Society of American Foresters

International Forestry Working Group Newsletter

Working Group B3

June 2015

Note from the editor

Thanks again to all who have contributed. The next issue of the IFWG newsletter will be in the middle of September.

- Blair Orr, IFWG Newsletter Editor
(bdorr@mtu.edu)

Contributed Articles

Ugly Duckling
(in a forestry sense)

Doug Skeates

It is unusual that a weed turns out to be of promising value to mankind. A little known tropical tree is a potential multipurpose answer to many of mankind's ills. In a very poor country, food supply is a primary concern. *Jatropha curcas, a tree species,* can be used for protection for garden plots, hence an aid for food production. It characteristically produces nuts with a high concentration of oil, a good source of cooking fuel, and one which could replace a high proportion of charcoal, the commonest source of energy used in the home.

Globally the species is being seen as a source of biodiesel oil. An article in the Feb. 19, 2007 issue of Newsweek International (The Cinderella Plant, Karen Palmer) quoted a South African scientist as seeing the potential for this renewable natural source of oil as possibly being the Saudi Arabia of the tropics. The article noted that major oil companies in Norway, India and Britain "….are racing to buy up or lease enormous swaths of African land for *Jatropha* plantations" Numbers recorded included 20,000 ha in Malawi, 15,000 ha in Zambia, 40,000 ha in Nigeria and 150,000 ha in Swaziland, Mozambique and South Africa for planting of this species.

Jatropha curcas. Photo: Tree Oils India Limited.

From an ecological perspective *Jatropha* is almost of equal promise in its ability to grow on poor quality land unsuitable for agricultural purposes. There are vast areas world-wide which are considered to be of marginal productivity. It has been suggested that the species has potential for reclamation of considerable desert land. Keeping in mind that just the Sahara desert exceeds the size of the United States, even just a proportion of the world's deserts could go a long way to solving the expected European shortfall in energy supply.

The greatest social problem, particularly in the third world has always been poverty. Lack of adequate finances has resulted in starvation for millions. Without the money to buy antiretroviral drugs many millions in Africa have died from HIV/Aids. Without access to clean water, child mortality figures have been staggering with children especially vulnerable to death from water-borne diseases. Lack of food and potable water has been the basis for many wars resulting in the deaths of so many people.

With the use of inexpensive locally produced energy families have greater opportunities to pay school fees and provide uniforms for their children. For many this ensures access to education meaning a rise in future standards of living as well as greater prosperity for the nation as a whole.

Despite the enormous potential which *Jatropha* trees have in the fields of energy self-sufficiency, land reclamation and conservation of forest cover, I see the greatest value of the species being in the back yard of rural land-owners. KAMI has placed its highest priority on farm produced energy, the growing and consumption of cooking fuel. Not only does a Jatropha hedge discourage free-roaming animals from eating food crops but it also provides a natural source of home grown energy while residues after extraction of oil provides a good fertilizer for production of food crops.

Traditionally most cooking in rural areas is conducted outdoors with the use of charcoal, a basis for massive deforestation. Trees are cut to provide an accessible energy source. Conversion of firewood to charcoal is about 30% efficient, a most inefficient use of a valuable ecological resource. The loss of forest cover has left Haiti with about 1% of the land base in forest cover. Use of *Jatropha* as a farm crop provides oil for families to cook indoors in recently designed kerosene stoves taking about half the time to provide meals.

The primary value of trees is normally seen as being in wood products. In this regard *Jatrapha curcas* gets a failing grade as wood quality of the trees is minimal. Instead this 'weed species' shows every potential for being much of greater value contributing more important products. Beyond the commercial value of reduced importation of costly energy, protection of food production and conservation of forests contributes to enhanced agricultural potential and prosperity for the people of this the western world's poorest nation.

PARTNERS

Robin Chazdon

PARTNERS (People and Reforestation in the Tropics, a Network for Education, Research, and Synthesis) is an interdisciplinary research coordination network that brings natural and social scientists together to address the complexity of socio-ecological processes that shape tropical reforestation. We consider reforestation in a broad sense, encompassing natural regeneration, silvopastoral and agroforestry systems, ecological restoration plantings, commercial tree plantations, and smallholder plantations.

Our mission is to synthesize existing research, reach out to educators and policy makers, and to generate new interdisciplinary research projects that address major knowledge gaps such as how forest restoration affects livelihoods, how climate change affects forest regeneration and restoration, identifying the factors that affect success of forest and landscape restoration projects, and methodologies to prioritize restoration interventions and monitor restoration outcomes at the landscape scale. We also provide a space for networking, visioning, and knowledge sharing across researchers, policy makers, educators, and restoration practitioners.

Working groups formed at our first workshop in May 2014 are producing synthesis papers for publication in peer-reviewed journals and policy briefs to inform policy makers who focus on natural resource management, climate change mitigation, governance, rural livelihoods and human rights, and forest and landscape restoration.

Working Group 1: Socio-ecological understanding of forest transitions

Working Group 2: Reforestation and socio-ecological resilience.

Working Group 3: Climate change adaptation and mitigation through reforestation

One paper has already been published from this working group:

Locatelli, B., C. P. Catterall, P. Imbach, C. Kumar, R. Lasco, E. Marín-Spiotta, B. Mercer, J. S. Powers, N. Schwartz, and M. Uriarte. 2015. Tropical reforestation and climate change: beyond carbon. Restoration Ecology: online early.

