness Society was distributing the draft paper casts further doubt on the authors’ commitment to academic integrity.

In recent weeks, the timber industry has publicly questioned the scientific objectivity of the Green Carbon paper. This has included speculation about why ANU E-press published the paper without the accompanying technical data that underpins its findings. The paper itself explained that this was because “a technical paper that details the source data, the methods used and the full results is being prepared for a scientific journal”.

Whether or not this eventuates remains to be seen, but the absence of supporting technical data has certainly created difficulties for those wishing to critically analyse the paper’s scientific findings. It has also raised questions about ANU E-press acting as a conduit for incomplete or poorly conducted “pseudo-science”. The university has vigorously defended ANU E-press as being an online publishing facility that is on the Federal Government’s register of Acceptable Commercial Publishers and one that requires independent review of all published works. ANU E-press has since confirmed that the Green Carbon paper was peer reviewed by three academics including one from outside the university.

Last month, the paper’s authors revealed that its two ANU referees were Dr Michael Roderick, who specialises in environmental survey and monitoring; and Emeritus Professor Henry Nix, who has been described as a pioneer in computer-based land resource inventory and evaluation. As mentioned earlier, Professor Nix is Co-Chair of the Wilderness Society’s Wild Country Science Council on which the paper’s lead author, Professor Mackey also sits.

The involvement of Professor Nix casts some doubt on the independence of the review process. On the question of whether the paper’s supporting technical data was deliberately excluded from publication, one would have thought that if it was part of the peer review process it would have been suitable for publication. On the other hand, if it was not part of the peer review process, there should be serious concern over the value of that process.

Further doubts about the veracity of the ANU E-Press review process are raised by Dr Ajani’s paper. She acknowledges and thanks seven reviewers, plus two anonymous referees for their input. Among the reviewers are three of the four authors of the Green Carbon paper, including Professor Mackey, as well

as Margaret Blakers and Naomi Edwards.

Ms Blakers, who was mentioned earlier, is a well-known environmental activist who has worked for Greens Senator Bob Brown and latterly founded the Greens Institute. Ms Edwards assisted The Wilderness Society during its campaign against the proposed Gunns' pulpmill. She was described by The Age newspaper in April 2006 as a "former high flying Sydney actuary who threw in the towel to become a mini-skirted performer and forest activist in the hippie community of Cygnet in southern Tasmania". Neither would appear to have the ideological independence needed to objectively review Ajani's paper.

It is particularly significant that although both the Ajani and Mackey *et al.* papers are about forests, there is no evidence of input from forest scientists who are surely experts in this field. Unsurprisingly, both papers display a poor understanding of basic forestry concepts. This is amply demonstrated by the Green Carbon paper which:

- seriously overstates the extent of current and future timber production in SE Australia;
- displays only a simplistic understanding of what logging is, and what its variations and components mean in terms of carbon accounting;
- wrongly presumes that every forest left untouched by human disturbance will develop into "old growth" with maximum carbon storage;
- seriously understates the inevitability and severity of natural disturbances that affect forests, such as wildfire, and their impact on carbon accounting;
- misunderstands the role of lightning, access, topography, and suppression capability in shaping where the largest and most destructive fires occur;
- is unaware of the acknowledged link between forest use and the capability to effectively manage landscape-scale fire which has the greatest impacts on biodiversity and water, as well as carbon storage;
- does not understand that management expenditure and effort in particular parts of the forest provide flow-on benefits for other parts of the forest estate;
- draws a seemingly illogical distinction between the ecological resilience of regrowth after logging and fire even though the regenerative processes are the same;
- appears to ignore the ecological implications of totally avoiding disturbance which can ultimately result in the replacement of eucalypt forest by other vegetation; and fails to address the carbon accounting implications of not harvesting native forests - such as more imports and greater use of steel and concrete - given that its favoured plantations "solution" is unviable due to insufficient

hardwood plantations capable of producing sawn timber.

It is clear that addressing the above matters would have severely weakened, if not invalidated, the paper's central assertion that not logging forests will massively increase carbon storage. A cynical view is that in recognition of this, Mackey *et al.* may have chosen to avoid informed scrutiny of their paper so as not to compromise findings that fit a pre-ordained agenda.

In view of the doubts surrounding its objectivity and veracity, it is very disappointing that the Green Carbon paper has gained such traction in the media and in some scientific circles. In particular, its infiltration into the Garnaut Climate Change Final Report is unfortunate given the likely influence of this on future government policy.

This was apparently driven by representations by the environmental movement during the public consultation phase which ended in April 2008. In the latest Wilderness News, a text box attached to an article entitled, Green Carbon, by Dr Heather Keith (one of the co-authors of the Green Carbon paper) states that: The Wilderness Society made an organisational submission [to the Garnaut Review] that spells out the compelling science about forests and carbon. And we co-ordinated thousands of Australians to have their say on this critical issue by making their own submissions.

This shows that even before it was published, the Green Carbon paper was being commandeered for use in submissions to the Garnaut process. This would seem to further confirm the strength of linkages between some ANU scientists and the environmental movement.

In a recent media release, the ANU claimed that it was "proud of researchers who challenge current views and develop new ways of understanding our environment". If this means supporting scientists who willingly compromise objectivity and academic process to serve the political agenda of a financial backer, the university may have a problem.

It is important to appreciate that conclusions being drawn from the Green Carbon paper are out of step with the international view of the role of forests in climate change. In 2007, this was articulated by the UN Intergovernmental Panel on Climate Change which stated that *In the long term, a sustainable forest management strategy aimed at maintaining or increasing forest carbon stocks, while producing an annual sustained yield of timber, fibre or energy from the forest, will generate the largest sustained mitigation benefit.*

**Mark Poynter, writing on behalf of the Institute of Foresters of Australia
www.onlineopinion.com.au**

Indigenous tribes in New Zealand transform historic grievances into a bright future

New Zealand's indigenous peoples' participation in and contribution to domestic and global forestry looks likely to expand after a record deal, signed in June 2008, was passed through into legislation in the New Zealand House of Parliament at the end of September 2008.

The arrangement transfers around 10% of New Zealand's intensively managed planted forest to indigenous Maori. Eight Maori tribal groups in the Central North Island will now benefit from New Zealand's largest-ever settlement of grievances

arising from 19th-century seizures of land and forests during European settlement of the country. Maori lands and forests were protected by the cornerstone Treaty of Waitangi signed between the Crown and the Maori tribes in 1840, but this was later violated by the confiscation of huge tracts of Maori land and related resources principally for settlement by colonial European settlers. Maori have been engaged in grievance claims since the 1970's.

This latest settlement, which includes license rentals accumulated since 1989, is worth around 450 million New

Zealand dollars.

This vast Central North Island forest estate is an intensively managed plantation forest that has an international reputation for producing high-quality wood fibre. The forest has been linked directly to world leaders in forestry research and development for the past 50 years, and Maori in the region have been employed in these forests since inception. Dr Michael Cullen, the treaty negotiations minister, said the transfer means that the asset "will finally be utilised in the interests of local Maori."

"New Zealand is a lesser nation today as a result of the failure to uphold its obligations to so many generations of Maori," Cullen said. "But all has not been lost."

