NEWSLETTER

International Society of Tropical Foresters

September 2021 Volume: 9

Issue: 2 & 3

Deosai National Park

Deosai National Park is an alpine pasture of exceptional beauty and ecological value located in the western Himalayas, east of Nanga Parbat Peak in Pakistan

NOTE FROM THE CHIEF EDITOR

International Society of Tropical Foresters (ISTF) is publishing its quarterly newsletter since 2013. This is the second issue (2 and 3) of 2021 (vol. 9) and also the second under my supervision. This issue is a combined issue due to Covid-induced delays. I am grateful to ISTF Board for selecting me as a Chief Editor and trusting in me to perform this valuable task. Thanks to everyone who has contributed to this issue of the newsletter. This is a collective effort of my team consisting of people from various backgrounds, diverse cultures and different parts of the world. I take this opportunity to acknowledge the contribution of all team members and Ms. Sheila Ward, ISTF coordinator for their immense help and continuous support. The new team is fully motivated and you will see a lot of improvement in upcoming months.

Please feel free to pass the newsletter to other people related to forestry profession. If you wish to directly receive the ISTF Newsletter, please join ISTF by visiting https://tropicalforesters.org/ or sending a message to tropicalforesters@gmail.com. Stay safe from COVID pandemic!

Dear members of the International Society of Tropical Foresters:

This Newsletter is looking for general articles, announcements, field practices, and research abstracts.

The International Society of Tropical Foresters (Global) is seeking your contributions to the quarterly newsletter to be shared with the community/members. We invite members to submit contributions for the following categories:

- **NEWS ITEMS**: Announcements/Reports (Past & Future Events) and Opportunities (trainings, workshops, and conferences etc.)
- **BRIEF ARTICLES**: Short, topical (emerging issues related to forests, novel solutions, & innovative research findings, and publication abstracts)
- **MEMBER PROFILE**: Professional introduction
- **FIELD PRACTICES**: Short articles on methods that are useful for foresters working in the field, new techniques based on personal observation & experience. Probably something an academic/research journal would not publish.

SUBMISSION GUIDELINES

- All articles must be submitted in Word format and include a title. Please do not send submissions in pdf format
- Photos, images, or graphics are encouraged, jpg is preferred but other formats can probably be converted
- Word count:
  - News Items: 50 to 200 words
  - Brief Articles: up to 500 words.
  - Member Profile: up to 100 words
  - Field Practices: up to 200 words
- Send the contributions to Muhammad Irfan Ashraf, Chief Editor, ISTF Newsletter @ newsletteristf@gmail.com

Content

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Meet the Editorial Team

Muhammad Irfan Ashraf
(Chief Editor)

Rekha R Warrier
(Associate Editor)

N. Krishnakumar
(Associate Editor)

Mira Mishkin
(Associate Editor)

Bernadette Arakwiye
(Associate Editor)

NOTES FROM THE EDITORIAL TEAM

Many thanks to the many people who have contributed to the July 2021 issue of the newsletter.

Feel free to pass the newsletter along to other people.

If you wish to receive the ISTF Newsletter, please join the International Society of Tropical Foresters by sending a message to tropicalforesters@gmail.com and you will be sent the link to the membership form.

Editorial Team,

ISTF Newsletter

Cover Page Contribution

Arif Hussain

M. Phil Forestry student @ Arid Agriculture University Rawalpindi

BRIEF ARTICLES

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THE MIYAWAKI MODEL USED IN REFORESTATION: YES, IT IS PRACTICAL, EFFECTIVE AND EFFICIENT

R.H.G. Ranil, Department of Crop Science, Faculty of Agriculture,
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In the 1980s, Professor Akira Miyawaki introduced a new and innovative reforestation approach in Japan with the challenge to restore indigenous ecosystems and maintaining global environments, including disaster prevention and carbon dioxide (CO_2) mitigation (Schirone and Salis, 2011). Irrespective of climate, soil, and geographical boundaries, the Miyawaki technique is used for reforestation worldwide. This method is widely practiced in urban reforestation programs due to its efficiency, effectiveness, and practicability. As Miyawaki (1999; 2004) stated, the trees grow about 10 meters tall in 10 years and 20 meters tall in 20 years by natural selection. Moreover, in about three years, the trees grow 2 to 3 meters high, and the crown covering the forest floor comes to keeps the sunlight from coming in.

According to the Miyawaki technique, since at the time of planting, the individual trees of species belonging to various taxonomic groups undergo natural selection through competition for resources, resulting in a diversified natural forest. This concept, with some modifications, is effectively used in creating natural forests ranging from a mini forest in the backyard to thousands of hectares of secondary forests. The Miyawaki concept is “the best forest management technique is no management at all in forest regeneration”.

A Miyawakisite was established in October, 2018 at the University Sub Campus-Mahailuppallama, Faculty of Agriculture, University of Peradeniya, Sri Lanka, in parallel to celebrating her 50th anniversary. We used seedlings (< 1 m) of the dry and wet zone forest species and commonly cultivated plantation tree species for this model (Figure 1&2). For land preparation, species selection, planting, and other aftercare operations, Miyawakis’ recommendations were followed. Seedlings were planted in three blocks covering an area of 250 m^2. Wet and dry zones species were planted in block I and II, respectively. Exotic plantation tree species accommodated block III. For planting, the community-based approach was used.

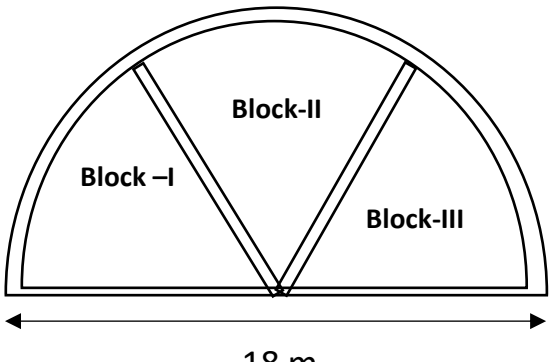

Figure 1(left): layout of the planting site.

Figure 2 (right): just after planting

Figure 3 (left): students engaged in planting. Figure 4 (right): three weeks after planting.

After two and half years, we got impressive and encouraging results. The three plots have converted into a close canopy mini forest with rich diversity. The site (250 m2) is currently home to 150 individuals of 38 tree and shrub species, including endemic, native, and introduced species. Some species have grown up to 3-4 meters in height within a short period. Also, the diameter of most species ranges from 3- 6 cm. Except for few species of the wet zone (*Shorea*, spp., *Dipterocrpus* spp.), other species were performed well even in the dry zone.