Working Group 4: Costs and benefits of reforestation

Working Group 5: Forest definitions in the age of reforestation

The second PARTNERS workshop on "Making it happen: Motivating and enabling forest restoration and regeneration" will be held in Storrs, CT on 21-24 October, 2015.

For more information, please visit our website at http://partners-rcn.org

PARTNERS is a Research Coordination Network funded by the U.S. National Science Foundation, Coupled Natural and Human Systems Program

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Improving livelihoods: the role of the Mediterranean forest value chains in a green economy

José G. Borges (Coordinator of IUFRO Unit 4.04.04)
Denis Boglio (Member of the Organizing Committee)

Summary statement: The IV Mediterranean Forest Week "Improving livelihoods: the role of the Mediterranean forest value chains in a green economy" (http://med.forestweek.org/) addressed key issues of Mediterranean forestry. It targeted further the transfer of knowledge and technology to Mediterranean stakeholders. Through several sessions the participants were exposed to the key themes of the Mediterranean forest value chain.

Meeting Report.

The Mediterranean Forest Week has become the main event regarding forestry both on the EU and MENA sides of the Mediterranean, gathering every 2 years, representatives of the research community, of the forest administrations, of the civil society and of the forest sector. It serves as a meeting point for other related events and this year counted with meetings of: the EC expert group on forest fires, the Urban Forests COST action, FAO Silva mediterranea, the Presidents of forest owners federations of Southern Europe.

The IV Mediterranean Forest Week "Improving livelihoods: the role of the Mediterranean forest value chains in a green economy" took place in Barcelona, Spain, March 17-20th, 2015. It was sponsored by IUFRO Unit 4.04.04 and was organized and sponsored by the Spanish Government, Government of Catalonia, German Government, French Government, FAO, Forest

Sciences Centre of Catalonia (CTFC) and EFIMED. It involved 400 participants from Portugal, Spain, UK, USA, South Africa, France, Italy, Slovenia, Croatia, Albania, Montenegro, Greece, Turkey, Syria, Jordan, Lebanon, Egypt, Israel, Tunisia, Algeria, Morocco and Germany.

The conference key topics, main findings and conclusions included:

a) Energy & Forests: there is a growing concern regarding the impact of the demand of wood and wood-based components (chips, fiber, cellulose, lignin …) on the wood markets and the sustainability of the woodworking and paper industries in Southern Europe. The development of subsidized cogeneration plants seem to put a strong economic pressure on other actors of the wood value chains and a real risk on the profitability of smaller actors on a medium term (3-5 years).

b) Water & Forests: the ecosystem services linked to water availability and quality in the Mediterranean are expected to be key issues on the political agenda for the next decades. Expanding and sharing the management of hydrographic basins to include forest managers. It will be a prerequisite to the implementation on a large scale of payments systems for forest environmental services or green infrastructures. Political pressure is expected to increase rapidly due to climate and land use changes.

c) Carbon finance in the Mediterranean: despite not being a priority area at UN level, already two countries have set-up REDD+ mechanisms within their national LULUCF framework, and more are expected to follow. After reviewing concrete examples, a discussion was held with representatives of bilateral and multilateral donors and a consensus emerged with regards to the importance of financing forest landscape protection both from a climate adaptation and a rural development perspective.

d) Forestry Education: for the first time a meeting between university coordinators of the whole Mediterranean area was organized, along with the participation of the Union for the Mediterranean. The main conclusion was that the EU has to foster the possibilities of collaboration between EU and MENA universities and that there is an increasing need to integrate innovation and entrepreneurship within the university curriculums, especially regarding TICs and MOOCs.

e) Policy and Strategy: 11 forest administrations were represented and discussed a common text regarding the follow-up of the Tlemcen Declaration and of the Strategic Framework on Mediterranean Forests.

The proceedings of the conference will be published by the Association Internationale Forêt Méditerranéenne and will be available during the Forest World Congress in Durban. The next Mediterranean Forest Week will be held in Morocco in 2017.

Participants at the IV Mediterranean Forest Week. Barcelona, Spain, March 17-20th, 2015 (photo by Pilar Valbuena)

Opportunities

Erasmus Mundus Master Course

The University of Lisbon is accepting applications to the Erasmus Mundus Master Course "Mediterranean Forestry and Natural Resources Management". Scholarships are available for the next (2016/18) edition (classes starting September 2016). The program provides an average of 10 to 15 scholarships per edition (about 49k euros per scholarship for non EU students). More information at http://www.medfor.eu/

Ranger Training Opportunities in Conjunction with the 8th World Ranger Congress

Together with the World Ranger Congress to be held in May, 2016 in Colorado, USA, the Center for Protected Area Management at Colorado State University (CPAM), will be organizing two nine-day ranger training courses, in English and in Spanish.

These courses will offer hands-on learning opportunities for rangers from around the world, provide participants with an extended technical visit to a variety of types of protected areas demonstrating different management approaches in the western United States, and allow them to form a community of practice and learn together with colleagues from around the world.

