Society of American Foresters

International Forestry Working Group Newsletter

Working Group B3

September 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 December.

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

Contributed Articles

2008 Lacey Act Amendment Successful in Reducing U.S. Imports of Illegally Logged Wood

by Zoë Hoyle, SRS Science Delivery Group

Recently published research by U.S. Forest Service economist Jeff Prestemon supports the contention that the 2008 Lacey Act Amendment reduced the supply of illegally harvested wood from South America and Asia available for export to the United States.

Using monthly import data from 1989 to 2013, Prestemon, project leader of the Forest Service Southern Research Station Forest Economics and Policy unit, applied alternative statistical approaches to evaluate the effects of the 2008 amendment. The *Journal of Forest Policy and Economics* recently published the results online.

“There has been growing distress around the world about the negative effects of illegal fiber sourcing (including logging) on forests, people, wildlife, and the rule of law in countries suspected of producing such wood in large quantities,” said Prestemon. “In the U.S. and elsewhere, timber growers and wood product manufacturers have been concerned about the effects of illegal logging on their market prices and market shares, in both domestic and foreign markets.”

The Lacey Act is a U.S. wildlife protection and anti-trafficking statute that makes it a crime to import onto U.S. territory or to transport across any state line within the U.S. or its territories any illegally obtained plant or animal species or product made with such plants or animals. The original Lacey Act of 1900 focused on wildlife, with later amendments expanding to plants, including trees and products made from wood.

The Lacey Act Amendment of 2008 was enacted to reduce the global demand for illegally obtained timber products, and includes for the first time any tree species illegally obtained in the country of origin and any product (such as wood, paper, or pulp) containing illegally obtained tree material.

“Although the U.S. consumes a relatively small share of wood from countries suspected of having high rates of illegal wood production, having such material entering global markets affects U.S. producers by depressing wood prices globally,” said Prestemon. “With the Lacey Act Amendment of 2008, the U.S. sought to set an example of how importing countries could help discourage illegal logging, with the hope that others would enact similar policies.”

In 2010 the European Union enacted similar legislation that bans the import of illegally sourced fiber, and other wood product importing countries are either contemplating or are now implementing similar trade measures. “It is important to understand whether such measures make a difference,” Prestemon said.

The easiest way to find out if the Lacey Act Amendment reduced imports of illegally logged wood is to measure the amount of illegally logged products entering the U.S., but so far government officials are unable to physically detect illegal materials with the tools available to them.

Illegal logs seized in transit in Indonesia. Photo courtesy of CIFOR

Prestemon used other methods—statistical intervention models—some fairly simple, others quite complex, to tease out the effect of the amendment. The methods took into account many factors that might have affected U.S. imports, including the economic downturn, exchange rates, growth in China's economy, and the effects of laws and policies in suspected source countries.

Prestemon found that the prices of lumber and hardwood plywood imports into the U.S. from suspected illegal wood fiber source countries have increased and their quantities have decreased since the enactment of the 2008 Lacey Act Amendment, indicating a decrease in export supply in these countries. "These findings are evidence that the amendment has met at least some of its advocates' objectives," said Prestemon.

Prestemon cautions that though his research may have successfully quantified the effects of the amendment on U.S. imports, two other avenues need study before we can judge the amendment as a complete success in reducing illegal fiber sourcing.

"First and foremost we need to understand to what extent illegal producers have diverted their illegally sourced fiber exports away from the U.S. and toward countries that don't have such trade measures," said Prestemon. "Second, we need to look at possible substitutions within countries suspected of illegal sourcing, where producers decide to only export legal fiber but still illegally produce, diverting those products toward domestic consumers in their own markets."

"Both of these shifts in response to trade measures are a form of policy 'leakage,' and we need to understand them in order to design the most effective strategies to limit illegal sourcing in suspected countries"

Access the full text of the article.

This article was first published in CompassLive, a publication of the USDA Forest Service Southern Research Station.

Land and Water Use in Mizoram, India

Karlyn Eckman (eckma001@umn.edu)

Mizoram is a remote state in northeastern India, sandwiched between Bangladesh and Myanmar. As one of India's tribal states, it has received little attention or infrastructure by the central government until recently. Since the establishment of Mizoram University (MZU) in 2001, some limited watershed and forestry research has been initiated. The University of Minnesota (USA) and MZU signed an agreement to collaborate in academic research in 2013. UMN received a Global Spotlight grant in 2013, which has funded several faculty and student exchange visits, as well as new research in forestry, mycology, watershed assessments, food security and agroforestry.

Jhum farmer near Aibawk, Mizoram

Visiting a pineapple farmer in southern Mizoram

Our collaborative field research includes value chain analysis on forestry, forestry and horticultural products; and a knowledge, attitudes and practices (KAP) study on shifting cultivation. Our joint team is conducting DNA assessments of mushroom specimens, and is establishing the first-ever soil loss plots in Mizoram. Subsistence-based shifting cultivation ("jhum") has been a major focus, with the state government discouraging the practice. However, preliminary results of the KAP study show that producers have already abandoned jhumming in favor of producing market-oriented agroforestry and horticultural crops such as coffee, avocado, turmeric, ginger, squashes and vegetables, pineapple, commercial bamboos and other high value crops.

Team visits UMN (June 2015). L-R: Dr. H. Lalramnghinglova, Dr. Dean Current, Dr. Lalnilawma, Dr. John Zothanzama, Dr. Laltanpuii Ralte, Dr. K.C. Lalmalsawmzauva, and Dr. F. Lalnunmawia.

The UMN-MZU team has organized two international symposia on land and water use in the Eastern Himalayas, and has published a first book (*Integrated Land Use Management in the Eastern Himalayas*, Akansha 2015). A second volume is expected shortly.