The survival rates of blocks I and II are 75% and 95%, respectively. In block II, most of the species thrived well. It further confirmed that the thumb rule, selecting suitable trees, is a crucial factor in reforestation. Block –III showed the lowest performance, and the survival rate is around 60%. For block- III, we selected only exotics plantation tree species. The species cultivated in high altitude areas, such as *Eucalyptus*, *Toona*, and Pinus species, did not perform well in block III**.** However, the overall survival rate is around 80% after two and half years of planting.

Despite the small land size, the mini forest also clearly depicted stratification of typical natural forest (Figure 5). Species are arranged in four strata, and the ground cover is dominated by common grass and some agricultural weeds abundant in the dry zone of Sri Lanka. Moreover, seedlings of some native tree species and shrubs are found in the lowermost strata.

These results are encouraging and inspiring. Furthermore, it provides baseline information to convert other abandoned areas into a natural forest within the university premises. Since, the institute is located in an area where low-precipitation and high-temperature associate with prolonged drought, such secondary forests will provide multiple benefits for the community. Moreover, this experimental block can be used to demonstrate the effectiveness and efficiency of the Miyawaki model in teaching.

Figure 5 (top): the front view of three forest blocks.

Figure 6 (bottom-left): block II with four strata.

Figure 7 (bottom-right): block III does not show stratification.

Species in each block are given below.

Block –I (wet zone forest tree species): *Artocarpus heterophyllus, Buchanania axillaris, Calophyllum inophyllum, Cinnamomum verum, Caryota urens, Elaeocarpus serratus, Filicium decipiens, Garcinia quaesita, Mangifera indica, Mesua ferrea, Neolitsea cassia, Vateria copallifera.*

Block –II (dry zone forest tree species): *Adenanthera pavonina, Atlantia zeylanica, Bauhinia racemosa, Bombax ceiba, Canthium coromandelicum, Cassine glauca, Cassia fistula, Casearia zeylanica, Dialium ovoideum, Diospyros ebenum, Diospyros ferrea, Diospyrosmalabarica, Drypetes sepiaria, Leea indica, Madhuca longifolia, Manilkara hexandra, Pterocarpus indicus, Pterospermum suberifolium, Streblus asper, Trema orientalis, Terminalia catappa.*

Block- III (Plantation tree species): *Acacia auriculiformis, Azadirachta indica, Berrya cordifolia, Swietenia mahagoni, Tectona grandis.*

Working team

The activity was facilitated by the exhibition committee- 2018, Faculty of Agriculture, University of Peradeniya. All activities were conducted by students who were enrolled in the Plantation crop module in the year 2018 with the guidance of academic staff members of the Department of Crop Science, Faculty of Agriculture.

References

[1] Miyawaki, A., 1999. Creative Ecology: Restoration of Native Forests by Native Trees. Plant Biotechnol. 16, 15–25.

[2] Miyawaki, A., 2004. Restoration of living environment based on vegetation ecology: Theory and practice: Restoration of living environment. Ecol. Res. 19, 83–90.

[3] Schirone, B., Salis, A. and Vessella, F., 2011. Effectiveness of the Miyawaki method in Mediterranean forest restoration programs. *Landscape and Ecological Engineering*, *7*(1), pp.81-92.

RESTORING COMMERCIAL TIMBER SPECIES THROUGH SILVICULTURAL PATCH CLEAR-CUTS AND NATURAL REGENERATION IN MEXICO'S MAYA FOREST: COMPOSITION AND GROWTH 11 YEARS AFTER THREE TREATMENTS

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Abstract

The Maya Forest of Mexico, Belize and Guatemala is the most extensive tropical forest in Latin America north of the Amazon. It is subject to major disturbances, notably hurricanes, often followed by fires. These periodic events have given rise to commercially valuable mixed-species stands rich in precious wood, mahogany (*Swietenia macrophylla*), and other tropical timbers. Seventy-nine percent of the 27 commercial and potentially commercial timber species in the state of Quintana Roo, Mexico are intolerant of shade. They do not regenerate successfully in small gaps created by selective logging, a mainstay of the economies of dozens of 'ejidos' (land-holding communities) that manage more than 700,000 ha of forest and depend on the income from forestry. To evaluate silvicultural options to mimic the disturbance regime and favor the regeneration of timber species, eight ½ ha clear-cuts were created using each of three different clearing treatments: slashing, felling and leaving (felling); slashing, felling and burning (burning); and machine-clearing. Eleven years later, more than 6000 individuals of 108 tree species were identified and measured on six 49 m^2 sample quadrats on each experimental clear-cuts, and on the same number of control quadrats in the neighbouring forest. The Basal Area (BA) of different commercial timber groups differed among treatments. After machine-clearing, 47% of the BA was made up of currently commercial timber species, 39% the more valuable decorative hardwoods and 8% lesser value softwoods; on burned treatments, 40% of the BA was currently commercial timber species, 29% decorative hardwoods and 11% softwoods. *Lysiloma latisiliquum*, one of the most valuable hardwoods, accounted for more than 25% of the BA in both these treatments. 29% of the BA was commercial timber species in previously clear-felled areas: only 6% was decorative hardwoods; 22% was soft-wooded species and 1% precious woods. Currently, on control plots, commercial species accounted for 28% of the BA, of which 1% was precious woods and 21% decorative hardwoods. Seventy percent of those were *Manilkara zapota*, source of the chicle latex used to make chewing gum, which has been protected from logging for decades. The decorative hardwood species *L.*

latisiliquum did not occur on control plots and was rare on felled plots. Depending on the treatment, palms and non-commercial species accounted for 31% to 52% of the BA, and 'potentially commercial' species or 'other species of commercial interest' accounted for 16% to 41% of the BA. On felled clearings, 30% of individuals were sprouts compared to 19% on burned clearings and 11% after machine- clearing. The largest trees on both burned and machine-made clearings had grown approximately 1 cm in diameter $year^{-1}$. Opening small clearings within the forest matrix using the same slash and burn treatments that local farmers use to open their agricultural fields, or machines like bulldozers, stimulated the natural regeneration of commercially valuable tropical timber species. Patch clear-cuts and the conservation of seed trees must be integrated into the silvicultural management system in this area to sustain the commercial timber value of the forest.

References:

- Snook, L., R. Capitanio, A. Tadeo-Noble. 2021. Restoring commercial timber species through silvicultural patch clear-cuts and natural regeneration in Mexico's Maya Forest: Composition and growth 11 years after three treatments. Forest Ecology and Management 493(2021)119206. https://doi.org/10.1016/j.foreco.2021.119206.

EFFICIENCY IN SUSTAINABLE FOOD SUPPLY CHAINS

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Africa is projected to have the fastest urban growth in the world. An estimated 11.3% growth rate in 2010 is projected to 20.2% by 2050. An additional 950 million people are expected to move into the cities. Africa has become a point of call in her part in the global share of the proportion of people living in towns and cities. This puts a great deal of pressure on the agriculture industry resulting in the need for sustainable agricultural practices and efficiency.

