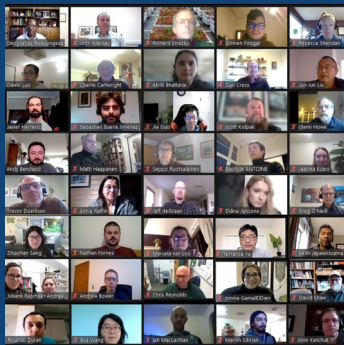



IUFRO 2021

Interconnecting Forests, Science and People



The International Union of Forest Research Organizations (IUFRO) is the global network for forest science cooperation, open to all individuals and organizations involved in forest research and forest-related sciences. It is a non-profit, non-governmental and non-discriminatory organization with a long tradition dating back to 1892. IUFRO attains its objectives by networking activities including the generation, exchange and dissemination of scientific knowledge and practices, by the provision of access to relevant information, and the assistance to scientists and institutions to strengthen their research capacities. *If you would like to get in touch with IUFRO, write to office@iufro.org and/or visit <https://www.iufro.org>*

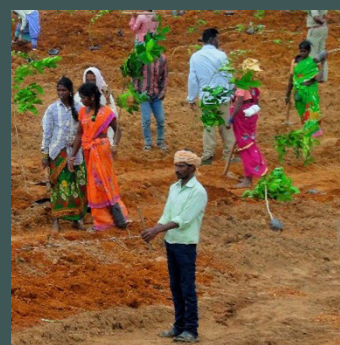
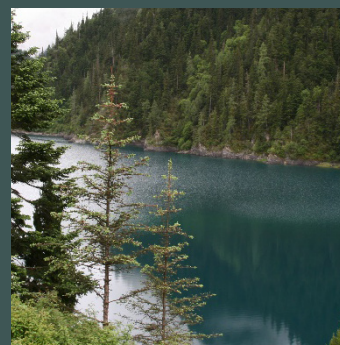


**The vision of IUFRO is to be
The Global Voice of Forest Science Promoting a Sustainable Future of
Forests and Society.**

IUFRO's mission is to advance research excellence and knowledge sharing, and to foster the development of science-based solutions to forest-related challenges for the benefit of forests and people worldwide.

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A Note from the Editor:

This IUFRO Annual Report looks different from previous reports. After a joint message by the IUFRO President and the Executive Director you will find ***selected activities from Divisions, Task Forces, Special Programmes and Projects presented under thematic clusters***. This new approach has been taken to minimize the reporting burden for IUFRO Units, to use the information collected for the Strategy Action Plan, and to move away from a mere documentation format towards a communication format. The electronic version provides hyperlinks to more information about activities, IUFRO Units and more. For the calendar of 2021 meetings please click: [Calendar](#)

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Texts related to IUFRO activities have either been provided by IUFRO officeholders or have been taken from IUFRO meeting webpages, flyers and reports for IUFRO News.

Please note that in the IUFRO context the term “to sponsor” a meeting does not imply any financial assistance. It means that IUFRO officeholders are prominently involved in a meeting and that IUFRO supports the promotion of the event in its media.

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Sun Pengsen, René Zamora, Forest College & Research Institute (Telangana, India)

A Message from the IUFRO President and Executive Director

2021 was a challenging year for the world's forests and for our global forest science community. The ongoing pandemic and its tragic human costs have at least temporarily diverted the attention of policymakers and the public from the urgency of the major forest-related environmental issues of our age, notably the climate crisis, accelerating biodiversity loss and ongoing land degradation.

Despite these challenges, IUFRO and the global forest science community we represent have remained deeply committed to the collaborative development and effective communication of the knowledge and innovation needed to create a better future for forests and all who rely on the essential goods and services they provide.

Throughout the year, IUFRO made significant contributions to the objectives of the UN Decade on Ecosystem Restoration launched on World Environment Day (5 June 2021). New publications by IUFRO scientists, Divisional units, and Task Forces, as well as thematic networking activities and virtual training workshops organized by IUFRO's Special Programme for Development of Capacities (IUFRO-SPDC) advanced our efforts to provide practical, locally adapted, science-based approaches to forest landscape restoration worldwide.