KAP study field trip to Hmunpuii, Aizawl District

Unforgettable Words

Saved by Frank Wadsworth

In cleaning out my files I found something that somebody, possibly Alf Leslie, had put together under the title "A Selection of Unforgettable (and Forgotten?) Words of Jack Westoby in 1985". Westoby may not now be as well remembered as when in the 1978 World Congress in Djakarta his keynote address, echoed around the world, proclaimed forestry to be less about trees than people. Jack, who died in 1988, was not a professional forester and yet rose to become a Chief of the Forest Economics Branch of the United Nations Food and Agriculture Administration. He authored later two books, "The Purpose of Forests" and "Introduction to World Forestry". His unforgettable words follow:

The Role of Professional Forestry Societies

The forestry profession is not an archetypal profession, formed for the mutual protection of the learned self-employed. It was born under different circumstances, and from its inception it has been (pace George Bernard Shaw) more of a conspiracy for the layman than against him. We have seen how forestry professional societies, providing they are vigorous and alert, can help promote the public interest against pressures from private employers and politicians in the pluralistic democratic societies. Have they any role in other societies: in one-party states, in military dictatorships, or in regimes which are not only authoritarian but corrupt?

The public service forester who finds himself locked into an essentially corrupt regime has dire need of our understanding and support. Most who have been privileged to work in international forestry will have encountered ministers and forest departmental heads whose life styles are quite incompatible with their official salaries and whose relations with concessionaires are far more intimate than simple business connections would require. At the other end of the scale, we have observed the futility of trying to discipline field staff who are more or less obliged to supplement abysmally low wages by laxity in tree marking, log grading, etc.

Corrupt regimes are not, fortunately, the inevitable consequence of underdevelopment, even though the development strategies wished on underdeveloped countries might have been designed to favour the dishonest. Even under the most notoriously corrupt regimes, the overwhelming majority of ordinary people and of foresters, are honest. Have we no message to convey to the thousands of conscientious foresters whose daily work obliges them to become accessories to crimes perpetrated on the forest resource at the expense of the people? Alas, it must be acknowledged that there are few positive and immediate remedies open to us. We may explain that dishonesty is not the norm; that corrupt regimes are, more often than not, short-lived and the foresters who decide to resist them can rely on international professional sympathy, and even, where practicable, on a measure of aid. But we cannot generally do more.

However, expatriate foresters who find themselves serving in such regimes have a special responsibility. Circumstances can never justify their placing their professional integrity in cold storage. They can always terminate their contract, unambiguously explaining the reasons both to the host government and to their sponsoring agency. This is a luxury which few of their counterparts in the country, however honest, can afford. The services of the expatriate forester may have been assigned to the host government, but the dictum which enjoins those living in Rome to do as the Romans do is false counsel. Our professional responsibilities stand higher than the avoidance of friction, and the expatriate forester should permit no misunderstanding: neither he nor his sponsoring agency can in any way connive a corruption or the despoiling of the public resource.

Yet to do what is right in such circumstance can require of the individual a more than every-day exercise of moral backbone, and it is here that the solidarity of foresters is put to the test. Those of our colleagues who find themselves in such situations must be able to count on the organised support of forester's professional associations, both nationally and internationally, and the more serious cases which come to light must be taken up by professional bodies, which should consider what kind of public exposure could best serve the efforts of the foresters involved to promote honest practice.

What about the responsibilities of foresters in regimes where the political order insists on a obsequious identification with the ruling party's prevailing line? In almost all of these countries the state is the only employer - and the individual is at the mercy of the state when it decides that dissent shall be regarded as anti-state activity. Yet living controversy, with full freedom of discussion, is the only way in which science can advance, and as we have argued, it is also the precondition of forestry policies which will fully serve people.

Perhaps we can do little more than have faith that eventually, in all these authoritarian states, whether of the right or the left, a hundred flowers will indeed be allowed to bloom, and a hundred schools of thought contend. Meanwhile we should insist that our own forestry societies maintain a vigorous and independent intellectual life, and encourage them to foster ties, and to extend the most vigorous support to all colleagues and sister societies in other countries who must struggle if they are to maintain their autonomy.

Pine Resin Collection

Glen Juergens (silvatrvlr@gmail.com)

Two volunteers working with the Partners of the Americas Farmer to Farmer Program recently completed a visit to the Dominican Republic to teach pine forest landowners, natural resource management students, non-government organization staff and technicians, and forest product entrepreneurs a non-traditional method of collecting pine resin. This method allows for the collection of a higher quality product and reduces the potential damage to pine trees from the traditional "bark chipping" method. Both volunteers, Bill Ryburn and Glen Juergens, CF, are retired USDA Forest Service employees with over 60 years of experience in forest land management.

Several presentations concerning the new "borehole" method were given to various groups including:

- Students and staff from the National School of Environment and Natural Resources in Jarabacoa
- Plan Yaque, a non-government organization, involved in land management activities and water quality assessment and monitoring in the Río Yaque del Norte watershed.
- Students and staff from the Agroforestry University in Jarabacoa.
- San Ramón Silviculture Association members from the La Celestina community.
- Technicians from Plan Sierra, a non-government organization, involved in reforestation efforts throughout the Dominican Republic.
- Technicians from the Ministry of Agriculture and Ministry of the Environment.
- Forest product businesses in the Santiago area.

Field demonstrations of the" borehole" method were provided at 2 separate locations. One site was at the pine plantations on the property of the National School of Environment and Natural Resources in Jarabacoa. The other site was at the La Celestina community. Both sites utilized *Pinus caribaea* trees for resin tapping.

The main advantages of using the non-traditional "borehole" method vs. the traditional "bark chipping" method are:

- Less damage to the bole of the tree which is typically the most valuable portion of the tree for wood products (lumber).
- Higher quality product that would provide higher value for the landowner.
- Less reduction in growth loss: the "bark chipping" method may result in up to 25% loss of growth in the tree while the "borehole" methods results in approximately 1% growth loss.
- Lower tree mortality.
- Less likelihood of attracting pine beetles that could injure or damage the tree.


Bark Chipping Method


Borehole Collection Method

A Voluntary Carbon Market in Greece

Gabriel Thoumi (gthoumi@gmail.com) and Konstantinos Papaspyropoulos

A panel at the carbon market conference.