Every year there is an overwhelming amount of food lost just after harvest or thrown away due to unacceptable market qualities. More is lost at various stages along the value chain with a huge amount wasted at the downstream— around 1.3 billion tonnes approx. The world produces enough food waste to feed 2billion people annually. African agriculture is not exempted from food loss despite the experience of proportionately low yields per area cultivated. According to Africa Agriculture Status Report 2020, urban food markets offer the largest and fastest-growing commercial opportunities available to Africa's 60 million farms.

In Nigeria, approximately 50% of cassava roots produced is lost. Nigeria is the global leader in cassava roots production (59 million MT out of 291 million MT global production in 2017) but also characterized by one of the worst yields (average of 10-12% while other nations experience 25% and above) and very low industrial utilization with poor optimization of its value addition prospects. More land is used to produce the quantity we produce, than that

produced elsewhere. Cassava roots are underutilized for industrial use despite the industrial applications from its derivatives. 65% of the production goes into food consumed. It is crucial to increase our yields and embrace value addition to comprehensively benefit from this root crop capable of earning US $5billion per annum.

TROPICAL FORESTRY RESTORED TO FACULTY AT UNIVERSITI MALAYSIA SABAH

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Email: *mandy21@ums.edu.my*

The Vice-Chancellor of Universiti Malaysia Sabah (UMS), Datuk Prof. ChM. Ts. Dr Taufiq Yap Yun Hin, made anauspicious announcement in February 2020 to reinstate the formerly terminated School of International Tropical Forestry to the new Faculty of Tropical Forestry (TFT) (https://www.facebook.com/search/top?q=fakulti%20perhutanan%20tropika%20ums).

The renewed focus on tropical forestry education will support the state and national forestry policies and serve the relevant stakeholders. Forest conservation and the sustainability of the forestry sectors are primary concerns. The TFT was officially reinstated on the 26thof Mac 2021, consisting of five academic programs. The program isInternational Tropical Forestry, Nature Parks and Recreation, Plantation Forestry and Agroforestry, Wood Technology and Industry, and Conservation Biology. The TFT is working to strengthen the institution through strategies such as undertaking the curriculum review process, academic accreditation, research collaboration and networking, community engagement and contribution, and research and innovation. Several online and hybrid (online and face-to-face) activities (talks, workshops, training) were carried out since April 2021 but slightly hampered due to restriction movement order during high COVID-19 episodes. Online writing session meetings for academic staff and postgraduate students are organized weekly. The purpose is to strengthen academic writingskills, create a suitable environment, and establish co-mentoring culture among staff and postgraduate students. There is a great challenge and journey ahead for TFT to bolster tropical forestry education and research to benefit the students, relevant agencies, and the industrial sector. However, there is an anticipation of promising development and achievements in the future. One of our initial activities is organizing the first virtual conference on Tropical Forestry 2021 (TF2021), held on the 14th – 15th December 2021 (https://sites.google.com/view/tf-2021/home?authuser=0).

LAND USE/LAND COVER CHANGES AND THE RELATIONSHIP WITH LAND SURFACE TEMPERATURE USING LANDSAT AND MODIS IMAGERIES IN THE CAMAROON HIGHLANDS, MALAYSIA

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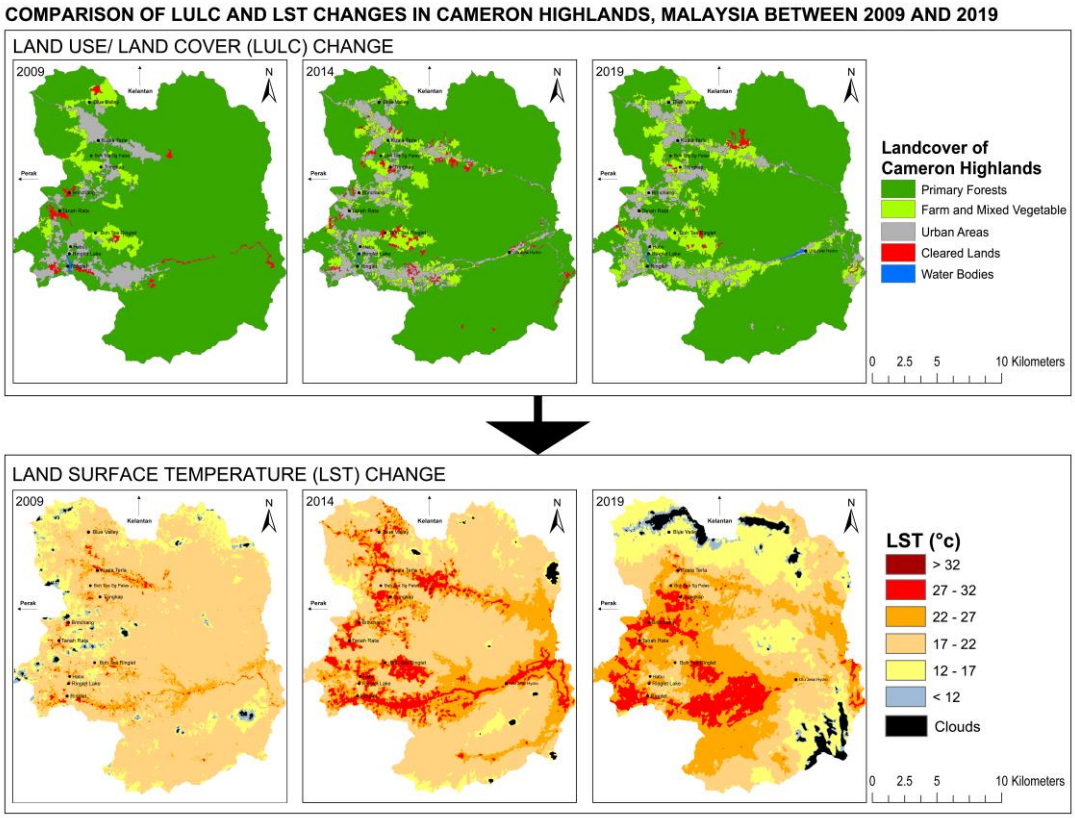
Professor Gs. Dr. Mohd Hasmadi Ismail conducted a study titled Land use/land cover changes and the relationship with land surface temperature using Landsat and MODIS imageries in the Cameroon Highlands, Malaysia. This study focused on the effects on land surface temperature (LST) resulting from deforestation and land cover dynamics, particularly in highland areas. Mountainous regions are more sensitive to climatic condition changes and are susceptible to recent increases in temperature. Due to urbanization and land use/land cover (LULC) issues, Cameron Highlands has been impacted by rising land surface temperature (LST) variation. Thus, this study was carried out to explore the impact of the LULC change on LST in the Cameron Highlands from 2009 to 2019 using remote sensing images acquired from Landsat 7 ETM+, Landsat 8 Operational Land Imager (OLI/TIRS), and Moderate Resolution Imaging Spectroradiometer (MODIS) 11A Thermal sensors. A split-window algorithm was applied to Landsat 8 images (2013–2019) to derive the LST. Air temperature data of the study area were also obtained to cross-validate data sources. Based on the validation results, LULC and LST outputs' accuracy was more than 94.6% and 80.0%, respectively. The results show that the current trend of urban growth continues at a rate of 0.16% per year, and the area experienced an LST increase of 2 °C between 2009 and 2019. This study is crucial for land planners and environmentalists to understand the impacts of LULC change on LST and propose appropriate policy measures to control development in the Cameron Highlands.