Once the settlement is completed, the Central North Island tribal collective, who represent over 100,000 Maori, will be New Zealand's largest single landowner in the forestry sector, and one of the largest investors in the industry. The economic benefits for Maori within the Collective will be significant, and in many cases much-needed. Maori are among the nation's poorest citizens, with low education and income levels, poor health and housing standards, and higher numbers of unemployed. Settlements such as this one have the potential to improve the livelihoods of hundreds of thousands of Maori descendants, by providing them with the scale and quality of resources needed to create sustainable opportunities for themselves.

The eight Central North Island tribal groups (which actually represent a total of 17 tribes) will manage the land collectively, setting up a holding company structure and forestry management structure. The principal leader of the tribal collective and paramount chief, Dr Tumu te Heuheu, said that the Collective's core objective is to provide tribes with "a strong, durable and sustainable economic future" – particularly for the coming generations. "This is our legacy to them," he said.

The tribal collective is now looking to the future, and plans to ensure that economic benefits from the forestry and financial assets are maximised sustainably over time. The Collective will

continue to work alongside the New Zealand Government to promote outcomes that will benefit the New Zealand public as a whole, as well as the indigenous people of the Central North Island. The Collective will also initiate new strategic relationships, both locally and internationally. Dr Tumu te Heuheu said "the CNI Iwi Collective will be promoting a climate for the development of strategic relationships with many parties and organisations. This is critical to our success. We are also keen to continue to work in partnership with the Crown to achieve mutual economic, environmental and social benefits."

Looking forward, one option for the Collective is to focus its investment on boosting New Zealand's contribution to the global forestry industry. New Zealand-style plantation timber is highly sought after, for its superior quality. FSC accreditation confirms that these forests are being sustainably managed. In the past, New Zealand's forestry industry has mainly been a commodity producer; however this could change as shifting market forces and competition from developing nations forces kiwi businesses to change or choke.

Kaingaroa's new indigenous owners are well aware of this, and are prepared to take advantage of the opportunities presented by emerging global trends. As stewards of the land for future generations, it is in their interest to think long-term, and to encourage the global industry to follow suit. Their inherent focus on sustainability is likely to be well received in today's climate, in which 90% of US consumers believe in the importance of companies considering their impact on the environment. Dr Tumu te Heuheu commented that "we are looking forward to a future in which CNI iwi will engage significantly in the global forestry industry, by building on emerging opportunities and creating new ones."

George Asher

Lead Negotiator

Central North Island Iwi Collective
New Zealand

The impact of forests (both natural and man-made) on climate change¹

A forest is an eco-system, a community of plants and animals interacting with one another and with the physical environment. Climate change refers to the variation in earth's global climate or regional climates over time-scales ranging from decades to millions of years. These changes can be caused by processes internal to the earth, external forces like variation in sunlight intensity or, more recently, human activities.

The world's forests provide many important benefits. Home to more than half of all species living on land, they help slow global warming by storing and sequestering carbon. Forests are also sources of wood products, they help regulate local and regional rainfall, are crucial sources of food, medicine, clean drinking water and provide immense recreational, aesthetic and spiritual benefits for millions of people.

Forests play a major role in the water cycle. Many municipal and regional water systems are dependant upon healthy forest eco-systems to catch and filter rain. However, increased forest productivity may also decrease water that flows from forests

into rivers, streams, reservoirs. Thus in areas of forest eco-systems suffering from increased disturbances, water quality will be affected by increased soil erosion and contamination.

Carbon accumulates in forest eco-systems through the absorption of atmospheric carbon dioxide and its assimilation into biomass. Carbon is stored in standing timber, branches, foliage, roots as well as in dead biomass - including litter, woody debris, soil organic matter and forest products. Any activity that affects the amount of biomass in vegetation and soil has the potential to sequester carbon, or release carbon into the atmosphere. This is an important function as an increase in atmospheric carbon dioxide above the threshold level, results in the climatic phenomenon known as global warming. Carbon dioxide is one of the so called green-house gases (others include methane and nitrous oxide). Forest degradation also results in carbon loss. In tropical Asia, the loss of carbon resulting from forest degradation almost equals that caused by deforestation.

Forests are affected by a number of disturbances like fires,

¹ This is the winning essay in the SPGS/CFA 2008 Essay Competition (see Association News) and is reproduced by kind permission of SPGS.

drought, diseases and insects. Under global warming scenarios, as forest eco-systems change and move in response to climate change, they become more vulnerable to disturbances, with the outbreaks more likely to increase in severity. Climate change will affect recreational and tourism industries in different ways too. Tourism being a nature-related activity, through nature walks, hiking, trekking, is likely to change in relation to change in the vegetation.

Changes in forest cover could thus induce feedback effects on the climate by modifying surface temperatures and by influencing carbon dioxide concentrations. Forests have a lower albedo (i.e. reflectiveness) than other ecosystems and through their extensive root systems, have more access to soil water than other types of vegetation. In consequence, they absorb more solar energy, which can lead to heating, and lose more water through evaporation, which can lead to cooling. In tropical zones, evaporation processes tend to dominate and the net effect of forests is to cool and moisten the atmosphere. At higher latitudes albedo effects are more important, thereby leading to local warming.

Forests that have been managed primarily for timber production should also be managed for climate mitigation and other environmental values. Expanding forest area by promoting regeneration of native trees, allowing trees to grow larger, employing harvesting methods that reduce damage and waste, and establishing conservation set-asides within production forests can all increase the average long term quantity of stored carbon. These management options also tend to have beneficial effects on biodiversity, and on other key eco-system services such as maintaining watersheds.

Restoring forests also tends to improve habitat quality, especially for wide-ranging forest birds and mammals. Letting trees grow larger before harvesting generally increases a forest's structural diversity and provides habitat for a broader range of forest species. Healthy forests that retain their natural complexity and diversity in age and habitat structure generally have greater stability and resilience to withstand disturbances associated with climate change.

Trees grow quickly when they are young, but growth slows as they mature. To increase average carbon storage over time, harvests should occur after the annual growth rate falls below the average growth rate. Because timber companies have a strong economic incentive to harvest when prices are most favorable, however, many forests are harvested well before this optimal age. Lengthening the time between harvests or retaining older trees through successive harvests could significantly increase the carbon stores. Establishing a carbon market and a sound regulatory framework could provide financial incentive to lengthen harvest cycles. Reducing damage to non-harvested trees and disturbance of forest soils during logging operations can also substantially reduce carbon dioxide emissions. Advantages of reduced-impact forestry include immediate carbon benefits at modest cost as well as a decrease in the risk of fire.

There is a widespread and misguided belief that logging or clearing mature forests and replacing them with fast-growing younger trees will benefit the climate by sequestering atmospheric carbon dioxide. While younger trees grow and sequester carbon quickly, the fate of stored carbon when mature forests are logged must also be considered. When a forest is logged, some of its carbon may be stored for years

or decades in wood products. But large quantities of carbon dioxide are also released to the atmosphere - immediately through the disturbance of forest soils, and over time through the decomposition of leaves, branches, and other detritus of timber production. One study found that even when storage of carbon in timber products is considered, the conversion of 5 million hectares of mature forest to plantations in the Pacific Northwest over the last 100 years resulted in a net increase of over 1.5 billion tons of carbon to the atmosphere.