The pre-Congress training in English will visit the western part of Colorado and Utah including Mesa Verde, Arches, and Great Sand Dunes national parks and other protected areas managed by federal, state, and local agencies. Dates are May 12-21, 2016.

The post-Congress training for Spanish-speaking rangers will visit Yellowstone and Grand Teton National parks and other protected areas in Colorado, Utah, and Wyoming. Dates are May 27-June 5, 2016.

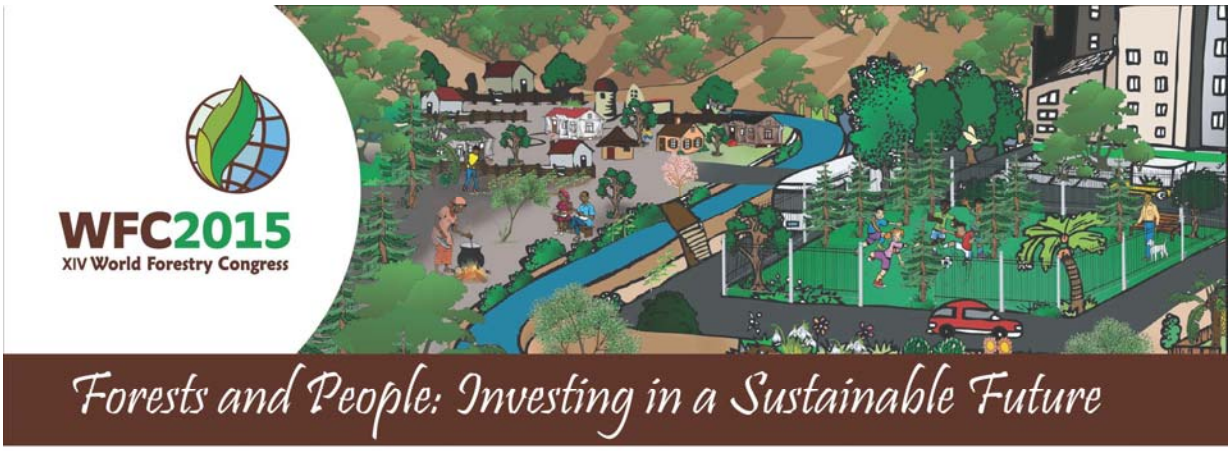
Click here http://warnercnr.colostate.edu/world-ranger-congress-2016 to learn more about these courses and potential sources of funding and to submit an application. Applications are due by October 31, 2015 but CSU recommends you apply as early as possible to increase the possibility of scholarship support and to ensure adequate time for applying for US visas where needed. Please circulate to your colleagues.

Announcements, Meetings and Events

Information and a link to registration: http://www.xcdsystem.com/saf/site14/

16th Symposium for Systems Analysis in Forest Resources

The SSAFR 2015 – 16th Symposium for Systems Analysis in Forest Resources will take place August 19-21th in Uppsala, Sweden. More information, program and registration forms are available at http://www.skogforsk.se/ssafr2015



CALL FOR EVENTS

XIV World Forestry Congress

7–11 September 2015, Durban, South Africa

Join us in Durban: organize an event!

The XIV World Forestry Congress (WFC) is a major opportunity for the world's foresters and forest supporters to gather, share expertise and experiences, and project a vision of the future role of forests in global sustainable development.

Make your voice heard by organizing a side event, networking event, launch or performance on the central theme of the Congress, "Forests and People: Investing in a Sustainable Future", and on topics that align with any of the six Congress sub-themes:

- Forests for socio-economic development and food security
- Building resilience with forests
- Integrating forests and other land uses
- Encouraging product innovation and sustainable trade
- Monitoring forests for better decision-making
- Improving governance by building capacity

KEY DATES

27 February 2015	**Deadline for submitting events**
March 2015	**Notification for accepted events**

For more information and to submit an event please visit www.fao.org/forestry/wfc

Extra time for abstracts

The call for abstracts for the XIV World Forestry Congress has been extended and you now have until 30 January 2015 to submit your ideas for papers, posters and videos. We welcome abstracts on the central theme and sub-themes of the Congress.

KEY DATES

30 January 2015	**Deadline for submitting abstracts**
15 February 2015	**Authors will receive evaluation of their abstracts and full instructions on how to submit the paper, poster or video**
15 April 2015	**Deadline for submission of posters, papers and videos**
15 June 2015	**Selected authors will receive notification to prepare a presentation at the Congress**

For more information and to submit an abstract please visit www.fao.org/forestry/wfc

Practical information

The Congress welcomes the participation of people from all countries, regions and sectors, whether representatives of government or non-governmental organizations, civil society, private companies, academia, scientific or professional bodies, associations, local practitioners, or simply those who have a personal interest in forests.

The Congress programme will be professionally and culturally rewarding, with a variety of sessions, events and dialogue, to ensure that all participants are engaged in defining a vision and strategies for the sustainable future of forests and forestry.

More details including how to register will be available at the main XIV World Forestry Congress website that will be launched shortly.

We look forward to welcoming you in Durban!

Spread the word

Please help spread the word to people you know who might like to learn more about the XIV World Forestry Congress and join the conversation on social media with the #WFC2015 hashtag.