Full article is available at https://doi.org/10.3390/land9100372

ISTF FUNDING WORKSHOP 24 SEPT - 30 OCT 2021: FUNDRAISING STRATEGIES FOR FORESTERS ON A MISSION

Prepare your ISTF chapter or yourself for obtaining funding for your projects! Are you looking for help in getting funding for your ISTF Chapter or your own projects? Then join us for the upcoming ISTF Funding Workshop. The Workshop will run for 6 weeks 24 Sept – 30 Oct 2021. See details on the workshop at (https://drive.google.com/file/d/1GP0oCzirH5vprpthxKNjiIscr6MwIdjt/view) (also below).

The goal of the workshop is to help each chapter develop a fundable proposal. Chapters already approved by the ISTF Central Board, Chapters under development and individual ISTF members will be able to participate. Please sign up to participate in the workshop as a chapter or as an individual ISTF member at (https://docs.google.com/forms/d/16DMxTRamx8N4v6kc3I4mEemL5jh2VeyqsO5bULFiroo/edit?usp=sharing) by 12 September 2021. Participating chapters will need to submit a DRAFT chapter strategic plan (1000-1500 words) and a DRAFT proposal (1000-1500 words) by 17 September 2021. Participating individual ISTF members will need to submit a DRAFT proposal (1000-1500 words) by 17 September 2021. The link for submitting draft chapter strategic plans, and draft chapter and draft individual proposals will be provided soon.

Participants will be required to share their documents with other workshop participants, to provide friendly review on the documents of other participants, and to be willing to work with other participants on assignments. The draft chapter strategic plans and proposals (chapter or individual) can be submitted in English, Spanish, or French. We have reviewers who can work in those languages. Please see the attached announcement on the workshop for details. Please send any questions or comments to tropicalforesters@gmail.com.

We also are looking for help in reviewing the draft proposals of workshop participants. If you would like to assist with the workshop by contributing to materials or reviewing proposals, please send a message to tropical foresters@gmail.com.

Workshop Outline

I. WORKSHOP OUTLINE

Time and dates: 1-3pm GMT on six Fridays: 24 September 2021; 1, 8, 15, 22, 29 October 2021

Target audience: This workshop will focus on helping ISTF chapters get their initial funding. Both ISTF Chapters that have had their bylaws approved by the ISTF Central Board, and ISTF Chapters in development, are welcome to participate. Individual ISTF members are also welcome to participate.

Funding for chapters: Getting funding for a new chapter or organization can be difficult. But for the chapters to run effectively, they need some sort of funding. In some countries it can be hard for members to pay dues, so Chapters need to think about other funding strategies than just dues. ISTF Chapters will need to act on their own behalf to get resources to carry out activities, but ISTF-Global wants to help chapters get off the ground.

Themes for funding: This workshop will focus on funding opportunities in areas like collaborative forest management, community agroforestry, restoration of degraded forest lands, general issues of conservation. Other topics are also welcome. The goal is to help each chapter develop a fundable proposal.

To complete before the workshop: Please sign up to participate in the workshop as a chapter or as an individual ISTF member at this form by 12 September 2021. Participating chapters will need to submit a DRAFT chapter strategic plan (1000-1500 words, 2-3 pages) and a DRAFT proposal (1000-1500 words, 2-3 pages) by 17 September 2021. The proposed project should fit within the strategic plan for the chapter. Participating individual ISTF members will need to submit a DRAFT proposal (1000-1500 words, 2-3 pages) by 17 September 2021. THE LINK FOR SUBMITTING DRAFT CHAPTER STRATEGIC PLANS AND DRAFT CHAPTER AND INDIVIDUAL PROPOSALS WILL BE SENT TO THOSE WHO SIGN UP FOR THE WORKSHOP. The draft chapter strategic plans and proposals (chapter or individual) can be submitted in English, Spanish, or French. We have reviewers who can work in those languages.

The draft strategic plans and proposals do not need to be perfect! The point is to get something down on paper to use as the basis for the workshop. Over the course of the workshop, the organizers will help to improve strategic plans and to improve proposals to be fundable.

Workshop format: The workshop will consist of six sessions, one session per week, with homework in between. For each week, the organizers will record the presentations and post them on the ISTF YouTube channel for general access. The participants will need to complete each week's homework in time for the next session and view the presentations. We will hold a discussion period each Friday to go over any questions.

Group work is fine! Chapter members can and should work together! Participants will be required to share their documents with other workshop participants, to provide friendly review on the documents of other participants, and to be willing to work with other participants on assignments. Organizers will also review the work of participants. Reviewers will focus prioritize review of chapter funding proposals, but we will try to give all participants useful feedback. We will also have an online discussion group for participants to share questions and ideas.

Please send any comments or questions to tropicalforesters@gmail.com

II. PRELIMINARY WORKSHOP SCHEDULE

Friday 23 September

Session I. The global funding landscape

A. In-country registration for legal recognition

B. Framework of global funding initiatives and how to link with them

C. Chapter strategic plan and budget

D. Chapter capacity statement

E. Finding your networks

Homework. 1) Review requirements in your country for registering your ISTF chapter as a not-for-profit organization; 2) Review the major funding initiatives for tropical forestry in your

country; 3) Review your chapter strategic plan and capacity statement; 4) Explore possible partners, networks in your country and region

Friday 1 October

Session II. From the chapter strategic plan, develop your idea for a project.