On June 23, 2015, in Thessaloniki, Greece, Aristotle University of Thessaloniki (AUTh) and Yloriki Co (a pioneer Greek forest management company) held a well-attended conference with international and ministerial speakers focused on developing a land-use, land-use change, and forestry (LULUCF) voluntary carbon market for Greece. In the conference, AUTh and Yloriki presented a forest carbon analysis for all of Greece. Detailed monitoring, reporting, and verification techniques for this Greek voluntary carbon market were discussed at length. Respected attorneys described contracting details and economists spoke about supply and demand curves for Greek voluntary carbon offsets. Greece is one of the most biodiverse rich countries in the EU; hence, the EU partly funded this analysis on creating an integrated, nationwide, LULUCF voluntary carbon market in Greece. International representatives from Calvert Investment Management and Carbonfund.org presented analysis on trends in corporate advocacy to promote carbon offset demand and structuring techniques for voluntary forest carbon offset projects.

Natural Forest Cover in Haiti

Joel Timyan
jctimyan@yahoo.com

Recent studies have been funded by the Critical Ecosystem Partnership Fund (CEPF) to estimate the remaining cover of natural forests in Haiti, among the most deforested countries in the world. These forests contain the most important concentrations of endemic biodiversity found on the island and are under immense threat of continuing deforestation activities.
Yang et al. (2014) estimates the areas of southwestern Haiti where closed, mature forest is most likely to occur based on a time series of Landsat imagery from 1984-2013 (Figure 1). This is the first attempt in Haiti to conduct a natural forest inventory based on remote sensing. More information can be obtained from the Laboratory for Applications of Remote Sensing in Ecology (LARSE) or Société Audubon Haïti (SAH).

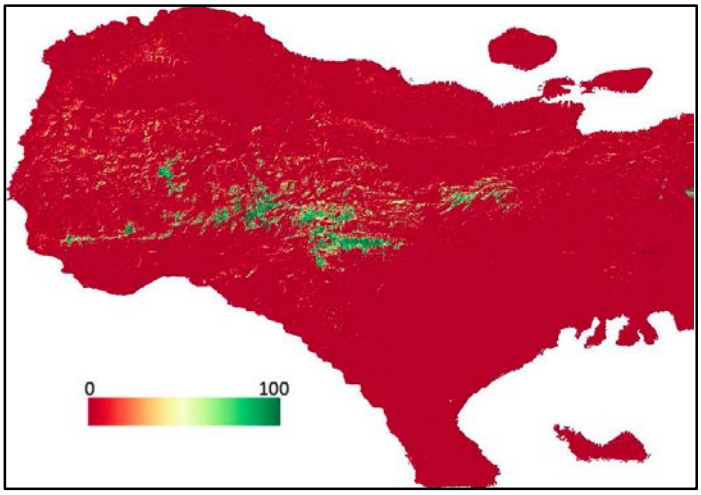


Figure 1. Relative probability of closed, mature forests in southwestern Haiti (Yang et al., 2014).

Timyan (2015) analyzes forest cover in greater detail for two sites (Grand Bois and Grande Colline) selected for an exceptional high biodiversity of endemic flora and fauna (Figure 2). These areas are being considered as new protected areas, either as part of a national park or Haiti's first private forest reserve.

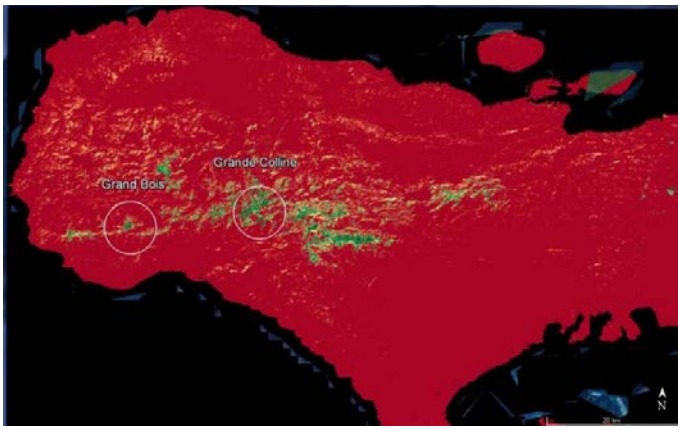


Figure 2. Location of Grand Bois and Grande Colline study areas in Timyan (2015).

The study of forest cover, forest cover change, fragmentation, patch size and elevation distribution utilized 2014 satellite imagery and the University of Maryland *Global Forest Change 2000-2012* database. Only 6 % of the Grand Bois area remains in natural forests which are highly fragmented and occur mostly in elevations above 900 m. The deforestation rate for Grand Bois was estimated at 2.7 % for the 2000-2012 period. Approximately 32% of the Grande Colline area remains in natural forests, though highly fragmented and occurring mostly above 1500 m elevation. The deforestation rate for Grand Colline was estimated at 2.4% for the 2000-2012 period. A remarkable increase in deforestation occurred between 2008 and 2012. Demographic pressure from the lowlands for wood harvests and garden lands are the main threats to the forests of both areas (Figures 3, 4). English and French copies of the document can be downloaded directly from SAH.



Figure 3 (left). Land clearing for food gardens at Grand Bois. Figure 4 (right). Forest fire at Grande Colline.

Land Tenure and Property Rights Course

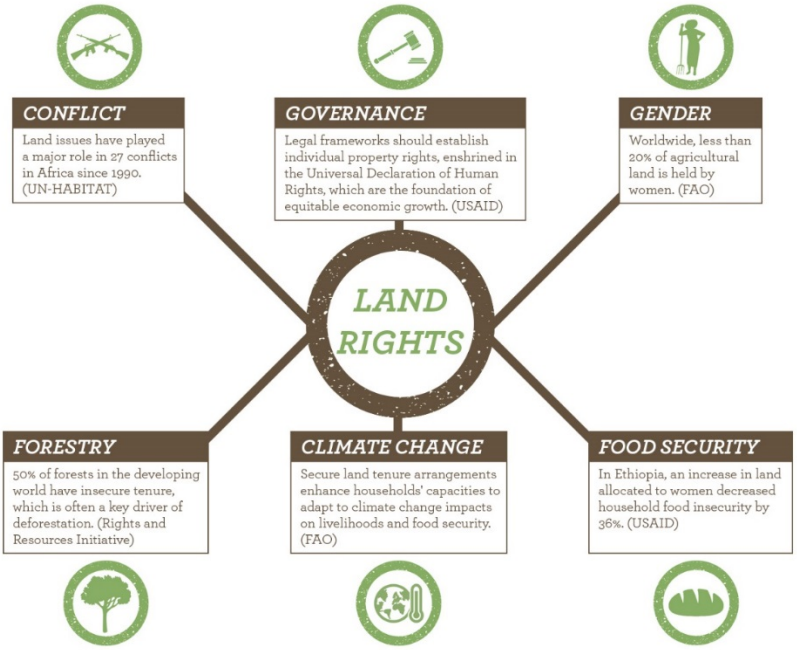
USAID
FROM THE AMERICAN PEOPLE

Land Tenure & Resource Management

New Massive Open Online Course

Rights to land and resources are at the center of our most pressing development issues: ending extreme poverty, promoting women's empowerment, improving food security, reducing conflict, protecting biodiversity and responding to climate change. Secure land tenure and property rights create incentives for investment, broad-based economic growth, and good stewardship of natural resources.