Preliminary information about the Congress as well as downloadable banners and logos can be found on the FAO XIV World Forestry Congress website: www.fao.org/forestry/wfc

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SAF World Forestry Committee News – The Gregory Award

SAF's World Forestry Committee is excited to announce the results of the 2015 Gregory Award. Thanks to the continued generosity of the Gregory family and SAF members, the award has been expanded to bring two promising young professionals to the SAF Convention in Baton Rouge, Louisiana. This year's recipients are Dauda Tempitope Hauwa from Nigeria and Mohammad Rahmat Ullah from Bangladesh. We are excited to have them join us and share their unique knowledge and experiences. Be on the lookout for opportunities to meet and greet these incredible individuals.

Jason Gordon, WFC Chair
Danielle Watson, SAF Policy Associate

Join an SAF Working Group

As a member of the Society of American Foresters you can join SAF working groups by going to the website:

http://www.safnet.org/workinggroups/join.cfm

If you want to join this working group, we are B3, the International Forestry Working Group. Please pass this information along to SAF members who might be interested in joining a working group – especially B3, the International Forestry Working Group.

TROPICAL NOTES
Frank H. Wadsworth
International Institute of Tropical Forestry
USDA Forest Service
San Juan, Puerto Rico

IMPORTANT NOTE: These abstracts are from International Forestry Review 16(5). Go to http://www.ingentaconnect.com/content/cfa/ifr and select October 2014. This issue is open access.

Need for management of production forests

Silviculture is seen as a probable tool for the conservation and sustainable use of >400 million hectares of tropical forests. The main challenge is seen as finding extraction intensity compatible with environmental services and stand recovery. In forests exploited 25 to 40 years ago the timber volume has not recovered because they were not treated silviculturally. To these forests, neglected in the past, silviculture must now be applied for productivity and sustainability.

P. Sist and others, Current state and new trends in the silviculture and sustainable management of tropical production forests. p. 137

Site-oriented research needs

A long tradition of the ecology of natural rain forests has yet to be acknowledged. Relevant ecological research advice continues to be ignored in forest management, to the detriment of conservation and long-term sustainability. Broad pan-tropical generalizations are not useful. A focused site-oriented scientific approach is likely to be more effective. Recognition of ecosystems as simple systems in which not more than three or four components are altered may lead to much better progress for forestry. A need to take stock and re-evaluate our research directions is highly desirable.

D. M. Newbery, On maintaining cycles and feedback in tropical forest ecosystems: some thoughts from basic research. p. 1

Managed forest content in Amazonia

A study was carried out in 6 forests managed for timber at Paragominas, where half of Brazil's native forest timber is produced. In 18 random plots of 20x50m 109 native tree species from 33 families were found. Fifteen species were endemic to Amazonia and 44 species were listed as endangered by logging activities. Plots not logged had as many as 51 tree species, whereas those logged had from 43 to 46 species. Heterogeneity remained in at least 5 different strata and emergent trees remained throughout.

Quimbayo Cardona M. and others, Forest structure and biodiversity of managed tropical rainforest for timber in east Amazonia (Brazil). p. 140

Friends of Amazonia

The Amazonia forests supply the domestic and foreign markets with high quality wood which exposes many tree species to overexploitation. Control of shipping and trade is necessary to preserve the forest heritage. To this end the Sao Paulo Program Friends of Amazonia, begun in 2007, attempts to oversee and regulate the trade of tropical timber. Source documents are examined and botanical identification of processed timber is in use. Identification of wood anatomy is a tool for control of traffic.

M. T. Filho and others, Protecting Amazon tropical forests for the future: Program Sao Paulo Friends of Amazonia. p. 62

Species grouping for management

An inventory of 49 ha of Amazonia forest, harvested and not harvested, included 186 tree species, of which only 45 were on the lists of two commercial timber companies. Three of those listed were too rare to consider. The other 42 were so varied as to character and behavior as to require separate managements. Three groups, of 10, 15, and 16 species, were similar as to requirements and growth rates. One species, *Tachigali paniculata*, so outgrows the others as to require separate management and rotation.

L. Ota and others, Species grouping for timber management in Brazilian eastern Amazon. p. 140

Certification for forest sustainability

Response concerning certification was obtained from logging companies in Spain and Brazil. The main barrier to more certification is cost, particularly for small firms. In Brazil compliance means significant changes. Certification improves the

image of the operation before environmental campaigners against the use of forest products. In developing countries it is a guarantee of better forest management.

C. Aviles and others, FSC, chain of custody analysis of companies in Spain and Brazil. p. 285

Benefits of *miombo* woodlands

Vast deciduous *miombo* woodlands in dry southern Africa have developed unique rootstocks to survive fire and browsing. Cultivation of crops and harvest of charcoal degrade these woodlands. However, deforestation is a misnomer because of fast regrowth from the rootstocks. Recovery after slash-and-burn agriculture, charcoal manufacture, pruning, and thinning, the plant diversity of the woodland survives and continues to benefit small-scale farmers.