IUFRO's work in 2021 also focused on deepening our understanding of the critical roles that forests play in the attainment of the 2030 Sustainable Development Goals. For example, the Global Forest Expert Panels (IUFRO-GFEP) Programme published a Policy Brief for African Stakeholders on Forests, Trees and Poverty Alleviation in Africa based on GFEP's 2020 global assessment, neared completion of a follow-up assessment of the impact of the past decade of REDD+ on forests, biodiversity and people, and initiated a new global assessment on Forests and Human Health.

Although the ongoing Covid-19 pandemic curtailed much of our more traditional in-person activities this past year, IUFRO has risen to the challenge. Throughout our network, we are becoming increasingly adept at utilizing online platforms for our networking activities. This learning process



John Parrotta, President

is helping us to transition to what we anticipate will be the "new normal" in the years ahead. We will see fewer and/or smaller physical meetings but a broader spectrum of hybrid and virtual events that will be more inclusive, enabling more researchers and students from around the world to actively engage in IUFRO activities.

A noteworthy example of this was the IUFRO World Day – an innovative interactive online 24-hour event held on 28-29 September. This pioneering digital conference provided over 3000 participants from more than 100 countries an opportunity to (re)connect through nearly 80 live events organized by IUFRO Divisional units, Task Forces, Special Programmes and Projects and Member Organizations.



Alexander Buck, Executive Director

The year also saw significant progress towards key strategic goals. We deepened our collaboration with existing partners including the International Forestry Students' Association (IFSA), FAO and the Global Landscapes Forum, and established new partnerships and joint projects with Mondi and XPrize. We are strengthening our communications and knowledge management efforts through the development of a new website and establishment of a new knowledge management position at IUFRO Headquarters. And very importantly, our Board and International Council

took significant steps to improve gender and geographical/cultural diversity within IUFRO's leadership and expand opportunities for younger scientists and students to become involved in the IUFRO "family".

In closing, we would like to express our special thanks to the Board members, the IUFRO Headquarters staff, all IUFRO officeholders, our Member Organizations, Associated Members and participating scientists for their important contributions to forest science and sustainable development, and their commitment to strengthening global forest science cooperation despite the adversities we are all facing.

John Parrotta, IUFRO President
Alexander Buck, IUFRO Executive Director



Photo: Kristen Sturdivant on Unsplash



Beech stand partly killed by pests and pathogens in the Italian Apennine mountains. Photo: Andrea Battisti



Muynak was a seaport on the Aral Sea, a city in northern Karakalpakstan in Uzbekistan. Photo: Ho Sang Kang

Understanding and Responding to Climate Change

Science has been delivering facts and figures on the impacts of human activities on climate change for a long time. Despite the evidence and increasing awareness, the world is now struggling more than ever before with the exacerbating impacts of global warming and climate change. The latest report submitted by the Intergovernmental Panel on Climate Change ([IPCC](#)) leaves no doubt: The window of opportunity to keep global warming at bay and securing a livable and sustainable future for our planet is slowly closing.

Forests are part of the solution to reducing carbon emissions, which are seen as the main cause of climate change. At the [UN Climate Change Conference in Glasgow](#) in 2021 country leaders emphasized “the critical and interdependent roles of forests of all types, biodiversity and sustainable land use in enabling the world to meet its sustainable development goals; to help achieve a balance between anthropogenic greenhouse gas emissions and removal by sinks; to adapt to climate change; and to maintain other ecosystem services.”

For IUFRO scientists, climate change adaptation and mitigation are high on the research agenda. In 2021, a wide array of topics related to climate change were addressed by Divisions and Task Forces (TF) in various formats including online meetings, webinars, workshops and publications. Here are some examples of events and publications throughout the year:

Ecology and Silviculture of Spruce in the Boreal Forest

Spruce forests, dominated by members of the genus *Picea*, are a common and defining feature of the circumboreal forest. These forests are important ecologically, supporting a broad range of ecosystem services, and economically as the basis of many timber industries. However, spruce forests across the boreal region are becoming increasingly vulnerable to changes in fire regimes, drought and pest outbreaks along with human activities. The specific issues and challenges associated with managing spruce forests vary greatly across their range. A session organized by IUFRO Working Party (WP) [1.01.08](#) at the 19th conference of the International Boreal Forest Research Association (IBFRA) in August 2021 focused on the linkages between spruce ecology and management. [More...](#)