To improve the understanding of this critical issue, USAID is launching a **Massive Open Online Course (MOOC)** on Land Tenure and Property Rights.



Open to both students and professionals, the MOOC is an excellent introductory course examining the issues, theories, evidence, and best practices around land tenure, property rights, and would complement studies in international development, agriculture economics, forestry and environmental sciences.

- The MOOC starts on September 14th and features **12 thematic modules** and **three country case studies**, taught by leading researchers and practitioners - including experts from Yale University, Michigan State University, the International Organization for Migration, USAID, and others - presenting theories, evidence and best practices related to property rights in real-world settings. Check out the list of presenters.
- This online self-paced 14 week course is free, open to the public and can be accessed from anywhere in the world.
- Participants watch one pre-recorded video lecture a week, complete reading assignments, and engage with instructors and other participants through virtual chatrooms and message boards.
- The course has three examinations and will take approximately 2 - 3 hours of study time per week.
- Participants are eligible to receive a certificate upon completion.
- **Enrollment is open now through October 16**.

If you have questions please contact: mooc@usaidlandtenure.net

REGISTER NOW

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

There are quite a few sessions of international interest including a panel on Payments for Environmental Services and these sessions:

- Bioenergy Trade and Sustainability Assessment: Science, Truth and Consequences
- An ISO Bioenergy Sustainability Standard - What Is in It and What Does It Mean for Forests?
- Indirect Effects of Bioenergy: International Standards and Science
- Analysis of Socio-Economic Issues Affecting Deforestation and Forest Degradation in Thailand
- Forest and Stream: Riparian Condition and Impacts in Heavily Grazed Lands of Panama's Dry Tropics
- How Environment Influences Tree Communities in the Maya Forest of Belize
- Principle Abiotic Factors Influencing Structure and Function of *Pinus halepensis* Forests in Israel
- Diversity and Composition of Forest Communities in the Catchment Sanctuary of North West Himalaya.
- H-2B Forest Labor: Is it Improving Third-World Livelihoods?
- No Tree Cut at Random
- Intensively Managed Planted Forests as a Part of Sustainable Productive Landscapes

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World Ranger Congress 2016

For more information on the World Ranger Congress, including the pre-Congress Training Sessions go to:

http://warnercnr.colostate.edu/world-ranger-congress-2016

IUCN World Congress: September 2016

More information at http://www.iucn.org/

ISSRM 2016
Houghton, Michigan

International Symposium for Society and Resource Management

June 22–26, 2016

Link to the website at: www.iasnr.org

Transitioning: Toward Sustainable Relationships in a Different World

The theme is designed to capitalize on Houghton's location in the heart of the Upper Midwestern Northwoods and Lake Superior coastline, complement the foci and interests of conference attendees, and resonate with participants in an era where the myriad impacts of climate change are increasingly visible and challenging.

Submission Deadlines:

- **October 30, 2015: Panel and Organized Session Proposals**
- **January 15, 2016: Abstracts for Poster and Paper Presentations**
- **March 4, 2016: Early Bird Registration Ends**

Contact us by email at: issrm2016@gmail.com

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Left-center, Center, and Right-center: Chris Henderson

Image Source: cardcow.com

Houghton is located near Lake Superior in the western Upper Peninsula of Michigan. It is served by United Airlines with three flights daily from Chicago. Driving is 2 hours from Marquette, MI, 4 hours from Green Bay, WI or Duluth, MN and 5-7 hours from Milwaukee, Madison, WI, or Minneapolis/St Paul, MN.

SAF World Forestry Committee News

Interested in SAF's World Forestry Committee? Take the next step to build awareness and interest in international forestry issues within the SAF community and beyond. Be a part of an active and fun committee dedicated to broadening SAF's perspective and involvement. Apply today by sending a resume and letter of interest to Danielle Watson, watsond@safnet.org.

Please join the SAF World Forestry Committee for the annual International Reception at Convention in Baton Rouge, Louisiana. This year's event will be held at Lucy's Retired Surfer's Bar and Restaurant on Thursday, November 5th from 8pm-11pm. There will be heavy appetizers and a cash bar. Feel free to stop by and bring a colleague - this event is open to any and all interested in international forestry issues. Special thanks to Drax Biomass and Blair Orr for their support.

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 Library
USDA Forest Service
San Juan, Puerto Rico

RIL in Guyana.

A five-year comparison of reduced impact logging, conventional logging, and unlogged forest strongly supported RIL. Forest structure and composition were similar before and after RIL logging and between RIL and control sites. Variations in bird assemblages were not explained by logging practice. Bat changes after logging likewise were not related to logging. Large mammals showed no change at all. Because of the relatively benign effect of RIL in a neotropical forest the authors propose that forest managers should apply the improved extraction techniques of RIL more widely.

Bicknell, J. E., M. J. Struebig, and Z. G. Davies, Reconciling timber extraction with biodiversity conservation in tropical forests using reduced impact logging [Journal of Applied Ecology 52 (2):379-388 2015]

Harpy Eagle forest habitat in Panama

A study of the vegetation structure with harpy eagle nests in the Pacific Region of the Darien of Panama showed that the number of tree families (diversity) and tree height were the best predictors of nest sites. These two variables contribute to the availability of food and high perches. The described vegetation structure probably contributes also to breeding success and juvenile dispersal.

Jose de J. Vargas Gonzalez and others, Vegetation characteristics in nesting sites of the harpy eagle (*Harpia harpyja) in Darien, Panama.* [Ornitologia Neotropical 25:207-218 2014]

Persistence of rainforest mammal impacts

Hunting and logging are common impacts in the forests of Malaysian Borneo. Hunting lowered species richness 31% and persisted even in overhunted forests.