C. Geldenbuys, REDD+ versus practical silvicultural management for rural society benefits in Miombo woodlands, southern Africa. p. 64

Restoring dipterocarp rainforest

In the Malaysian state of Sabah, on Borneo, forests have been selectively logged, and many retain a potential for high biodiversity and future forest production. With an increased focus on biodiversity, since 1998 the planting of about 100 native tree species has been done in a 12,000-ha degraded forest from logging and wildfire. The main aim is to improve biodiversity, replace dipterocarps, and add fruit trees. A limitation has been a lack of knowledge to propagate many species. Preliminary results indicate large differences among tree species. Wood density is an important trait, and individual tree growth interacts with light intensity.

M. Gustaffson and others, Improving forest restoration in dipterocarp rainforests: a field trial with 32 native species. p. 126

Ghana's cocoa agroforestry

Cocoa cultivation is a major source of livelihood to over 800,000 people in Ghana's forest communities. Recent plantings are a major source of deforestation. Traditional cocoa is intercropped with several high-value tree species and other food crops to benefit farmers. An investigation of comparative cost/benefit relations showed the highest return from cocoa with medium forest shade that also retains the nation's forest cover and high productivity.

I Nunoo and V. Owusu, Sustaining Ghana's forest cover; evidence in cocoa agroforestry program p.65

Bamboo for energy

Bamboo and bamboo charcoal heating values are very high, so they are good energy alternatives to fuel and charcoal from wood. The International Network for Bamboo and Rattan (INBAR), operating in Africa, has trained 6,000 beneficiaries in how to manage their existing bamboo plantations sustainably, introduced 13 superior species, propagated 200,000 seedlings to introduce varieties for production, transferred technology on how to prodjuce high quality bamboo charcoal and briquettes, and has promoted the use of energy-efficient bamboo stoves. The INBAR program has greatly increased the use of bamboo as a sustainable source of fuel, saving half a million tons of firewood.

H. Tesfaye and Michael K., Bamboo as a sustainable biomass energy. p. 293

Mahogany mixed in Ghana

The need to restore African mahogany and other valuable timbers in Ghana is urgent. Restoration of African mahogany, which grows well, is hampered in monoculture plantations by the shoot-borer. In each of three areas where the mahogany grows naturally, plantations mixed with other species had less attacks of the shoot-borer.

E.Nyarko-Duah and N. Opoku, Restoration of degraded lands with mahogany in mixed-species plantations promotes biodiversity and conservation of valuable timber species. p. 142

Liana cutting for Brazil nuts

Since liana cutting is known to stimulate tree growth it was tested for effects on Brazil nut yield. In a study within the natural harvest area 454 lianas were cut from 78 trees of more than 50 cm dbh, and yields were followed for 10 years. Once host crowns were free, lateral branch development and improved crown form were visible. After 10 years they produced three times as many nuts as liana-covered trees.

K Kainer and others, Testing a silvicultural recommendation: Brazil nut responses 10 years after liana cutting. Journal of Applied Ecology 51(3): 655-663.

Traditional knowledge and forest sustainment

The *muyong* system of the northern Philippines, centuries old, is lauded as one of the world's successful indigenous sustainable approaches to forest conservation, watershed rehabilitation, biodiversity conservation, and assisted natural regeneration. Interviews indicated that the protection of woodlots and watershed cover have been regarded by the community as vital for sustaining agricultural

production, water supply, and wood. Forest protection was perceived as essential also to sustain distinctive wood carving of the group.

L. Camacho and others, Value of traditional knowledge in sustainable forest management p. 57

Amazonian forest resilience

A review was made of a tract in the Tapajos Forest in Amazonia cutover selectively in 1979, removing 16 trees and 72 m^3 per hectare, about 25 % of the carbon stock. The cut was a fore-runner of reduced impact logging. Forest resilience was measured by (1) commercial timber volume, (2) floristic composition and diversity, and (3) carbon stock. Thirty-year recovery had restored the carbon stock and 62 m^3/ha of merchantable timber.

L. Mazzei and A. Ruschel, Forest resilience depends on stand variations: Forest dynamics of an Amazonian forest 30 years after logging. p. 136

Post-logging recovery in Amazonia

Post-logging recovery was studied in the Tapajos Forest. Logging and thinning resulted in basal area reductions from 19 to 53%. Stand basal areas returned to similar levels within 30 years except for the highest logging intensity. Where disturbance was less than 20% self-thinning set in after the pre-logging density had returned. Mortality was high soon after logging but after 5 years was offset by recruitment.

A. De Avila and others, Post-logging stand dynamics of a tropical rain forest in the Brazilian Amazon p. 138

***Miombo* services in Zambia**

The *miombo* woodlands in Zambia are an important source of food, medicine, construction material and fodder, and provide 44% of average household income. In periods of household stress the people turn to the *miombo* to make charcoal or for other support. Charcoal production degrades the forests, negatively affects ecosystem services, and reduces the contribution to livelihoods. It is vitally important that alternative coping strategies are made available to reduce pressure on the *miombo.*

F. Kalaba, The role of forest provisioning ecosystem services in coping with household stresses and shocks in miombo woodlands of Zambia. P. 9

Cordia alliodora in Colombia

In the dry forests of the Magdalena River it was found that *Cordia alliodora* accounted for >50% of the trees and generated clustered patterns. Recruitment of *Cordia* required 40% light intensity, 55% canopy cover, and soil moisture. The medium diameter growth of trees in a sample was 1.8 cm/yr. Silvicultural management should allow reincorporation of the dry forest into the national forest economy.