A. Defining problems, goals, objectives. Fitting into the national funding framework.

B. How to develop a theory of change.

C. SMART goals (Objectives): Specific, Measurable, Achievable, Relevant, Time-bound

Homework. Take your preproposal, and rework the goals, objectives, theory of change (how you get from objectives to outcomes)

Friday 8 October

Session III. Specifics of proposal structure

A. Letters of interest

B. Full proposal

C. Developing your workplan, activities, and desired outcomes.

D. Developing your budget

Homework. 1) Shape your preproposal: Objectives, workplan with activities and desired outcomes, budget. 2) Share chapter strategic plan and proposal with buddies

Friday 15 October

Session IV. Where is the money?

A. How to locate funding: funding databases, international sources, sources in your country

B. How to connect with funders' objectives

C. How funders deal with proposals: letters of interest, structured proposals

D. Funders without a transparent process

Homework. 1) Friendly review of strategic plans and proposals from buddies; 2) Study examples of successful proposals; 3) Identify 3 sources to which you can submit your proposal, including within your country

Friday 22 October

Session V. Evaluation your progress

A. Developing your evaluation plan, based on theory of change, expected outcomes.

B. Baseline, milestones for achievement

Homework. 1) Write up your proposal evaluation section, 2) Share with buddies, 3) Friendly review

Friday 29 October

Session VI. Next steps

A. How to leverage successful project completion into larger projects with more funding

B. Building collaborations, partnerships

C. Discussion of workshop – how to improve?

D. Closing

III. OUTLINE FOR ISTF CHAPTER DRAFT STRATEGIC PLAN AND CAPABILITY STATEMENT (1000-1500 words

The chapter strategic plan will present chapter objectives, activities, budget, and supporting capabilities for the next 1-3 years. Do not be too ambitious! Plan what you can realistically carry out.

1.Strategic plan objectives - The strategic plan should be based on the chapter objectives, as stated in the bylaws. (Or else the objectives in the bylaws should be modified to reflect with the chapter really wants to do to reach its goals.) Choose 1 to 3 of the objectives as the basis for the chapter strategic plan.

2. Strategic plan activities - In the strategic plan make a brief statement of the activities for next 1-3 years that will help you meet the plan objectives. Be specific, concrete, realistic.

3. Strategic plan timeline – The plan should provide timelines for activities and achievement of objectives.

4. Strategic plan budget – The strategic plan includes a budget for the activities that will achieve the objectives. This will be more general than for an actual proposal.

5. Chapter capability statement (1 page) –The plan should describe capacities of the chapter to carry out plan activities. These capacities could include:

- Knowledge and skills of chapter members
- Linkages with other resources (examples: academic institutions, other organizations).
- Solutions for shortfalls

IV. OUTLINE FOR ISTF CHAPTER PROPOSAL FOR FUNDING AND THEORY OF CHANGE (1000-1500 words)

Write a proposal for one piece of the strategic plan. Start small. Chapters should start with proposals for smaller amounts of money (< $20,000 US). Larger projects can be developed after you have demonstrated capacity to carry out a smaller project. The draft proposals should be for concrete actions using good practices.

1. The problem you are addressing. The problem should be something specific, that you can actually do something about.

2. The overall goal to be achieved and the specific objectives. Objectives are smaller parts of the overall goal. Break the goal down into the smaller steps.

3. Theory of change

a. Describe the change you want to see, based on the goals and objectives for your proposal.

b. Then build backwards to the activities that will help to achieve that change. If you follow through rigorously on your activities and monitor for the expected results, you should have a success story to report. This will then help you to go for larger grants.

4. Activities to carry out the objectives to achieve the goals. Be specific.

5. Expected results for each activity. Try to make a specific, realistic prediction of quantitative results (examples: number of people trained, number of trees planted, tree survival rate after a year, etc.)

6. Budget to carry out the activities. Try to be as specific as you can for the budget components and costs needed to carry out the project.

7. Timeline for achieving objectives, goals, and the change you want to happen. .

8. Evaluation. How will you evaluate the success of the project?

ANNOUNCEMENTS/

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EVENTS/MEETINGS/OPPORTUNITIES

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WE NEED YOUR TALENT! CALL FOR NOMINATIONS FOR ISTF CENTRAL BOARD ELECTION

The term for the current ISTF Central Board ends 31 December 2021. Please consider being a candidate for a position. Positions run for three years from 1 January 2022 to 31 December 2024. The elected positions for the ISTF-Global Board are: President, Vice-President, Secretary, Treasurer, Tropical Africa Representative, Tropical America Representative, and Tropical Asia-Australia-Pacific Representative. Description of positions are given below. If you wish to be considered for candidacy for a position, please fill out the form at

https://docs.google.com/forms/d/1k776I5oZ2GyoXZF9yG1ob3_ZzeLvoHQZRbIXewECNJg/edit?usp=sharing.

The deadline for applying for candidacy has been extended to 20 Sept 2021. We aim to start the election at the end of October 2021. Please send any questions or comments concerning ISTF nominations or election to tropicalforesters@gmail.com. Below are the descriptions of the Board positions, and the information you will need to provide on the form.

Descriptions of ISTF Central Board positions for the 2021 election

Country of Residence. Officers may be citizens of any country, except for the Treasurer. The Treasurer shall be a permanent resident or citizen of the United States, for the purpose of maintaining good standing with the US Internal Revenue Service and the Puerto Rico Departments of State and of the Treasury.

President: Acts as Chair of the Central Board of Directors, supervise the operations of the organization, and perform the other usual duties of the office. The Chair shall preside at Board meetings; with advisement from the Board, shall appoint members of standing committees and of such special committees as may be authorized by the Board; and shall perform all other duties incident to the Chair of the Board.

Vice-President: Assists the President as needed and perform other customary duties of the office. The Vice-President serves on a Central ISTF standing committee.

Treasurer: Act as custodian of ISTF moneys, receive and disburse ISTF funds, perform other customary duties of the office, and submit annual financial report to the Board and Membership. The Treasurer also serves on a Central ISTF standing committee.

Secretary: Keeps the minutes of the ISTF Central Board, shall conduct its correspondence, shall be custodian of its records, and perform other customary duties of the office. The Secretary also serves on a Central ISTF standing committee.

Regional Representatives for 1) Tropical America, 2) Tropical Asia-Australia-Pacific, 3) Tropical Africa. Regional representatives are responsible for attending board meetings, voting, transmitting information to and from the region they represent, and assisting the Executive Committee with other functions as needed. They each also serve on a Central ISTF standing committee (Mission, Governance, Finance). Regional representatives should have a professional or personal connection with a region, such as originating from or residing in a region.