Newly logged forests had 11% species richness less than unlogged forests but species richness was restored in 10 years. Hunting was a more serious threat than logging for 91% of primate and ungulate species.

Jedediah F. Brodie and others, Correlation and persistence of hunting and logging impacts on tropical rainforest mammals. [Conservation Biology 29(1):110-121 2014]

Economic significance of mopane

Review of mopane (*Colophospermum mopane*) by the University of Limpopo, Kew, and CIFOR show it to be one of the most important trees of Central and South Africa. Its termite-resistant wood is used for construction of huts and cattle corrals. Use for fuelwood in northern South Africa is general. Then its least conventional use, a source of protein for the people of both cities and the country, the mopane worm, the larvae of a moth, with trade in South Africa alone ranging from 30 to 50 million US dollars per year.

Trans. Royal Soc. S. Africa 69:117 2014 (Submitted by Boris Matejcic of Croatia)

Bird migration through the forested Darien

The forested Darien region of northwest Colombia is a major flyway for birds migrating between the two continents. During two autumns and one spring 22 species of diurnal migrating birds were recorded. Of 9 raptor species during the autumn of 2012 the total was 513,974 birds. Of swallows there were 170,000, of chimney swifts, 5,788, of eastern kingbirds, 41,305, and dickcissel, 4,586.
Nicholas J. Bayly and others, Migration of raptors, swallows, and other diurnal migratory birds through the Darien of Colombia. [Ornitologia Neotropical 25:63-71 2014]

Biodiversity in timber forests

A hypothesis is that native timber plantations may support undergrowth plant species otherwise restricted to old-growth forests with little impact on yield. A comparison was made in Papua New Guinea of the composition of tree species of unlogged forest with those of native *Eucalyptus deglupta* plantations and historically logged cutover forests. In mature plantations 13-15 years old 70% of the forest tree species were found. However, there was a smaller number of large individuals of both trees and invertebrates. The cutover forest composition had become indistinct from unlogged forest. There is a potential for conservation of

old-growth species in plantations but management is necessary to assure the persistence of species populations.

E. C. Pryde and others, Conservation of tropical forest species in a native timber plantation landscape. [Forest Ecology and Management 339:96-104 2015]

Forest-tea production in Taiwan

Tea bush growth and yield are less under heavy forest shade. However experience has shown that tea is somewhat shade tolerant and with some shade produces improved quality tea. A study led to the conclusion that with proper forest shade quality tea production could be economic.

Su Feng Roan, Feasability study of forest-tea production system. [Journal of Experimental Forest of National Taiwan University 27(3):239-250 2013]

Trees with paddy in Thailand

In a forest-depleted region of Thailand farmers incorporate trees with agricultural crops for food, timber, fuelwood, or fodder. In 20 villages the number of trees on the levees among the paddy averaged 5 to 6 per hectare. In total, 79 tree species representing 66 genera were found. Some are remnants of former Dipterocarp forest but recently teak and eucalyptus have been planted for their timber and mango and tamarind for fruit. The trees are pollarded to prevent excessive shade. They serve to compensate for the loss of the forests.

H. T. Pham and others, Distribution patterns of trees in paddy field landscapes in relation to agro-ecological settings in northeast Thailand. [Agriculture, Ecosystems, and Environment 202:42-47 2015]

Assisted regeneration in the Congo

The fuelwood supply basin of Kinshasa is based on shifting cultivation. A test during cropping by assisting the germination, and existing root-suckers from former trees, weeding, thinning and pruning around the edges of cultivation where the fires do less damage produced rapid-growing fallows yielding more biomass, better charcoal, and crop productivity.

R. Peltier and others, Assisted natural regeneration in slash-and-burn agriculture: Results in the Democratic Republic of the Congo. [Bois et Forets des Tropiques 321(3):67-81 2014]

Frugivory by birds in the cerrado-Amazon

During 31 hours of observation 23 bird species were recorded as consuming the fruits *of Schefflera morototoni* trees. Of these, 20 species were considered potential seed dispersers because they swallow the fruits whole. The high bird richness and the great number of consumed fruits indicated that the tree may be an important food resource for birds in the Cerrado-Amazon forest.

Keila Nuñes and others, Frugivory by birds on *Schefflera morototoni* (Araliaceae) in a Cerrado-Amazon forest transition area, eastern Matto Grosso, Brazil [Acta Amazonica 45(1):57-64 2015]

Erosion during forest restoration

The Experimental Forest of National Taiwan University undertook clearcutting, soil preparation, and a six-year weeding and tending to restore 1,500 hectares of forest. Runoff was measured in small weirs in a young plantation and a nearby 29-year-old mature forest. After two storms 233 kg of sandy soil was found in the forest weir. In the plantation the sediment was 7 to 9 times the amount.

Yen-Jen Lai and others, Preliminary assessment of soil erosion impact during forest restoration process using self-designed tiny weirs. [Journal of Experimental Forest of National Taiwan University 27(3):274 2013]

Services instead of slash and burn

Deforestation in northeastern Madagascar is silting up a floodplain where rice is grown. A system of payments for environmental services has been considered to change the slash and burn farming. Combined with a ban on slash and burn, the change is under review.

M. Rakotondrabe and others. Payment for environmental services as a means of controlling slash and burn cultivation in Madagascar forests. [Bois et Forets des Tropiques 324 (4):51-64 2014]

Non-timber outlets in Vietnam

Forty-eight households representing different socioeconomic and natural conditions were interviewed. Forest products were used as food, medicines, and construction materials, particularly at a subsistence level. Rattan and licuala palm were gathered by and commercialized by middle men. Food collecting was primarily in times of food shortages. Collection was mainly by households with

limited farm sizes, low income diversity and annual crops. Alternative incomes should be considered to keep collection at a sustainable level.