Using forest products as a source of biomass energy can present a conflict between climate mitigation and other environmental objectives. This is because a trade-off exists between leaving carbon in standing forest and producing a sustainable flow of renewable woody biomass that can be used to produce energy (instead of fossil fuels) or building materials (instead of energy-intensive steel or aluminum). While increased forest carbon storage yields climate benefits, greater mitigation may be possible over time by managing forests for the long-term production and use of bio-fuels. Managing for biomass should only be an option if deleterious effects on biodiversity can be avoided (that is, fully compatible with the Forest Stewardship Council's guidelines for biomass management).

Mature forests and other forest areas with recognized high conservation value should be fully protected. Even careful commercial forestry operations in high conservation value forests impose substantial costs to other forest ecosystem services such as biodiversity conservation, watershed maintenance, recreation and other forest amenities. These forests should not be managed for timber or biomass.

Historical forest fire regimes should not be altered to increase carbon storage. Forest fires release large quantities of carbon dioxide and other greenhouse gases to the atmosphere and are estimated to contribute 20% of annual global emissions. Fire, however, is a natural disturbance factor upon which many forest processes depend. Suppressing fires to protect timber resources, or private property thus leads to fuel accumulation, exacerbating the risk of future catastrophic wild fires. When forests are lost or degraded, their carbon is released into the atmosphere in the form of carbon dioxide, the most important greenhouse gas. By continuing to lose forests, we contribute to climate change.

Future El Niño events - the periodic upwelling of warm waters in the Pacific Ocean which affect weather patterns across the globe - could increase incidences of fire, particularly in the forests of South America, releasing millions of tones of stored carbon dioxide into the atmosphere.

Forests are being rapidly cleared for agricultural activities, pasture, destructively logged and mined, degraded by human activities. This has forced their stored carbon to be released back into the atmosphere during harvest and through respiration, thus becoming net contributors of carbon than they emit.

If forests are to continue to serve the earth and its people, we must protect the most significant and threatened forests, promote and encourage responsible forestry, and restore lost or degraded forests to a more authentic state.

Miranda Nabbanja
Makerere University
Uganda

Notes from the World Forestry Institute

I began my programme as Fellow at the World Forestry Institute, in Oregon, USA for six months beginning October 1st, 2008. My research focus assesses how policy influences forest distribution, conservation, preservation, utilization and management. I would like to explore challenges faced by various practitioners in forestry and forest issues from the perspectives of government, non-government, institutions of learning, agriculture and other sectors.

This Fellowship is taking place at a time of increasing recognition that forestry has a crucial role in sustainable development but practical steps to remedy the process are hampered by defective policy instruments that address latent needs of central government rather than incorporating community and resource user's felt needs. The need for an appropriate balance between satisfying development needs and ensuring the sustainable use of natural resource is crucial at the moment. The effects of policy initiatives that appear a preserve of central government giving rise to inappropriate forest management on soil and water resources, and thus on agricultural productivity, has highlighted the need for my Fellowship to assess how policies are understood and interpreted into plans of action. Government policy is an important conduit through which all forest and forestry players act. The policy sets the tone for distribution, conservation, preservation, utilization and management for social economic and cultural gains at the macro economic level.

Constraints

Policy development processes in Zambia appear to have a bias toward other sectors such as agriculture, mining, and tourism, among others, than forestry. This has, unfortunately resulted in the following constraints:

- Inappropriate national forestry and rural development strategies
- Difficulty of promoting uptake of appropriate forestry at national, institutional and provincial levels
- Ineffective institutional framework for forestry information, advice and support
- Lack of emphasis on forestry led market development
- Lack of management plans
- Inefficient regulatory frameworks
- Lack government concern to natural resources management (NRM) programmes

During my fellowship period I will focus on understanding strategies required to overcome these constraints in order to facilitate the strengthening the performance of the forestry sector in the national economy. I will also assess the crucial roles played by a conglomerate of practitioners to develop plans and disseminate improved, sustainable management practices, forest industrial development and marketing, together

with associated policy and legal changes which enhance, for instance operational systems, independent sector role analyses (including forestry related associations and NGOs) and the associated accessibility and availability of sound forestry husbandry.

There is ample evidence that forestry contributes significantly to the national economy in countries such as the United States of America. However, the forestry sector in Zambia is narrowed down to charcoal and timber production. In addition, there has not been a comprehensive M & E framework to continuously document the series of processes and outcomes employed from time to time to ascertain continuous evidence that the government's strategy of promoting the forest sector in order that it becomes a tested hypothesis as an essential economic sector.

Forest resources continue to play a central role in the livelihoods of the poor in Zambia by providing genetic and raw materials that are used to expand or diversify industrial products. However, these are overlooked in Zambia's policy papers.

Areas of interest

- To identify, assess and rank typical policy factors that determine forest exploitation as against development;
- To search for better methods of evoking and influencing effective forest policy formulation and change at government level
- To project policy formulation and implementation alternatives to forest management strategies;
- To analyse natural resources management programmes and policy approaches and their implications for the future of forest's stability and position in the macro-economic frameworks;
- To increase networking and understanding of forest related players in their respective diversity;
- Understand efficient and integrated approaches to forest management and development;
- Establish a learning process and mechanism for information sharing and exchange of ideas

CFA members who might like to apply for a Fellowship should contact Angie DiSalvo, International Fellowship Program Manager, World Forest Institute, a program of the World Forestry Center, 4033 SW Canyon Road, Portland, OR 97221, US A adisalvo@worldforestry.org

Victor Kawanga

Coordinator CFA Zambian Branch.

(currently serving as an International Fellow, World Forest Institute, Portland, Oregon, USA www.worldforestry.org)

Around the world

Brazil bets on technology to control huge Amazon

When the pilot of a Colombian drug-smuggling plane landed at a clandestine air strip in the vast Amazon rain forest, his every move was being watched from high up in the sky. Guided by a high-tech spy plane circling thousands of feet above the clouds, Brazilian police arrested the pilot minutes later and confiscated 300 kg (661 pounds) of cocaine. Police hope the bust, which took place several weeks ago, will soon allow it to lock up an entire international drug gang.

In the face of growing international pressure to better preserve the Amazon, Brazil is increasingly betting on intelligence and technology in its uphill battle to tackle illegal activities. "We can't be everywhere, the region is huge. So we need intelligence to focus our resources," Marcelo de Carvalho Lopes, head of the Amazon Protection System, or Sipam, said in an interview this week.

At Sipam, which was launched in 2003 at a cost of \$1.4 billion, authorities battle deforestation, forest fires and drug trafficking by analyzing satellite images and aerial photography. Hundreds of climate sensors, satellite telephones and broadband Internet connections are now spread over the 5.2 million square kilometers (2 million sq miles) of forest, an area larger than the European Union. "The state needed more presence there," said Lopes.

By the end of the year, Brazil will have scanned 86 percent of the Amazon. With the high-resolution images it will gain an edge in law enforcement and conservation, analysts said.