Population Genetics and Genomics Research for Conservation, Climate Adaptation, Sustainable Management and Breeding of Tropical Trees

Under this theme IUFRO WP [2.04.01](#) organized a session as part of the IUFRO World Day on 29 September 2021. Tropical and subtropical forests have been subjected to a high degree of genetic erosion due to anthropogenic pressures, changes in land-use patterns, illegal and unscientific harvesting, habitat loss and lack of regeneration due to fire and grazing, rendering them vulnerable to biotic and abiotic pressures and decline. Knowledge of demographic drivers and population dynamics of tropical trees still remains elusive since most studies are restricted to a few species in the Neotropics. Emerging population genetics and genomics approaches can address these critical issues and facilitate much needed conservation and sustainable management and utilization of tree genetic resources. [More...](#)

Reduced Impact Logging for Climate

IUFRO Research Group (RG) [3.07.00](#) organized a webinar entitled “Forest Operation and Climate Change: the RIL-C Approach” in July 2021. To promote sustainable management of tropical forests, forest operations are important, but they face challenges. On the one hand, forestry is important to support the economy of a country. On the other hand, it may have negative environmental impacts. Forest harvesting activities are estimated to account for at least half of the forest degradation emissions. Therefore, efforts to reduce the negative impact of logging on carbon emissions have been widely recognized. The webinar raised the topic of reduced-impact logging for climate (RIL-C) from the point of view of academics and practitioners. Despite the various obstacles that occur in application in the field, reduced-impact logging (RIL) has shown good performance in reducing environmental impacts. However, a fair carbon trade mechanism is needed also as one of the motivating factors for implementing RIL-C. [More...](#)

Forest Ecosystems under Conditions of Climate Change: Biological Productivity and Remote Sensing

The FORECOS online conference on 28-29 September 2021 involved IUFRO WP [4.02.05](#). The event touched upon topical issues of research and practice, including the remote monitoring of forest cover, international projects and

technologies in the field of forest ecosystems in a changing climate. While essential progress has been achieved in the field, there remains a critical need for integrated understanding of the resilience and vulnerability of the forest ecosystems at the regional and global scale. The conference aimed to promote the exchange of new research ideas and practices on the use of remote sensing in estimation of forest ecosystems and tackling the issues of climate change. [More...](#)

CO₂ & Wood: Carbon Capture and Storage in Forests, Wood and Non-Wood Products

The 2021 World Wood Day Symposium held in cooperation with the Third IUFRO Forest Products Culture Colloquium emphasized the importance that harvested long-lived forest products - wood and non-wood materials - play in mitigating climate change particularly as stored wood-based carbon products that society values. In addition to forest management and conservation efforts to secure long-lived carbon sinks in forests, various efforts are also being made to secure the carbon sink effectiveness as well as the fossil fuel substitution effects of harvested wood products in climate change mitigation. Various strategies are needed to secure the long-lived carbon storage effectiveness of forest products including research and innovations in forest products technology as well as educational aspects concerning wood and forest culture. The event on 21-22 March involved RG [5.15.00](#), WP [9.03.02](#) and [Division 9](#). [More...](#)

Tree Resistance to Diseases and Pests

Extreme weather events and drought often caused by climate change increase abiotic tree stresses and make trees more vulnerable to biotic stresses. One aspect that is still fairly unexplored when it comes to tree resistance to pests and pathogens, but that has shown to display a great potential, is the role of the host-associated microbiome in modulating resistance. At a webinar within the Division 7 Forest Health webinar series entitled “Tree Resistance to Diseases and Pests – Interaction with and facilitation by the microbiome” participants discussed the idea of a road-map about how to approach the topic of microbiome and plant resistance in the future. The webinar involved IUFRO WPs [7.03.11](#) and [2.02.15](#) and was one of five webinars of a IUFRO Forest Health Webinar series. [More...](#)