N. Rodriguez Santos and others, Management of natural regeneration of Spanish elm (*Cordia alliodora*) for the purpose of restoration of dry forests of Colombia. p. 132

Forest enrichment in the Cameroon

Plots of 225 m^2 in logging gaps of 0.2 to 1.1 ha in degraded forest were underplanted with 25 mixed contrasting tree species in accordance with their shade tolerance. The species selected were to assure biodiversity and to recover those rare. Some species were for valuable timber and others had non-timber values. Preliminary results indicate improved forest regeneration over unplanted logging gaps.

J. Doucet and others, Enrichment of Central African logged forests with high-value tree species, testing a new approach in degraded forests. p. 141

RIL impact in Venezuela

Reduced impact logging has rarely been applied in Venezuela. Its felling effects from 178 harvested trees were shown to be not very different per tree from conventional logging impacts. Each tree felled created a gap averaging 300m or more and affected 7 other trees. What was different was the intensity of the RIL felling, only 1.7 trees per hectare, producing a low impact generally.

Ussher E. Vilanova and N. Gutierrez, Impact of logging operations on the remnant forest of a humid tropical forest in the Imataca Forest Reserve, Venezuela. p.

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40 years of forest recovery in Venezuela

A forest subject to repeated disturbances but not relogged was found able to restore many of its primary characteristics. Woody biomass and carbon stocks

approximate those of mature forests. Declined biodiversity had no apparent long-term effects on biomass. Subsequent timber maturation directly results in carbon benefits. A degraded forest ecosystem can be restored to provide essential ecosystem services.

Schier E Peitsch, Characteristics, structure, and tree species diversity in a tropical exploitation forest after 40 years of regeneration. p. 141

RIL with dipterocarps in Sabah

Reduced impact logging, as practiced in Sabah involves development of a series of pre- and post-logging guidelines designed to protect the residual forest. A comparison of conventional and reduced impact logging showed that for both stand basal area had recovered by 18 years. Species and diameter class composition changed with both treatments. Compared with untreated forest the number of trees of <40 cm diameter had increased and the number of larger trees was still reduced. The reduced impact treatment led to less pioneer species (Macaranga).

D. Lussetti, Eighteen years of post-logging recovery in a mixed dipterocarp forest Sabah, Borneo: evaluation of modified RIL and climber-cutting.p. 139

Women in Philippine mangroves

Woman participation was studied in nine distinct mangroves, including impacts, benefits, and community-related problems. To a lesser degree than men women enjoy rights and privileges of access and control over resources. To be highly engaged in developmental projects, they must receive access to tools, land, and technology equal to that of the men in project and community-related problems.

A. Lapis, Gender participation in mangrove conservation and rehabilitation: the case of four Philippine mangrove project areas. p. 83

***Schizolobium* wood properties**

Schizolobium parahyba, termed guapuruvu" in Brazil, is an early successional Atlantic forest species. It grows in height to 10m in 2 years. When it begins to compete with following native species it may be thinned out and utilized as an alternative to meet the growing demand for wood. Physical and mechanical tests of the wood showed that despite a basic specific gravity of only 255, it showed potential for use in small structures, crates, plywood, and particleboard.

I. Athanazario-Heliodoro and others, Properties of guapuruvu wood from forest recovery areas in Brazil. p. 304

Plantation impacts in the Philippines.

With recovery of the natural forests of the Philippines not adequate to replace lost native timber supplies there has been an extremely high incidence of smallholder plantations (tree farming) in Mindanao for timber production purposes. These have contributed to the improvement of the livelihood of the households, to the local economy, and to the forest area. A challenge is that the benefits favor middlemen more than farmers.

R. Peras and J. Pulhin, The socioeconomic impacts of smallholder industrial tree plantations in the Philippines. p. 73

Sustainability in the Philippines

Forest cover in the Philippines has increased in the last decade because of plantations and forest restoration in the past two decades. A transition to sustainable forest management does not automatically follow. Key elements of sustainable forest management still require enabling policies, incentive systems, good forestry governance, and law enforcement.

L. Camacho and others, Transition to sustainable forest management and rehabilitation in the Philippines. p. 73

Preservation in Indonesia

The Indonesian government has over 50 years failed to achieve sustainable forests and has alienated local communities. Natural forest management by local communities has conserved the forest more effectively, using the triad stimulus. The triad stimulus for conservation includes (1) knowledge of biological ecology, (2) knowledge of forest benefits, human, economic, social, and ecological, and (3) inner spiritual values. Attitudes and actions of pro-conservation communities managing forests sustainably use the triad stimulus.

E. Zuhud and others, Triad stimulus NUR (nature, use, religion) pro-conservation for sustainable forest management in Indonesia. p. 54

Kosfield,M., and D. Rustagi. 2015. Leader punishment and cooperation in groups: experimental field evidence from commons management in Ethiopia. American Economic Review. 105(2):747-783.

Abstract: We conduct a social dilema experiment in which real-world leaders can punish group members as a third party. Despite facing an identical environment leaders are found to take remarkably different punishment approaches. The different leader types revealed experimentally explain the relative success of groups in managing their forest commons. Leaders who emphasize equality and efficiency see positive forest outcomes. Antisocial leaders, who punish indiscriminantly, see relatively negative forest outcomes. Our results highlight the importance of leaders in collective action, and more generally the idiosyncratic but powerful roles leaders may play, leading to a substantial variation in group outcomes.