What to submit on the nomination form

On the nomination form

(https://docs.google.com/forms/d/1k776I5oZ2GyoXZF9yG1ob3_ZzeLvoHQZRbIXewECNJg/edit?usp=sharing),

We ask nominees to submit their complete name, email address, cellphone/WhatsApp number (with country code), position of interest, country of residence, and their Curriculum Vitae. In the interest of promoting gender and age diversity on the ISTF leadership team, we are asking prospective candidates if they identify as male/female/prefer not to say and if they are 35 years old or younger/over 35 years old/prefer not to say. Prospective candidates must also answer the following questions: 1) Why do you want to serve on the ISTF board (100 word max); 2) What is your relevant experience for this position (100 word max); 3) What is your vision for ISTF from for 2022-2024 (200 word max); and 4) What are the key action items that you hope to achieve if elected to this ISTF board position (100 word max.)? If selected as a candidate, these statements will be shared with ISTF members for the election.

VIRTUAL CONFERENCE ON TROPICAL FORESTRY 2021 (TF2021)

The Tropical Forestry 2021 is the first virtual conference organized by the Faculty of Tropical Forestry, Universiti Malaysia Sabah. The conference will be held on 14th – 15th December 2021. The conference will bring together researchers and academics in the field of forestry science, especially tropical forestry, domestically and internationally to share knowledge and present the latest research results, as well as exchange ideas and forge collaborative relationships. The conference topics include and NOT LIMITED to the following:

- Forest Ecology and Conservation
- Forest Management
- Biodiversity and Genetic Conservation
- Forest Policy and Economics
- Forest Remote Sensing and GIS/Precision Forestry
- Forest Protection
- Forest Soil and Silviculture
- Social Forestry
- Nature Tourism and Recreation
- Plantation Forestry
- Agroforestry
- Zoology and Wildlife
- Wood Science
- Forest Products and Engineering

We are accepting abstract submission until 15th September 2021. Presenter registration fee is USD 40 for non-students, USD 30 for students, and USD 15 for participants. Manuscript accepted for publication will be published in a SCOPUS-indexed IOP Conference Series: Earth and Environmental Science with an additional publication fee of USD 90. Please visit our website (https://sites.google.com/view/tf-2021/home?authuser=0) for registration and other information. We look forward to an exciting time of interaction and networking. Please join us in December 2021.

ISTF – NEWS

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Dear ISTF members:

We hope the ISTF Community is safe and well at this time of COVID-19.

NEWS BITES FROM ISTF-GLOBAL

1. Call for contributions to the ISTF Newsletter. We are seeking your contributions to the quarterly newsletter to be shared with the community/members. We invite members to submit contributions for the following categories:

* **GENERAL NEWS ITEMS**: Announcements/Reports (Past & Future Events) and Opportunities (trainings, workshops, and conferences etc.)
* **ISTF Internal News/Updates**: chapter meetings etc.
* **BRIEF ARTICLES**: Short, topical (emerging issues related to forests, novel solutions, & innovative research findings, and publication abstracts)
* **MEMBER PROFILE**: Brief professional introduction
* **FIELD PRACTICES**: Short articles on methods that are useful for foresters working in the field, new techniques based on personal observation & experience. Probably something an academic/research journal would not publish.

SUBMISSION GUIDELINES

* All articles must be submitted in Word format and include a title. Please do not send submissions in pdf format
* Photos, images, or graphics are encouraged, jpg is preferred but other formats can probably be converted
* Word count:
    - General News Items: 50 to 200 words
    - ISTF Internal News/Updates: up to 500 words
    - Brief Articles: up to 500 words.
    - Member Profile: up to 100 words
    - Field Practices: up to 200 words

Send your contributions to newsletteristf@gmail.com.

2. Recordings posted from the ISTF-SAF Symposium: International Trade in Wood Products: Today's Markets 1 July 2021. The symposium was offered by the International Society of Tropical Foresters (ISTF) and the International Forestry Working Group of the Society of American Foresters (SAF). The symposium was for people who are knowledgeable about forestry but not necessarily about the details of international trade. The presentations provided background on the structure and promise of international trade in forest products today and in the near future, as well as overing the important topics of forest certification and markets from the investor's point of view.

The presentations are now posted on the ISTF YouTube channel at the following links:

- *An overview of the international tropical timber* - Jean-Christophe Claudon, International Tropical Timber Organization https://youtu.be/hVJ5p761CwA
- *North American Hardwoods and Exports* - Kent Wheiler, Center for International Trade in Forest Products, The University of Washington https://youtu.be/Ff-Ue8QsJK4
- *Forest Certification and Timber Legality Regulation* - Kathleen A. McGinley, USDA Forest Service https://youtu.be/gy0Ul76659Y
- *Capital Markets, ESG, and Forestry, Paper & Wood Products* - Gabriel Thoumi, Planet Tracker https://youtu.be/2pNTybGmjqg

3. ISTF Global is looking for manager(s) for the ISTF-Global website. Nonpaid volunteer position to manage posts, help develop new pages and sections of the website. Please apply at this link by 15 April 2021.

4. Virtual Workshop topics needed. Can you offer a virtual workshop for ISTF, or is there a topic that you need to learn more about? Please send your suggestions to tropicalforesters@gmail.com.

5. Want to do a blog, podcast, or webinar for ISTF? Please fill out this brief survey. Do you have recent reports or publications to share? Do you have any reminiscences of ISTF? Do you have quotes or cool photos (your photo or open source) to share for the developing website? For these, please send to tropicalforesters@gmail.com

6. Tropical Forestry Notes I, II, III from Frank Wadsworth. Frank has continued compile the Tropical Forestry Notes based on the abstracts of salient recent forestry articles. Volumes I, II, and III are at http://www.orrforest.net/saf/ (Thanks to Blair Orr for posting these and the ISTF Newsletters on his website.)

7. Recorded sessions from the ISTF-Yale Conference 2021. ISTF-Yale 2021 "Timelines and critical junctures: Re-examining crises as opportunities for change" 18-20 Feb 2021 was a great meeting. The recorded sessions are now available at this link under "Created Playlists". The website for the meeting is available at this link. You can subscribe to The Overstory, the newsletter of the Yale Forest Forum at this link. The Forests Dialogue, based at Yale, can be found at https://theforestsdialogue.org/ .

8. Active ISTF Chapters. The active ISTF Chapters are ISTF-Duke, ISTF-Ghana, ISTF-India, ISTF-Mexico, ISTF-NCState, ISTF-Nepal, ISTF-Nigeria, ISTF-Panama, ISTF-Puerto Rico, ISTF-Rwanda, and ISTF-Yale. We are growing our global community!

9. If you are interested in starting an ISTF chapter but have not told us yet, please fill out this survey. Updated documents for developing ISTF chapters (in English, Spanish, and French) can be accessed at the NEW website at https://tropicalforesters.org/form-an-istf-chapter/ . If you have any questions, please contact tropicalforesters@gmail.com.