Improved air traffic control and a law implemented in 2004 that permits the air force to shoot down suspect planes, have reduced drug trafficking by air, said Ricardo Augusto Silverio dos Santos of Brazil's secret service agency, Abin. The problem is that drug gangs smuggling cocaine to sell in Brazil or en route to markets in Europe now enter from Colombia by boat instead of plane. "They've switched their modus operandi," said Silverio. Sipam is now installing new surveillance equipment along major waterways and preparing counter-narcotics operations, said Silverio.

But resources and coordination that enables fast action on the intelligence are still insufficient. Deforestation has fallen by more than half from a peak in 2004 but areas roughly the size of the U.S. state of Connecticut are still chopped down every year. "We don't have the men, vehicles, or even roads to get to where we need to be," said Lopes.

Private and foreign donations to Amazon conservation are increasing and should help enforcement. Norway last month gave Brazil an unprecedented vote of confidence by pledging a \$1 billion donation over 7 years.

Countries finding it difficult to justify such donations amid the financial crisis could still help, Lopes said. Canada and Germany are among the only countries that have satellite images from radars that can penetrate clouds. "If they really want to help the Amazon, they could make their satellite images available," said Lopes.

www.reuters.com

Solomon Islands: Final forests

It is a crisis of alarming scale. Logging on the Solomon Islands is seeing trees cut down at four times the sustainable rate. The industry is accused of causing enormous ecological and social damage.

Many of the problems are believed to stem from an over-compliant government, dubious concessions to logging companies, bribes instead of taxes and extensive under-pricing of logs that are taken out of the country.

Ironically, looming on the horizon is the prospect of the end of the logging industry, such has been the scale of the tree

falling, with experts warning that the country may run out of commercially exploitable trees in five years time.

With timber providing almost 70 per cent of exports, the fear is of economic collapse.

Watch videos of the forest crisis on the Solomon Islands on YouTube at <http://uk.youtube.com/watch?v=rmChdPOw1bM> and <http://uk.youtube.com/watch?v=ERPGLRY80HM>

english.aljazeera.net

World: Prince calls for rainforest bills

Prince Charles has called for rich countries to pay an annual "utility bill" for the benefits given to the world by its rainforests. Speaking in the Indonesian capital, Jakarta, the Prince called rainforests the "world's greatest public utility". They act as an air conditioner, store fresh water and provide work, he said.

The proposal by the Prince's Rainforest Project would generate funds allowing rainforest countries to change their

practices and halt deforestation. The Prince of Wales outlined the plan in a speech to the Indonesian President, Dr Susilo Bambang Yudhoyono, and his cabinet in Jakarta. He told the audience at the Merdeka Palace: "Indonesia and the other rainforest nations are stewards of the world's greatest public utility. "The rest of us have to start paying for it, just as we do for water, gas and electricity."

He added: "Payments should have the characteristics of a

commercial transaction, in the same way we pay for our water, gas and electricity. "In return the rainforest nations would provide eco-services such as carbon storage, fresh water and the protection of biodiversity."

The Prince said the forests provided a livelihood for more than a billion people. As developed nations were the driving force behind their destruction, through a demand for products like beef, palm oil, soya and logs, they should be billed for their protection, he said.

It is hoped that a large part of the funds raised from the "utility bills" would come from bonds issued by an international body. Describing the form the annual billing could take, the

Prince said: "These emergency funds could be provided directly by developed world governments, perhaps from expanded development aid budgets, from surcharges on activities which cause climate change or from the auction of carbon market emission allowances. However, I hope that even in the short term the large part of the required funding could be provided by the private sector by subscribing to long-term bonds issued by an international agency. The issuing entity would pay the proceeds from the bonds to the rainforest nations. They in turn would use the money to re-orientate their economies to halt or refrain from deforestation."

news.bbc.co.uk

World: Study shows choice matters in forestry carbon standards

A study of four leading forestry project standards from the voluntary carbon market reveals significant differences in approach, making the choice of which standard to use vital for both project developers and future credit buyers.

Forestry Carbon Standards, 2008, by researcher Eduard Merger from Germany's Albert-Ludwigs University and the University of Canterbury in New Zealand, is a practical examination of four leading third-party verification standards to give forest-carbon project developers a detailed comparative picture of their options for the verification of their carbon, socio-economic and environmental cobenefits.

The study, published online by Carbon Positive, considers the Voluntary Carbon Standard's AFOLU program, the CarbonFix Standard, the Climate, Community and Biodiversity Standards and the Plan Vivo System and Standards, the first two of which only emerged in 2007.

The standards cover a range of afforestation and reforestation (A/R) activities, including sustainable harvesting, agro-forestry and pure conservation planting projects. Aimed at both project developers and carbon credit buyers, the report updates an earlier version looking at the same four standards.

The report shows that the four standards have differing

treatments of key issues around the generation of forest carbon credits and their verification. It considers in detail additionality, permanence, carbon accounting, certification, the social and environmental co-benefits of forestry project and the costs of becoming certified under each standard.

"So far, understanding of the standards among project developers is lacking. And it's a similar story for carbon buyers, who are not yet well informed about the opportunities the voluntary carbon market now offers in forestry credits," Merger said.

The results offer a guide to project developers as to which of the standards best suits their projects or business model. The report also provides valuable information to companies and other organisations planning to purchase forestry-based carbon credits.

Merger states that these robust third-party standards help forestry project developers to better access the financial potential of the voluntary carbon market. The survey, of 71 project developers representing more than 260 forestry projects, gives an insight into the current state of play in the sector.

www.carbonpositive.net

Congo Basin: Forest elephants learn to avoid roads, behaviour may lead to population decline

Forest elephants in the Congo Basin have developed a new behaviour: they are avoiding roads at all costs. A study published in PLoS One concludes that the behavior, which includes an unwillingness to cross roads, is further endangering the rare animals which are already threatened by poaching, development, and habitat loss. By avoiding roads, the elephants are increasingly confining themselves to smaller areas lacking enough habitat and resources.

Scientists with the Wildlife Conservation Society (WCS) and Save the Elephants believe the pachyderms are avoiding roads because the highly-intelligent animals have connected roads with poachers. This is not surprising, considering a study which found that elephants that had negative encounters with humans learned rapidly to fear and avoid them, and passed this knowledge down to their young. Although the behavior

probably helps the elephant avoid poaching, scientists believe the negative consequences of the behavior far outweigh the positive.

Whole communities of elephants are stuck in what has been described as a "virtual prison". The smaller the prison is, the less access to food and vital mineral deposits. Researchers worry that a lack of resources will lead to high-levels of aggression and stress in elephant communities, which is likely to cause declines in reproduction. In addition, the roadway barriers will have an impact on the ecosystem of the tropical forest, since elephants are key seed dispersal agents for regenerating forests.

"Forest elephants are basically living in fear of their lives in prisons created by roads. They are roaming around the woods like frightened mice rather than tranquil formidable giants of their forest realm," Dr. Stephen Blake, the study's lead author,

explained. “Forest elephants are under siege with all of the graphic images that go with it – increasing the likelihood of fear, starvation, disease, massive stress, infighting, and social disruption.”

Tracking 28 forest elephants using GPS collars, the study found that elephants were most wary of roads outside of protected areas—those likeliest to harbor poachers. Of the 28 elephants, only one crossed a road outside a protected area. The authors note that it didn’t walk, but ran breakneck across the road at a speed 14 times its regular pace. Although wariness was greatest around roads outside protected areas, the researchers saw adverse reactions to roads everywhere.