Zbynek Polesny and others, Non-timber forest products utilization in Phong Dien Nature Reserve, Vietnam: who collects, who consumes, who sells? [Bois et Forets des Tropiques 324 (4):39-50 2014]

Community livelihoods in the forests

Forest products and services promote the wellbeing of hundreds of millions of people in the tropics. Three sources are (1) non-timber products harvested in natural forests, plantations, and woodlands, (2) products and services from planted trees or agroforestry systems, and (3) the commercial products harvested from cultivated tree commodity crops. Tree use, value, and management present challenges due to links between commercialism and conservation.

K. Dawson and others, The management of tree genetic resources and the livelihoods of rural communities in the tropics. Timber forest products, smallholder agroforestry practices, and tree commodity crops. Forest Ecology and Management 333:419-421 2014

Forest regeneration in Madagascar

A study was made of tree seed supply in secondary forests of Madagascar after agricultural practices. The practices included 1-2 years, 3-5 years, and 6-11 years with tillage, light tillage, and heavy tillage, and cropping durations of 2-6, 11 and 14-22 years. Seed bank density was driven by an increase of fallow age regardless of cropping duration and tillage regime.Seed density and diversity were slower under long cropping and heavy tillage. Cropping duration favors wind-dispersed species.

Josoa R. Randriamalala and others, Effects of slash-and-burn practices on soil seed banks in secondary forest succession in Madagascar. [Agriculture, Ecosystems, and Environment 199:312-319 2015]

Tree species in coffee agroforests

In 14 coffee farms in Costa Rica over 100 tree species were found. Of these species 82% were native, of which 71% were distributed by animals. Increasing forest cover around the coffee had a positive effect on species richness. The connection to natural forests increases seed dispersal into adjacent farms.

Achim Häger and others, Effects of management and landscape composition on the diversity and structure lof tree species assemblages in coffee agroforests. [Agriculture, Ecosystems, and Environment 199:43-51 2015]

Mammal response to prescribed fire

Prescribed fire is common in East Africa to improve pasture and viewing of animals. Responses of 16 species to fires in the Mara-Serengeti of Kenya were studied. Higher visible densities in burned than unburned areas were found for zebras, wart hog, gazelles, impala, wildebeest and small carnivores. For lions, hyenas, leopards, and cheetahs, the beneficial results lasted only 120 days.

David S. Green and others, Temporal dynamics of the responses of African mammals to prescribed fire. [Journal of Wildlife Management 79(2):235-242 2015].

Amazonia owl forest habitat

A study was made of 6 species of owls in Central Amazonia of Brazil. The study showed clear differences in habitat preferences. The Amazonian pigmy owl is found near streams. The tawny-bellied screech owl is found near deep leaf litter. The speculated owl is found near dead fallen trunks on the forest floor.

Priscilla Esclarski and Renato Cintra, Effects of terra firme forest structure on habitat use by owls (Aves:Strigiformes) in Central Brazilian Amazonia. [Ornitologia Neotropical 25:433-458 2014]

Bamboo in India

The Andaman and Nicobar Islands of India have 19 species of bamboos, and about 14,000 ha are available for harvesting and are managed scientifically in accordance with working plans. The aboriginal tribes of the islands use the bamboo for various purposes. Article manufacturing supports the livelihood of a section of the society.

S. Kumar and others, Bamboo: diversity management, utilization pattern and its socioeconomic effect in Andaman and Nicobar Islands, India [Indian Forester 141(1):1-8 2015]

Diverse income from rubber in Thailand

More than 95% of the rubber from Thailand is produced by smallholders. As a single crop it is subject to uncontrolled price changes. For more stability, there has been a trend toward rubber-based agroforestry systems. Seven types of crop associations were found, including fruit and timber trees.

V. Jongrungrot and others, Tree-crop diversification in rubber plantations to diversify sources of income for small-scale rubber farmers in southern Thailand. [Bois et Forets des Tropiques 321(3):21-32 2014].

Trees with cocoa in the Cameroon

In 14 agroforestry cocoa plantations 86 tree species were identified, of which 22 were not used. In use value the cocoa made only 20%. Leading timber tree species made up 47% and the avocado was 11%. Also included were mangos and oil palms.

P. Jagoret and others, Use values of woody species used in agroforestry: Cocoa agroforests in Central Cameroon. [Bois et Forets des Tropiques 321(3):45-54 2014]

Indigenous palm use in Colombia

A study of palm use by the Piapoco people of the northern fringe of the Amazon forest in Colombia recorded 29 species, of which 23 are in use. Forty-four uses were found, including thatch, wall construction, fruit consumption, beverage preparation, breeding of edible beetle larvae, and the manufacture of carrying bags. Six species are under strong pressure because their harvest is mostly destructive.

Laura I. Mesa-C. and Gloria Galeano. Use and management of palms (Arecaceae) by the Piapoco at the northern Colombian Amazon [Acta Botanica Venezuelica 36(1):15-38 2013]

Forest ecosystem services and biodiversity

An analysis of 30 studies of ecosystem services in tropical forests from the Economics of Ecosystems and Biodiversity indicated a lack of linkage between the two objectives. The conclusion was that conservation policies focusing solely on economic values of the services fail to protect biodiversity in remote and less disturbed regions.

L. R. Carrasco and others, Economic evaluation of ecosystem services fails to capture biodiversity value of tropical forests. [Biological Conservation 178:163-170 2014]

Agroforestry in Haiti

The jardin lacou of Haiti is multi-layer agroforestry, particularly in mountain areas. A total of 69 useful species were identified. Among them were food self-sufficiency and other products for home consumption. The organization of these gardens is closely linked to the cycles of farm life, from establishment to growth and inheritance.

S.Jean-Denis and others, Changes in the structure of agroforestry systems according to family life cycles: The example of home gardens in Haiti. [Bois et Forets des Tropiques 321(3):7-20 2014]

Seven parrot species prefer old growth

A study of 9 species of parrots in the Amazon, using autonomous sound monitoring to distinguish fly-overs from stopping to perch, determined that the latter, for 7 of the 9 species showed preference to old-growth fiorest instead of 30-year-old secondary forest. The conclusion was that habitat differences persisted.

Luiza Figueira and others, Autonomous soind monitoring shows higher use of Amazon old-growth than secondary forest by parrots. [Biological Conservation 184:27-35 2015]

Corridor importance for tigers in Malaysia

The Royal Belum State Park and the Temengor Forst Reserve are separated by a tract exposed to logging and monoculture plantations. The abundance of tigers and principle prey in the two preserves were compared with those in the corridor. Camera trapping revealed a threefold higher number of tigers in the protected area than in the forest exposed to logging, a difference supported by the higher abundance of prey. Two forest corridors were identified as being important, and the findings were used to successfully lobby the state government to afford them protection.