Mediterranean Forest Health in the Context of Global Change

IUFRO WPs [7.03.06](#) and [7.03.14](#) jointly organized an online course with the aim to present the current knowledge, concepts, criteria and methods concerning forest health assessment, monitoring and management in a context of global change. Mediterranean forests are complex social-ecological systems characterized by wide biodiversity, and high level of spatial and environmental heterogeneity. They are considered as a hotspot of global change impacts and risks. Promoting forest adaptation to global change is particularly challenging because of considerable

uncertainty in climatic scenarios, ecosystem responses, and impacts of forest management practices. Forest health is an essential part of sustainable forest management. A shifting pattern in the incidence of endemic threats to the Mediterranean forest is increasing their vulnerability. Furthermore, new threats for forest health are emerging from trade globalization, environmental pollution and climate change. [More...](#)

Air Pollution Threats to Plant Ecosystems

The impacts of air pollution and climate change on plant ecosystems interact in two ways: i) climate change can modify the effects of exposure of plant ecosystems to air pollution, and vice-versa; ii) air pollution can affect the sensitivity of plant ecosystems to specific impacts of climate change, and vice-versa. The 30th IUFRO RG [8.04.00](#) conference on “Air Pollution and Climate Change” held in Cyprus in October particularly highlighted the situation in the Mediterranean region. The region is a key for addressing global goals on plant ecosystems due to its unique biodiversity, e.g., it hosts 20% of the world’s total floristic richness and is one of the air pollution and climate change hotspots in the world. The meeting addressed complex effects of air pollution and climate change on forest ecosystems and discussed future strategies and priorities for the coming decade to improve health, sustainability and productivity of plant ecosystems worldwide. [More...](#)

The Economics of U.S. Forests as a Natural Climate Solution

This webinar in April focused on the increased potential role of forests in meeting ambitious global commitments to address climate change. It provided recent results from leading forest economic models that evaluated the costs and potential of carbon sequestration in U.S. forests. The presentations provided U.S. scale estimates of forest-based mitigation considering various activities (afforestation, reforestation, forest management, rotation extensions), as well as at the regional, county and mill-shed scale for relevant activities. It concluded with a panel discussion focused on how to move from ambition to reality on the landscape with experts on market design and implementation. The webinar involved IUFRO RG [9.02.00](#). [More...](#)

Monitoring Global Tree Mortality Patterns and Trends

Increased tree mortality means that forests can hold less carbon for a shorter period of time. Consequently, there will be more carbon in the atmosphere with known feedback dynamics on climate warming. Accelerating tree mortality rates may indicate a climate change risk for forest survival; and forests are important for the Earth system and to human welfare, so it is crucial to know how forests will cope with the changes mankind is imposing on the Earth system. The Task Force [Monitoring Global Tree Mortality Patterns and Trends](#) is examining potential changes in trends of global tree mortality with a view to providing an empirical basis on global tree mortality for sustainable

policy making. In the course of 2021, the Task Force organized a total of nine webinars that discussed, among other things, tree mortality in various regions of the world, tools such as tree mortality modeling, and particular drivers such as hotter droughts. [More...](#)

Understanding Relationships between Biodiversity, Carbon, Forests and People

Almost 10 years after the publication of the global assessment report by the [IUFRO-GFEP](#) Global Expert Panel on Biodiversity, Forest Management, and REDD+, a new report was initiated in 2021 to follow up and update the latest available knowledge on the effects of REDD+ implementation. Two IUFRO World Day sessions shared preliminary findings of the report, which will be launched in May 2022 and will inform ongoing policy discussions on the 2030 Agenda for Sustainable Development. [More...](#)

Mondi and IUFRO Partnership to Better Understand and Respond to Climate Change

In 2021, the global packaging and paper company Mondi and IUFRO established a partnership to identify science-based responses to climate-related threats to forests and forest-based industries. The [IUFRO-Mondi partnership](#), as a global partnership with a pan-European focus, aims to establish a science-business platform of collaboration to address forest-related climate change challenges. A first Think Tank Meeting in October 2021 focused on the most critical response options for silvicultural management and along the forest value chain, and relevant socio-political frameworks and societal perceptions. The meeting clearly showed that climate change does not only impact forests and their ecosystem services; institutions, enterprises, and particularly small forest owners are severely impacted economically. [More...](#)



Photo: Riedelmeier on Pixabay



Restoration of degraded forest reserve. Photo: Form Ghana Ltd.