10. ISTF Senior Resource Pool. ISTF senior resource people who are happy to receive questions include:

- **Swoyambhu Amatya** swoyambhu_amatya@yahoo.com Agroforestry (since 1994, wrote a book on it), also forest research and management.
- **Sujoy Banerjee** banjoy@gmail.com Managing forests for biodiversity and wildlife conservation; land use planning at landscape level; grassroot level work with local communities
- **Jim Barborak** jim.barborak@colostate.edu: protected area planning, management, policy, governance, finance, and public use, as well as conservation capacity development and sustainable tourism. English/Spanish/Portuguese.
- **Ron Billings** ronbillings41@gmail.com Forest pest management, pine bark beetle management in the Caribbean and Central America.

- **Nick Brokaw** nvbrokaw@ites.upr.eduTropical forest ecology: Tree growth, abundance, spatial distribution, diversity, population dynamics, community dynamics, field identification; Forest types: spatial variation; Three-dimensional forest structure: spatial and temporal variation; Ecology of lianas
- **Eberhard F. Bruenig** ebruenig@yahoo.de Integrated Conservation and Management of Forests; 70 years of practice and research in forests of the temperate and tropical zones
- **Dorian A. Calderón-Sanchez** dorian.calderon@gmail.com Forestry Operations Planning, Logging Systems and Methods, Production Studies, Biomass operations, Safety in Forestry, practical Certification Issues.
- **Carol Colfer** cjpcolfer@gmail.com Social Science: Anthropology, gender, governance, health, adaptive collaborative management of forests
- **Patrick Durst** pdurst.asiaforest@gmail.comNatural resources policy, economics, forest and landscape restoration, assisted natural regeneration, agroforestry, bio-energy, community forestry, forest foods (including edible insects), project development and management.
- **Bernardo Giraldo** giraldober@gmail.com Mi experiencia en la amazonia colombiana es en el tema de crecimiento y rendimiento (volumen, biomasa) de especies forestales del bosque húmedo tropical
- **Mark Glalah** markglalah@gmail.com Expertise in Wood and biomass energy, Forest biomaterials, Wood Science, Natural Resources Management, Wood waste utilization, and Project development and planning.
- **Hans Groenendijk** groenendijkjj@gmail.comLandscape Conservation, Assisted Natural Regeneration (ANR); Agro-forestry; Biodiversity, Wildlife and Climate Changes Management (GCCA+), Forest dynamics, Non Timber Forest Products (NFTP)
- **Richard Guldin** rwguldin@gmail.com Forest resource assessments, forest economics and policy, improving connections at the science-policy interface, and strategic planning for forest research programs. 45 years of experience as a researcher, program leader, and executive--all outlined on http://www.guldinforestry.com.
- **Prize Jacobs** prizejacobs@gmail.com Postgraduate Researcher; Data Entry and Analyses Specialist; Monitoring, Evaluation and Learning Support; Creative and Technical Writer; RENAC certified Climate and Energy Transformation Expert

- **K Kumaran** kumaran.k@tnau.ac.in More than 25 years of teaching and research experience in Forestry, with specialization in Forest Biology and Tree Improvement; particularly in Neem and Natural dyes, sustainable value chain development in forest based products
- **Muralidharan Enarth Maviton** emmurali@gmail.com Forest Biotechnology and research on bamboo and rattan, including tissue culture of forest trees, DNA barcoding, bamboo and teak germplasm collections, cultivation, management of nurseries and plantations and utilization of bamboo and rattan
- **Carl Mize** carlmize@gmail.com: For help with designed experiments - Experimental design of field and lab experiments.
- **John Schelhas** John.schelhas@usda.gov: Social and cultural aspects of private forests, including landowner decision-making, ways of valuing forests, diverse forestry options, and ethno-forestry.
- **Simon Shomkegh** sshomkegh@uam.edu.ng: Forest resources management, ethnobotany and climate resilience building
- **V.P. Tewari** vptewari@yahoo.com: 28 years of experience with forest biometrics, growth & yield modelling, forest inventory & assessment, agroforestry, forest landscape restoration.
- **Frank Wadsworth** frankhwadsworth@gmail.com: Tropical silviculture and tropical forestry in general
- **Jeff Wright** patula.wright@gmail.com: Planted forests, nursery, genetic improvement, silviculture, wood quality, sustainable forest products.

If you are a senior forester and would like to be resource person for others to contact with questions, please send a message to tropicalforesters@gmail.com. Please include your name, preferred email address for contact, and a two-line description of your expertise.

11. ISTF online resources. The current online resources for ISTF include:

- New ISTF website: https://tropicalforesters.org/
- Old ISTF web page, still at http://www.istf-bethesda.org/
- ISTF Newsletter (Available at: http://www.orrforest.net/saf/).
- ISTF Updates at this link
- ISTF Info Links at this link

- ISTF organizing documents at this link
- The ISTF Facebook group page at: https://www.facebook.com/groups/2262122534/
- The ISTF Linked-In group page at: https://www.linkedin.com/groups/12150640/
- The ISTF Twitter handle is @tropforester; https://twitter.com/tropforester
- The ISTF YouTube channel is at YOUTUBE CHANNEL

12. ISTF membership. ISTF now stands at over 1950 members. Help us keep growing! If you have any contacts that you would like to invite to join ISTF, you can use the following message:

Dear friends:

We would like to invite you to join the Central International Society of Tropical Foresters (ISTF). The organization has been reactivated. Anyone with an interest in tropical forests and forestry is encouraged to join! With its focus on being a communication network, ISTF connects members with each other and recent work in the field. ISTF was founded in the 1950s, and "in response to a worldwide concern for the fate of tropical and subtropical forests, ISTF is committed to the protection, wise management and rational use of the world's tropical forests".

So far, over 1900people from around the world have joined. The newest ISTF Chapters are in Rwanda and Mexico, with at least six other chapters under development. The enthusiastic response we have seen has been heartening, especially as the organization reactivates to face global challenges in inclusive and equitable ways. For now, ISTF membership will be dues-free. If you would like to join, please fill out the membership form at Google Forms.

For questions and comments, please send a message to tropicalforesters@gmail.com. Please pass this message on to your contacts.