Unfortunately for elephants, roadless area continues to decline in the Congo Basin. Between the time of the study’s data collection and its publication, the authors report that three of their six study sites have seen large-scale road-building. Multi-billion dollar development projects, which include extensive road building, are currently in the works. The scientists predict that an increase in road-building will directly correlate with a decline in forest elephant populations. However, Blake hopes that smarter planning could aid both elephants and locals.

“A small yet very feasible shift in development planning, one that is actually good for poor local forest people and for wildlife and wilderness, would be a tremendous help to protect forest elephants and their home,” Blake said. “Planning roads to give forest elephants breathing space so that at least those in

the deep forest can relax, as well as reduce the death and fear that comes with roads by reducing poaching, would be trivial in terms of cost but massively important for conservation.”

The elephants’ remarkable reasoning—connecting roads with deadly poachers—is in line with other studies recording the intelligence of the world’s largest terrestrial mammals. Breaking off sticks and using them to scratch themselves or swat at flies, elephants have proven they can make and use tools (a skill once thought to be unique to humans). When a member of the elephant community dies, the rest participate in what appears mourning ritual, touching the body with their trunks and trumpeting for days. Such a display of empathy requires high intelligence. In addition, elephants are one of the few animals—along with apes, dolphins, and magpies—to recognize itself in a mirror.

Recent DNA research has sparked off a debate as to whether or not Africa’s forest elephants are a subspecies of the better known African savannah elephants or a different species entirely. The African forest elephant is certainly smaller than their savannah cousins. In addition, they sport a longer and narrower lower jaw, possess straighter tusks with a pinkish hue, and usually have an extra toenail on each foot. Whether the forest elephant is a subspecies or its own species could have large conservation implications.

mongabay.com

Botswana: Ripple effects of Veldt fires on Botswana

The much-awaited end of veldt fire season has arrived, but it will be remembered for its immeasurable damage to property and life, although the extent of devastation is still being assessed. Officially, the veldt fire season in Botswana starts in July to October, but this year, fire outbreaks started in April in earnest and have already consumed 70 percent of Chobe, 80 percent of CKGR and 70 percent of Ngamiland.

Other areas like Kweneng west and Kgalagadi have also suffered, but records of their damage are not available yet. Almost all the protected areas have been affected and several Batswana at Kaka and Sandveld ranches have been left gaping at the loss of their farms. We have also learnt with sadness and horror how Nata Lodge, known for its serenity was reduced to rubble by a raging fire. Although we have not received casualty reports, we fear for the livestock and wildlife in the affected area.

According to the acting director of the department of forestry and range resources-DFRR, Raymond Kwerepe, the fires have also dislodged all the six forest reserves in northern Botswana. The reserves; Chobe Forest Reserve, Kasane Forest Reserve, Kasane Extension Forest Reserve, Maikaelele Forest Reserve, Kafuma Forest Reserve and Savuyu Forest Reserve were established by Forest Reserve Act of 1968 and have been home to diverse species of flora and fauna.

In the Okavango alone, there are 1078 recognised plant species, which could be affected when the fire surged into the area. These and others found in the Chobe provide a sharp contrast, yet a compelling beauty to ardent lover of nature.

Sadly, some of them may be gone for good as effect of climate change is adversely affecting vegetation dynamics. The endemic peat fires in the area also compound the problem, as

they are believed to account for some fire outbreaks, especially in areas where there are heavy loads of fuel.

According to Peter Smith, who extensively researched on plants in the Okavango, peat fires burn on different layers of papyrus for several years. It is only when the top layer is burning that smoke can be seen coming from the ground.

These layers form over a period of time, occasioned by the changing levels of water in the delta. But with little water coming from Angola, we may be bracing for the worst. In the past, water used to arrive in Shakawe from Angola in February and in Maun around June or July, but the situation is now different because Angola does not get enough rain in September as it used to.

Sadly, it would appear the trust is running the forest reserve without land and forest management objectives, let a lone access to fire equipment in the district.

According to reliable sources, the only fire engine for the country is based in Chobe district to protect the forest reserves, but it remains a mystery why it could not salvage the reserves from the raging veldt fire that is believed to have entered the country from the Caprivi Strip.

As we are only left with eight years to 2016 as national target, it is imperative that we should start conceptualising direct and indirect benefits of environmental assets to beneficiaries in an effort to lessen the effects of climate change. The old generation, especially the rural populace, may not comprehend the carbon zinc process provided by the forest as a direct benefit to them. But they may understand it better if it is a subject of public education rather than a kgotla meeting.

allafrica.com

Borneo: Shell, HSBC put \$665,000 toward Borneo rainforest conservation project

Brunei Shell Petroleum (Shell Oil) and HSBC have donated 500,000 Brunei dollars (\$333,000) each to conserve forests on the island of Borneo, reports the *Borneo Bulletin*.

The BND 1,000,000 (\$665,000) will go to the setting up the Heart of Borneo Brunei Center, an administrative facility that will work to implement the Heart of Borneo initiative to protect roughly 220,000 square kilometers (85,000 square miles) of tropical forest in Brunei, Malaysia, and Indonesia.

Dr Grahaeme Henderson, Managing Director of Brunei Shell Petroleum, said the Royal Dutch Shell Group has extended technical assistance through mapping and satellite interpretation to the initiative as well as the expertise of one of its geologists to work with the teams from Brunei's Ministry of Industry and Primary Resources and the World Wildlife Fund.

Tareq Muhmood, Chief Executive Officer of HSBC Brunei, added that the donation would also help fund research.

"It is the early steps in a journey towards a sustainable

future," he said. "HSBC's roles in the Heart of Borneo initiatives are two-fold: putting the infrastructure in place to move the HoB initiatives forward and funding the field experiments on the long term effects of climate change led by Smithsonian Tropical Research Institute and the Universiti Brunei Darussalam."

Since the 1990s the island of Borneo has experienced one of the highest rates of forest loss in the world. Vast tracts of biologically-rich rainforest have been cleared by loggers and for industrial oil palm plantations, endangering charismatic species — including the orangutan and pygmy elephant — and triggering rapid cultural change among once isolated forest tribes. The U.N. has warned that virtually all the island's remaining unprotected lowland forest cover could be gone within the next 15 years.

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Canada: West Fraser says weak C\$ won't help lumber mills

The lumber market is so weak that the recent drop in the Canadian dollar probably won't help struggling sawmills very much, executives of West Fraser Timber Co Ltd warned recently.

Already weak lumber prices have fallen more than expected in the last two weeks, eroding any advantage the company might have gained by a favorable exchange rate, executives of Canada's largest softwood lumber producer said. "Prices likely will fall to reflect the advantage we get on the exchange rate," Chief Executive Hank Ketcham told analysts, adding that he thought the Canadian dollar will quickly rise from its current level. "Given how fast it fell, we are not planning for it to be there very long," he said.

The collapse of U.S. housing market has pummeled lumber

producers in both Canada and the United States, but a company sales official said the latest drop likely reflects slow sales on the retail level. West Fraser credited industry production cuts with helping prices firm somewhat during the third quarter, but cautions that some mills that idled production during the summer have returned to operation.