World Environment Day 2021 Launch day

Photo: Guatemala - Private Institute for Climate Change Research / National Forestry Institute



#GenerationRestoration

Forest Landscape Restoration for Climate, Nature and People



Screenshot: IUFRO-WFSE session at GLF Climate



Restoring Forest Ecosystems and Landscapes

The United Nations Decade on Ecosystem Restoration was launched on World Environment Day, 5 June 2021. The [UN Decade's](#) overarching goal is to stop and reverse the destruction and degradation of billions of hectares of ecosystems. It runs from 2021 through 2030, which is also the deadline for the Sustainable Development Goals.

Events such as the Global Landscapes Forum digital conference, [Restoring Africa's Drylands: Accelerating action on the ground](#), hosted just before the launch of the Decade, highlighted the importance of terrestrial ecosystem restoration. The need for long-term observations and scientific evidence to support decision-making and adaptive management was clearly stated, as was the necessity to have capacity in place to translate increasing investments and business opportunities into meaningful locally driven land restoration activities that have measurable impacts on the livelihoods and well-being of people and environment.

IUFRO is particularly active in the field of forest landscape restoration (FLR) not only across Divisions, but specifically through the [Task Force Transforming Forest Landscapes for Future Climates and Human Well-Being](#), the Special Programme for Development of Capacities ([IUFRO-SPDC](#)) and the Special Project on World Forests, Society and Environment ([IUFRO-WFSE](#)).

FLR looks beyond the immediate forest area and identifies a broad range of measures to improve the ecosystem, including soils, nutrients, water, tree cover and biodiversity. The aim is to build resilient landscapes and to generate maximum benefits for local stakeholders and society at large. Restoration is certainly not a quick-and-easy fix. To be successful, everyone involved must be on the same page. And that means all the competing interests around land use must come together and work collaboratively to achieve that common goal.

Ecosystem Restoration for Green and Peace Asia

The UN Decade on Ecosystem Restoration is an opportunity to help turn the tide and create a sustainable future for Earth's nature and Earth's people. Just as forest ecosystems are characterized by interconnectedness at all levels - from tiny microorganisms to towering old-growth trees - land restoration efforts likewise must be characterized by interconnectedness on every level. To develop a network among forest-related institutions in the Asian region, policymakers and international organizations were invited to participate in a symposium involving IUFRO [RG 1.10.00](#) in August. The event offered an opportunity to share successful cases and lessons learned; to present current projects

or programs on ecosystem restoration; to discuss effective and efficient strategies for ecosystem restoration; and to strengthen a cooperative network for ecosystem restoration at the regional level among Asian countries and international organizations. [More...](#)

Forest Seedling Root Development and Function for Reforestation and Restoration

This online symposium with IUFRO WP [1.01.03](#), RG [1.06.00](#) and RG [3.02.00](#) took place in October and provided a forum for exchanging ideas related to principles of root development in nursery seedlings and juvenile forest trees. Emphasis was placed on the development of effective and environmentally sound technologies to optimize seedling quality and promote reforestation and forest restoration operations. [More...](#)

Forest Landscape Restoration and Climate Change in Latin America

The online seminar titled "La contribución de la restauración de paisajes a la adaptación a las consecuencias del cambio climático y su papel en los NDC" was held in Spanish on 23 June and involved IUFRO RG [3.09.00](#) and [Division 8](#). The impacts of climate change in Latin America and the Caribbean have already had serious economic, social and environmental consequences. Many of these impacts, such as the destabilization of rainfall patterns, the extension of periods of drought, the rise in sea level, and changes in the integrity of ecosystems, among others, are in practice irreversible. In the seminar, participants shared innovative restoration strategies that contribute to the adaptation to global change of the countries of the Latin American region. Multifunctional management options are needed to find innovative and sustainable solutions - both operational and cost effective - to achieve sustainability objectives in the medium and long term of landscape restoration. [More...](#)

Landscape Ecology in the UN Decade on Ecosystem Restoration

The UN Decade on Ecosystem Restoration has put 'ecological restoration' at the center of political, scientific and technical agendas. Given that ecosystem restoration can contribute to end poverty and hunger, prevent and reverse the loss of ecosystems and biodiversity and combat climate change, and also that the landscape approach is required to address these and other goals, the IUFRO Landscape Ecology WP [8.01.02](#) dedicated its fourth webinar to the topic 'Landscape ecology in the UN decade on ecosystem restoration'. The webinar aimed to discuss

opportunities that the UN Decade brings to forest landscape ecology, the contributions of research and development in this field to the goals and objectives of the initiative, and to provide an overlook of forest landscape restoration projects across the world, particularly in areas affected by deforestation and degradation. The key knowledge output of this webinar was that restoration should not be focusing only on individual issues and disciplines but follow a wider and multidisciplinary approach. [More...](#)