Molly Cavaleri, Sasha Reed, W. Kolby Smith, and Tana Wood. **Urgent need for warming experiments in tropical forests**. Global Change Biology (2015) 21, 2111–2121, doi: 10.1111/gcb.12860

Abstract
Although tropical forests account for only a fraction of the planet's terrestrial surface, they exchange more carbon dioxide with the atmosphere than any other biome on Earth, and thus play a disproportionate role in the global climate. In the next 20 years, the tropics will experience unprecedented warming, yet there is exceedingly high uncertainty about their potential responses to this imminent climatic change. Here, we prioritize research approaches given both funding and logistical constraints in order to resolve major uncertainties about how tropical forests function and also to improve predictive capacity of earth system models. We investigate overall model uncertainty of tropical latitudes and explore the scientific benefits and inevitable trade-offs inherent in large-scale manipulative field experiments. With a Coupled Model Intercomparison Project Phase 5 analysis, we found that model variability in projected net ecosystem production was nearly 3 times greater in the tropics than for any other latitude. Through a review of the most current literature, we concluded that manipulative warming experiments are vital to accurately predict future tropical forest carbon balance, and we further recommend the establishment of a network of comparable studies spanning gradients of precipitation, edaphic qualities, plant types, and/or land use change. We provide arguments for long-term, single-factor warming experiments that incorporate warming of the most biogeochemically active ecosystem components (i.e. leaves, roots, soil microbes). Hypothesis testing of underlying mechanisms should be a priority, along with improving model parameterization and constraints. No single tropical forest is representative of all tropical forests; therefore logistical feasibility should be the most important consideration for locating largescale manipulative experiments. Above all, we advocate for multi-faceted research programs, and we offer arguments for what we consider the most powerful and urgent way forward in order to improve our understanding of tropical forest responses to climate change.

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Ian D. Thompson, Kimiko Okabe, John A. Parrotta, Eckehard Brockerhoff, Herve´ Jactel, David I. Forrester, Hisatomo Taki. 2014. Biodiversity and ecosystem services: lessons from nature to improve management of planted forests for REDD-plus. Biodiversity Conservation. DOI 10.1007/s10531-014-0736-0

Planted forests are increasingly contributing wood products and other ecosystem services at a global scale. These forests will be even more important as carbon markets develop and REDD-plus forest programs (forests used specifically to reduce atmospheric emissions of CO2 through deforestation and forest degradation) become common. Restoring degraded and deforested areas with long-rotation planted forests can be accomplished in a manner that enhances carbon storage and other key ecosystem services. Knowledge from natural systems and understanding the functioning novel of ecosystems can be instructive for planning and restoring future forests. Here we summarize information pertaining to the mechanisms by which biodiversity functions to provide ecosystem services including: production, pest control, pollination, resilience, nutrient cycling, seed dispersal, and water quality and quantity and suggest options to improve planted forest management, especially for REDD-plus.

S. M. Pawson, A. Brin, E. G. Brockerhoff, D. Lamb, T. W. Payn, A. Paquette, J. A. Parrotta. 2013. Plantation forests, climate change and biodiversity. Biodiversity Conservation. 22:1203–1227. DOI 10.1007/s10531-013-0458-8

Nearly 4 % of the world's forests are plantations, established to provide a variety of ecosystem services, principally timber and other wood products. In addition to such services, plantation forests provide direct and indirect benefits to biodiversity via the provision of forest habitat for a wide range of species, and by reducing negative impacts on natural forests by offsetting the need to extract resources. There is compelling evidence that climate change is directly affecting biodiversity in forests throughout the world. These impacts occur as a result of changes in temperature, rainfall, storm frequency and magnitude, fire frequency, and the frequency and magnitude of pest and disease outbreaks. However, in plantation forests it is not only the direct effects of climate change that will impact on biodiversity. Climate change will have strong indirect effects on biodiversity in plantation forests via changes in forest management actions that have been proposed to mitigate the effects of climate change on the productive capacity of plantations. These include changes in species selection (including use of species mixtures), rotation length, thinning, pruning, extraction of bioenergy feedstocks, and large scale climate change driven afforestation, reforestation, and, potentially deforestation. By bringing together the potential direct and indirect impacts of climate change we conclude that in the short to medium term changes in plantation management designed to mitigate or adapt to climate change could have a significantly greater impact on biodiversity in such plantation forests than the direct effects of climate change. Although this hypothesis remains to be formally tested, forest managers worldwide are already considering new approaches to plantation forestry in an effort to create forests that are more resilient to the effects of changing climatic conditions. Such change presents significant risks to existing biodiversity values in plantation forests, however it also

provides new opportunities to improve biodiversity values within existing and new plantation forests. We conclude by suggesting future options, such as functional zoning and species mixtures applied at either the stand level or as fine-scale mosaics of single-species stands as options to improve biodiversity whilst increasing resilience to climate change.