D. Mark Rayan and Matthew Linkie, Conserving tigers in Malaysia: A science-driven approach for eliciting conservation policy change. [Biological Conservation 154:18-26 2015]

Traditional use of balsa

The indigenous Lacandon people of Chiapas, Mexico are using balsa (*Ochroma pyramidale*) to restore formerly farmed lands. They find it adapted to degraded sites and rapid growing and therefore excellent for forest restoration. They see future use for the wood for ultra-light planes and turbine blades. (Editor's note) " It grows well but may not be useful as anticipated. Puerto Rico's balsa could not compete for lightness with that of Ecuador, and Mexico is reportedly importing all used there."

Journal of Anthropological Research 36:1-33. Contributed by Boris Matejcic of Croatia.

Forestry in China

China reportedly has over 64 million ha of plantation forests. Production in 2011 from the plantations and the natural forests was around 75 million m^3, but China imported another 42 million m^3 of logs and 22 million m^3 of sawn lumber. To confront the timber deficit the country has placed emphasis on increased rapid-growing, high-yielding plantations. The lands available are in the cooler regions of the southern provinces. The tree that has shown best adaptation and productivity is *Eucalyptus dunnii,* of which there is estimated already to be 50,000 ha within the country. In this warmer region of China near the coast there is a market for veneer and pulpwood logs from trees more or less, 6 years old. Inland the market is for larger logs. Plans are to plant *Eucalyptus dunnii* in the cooler regions and elsewhere other species of *Eucalyptus*.

An excerpt from a scientifically supported introduction to "Processing sawn wood from thinned, unpruned, 17-year-old *Eucalyptus dunnii* in southern China" by Yan Peng, Roger Arnold, Russel Washusen, Dongyun Xiang, Gufu Wu, Shaoxiong Chen, Australian Forestry 78(2):73 2015

Boucher, D. 2015. The REDD/Carbon Offsets Debate: Big Argument, Small Potatoes. J. of Sustainable Forestry 34:547-558.

Both proponents and opponents of using forest carbon markets to pay for Reductions in Emissions from Deforestation and forest Degradation (REDD) have exaggerated their importance. The resources mobilized by the principal drivers of deforestation—beef, soy, palm oil, and wood products—dwarf all REDD funding, even if one only counts exports of these commodities from tropical forest countries. By far the largest part of that REDD money has come from public funding, not carbon markets, and even that has mostly been "voluntary market" funding, not offsets usable for regulatory compliance. While substantial carbon market

growth is projected, the rules of most of those markets do not allow the use of REDD offset credits. It is important for those on both sides to realize that they are talking about an alternative that is very small, compared both to other kinds of REDD funding and to the scale of finance operating to drive deforestation. Far more urgent than continuing the debate about whether forest carbon markets are a solution or a threat, is the question of how to change the behavior of the industries and commodities driving deforestation so as to move them to a zero-deforestation business model.

A blogpost about the article is available at:

http://blog.ucsusa.org/forests-and-carbon-markets-time-for-a-new-argument-831

A New Book on Agroforestry

Montagnini, F., Somarriba, E., Murgueitio, E., Fassola, H., Eibl, B. (Eds.). 2015. *Sistemas Agroforestales. Funciones productivas, socioeconómicas y ambientales. Serie Técnica Informe Técnico 402, CATIE, Turrialba, Costa Rica.* Fundación CIPAV. Cali, Colombia. 454pp.
https://drflorenciamontagnini.wordpress.com/montagnini-et-al-2015-spanish-agroforestry-book/

Cubbage et al. Global timber investments and trends, 2005-2011. *New Zealand Journal of Forestry Science 2014*, 44(Suppl 1):S7 http://www.nzjforestryscience.com/content/44/S1/S7

Abstract: We estimated financial returns in 2005, 2008, and 2011 for a range of global timber plantation species and countries, using net present value (NPV), internal rate of return (IRR), and Land Expectation Value (LEV)–or the Faustmann Formula–as criteria. Per the Faustmann approach, we excluded land costs initially, using a common real discount rate of 8% for all species in all countries to make equivalent comparisons. Results: Returns for exotic plantations in almost all of South America–Brazil, Argentina, Uruguay, Chile, Colombia, Venezuela, and Paraguay–were substantial, as well as in China. In 2011, returns for Eucalyptus species were generally greater than those for Pinus species in each country, with most having IRRs of 14% per year or more. The IRRs for Pinus species in South America were slightly less, ranging from 8% to 12%, except for Brazil, where they were 19% to 23%. Internal rates of return ranged from 5% to 12% for plantations of coniferous or deciduous species in China, South Africa, New Zealand, Australia, Mexico, and the United States. Although lower than returns from South America, these would still be attractive to forest investors. Land costs and environmental regulations reduced plantation investment returns for all the countries studied, but the largest reductions were observed in South America. However, net returns these remained greater than for plantations in temperate forests.

The lead author may be contacted at: cubbage@ncsu.edu

Patton, D.R., et al. 2015. Species Richness and Variety of Life in Arizona's Ponderosa Pine Forest Type. Gen. Tech. Rep. RMRS-GTR-332. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 44 p.

Abstract: Species richness (SR) is a tool that managers can use to include diversity in planning and decision-making and is a convenient and useful way to characterize the first level of biological diversity. A richness list derived from existing inventories enhances a manager's understanding of the complexity of the plant and animal communities they manage. Without a list of species, resource management decisions may have negative or unknown effects on all species occupying a forest type. Without abundance data, a common quantitative index for species diversity cannot be determined. However, SR data can include life history information from published literature to enhance the SR value. This report provides an example of how inventory information can characterize the complexity of biological diversity in the ponderosa pine forest type in Arizona. The SR process broadly categorizes the number of plant and animal life forms to arrive at a composite species richness value. Common sense dictates that plants and animals exist in a biotic community because that community has sufficient resources to sustain life. A mixture of forest attributes maintained in time and space fundamentally supports a certain level of diversity as indicated by a richness value. As a management guideline, it is a reasonable assumption that the variety among plant communities and structures increases the potential for maintaining diverse kinds of animal habitats and resultant populations.