Rewilding the Soil

Rewilding (however defined) is a game-changer, and the concept has captured the imaginations of the public and the attention of politicians, decision-makers, and others. However, there is no single idea of *rewilding* or of a *rewilded* landscape or habitat. In part there is a need to reconstruct a broken nature, and at the same time to slow or halt the extinctions of faunal and plant species currently underway. Ideas and opportunities for rewilding projects need to be informed by good understanding of countryside and ecological history but simultaneously be forward-looking. This is not about stepping backwards to retro-fit into a lost landscape but moving forwards and focus on new visions of *future-scapes*; and some of these will involve novel ecologies. IUFRO RG [9.03.00](#) was involved in this online conference about regenerating and re-naturing the land and the soil in September. A second online conference titled ‘Rewilding the Mind - Rewilding the Body’ took place in November. [More...](#)

Restoring Forests for Sustainable Development

The Special Project on World Forests, Society and Environment ([IUFRO-WFSE](#)) has a focus on broad topics at the forest, society and environment interface. In 2021 it was working on a comprehensive overview and assessment of the current state of knowledge regarding forest restoration under the working title “Restoring forests for sustainable development - Policies, practices, impacts and the way forward”. At the Global Landscape Forum’s Climate conference, WFSE organized a panel discussion with the title “Forest landscape restoration for climate, nature and people”. The panelists discussed crucial issues and ways forward in advancing sustainable and equitable forest and landscape restoration and clearly demonstrated the complexity of the issue and interests involved. [More...](#)

ITTO-IUFRO Learning Modules on Forest Landscape Restoration

Released as a contribution to the 2021 - 2030 UN Decade on Ecosystem Restoration, the [new learning modules](#) developed by the International Tropical Timber Organization (ITTO) and IUFRO-SPDC have been crafted to raise awareness among the next generation of professionals and policy- and decision-makers of the vital role that FLR will play in restoring degraded landscapes. The modules can be used by high schools and universities across the tropics and elsewhere to boost curricula in science, social

science, agriculture, climate change, environmental studies, forestry, geography, and planning and development studies. [More...](#)

Building Capacity for Successful Forest Landscape Restoration

IUFRO, through its Special Programme for Development of Capacities (SPDC), is aiming to build capacity in the forest science community in economically disadvantaged countries in Africa, Asia and Latin America so that forest science can better contribute to building resilient and sustainably managed forest landscapes. To that end, Forest Landscape Restoration (FLR) is one of the focus areas of the capacity building efforts.

SPDC trains forest scientists and practitioners in FLR so they are better able to manage and deal with the complex issues involved in land management. To that end, the Programme has also developed guidance (in English/Spanish/French) for the FLR process. Training covers a wide array of FLR-relevant topics ranging from global policies and governance issues to project planning, facilitation of multi-stakeholder processes and implementation and monitoring of technical operations on the ground. In 2021 IUFRO-SPDC expanded its FLR training program by implementing online courses for forest scientists, students and landscape practitioners in India and Pacific Island nations. Furthermore, training in “Systematic Evidence Evaluation on Forest Landscape Restoration” was offered in cooperation with Oxford Systematic Reviews (OXSREV). [More...](#)



Screenshot: Systematic evidence review online training

IUFRO-SPDC is also implementing a two-year project aiming to address the current shortage of trained forest landscape restoration practitioners in Malawi and Sri Lanka. As in-country partners for the implementation of the project the Centre for Applied Systems Analysis (CASA) in Malawi and the Forest Department (FD) in Sri Lanka – both IUFRO Member Organizations – have been

selected. This project is funded by the Audemars-Watkins Foundation. Additionally, financial contributions are provided by the Ministry of Foreign Affairs of Finland and the National Institute of Forest Science, Republic of Korea, and in-kind contributions are received by CASA in Malawi and the Forest Department in Sri Lanka. [More...](#)