If you wish to unsubscribe from the ISTF Update, please send a message to tropicalforesters@gmail.com

Sheila Ward, ISTF Coordinator

RECENT PUBLICATION & RESEARCH NOTES

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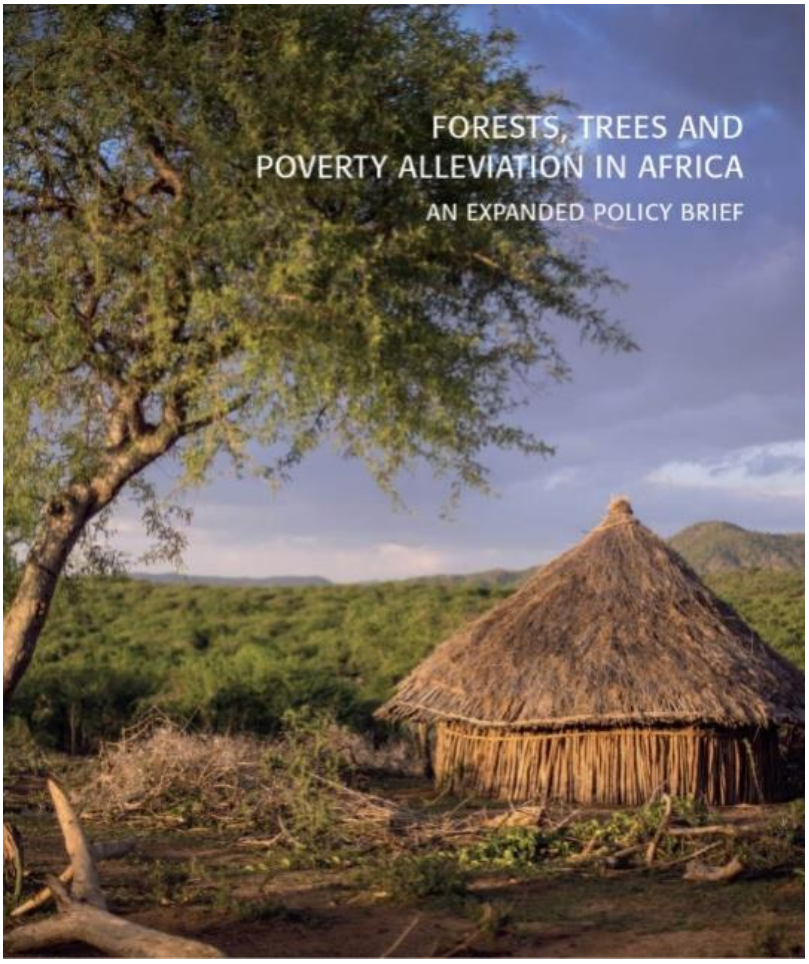
Book Review

FORESTS, TREES AND POVERTY ALLEVIATION IN AFRICA: AN EXPANDED POLICY BRIEF

Editors: Daniel C. Miller, Doris N. Mutta, Stephanie Mansourian, Dikshya Devkota and Christoph Wildburger



A new policy brief entitled, *Forests, Trees and Poverty Alleviation in Africa* was successfully launched on 9 July 2021 during a virtual side event of the UN High-Level Political Forum on Sustainable Development (UN-HLPF).This expanded policy brief published by IUFRO's Global Forest Expert Panels (GFEP) Programme was prepared by 20 scientists and in consultation with 207 local stakeholders from various groups, including policymakers, international development organizations, civil society and other interest groups.

This expanded policy brief contributes to the implementation of the 2030 Agenda for Sustainable Development by highlighting the nexus between SDG 1: No poverty and SDG 15: Life on land, as well as links to other relevant SDGs.

The publication outlines the most important scientific evidence of the nexus of forests, trees, and poverty in Africa, explain the context, and highlight key conclusions to be taken into account by stakeholders across Africa.

If you missed the launch, you can watch it here:

https://www.youtube.com/watch?v=E7-XzejkxmI

Further information and the policy brief are available for download at:

https://www.iufro.org/science/gfep/regional-activities/forests-trees-and-poverty-alleviation-in-africa/

ABSTRACTS & KEY MESSAGES

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THE HIGH COST OF THE LOW-COST POLYBAG SYSTEM: A REVIEW OF NURSERY SEEDLING PRODUCTION SYSTEMS

Diane L. Haase, Karma Bouzza, Lucy Emerton, James B. Friday, Becca Lieberg, Arnulfo Aldrete, And Anthony S. Davis

Abstract

An important strategy for meeting global landscape restoration goals is nursery production of high-quality seedlings. Growing seedlings with attributes that promote post-planting survival and growth can be dramatically influenced by the nursery container system. In many countries, nurseries produce seedlings in polybags filled with excavated soil. These seedlings often develop deformed roots with limited fibrosity which can lead to poor survival and growth after outplanting. Polybags are initially inexpensive but using these single-use plastic containers accrues expenses that are often untracked. Comparisons among nursery production systems must account for factors such as container longevity, labor efficiency, and seedling field performance. A more holistic approach to account for environmental, economic, social, logistic, and cultural elements in the cost–benefit equation that influences nursery production systems is needed. Converting to a modern container system requires concomitant adjustments in nursery scheduling and culturing matched to the new stock type. Doing so provides an opportunity to align nursery production techniques and resulting seedling attributes with anticipated field conditions. This article describes and discusses the advantages and disadvantages of nursery production systems and provides recommendations and case studies to aid nurseries in improving seedling quality toward meeting restoration goals in a cost-effective and timely manner.

This article, along with other articles of interest to the tropical reforestation professionals, is published in a special issue of the open-access journal, *Land*. The special issue, "Forest Landscape Restoration: Strategies, Challenges, and Impacts," is freely available online at:

https://www.mdpi.com/journal/land/special_issues/forest_landscape_restoration.

Forests: Our Life Line

Sania Khan, Islamabad

Forests are the great benefactors of humanity, but human have always turned a cold shoulder towards them. The ruthless cutting of trees around the globe reflects the ignorance and selfishness of humans towards nature. As a consequence, human actions have led to serious environmental havocs and considered nature's fury. The anger of nature can be clearly witnessed in the climatic changes on the earth in the form of global warming, melting of glaciers, huge floods, change in patterns of precipitation, leading to an irreversible disturbance in the cycle of seasons.

The fast paced changes in the world's climate have established unprecedented comforts for the human. However, humans are paying great cost of these changes. Nature's protest towards its destruction is really a call for human minds to change their behavior and show a real concern to mitigate the alarming effects of climate change. For this, we have to stop deforestation, plant more trees and use environmental friendly energy sources. If we fail in doing so, it will soon turn our fertile lands into waste lands.

Underdeveloped countries are already facing a tremendous energy shortage in this era of advance technology. Renewable and environment friendly energy sources such as wood, forest and agriculture residues and many others can be used as alternate energy sources to combat energy crisis. Pakistan has launched aggressive plantation campaigns and projects to enhance its green cover. The government of Pakistan's famous initiative, "Ten Billion Trees Tsunami Programme" has gained recognition at international forums.

IMPORTANT URLs

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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 Electronic News

The newsletter is also available for download as a PDF or Word file at: http://www.iufro.org/publications/news/electronic-news/.

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.

Cámara Forestal DE BOLIVIA

http://www.cfb.org.bo/noticias