West Fraser, with has mills in western Canada and the U.S. Southwest, has cut its own production 13 percent this year. The company said prices for its pulp and paper operations have also fallen sharply, and Ketcham said that could lead to output in the pulp industry if they continue to drop lower than production costs.

www.reuters.com

Indonesia to audit all timber operations to cut illegal logging

The Indonesian Forestry Ministry has announced a policy that requires timber companies to have their wood stocks audited to ensure the wood is derived from sustainably managed forests, reports *The Jakarta Post*. The measure is expected to curtail illegal logging in a country where a large proportion of timber is of illicit origin.

Unlike the current system where authorities only inspect documents (which can be forged) presented by forestry firms, the new initiative — known as the Wood Legality Verification System — will involved independent inspectors who will audit wood stocks throughout the supply chain, according to Hadi Pasaribu, the Forestry Ministry's director general for the

management of forestry production.

Indonesia hopes the system will reduce deforestation, increase treasury revenue, and open environmentally-conscious markets to Indonesian wood products. Proposed legislation in both Europe and the United States may soon restrict imports of illegally-sourced timber.

The Indonesian Forum of Environment (WALHI) estimates that some 2.8 million hectares of woods are illegally logged each year. Indonesia has the world's second highest annual rate of forest loss after Brazil.

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Borneo: Oil palm expansion in Indonesian Borneo increased 400-fold from 1991-2007

Annual forest conversion to palm oil plantations increased 400-fold from 1,163 hectares in 1991 to 461,992 hectares in 2007 in Central Kalimantan, on the island of Borneo, reports a new report published by Forest Watch Indonesia, a local NGO.

The study, highlighted recently in *The Jakarta Post*, found that 816,000 hectares of forest in the province was cleared for palm oil plantations in 2006. About 14 percent of the province's 3 million hectares of peatlands had been converted into palm oil plantations by 2007. Peatlands store large amounts of carbon which is released into the atmosphere when the wetlands are drained, cleared, and planted with oil palm.

The report also looked at forest clearing in Riau, on the island of Sumatra, and Papua, which is part of New Guinea. In Riau, 38.5 percent of its total forest area has been allocated for conversion into plantations, of which 1.5 million hectares consisted of palm oil plantations. In Papua, 480,000 hectares had been cleared and allocated for growing oil palm.

The report showed that logging continues to be an important source of forest loss and degradation. It also highlighted the role of government resettlement programs in deforestation, including 773,331 hectares of forest in Riau converted into transmigration areas, and 375,203 hectares in Papua.

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Namibia: Educate masses on dangers of wild Fires

Cataclysmic bush infernos wreaking havoc across the country are a major cause for concern because valuable vegetation is ruined, depriving livestock and wild animals of their main food source - grass and tree leaves in the case of browsers.

The regions adversely affected by these uncontrolled bush fires are Caprivi, Kavango, Omaheke and Otjozondjupa. And statistics from the Ministry of Agriculture, Water and Forestry indicate that uncontrolled bush fires annually ravage between 3 million to 7 million hectares of land in Namibia.

Apart from reducing valuable pasture to ashes thus depriving mostly free-range cattle and wild animals of their main source of food, bush fires damage the environment and this adversely impacts on tourism - one of the top earners of much-needed foreign revenue.

Human activity such as villagers setting fire to specific thickets of bush to flush out small game such as warthogs, springbok and others that they hunt for the pot and when they try to smoke out bees from their hives with the aim to harvest honey, cause bush fires.

In one recent blaze a single farmer among many in the Otjozondjupa Region lost an entire herd of wild animals in a blaze that reduced to ashes grazing covering a thousand hectares.

At times extensive damage is caused on property while humans perish in such fires. As we speak, most of the grazing along an important flood plain that provides pasture to thousands of cattle and wild animals that normally graze along this plain in Caprivi only has ashes.

Some villagers deliberately start bush fires so that cattle have greener pasture. Among those identified, as culprits, by the traditional khuta at Bukalo are fishermen who in some cases often come to Namibia without proper travel documentation such as passports.

They usually start with a small spark but this triggers

one thing after another, until a small blaze becomes a raging inferno that destroys everything and anything in its path.

Where humans do not cause these fires bolts of lightning are known to cause these fires. This problem is compounded by inadequate incentives to undertake effective control measures, due to unclear property rights in communal lands, and inadequate coordination and cooperation arrangements between the various communities.

Confusion wrought about by laws that overlap and more so in conflict with one another, lead to lax control over fires.

We feel traditional leaders need to be given more leeway in dealing with this problem by way of giving them more powers - though for now some of them can impose fines of up to N\$400 or a fine of one cow for those convicted of deliberately causing bush fires.

More resources need to be availed to sensitise these communities on the dangers of deliberately causing such fires that have a very detrimental impact on the environment.

We need to strengthen existing sensitization campaigns that are usually carried out through radio, and the community needs to be more pro-active if we are in future to - once and for all - contain these ruinous infernos, particularly ones caused by villagers out illegally hunting for the occasional game meat, as they strive to fend for their usually extended families.

We should not wait with arms akimbo doing nothing and only be mobilised to do something if we are in the middle of a raging inferno.

Sensitising villagers by informing them about the dangers lurking out of these fires could in one way remedy this problem.

Investing in mobile fire-fighting equipment is an area that should be explored and putting more stress on prevention is another tool - true to the adage prevention is better than cure.

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South Africa: Mondi hands over forests to communities

Paper and packaging group Mondi, the regional and claims commission and the Kranskop communities of AmaHlongwa and AmaBomvu have signed SA's first forestry-related land restitution settlement agreement, for R20,5m. The agreement provides for the transfer of more than 4000ha of Mondi land to the two communities. The communities would get title to the land, which would be leased back to Mondi.

Mondi has entered into a 20-year lease agreement with the communities to enable the continued supply of timber to the group's mills. The land would be owned by the two communities through the Siyathokoza and Eyethu trusts.

Analysts estimate that more than 50% of SA's 1,3-million hectares of commercial timber plantation are now the subject of land claims. If land claims are not handled properly it jeopardises the R18bn economic contribution of timber plantations and the sector's 170000 employees, who have about 1-million dependants. Mondi said 48% of its land is under claim was forestry land. The extent of the title deed area of the 101 claims was about 140000ha. The group said it was confident it would have its land claims resolved by 2014 as planned.

"This is very good news for SA and for all parties involved in these settlements," Mondi Group CE David Hathorn said. "Mondi is convinced that the land restitution process is necessary and we will continue to engage with government and communities to find sustainable solutions."

Hathorn said the agreement set an industry precedent by creating a sustainable working model of community trusts

and ensuring the communities received a continuing annual income.

The agreement also introduced the communities into Mondi's supply chain by transforming them into approved suppliers, ensuring a transfer of skills and the increased involvement of community members in the forestry business.

The government has welcomed the settlement, which established an industry template that can be used by other companies as a framework for settling future forestry land claims.

"We are very pleased that a settlement has been reached with the community on terms which ensure real empowerment of new farmers and a continued fibre supply for our business," Mondi SA's forestry and transformation director, Viv McMenamin, said.

"This model and approach set the standard for equitable land restitution agreements that are commercially sustainable and beneficial for all parties," he said.