As a Charter member of the Global Landscapes Forum (GLF) IUFRO supported the establishment of the GLF Lilongwe Chapter in partnership with the Centre for Applied Systems Analysis (CASA) and with generous funding from the German Ministry for Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMU). The Chapter is coordinated by CASA, a local knowledge Centre in Malawi that aims at catalyzing knowledge production and use in public decision-making, policy development and practice for overall well-being of men and women in Malawi. The Chapter was launched on 21 May 2021 at a digital and in-person forum titled *Getting Everyone on Board to Accelerate Restoration Action on the Ground* in Lilongwe, Malawi. [More...](#)

Transforming Forest Landscapes for Future Climates and Human Well-Being

Over the last two years, the Task Force [Transforming Forest Landscapes for Future Climates and Human Well-Being](#) was placing special emphasis on three thematic areas: (1) scenario analyses and projections, (2) best practice approaches for FL preservation, restoration and adaptive management, and (3) FL outreach and educational program (focused on school and university programs as well as practicing professionals and policymakers, including R & D initiatives with the private sector). In 2021 the Task Force was actively involved in the actions of the Global Partnership on Forest and Landscape Restoration (GPFLR), and also organized webinars and sessions at the IUFRO World Day. [More...](#)

Planting trees at a school in Lilongwe, Malawi. Photo: Harold Kangoli





Photo: Khusen Rustamov on Pixabay

Advancing Gender Equality and Forest Education

According to the 2021 [UNESCO Science Report](#), women attained 45-55% of the bachelor's and master's degrees and 44% of PhDs globally. Yet, they represent only 33.3% of researchers and 12% of members of national science academies worldwide.

Additionally, the International Science Council in its 2021 [report](#) "Gender Equality in Science – Inclusion and Participation of Women in Global Science Organizations" found that scientific organizations' pledge to diversity and inclusivity is high (68% agreement), but actions and activities are trailing behind at 32% or below.

IUFRO is aware of the need to improve its gender balance and is actively addressing the questions as to how the current gender (im)balance impacts on the organization's performance. Gender equality can benefit forestry and forest research because increasing diversity creates new inputs, supports innovation and can strengthen socio-ecological resilience in face of crises. Unequal social patterns within the forest science community will impact on the knowledge generated. IUFRO addresses gender equality in forestry through a [Task Force](#) and through dedicated Units of its Division 6 [Social Aspects of Forests and Forestry](#). On the organizational level, the IUFRO Board made a decision in 2021 to improve gender balance by means of a co-leadership of Divisions as of 2024.

Likewise, by enhancing global forestry education, IUFRO is committed to empowering youth to develop innovative science-based solutions for the complex challenges facing the world's forests. The [Joint IUFRO-IFSA Task Force](#) Forest Education and dedicated Units in Division 6 Social Aspects of Forests and Forestry and Division 9 [Forest Policy and Economics](#) are especially active in promoting and facilitating forest education and related research.

Furthermore, IUFRO's Special Programme for Development of Capacities ([IUFRO-SPDC](#)) offers training workshops and material for early and mid-career scientists from economically disadvantaged countries (see chapter on ecosystem restoration).

Robust forest education and training at all levels of formal education and in non-formal programs around the world must build the skills and knowledge needed to maximize the contributions of forests and trees to the Sustainable Development Goals, the Global Forest Goals and other forest-related goals and targets, as well as UNESCO's Education for Sustainable Development for 2030 agenda. (FAO: [Call to Action](#) - International Conference on Forest Education)

International Conference on Forest Education

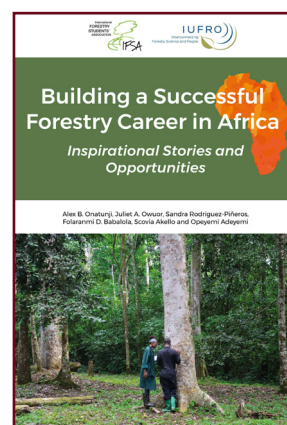
The International Conference on Forest Education (ICFE), organized by FAO, IUFRO, ITTO, CIFOR/ICRAF and the Secretariats of UNFF and UNFCCC in June 2021, was a defining event in forest education. It was instrumental in helping to chart a path forward for forest education globally. The conference celebrated the culmination of over a year-long effort, involving global and regional partners to collect and synthesize information on the status and needs of forest education and training globally. The conference contributed to raising awareness of the critical role that robust forest education and knowledge systems play in the achievement of multiple forest goals and forests' contributions to the Sustainable Development Goals.