Eckehard G. Brockerhoff, Hervé Jactel, John A. Parrotta, Silvio F.B. Ferraz. 2013. Role of eucalypt and other planted forests in biodiversity conservation and the provision of biodiversity-related ecosystem services. Forest Ecology and Management 301 (2013) 43–50. http://dx.doi.org/10.1016/j.foreco.2012.09.018

Forests provide important habitat for much of the world's biodiversity, and the continuing global deforestation is one of our greatest environmental concerns. Planted forests represent an increasing proportion of the global forest area and partly compensate for the loss of natural forest in terms of forest area, habitat for biodiversity and ecological function. At current rates, over 30% of the remaining natural forest area will be lost by the end of the century and planted forests would then represent over 20% of the total forest area. This places a greater demand on planted forests to contribute to the conservation of biodiversity and their provision of biodiversity-dependent ecosystem services. We reviewed recent trends of deforestation, afforestation and reforestation to evaluate the effects on forest biodiversity and the provision of ecosystem services. We placed particular emphasis on eucalypt plantations which continue to expand in numerous countries, especially in Brazil where rapid plantation expansion is creating the largest area of cultivated eucalypt forest worldwide. While government policies to associate plantation establishment with the protection and restoration of natural forests appear to be effective in the highly fragmented Atlantic forest, deforestation continues in Amazonia, mainly due to forest conversion associated with agricultural expansion. We conclude by reviewing methods for conserving biodiversity in planted forests at the stand- and landscape scales and with a view to enhancing the provision of biodiversity-related ecosystem services

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The new Global Forest Expert Panel assessment report on Forests, Food Security and Nutrition (via IUFRO) is available for downloading on the IUFRO website at:

http://www.iufro.org/science/gfep/.

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Reports from earlier years are also available at this site.

FAO InFO News
A newsletter from FAO Forestry

The Food and Agriculture Organization's Forestry newsletter is available at this link:

http://www.fao.org/forestry/infonews/en/

Unasylva

http://www.fao.org/forestry/unasylva/en/ - An FAO forestry publication going back to 1947.

Global Forest Information Service (GFIS)

https://www.gfis.net/gfis/en/en/ (also available in Spanish and French) Global Forest Information Service contains up-to-date information on news, events, publications and job vacancies (on the homepage) and lists other info resources such as databases, as part of the GFIS system.

Peace Corps Mexico: Environmental Awareness & Resource Management Specialist

Volunteers will focus on providing assistance to the Ministry of the Environment and Natural Resources (Secretaría del Medio Ambiente y Recursos Naturales - SEMARNAT) by delivering technical assistance to SEMARNAT's network of environmental offices and protected areas throughout the central region of Mexico in the following areas: protected area and park management; forestry; watershed management; biodiversity conservation; and environmental education.

The larger umbrella of SEMARNAT has the following activities under its mission:

1. To prepare, conduct and assess the national policy on environment and natural resources.
2. To promote and encourage sustainable use of natural resources.
3. To promote and encourage environmental responsibility of productive sectors.
4. To oversee compliance with legislation on the environment and natural resources and to promote voluntary mechanisms for compliance.
5. To develop and encourage research on environmental matters.
6. To promote and encourage education, training, and social participation on environmental and natural resource issues.
7. To create mechanisms and instruments that informs the society about environmental issues and natural resources.
8. To stop and reverse environmental and natural resource deterioration.
9. To guarantee integrity and operability for the components of the environmental policy within a framework of institutional improvement.

Desired skills: You should have interest and experience in community outreach, training of staff and target populations, systems improvement, working with stakeholders, and organizational strengthening of local agencies, municipalities and government agencies. You need good communication and interpersonal skills to establish strong working relationships with counterparts and community members. Peace Corps/Mexico requests the minimum resources necessary to do your job, but expects you to be flexible, use local resources, seek alternatives, and be creative in working in different environments.

Peace Corps/Mexico highly prefers the following type of specialists:
1.Environmental Education Curriculum Development Specialist
2.Natural Resource Extension Agent
3.Forestry Specialist
4.Natural Areas Management Specialist
5.Watershed Management Specialist
6.Wildlife Ecologist Specialist
7.Water Resources and Environmental Remediation Specialist

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Returned Volunteer Dominican Republic, 2005-2008

Peace Corps Mexico: GIS Specialist

Volunteers will focus on providing assistance to the Ministry of the Environment and Natural Resources (Secretaría del Medio Ambiente y Recursos Naturales - SEMARNAT) by delivering technical assistance to SEMARNAT's network of environmental offices and protected areas throughout the central region of Mexico in the following areas: protected area and park management; forestry; watershed management; biodiversity conservation; and environmental education. You will be assigned to a specific CONANP (the Natural Protected Areas Management Commission), CONAFOR (the Forestry Commission), or SEMARNAT state office or one of their partners, NGOs or small rural communities, where you will work with staff, community members and other stakeholders to carry out agreed upon activities, and will work towards accomplishing program objectives.

Desired skills
Candidates should have interest and experience in community outreach, training of staff and target populations, systems improvement, working with stakeholders, and organizational strengthening of local agencies, municipalities and government agencies. Volunteers will need good communication and interpersonal skills to establish strong working relationships with counterparts and community members. Teaching or consulting experience is desirable.

Peace Corps/Mexico requests the minimum resources necessary to do your job, but expects you to be flexible, use local resources, seek alternatives, and be creative in working in different environments.

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