Mondi said the agreement would also ensure the "progressive" involvement of communities in the forestry business over the same period.

The group would provide annual bursary opportunities through its existing scheme for two community members per claim to study forestry at tertiary institutions.

With Mondi's assistance, the community trusts have set up community-owned businesses and are engaged as contractors in the forestry operations.

allafrica.com

UK's ancient woodland being lost 'faster than Amazon'

Several acres of Two Mile wood outside Weymouth are under threat from plans to build a bypass. This remnant of ancient forest is known for its association with the writer Thomas Hardy. Photograph: Woodland Trust

Ancient woodland in Britain is being felled at a rate even faster than the Amazon rainforest, according to new research today. It shows that almost half of all woods in the UK that are more than 400 years old have been lost in the past 80 years and more than 600 ancient woods are now threatened by new roads, electricity pylons, housing, and airport expansion.

The report from the Woodland Trust comes as the government prepares to sign a compulsory purchase order to buy several acres of Two Mile Wood outside Weymouth to build a bypass. This remnant of ancient forest, known for its association with Thomas Hardy, is one of Britain's finest bluebell woods and is full of old beech, oak and hornbeam trees.

"Ancient woodland, designated as over 400 years old in England, is the UK's equivalent of rainforest. It is irreplaceable," said Ed Pomfret, campaigns director of the trust. "It's our most valuable space for wildlife, and home to rare and threatened species. Once these woods have gone, they will never come back. They are historical treasure troves."

Species such as the willow tit, marsh tit, barbastelle bat,

Bechstein's bat, pearl-bordered fritillary butterfly and dormouse all rely on ancient woodland to survive.

The rate at which the UK has lost ancient woodland is one of the fastest in the world and compares unfavourably with the Amazon. Studies suggest that the Amazon has lost 15% of its area in the past 30 years and perhaps just 2% before that in the previous several thousand years.

Pomfret appealed to government for better protection of the remaining woods. "If these woods were buildings they would be protected to the highest grading. But natural heritage is not afforded the same importance, despite the fact many ancient woodland sites date back far beyond that of the built environment," he said.

Many of the woods are designated for their scientific and conservation importance but this does not guarantee protection. Nearly 85% of ancient woodland, including five of the 12 largest woods in England, has no designation at all. For those that are protected, "loopholes in the planning system allow this protection to be overridden if a developer can prove an economic need," said Pomfret.

The report says that in the last decade 100 square miles (26,000 hectares) of ancient woodland in the UK has come under threat, equivalent to an area the size of Birmingham. But pressure on the habitat is now growing said Pomfret.

Overall, only 1,193 square miles (308,000 hectares) of ancient woodland survive in Britain. Few are larger than 50 acres and only 14 woods are larger than 740 acres. Most have been continuously managed by humans for hundreds if not thousands of years.

Nearly half of the threatened woods are in the south-east, with more than 30 in East Sussex. There are 243 are threatened by road schemes, 216 by power lines, 106 by housing, 61 by quarrying and 45 by airport expansion.

The trust believes there could be many more ancient woods under threat than their research suggests, and is appealing to the public to help identify them. "We can't rely on any official

body to help us. We need eyes and ears for woodland to help stop ancient woodland destruction on our doorsteps," said Pomfret.

"The pressure on these very valuable woods is great, but there are major restoration programmes taking place. We are encouraging the Forestry Commission and private owners to protect them, but we are aware that planning authorities still take other things into account when deciding on developments," said Keith Kirby, chief forestry officer at Natural England, the government conservation advisers.

www.guardian.co.uk

Philippines: Food for fuel policy may result in deforestation

Using agrofuel to mitigate effects of climate change may bring about "massive losses of biodiversity, crop conversion, [and] deforestation brought about by industrial monoculture to help in policy formulation," an international group said. As a result, the Southeast Asia Regional Initiative for Community Empowerment (SEARICE) urges a moratorium to agrofuel development in the light of the food and climate crises.

"Our government recklessly jumped into the global frenzy for agrofuel without clear parameter on its implications to the people's growing demand for food. The government has to stop agrofuel expansion and instead launch intelligent debates about the subject," said Wilhelmina Pelegrina, SEARICE Executive Director.

In a press briefing held in Manila, Camilla Moreno hit the developed countries led by the United States in establishing a global <http://www.enn.com/ecosystems/article/38510> "top" carbon credits based on agrofuel production.

Moreno is a lawyer and post-graduate degree holder in Development, Agriculture and Society from the Rural Federal University of Rio de Janeiro. She is the author of the book "Food and Energy Sovereignty Now: Brazilian Grassroots Position on Agroenergy" published by the Oakland Institute in February 2008.

"Thousands of hectares of traditional ecosystems, arable lands, and local livelihoods are being irreversibly affected by the expansion of agrofuel crops. Urban industrialized lives and ever-increasing energy demands are buying into the alleged greening of energy sector and paving the way for corporate takeover in natural resources, such as land, water, forests, biodiversity, oil and gas," explained Moreno.

Brazil is the global leader in ethanol exports, providing 70 percent of the world's supply in 2006. According to Moreno, a drive through Brazil's countryside reveals the expansion of agribusiness, turning millions of hectares of formerly natural ecosystems, including the Cerrado (grasslands) and the Amazon, into one major monoculture.

Meanwhile, several countries, including the Philippines are

rapidly adopting legislation in compliance with a new global energy policy and in the light of international negotiations to address climate change in what will be a post-Kyoto protocol regime starting in 2012.

"However, neither the United States, the European Union, nor Japan, have the capacity to achieve their energy targets from their available agricultural land and crop production. If the US was to replace all its fuel with ethanol produced domestically, no land would be left for food production. This means that increasing the use of biofuels in Northern developed countries will depend on production in Southern, mostly tropical, agricultural areas like the Philippines," said Moreno.

Pelegrina said following the passage of the Biofuels Act, the Philippine government embarked on several investment projects, committing 1.2 million hectares to growing jatropha only and another one million hectares to grow sorghum, corn, and rice meant for biofuel production in the deals clinched with Spain and China.

"The government has made no effort to expand the area for rice production covering only four million hectares while it continues to allocate more resources for agrofuel production, particularly from its environment, agriculture and energy budget. The Biofuels Board of the Department of Agriculture alone has allotment of as much as P90 million in the 2008 budget.

Moreno said corporate interests have dictated the official discourse on climate change and biofuels while pinning the blame on transportation as the culprit for massive greenhouse gas emissions.

"If global warming is a result of the industrial urban way of life and its ever-increasing demand for energy, promoting monoculture in agriculture and deepening the use of oil-intensive agroindustrial model to produce biofuels can never be a solution," said Moreno.

www.enn.com

Hope for Liberia

Strong indication that Liberia is ready to turn away from its violent past and move towards a future that will benefit all Liberians came in September when the Liberian legislature overwhelmingly adopted a strong Community Rights Law.¹ The law sets a good example of how new development in West Africa can both recognise local peoples' rights and service economic growth at the same time.