Available at:

http://www.fs.fed.us/rmrs-beta/publications/species-richness-and-variety-life-arizona%E2%80%99s-ponderosa-pine-forest-type

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Global Forest Expert Panel Assessment Report

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/.

Sign up for the ITTO Tropical Timber Market Report

The International Tropical Timber Organization (ITTO) releases the Tropical Timber Market Report two times per month. You can receive a free email subscription by signing up at their website:

http://www.itto.int/market_information_service/

IUFRO-WFSE Publications

The IUFRO-WFSE Publications can be found here:

http://www.iufro.org/science/special/wfse/wfse-publications/

FAO State of the World's Forests 2014

The Food and Agriculture Organization's (FAO) Report on the State of the World's Forests 2014 can be found at this website: http://www.fao.org/forestry/sofo/en/

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

Contact: Kimberly Helm
Country Desk Officer – Guatemala and Mexico
Peace Corps Inter-America & Pacific Region
1111 20th Street, NW | Washington, D.C. 20526 | 202.692.2521 | khelm@peacecorps.gov
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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Returned Volunteer Dominican Republic, 2005-2008

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This online course invites participants to explore the social, biological, and political processes that shape reforestation and forest restoration in tropical regions. It is designed for a diverse audience including forest management professionals, environmental policy-makers, mid-career environmental practitioners, consultants, extension officers, or other types of professionals from diverse institutions (government, NGO, private sector) involved in natural resource management, land-use decision-making, forest finance and investment, or landscape restoration.

This is a unique opportunity to connect with environmental leaders, interact with Yale faculty, and learn about an issue of immense importance for the sustainability of tropical forest landscapes. Participants will learn about the following aspects, with particular focus on tropical Asia and Latin America:

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The course is divided into six modules, each lasting one week. Each module includes videos, readings, resources, discussions, and assignments, completed at the learner's own pace. In addition, participants will have the opportunity to meet once a week with Yale Professors, ELTI Guest Experts, and the course participants during live online discussions.

Live discussion sections will tentatively be scheduled for 11am Eastern Standard Time each Wednesday during the course.

Week 1 Ecology, disturbance, and regeneration potential of tropical forests
Week 2 Sociopolitical and cultural aspects of restoration
Week 3 Effective practices and strategies for restoration
Week 4 Integration of restoration and production goals
Week 5 Monitoring and follow-up of restoration projects
Week 6 Evaluation of restoration and reforestation projects

At the end of the course, participants will receive a certificate signifying their completion of the course.

This course will be delivered by ELTI Staff Facilitators and Lead Professor:

Mark S. Ashton, Ph.D.

Morris K. Jesup Professor of Silviculture and Forest Ecology and Director of School Forests, Yale University, School of Forestry & Environmental Studies.

Dr. Mark Ashton has over 30 years of experience researching and teaching about the biological and physical processes governing the regeneration of natural forests and on the creation of their agroforestry analogs. In particular, he seeks a better understanding of regeneration establishment among assemblages of closely related trees. His long-term research concentrates on tropical and temperate forests of the Asian and American realms. The results of his research have been applied to the development and testing of silvicultural techniques for restoration of degraded lands and for the management of natural forests for a variety of timber and nontimber products.

Additional live discussion sections with:

Amity Doolittle, Ph.D., Senior Lecturer and Research Scientist, Yale School of Forestry & Environmental Studies. Specialty: political ecology, environmental justice, qualitative research methods and property rights

Eva Garen, Ph.D., Director, Environmental Leadership and Training Initiative, Yale School of Forestry & Environmental Studies. Specialty: social aspects of conservation and development in the tropics

Bradford S. Gentry, J.D., Professor and Associate Dean for Professional Practice, Yale University, School of Forestry & Environmental Studies and Yale School of Management. Specialty: private investment and environmental performance, markets for ecosystem services

Florencia Montagnini, Ph.D., Senior Research Scientist and Director, Tropical Forestry Program, Global Institute of Sustainable Forestry, Yale School of Forestry & Environmental Studies. Specialty: tropical forest management, agroforestry systems, forest lansdcape restoration

Daniel Piotto, Ph.D., Professor and Dean, Center for Agroforestry Sciences and Technologies at Federal University of Southern Bahia, Brazil; Specialty: tropical forest ecology and management, plantation forestry, forest restoration

Mark Wishnie, M.F.S., Head of Portfolio Management & Analytics, BTG Pactual Timberland Investment Group (BTG), Brazil. Specialty: Forest finance, timber investment, ecological restoration, environmental policy, biodiversity management

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ELTI specializes in developing and delivering high-quality training experiences for environmental leaders in the tropics. Course participants are presented with key concepts through professionally developed materials designed by Yale University faculty, ELTI staff members, and international partners. These materials employ a variety of teaching tools, including interactive presentations, pre-recorded video lectures, and diverse readings.

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ELTI has a strong emphasis on providing participants with diverse international perspectives, which are presented through case studies and on-the-ground examples from the Philippines, Indonesia, Thailand, Colombia, Mexico, Brazil, Panama, and Sri Lanka.

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ELTI's online courses provide the opportunity for live discussions with guest experts, personalized feedback, and relating homework assignments to the individual needs and interests of the participants.

Interact with a diverse community of participants:

By participating in ELTI's online course, participants provide peer-to-peer feedback, work in global virtual teams, become part of a "community of learners" during and after the course, and benefit from the diverse experiences of environmental practitioners worldwide.

Develop practical skills:

The homework assignments during the course are designed to help participants develop practical skillsets that they can apply to their careers.

For more information, please contact:

Gillian Bloomfield, ELTI Online Training Program Coordinator: Gillian.Bloomfield@yale.edu

About ELTI:

ELTI is an initiative of Yale University's School of Forestry and Environmental Studies that supports the efforts of people to design and implement an array of land use practices and initiatives that conserve and restore tropical forests and native tree cover in human-dominated landscapes that are rich in biodiversity. We take a unique approach to capacity building for conservation and restoration by mentoring people who manage or influence these landscapes in Tropical Asia and the Neotropics. http://elti.yale.edu/