However, in an increasingly bitter dispute with civil society, the Liberian Forestry Department Authority (FDA) criticised the law, indicating that it would deprive the country of much-needed revenue by delaying the resumption of logging.² The FDA critique fails to consider that, to date, logging has not brought much benefit to Liberia or any of its neighbouring countries. Any delay that the law may entail would not be as costly as repeating previous years' mistakes. For example, over the past two and a half decades, some US \$64 million in revenue has been lost through misappropriation, failure to collect taxes and corruption.³ The newly adopted Community Rights Law clearly spells out community ownership not only of the land they live on, but also of the forests thereon. It also lays down the government's duty to protect these community rights.

More than 80 percent of the population of Liberia is without formal employment; ensuring that communities benefit from their land is a step toward securing livelihoods and sustainable, peaceful development. The Liberian law follows similar rules in East Africa, but is the first in West Africa to give communities full ownership of their lands and forests, and the right to prior informed consent of decisions affecting them. Laws in neighbouring countries favouring industrial logging have allowed devastating logging practices, destroying West Africa's rainforests and further marginalising communities. With this new law in place, FERN believes Liberia is ready to negotiate a VPA with the EU, rumoured to begin some time this month.

1. The Community Rights Law with Respect to Forest Lands, printed 11 September 2008, available at www.loggingoff.info
2. Available at www.loggingoff.info
3. "Helping Liberia Escape Conflict Timber," June 2006, www.forest-trends.org; see also Joint Press Statement on CRL, October 8, 2008, available at www.fern.org

fern.org

World: New REDD website launched

REDD-Monitor, a new website to discuss Reduced Emissions through Deforestation and Forest Degradation, is now online at <http://www.redd-monitor.org>. The website is a response to the need to share information about the way REDD is developing and the need for more public discussion about

REDD. REDD-Monitor will critically analyse the problems related to REDD and "avoided deforestation". We hope that by doing so we will make a useful contribution in answering the question "will REDD work?"

redd-monitor.org

World: Global wood prices surging due to increased competition and higher freight costs

Wood fibre prices worldwide have been rising steadily for the past six years, reaching record levels in 2Q/08. Expanding demand for renewable energy may potentially drive prices even higher in many countries in the near future, according to Håkan Ekström, president of Wood Resources International. Since 2002, global average prices for pulpwood have risen 67% for softwood and 64% for hardwood, in US dollar terms.

To date, most pulpwood has been consumed by the pulp and paper sector, with smaller amounts used to produce wood-based panels such as MDF (medium density fiberboard). The hot new market for wood fibre is that of biomass energy; demand in both Europe and North America is expected to soar over the next five to ten years. With the supply of wood fibre relatively inelastic, at least in the short term, this sudden new demand would normally be expected to push wood prices to unprecedented new heights. However, Ekström points out that the availability and cost of ocean transport may restrict international trade in wood fibre to a great extent. "A lot of new power projects are being developed with the expectation that

"waste wood" will be both relatively inexpensive and vessels for transport will be readily available. Both assumptions may prove to be highly optimistic."

Pulpmills in both Europe and the Pacific Rim are increasingly sourcing their mills with wood from fast-growing plantations in the Southern Hemisphere. This has resulted in a major expansion of worldwide trade of both wood chips and pulplogs the past few years.

Global trade of wood chips has more than doubled in 20 years, reaching 31 Mt in 2007. Just since 2003, total trade has increased by almost 30%. This development is the result of a tighter wood supply in close proximity to many pulpmills in the Northern Hemisphere, higher costs for locally sourced wood fibre and relatively lower-cost alternatives in new supply regions. The question is... will wood chip trade continue to increase?

Wood Resources International, in cooperation with DANA Ltd and Pike & Co, is organising a conference with the focus on bringing together plantation forestry owners, woodchip suppliers, transportation experts, and end-users including pulp mills and biomass buyers, in order to answer questions

about global wood availability and costs. This meeting, the Third International Pulpwood Conference, will be held in Singapore, October 19-21, at the Grand Copthorne Hotel. Due to the "tug-of-war" which is developing between fiber markets

in Europe and Asia, some 200-250 delegates from 25 countries are expected to attend the meeting.

www.internationalforestindustries.com

Indonesia: Pledge to protect Sumatran forest

Indonesian authorities have pledged to stop the loss of forests and species in Sumatra, one of the world's most ecologically important islands. Representatives of the island's 10 provinces, national government and the environment group WWF launched the deal at the World Conservation Congress.

Sumatra has lost about half of its forest cover in the last 20 years. It is home to a number of important and iconic species such as the tiger, orangutan, rhinoceros and elephant. The island has suffered floods and forest fires in recent years that have been widely attributed to illegal forest clearance.

Two years ago, President Susilo Bambang Yudhoyono was forced to apologise to Singapore and Malaysia when smog from burning Sumatran forest covered the neighbouring countries. The need to deal with these issues appears to have played a big part in persuading the authorities to act. "In the rainy months, we are seeing landslides and flooding more often, and it is time to make a real change," said Indonesia's deputy environment minister Hermien Roosita at a news briefing here. Every governor from the 10 provinces and four (national) ministries have signed this monumental commitment to ecosystem restoration of the island and protecting the remaining natural forest."

More than 13% of the island's forests lie on peat, which

contain vast amounts of carbon that would be lost to the atmosphere if the trees were removed, accelerating climate change. "When you look at the flora and fauna in this area and the rate of loss that's going on, this is a substantial commitment to protect and restore forests," said Gordon Shepherd, WWF's director of global policy.

The government has already regulated to stop clearance of virgin forest for palm oil plantations - grown for food, industry and biofuels - but the government acknowledges the ban may not be completely effective.

As well as protecting and restoring forest, the authorities have pledged to make development on Sumatra obey principles of "ecosystem-based planning", where any projects detrimental to the island's ecological health would be banned.

However, the vice-governor of the province of West Sumatra, Marlis Rahman, said help from the west would be needed to help meet the commitments.

"We are calling on the international community to support us in implementing this commitment on the ground and help us to find extra livelihoods by protecting our forests," he said. Mr Rahman did not put a figure on how much more

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UK: Gordon Brown launches Eliasch Review

The Prime Minister has hosted the Number 10 launch of the Eliasch Review into deforestation. Accompanied by report author Johan Eliasch, Climate Change Secretary Ed Miliband, Development Secretary Douglas Alexander and Environment Secretary Hilary Benn, the PM said that investment in the environment could offer a "route out of the current economic downturn". Efforts to preserve the forests should be "just as forceful and determined" as efforts to develop green technology, he said.

In his review, Mr Eliasch called upon the international community to enable rainforest countries to halve deforestation by 2020 and make the global forest sector 'carbon neutral' by 2030. The review also states that reducing emissions from deforestation should be fully included in any post-2012 global climate deal at Copenhagen. Mr Eliasch, the Prime Minister's Special Representative on

deforestation and clean energy, said: "Saving forests is critical for tackling climate change. Without action on deforestation, avoiding the worst impacts of climate change will be next to impossible, and could lead to additional climate change damages of \$1 trillion a year by 2100. "Including the forest sector in a new global deal could reduce the costs of tackling climate change by up to 50% and therefore achieve deeper cuts in emissions, as well as reducing poverty in some of the world's poorest areas and protecting biodiversity.

"Deforestation will continue as long as cutting down and burning trees is more economic than preserving them. Access to finance from carbon markets and other funding initiatives will be essential for supporting forest nations to meet this challenge."

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