Key findings of a global assessment and six regional assessments were presented at the ICFE. Some exciting new initiatives, including by members of the Collaborative Partnership on Forests (CPF), were presented. The Collaborative Partnership on Forests' Joint Initiative on Forest Education was also launched at the conference. The partnership, until 2024, will work to rejuvenate forest education globally through undertaking key actions related to education, training and knowledge-sharing, including improving the use of traditional forest-related knowledge. Also see: [Global forest education project](#) (fao.org)

Building a Successful Forestry Career in Africa

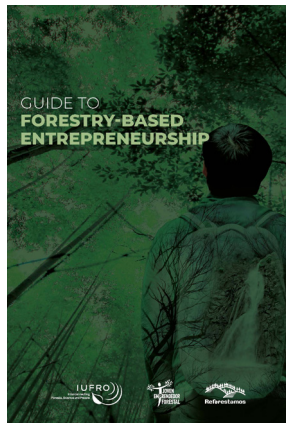
A year after the commencement of the Young African Forestry Professionals Publication Project (YAFP) a [book](#) titled *Building a successful forestry career in Africa: inspirational stories and opportunities* was launched on 12 August 2021 in a virtual event organized by the Joint IUFRO-IFSA Task Force on Forest Education (JTF) and the International Forestry Students' Association (IFSA). This book offers African solutions to African problems.

It features 23 inspiring stories from young forestry professionals from 12 African countries, while also highlighting relevant forest-related networking and academic institutions and other career development opportunities. [More...](#)



Guide to Forestry-Based Entrepreneurship

The Joint IUFRO-IFSA Task Force on Forest Education (JTF) joined forces with Reforestamos in developing an ambitious *how-to* forest-based entrepreneurship guide for use throughout Latin America. Reforestamos is a Mexico-based NGO with a mission to safeguard forest landscapes needed for sustainable development in the region. It has, among other initiatives, supported the creation of small and growing businesses by people living in and from the forests. The result of the IUFRO-IFSA-Reforestamos collaboration is the [Guide to Forestry-Based Entrepreneurship](#) available in Spanish and English. The English version was launched in 2021. Also read: IUFRO [Spotlight #90](#).



Bridging the Gap between Forest Education and Employment

The forest sector has been undergoing significant changes related to globalization, digitalization, changing societal demands and climate change. Thus, the nature of employment in the sector is shifting. Green jobs, which promote sustainable development as well as the general well-being of people, contribute to an increasingly broad spectrum of professional opportunities. However, students need adequate training to be equipped with the skills required for the new jobs.

The joint EFI-IFSA-IUFRO project [Global student networking and green jobs in the forest sector](#) discussed the transforming employment trends in the forest sector, with a special focus on the perspective of students and recent graduates from around the world at the IUFRO World Day in September 2021. [More...](#)

Forests in Women's Hands

The conference [Forests in Women's Hands](#) on 12-13 April 2021 aimed to promote international networking and exchange of experience among women in forestry, and to increase the visibility of women and their achievements in



Screenshot from conference promotion video

the forest sector. Education was one of the central themes, because women are still underrepresented at educational institutions and in forestry professions in many countries. Some of the reasons for the underrepresentation and weak visibility of women in forestry include poor integration of women, a traditional understanding of gender roles and the lack of role models in the field.

The conference was supported by the Austrian Ministry of Agriculture, Regions and Tourism, and coordinated by the Austrian Research Centre for Forests (BFW) and these organizing partners: the Austrian Women in Forestry Association (Forstfrauen), the International Union of Forest Research Organizations (IUFRO) and the International Forestry Students' Association (IFSA).

IUFRO actively engaged in conceptualizing, organizing and implementing the conference and contributed knowledge and latest available research to the conference program and pre-conference activities drawing on expertise from the IUFRO [Research Group](#) Gender and Forestry and its Working Parties and the IUFRO Task Force [Gender Equality in Forestry](#). Moreover, a broad participation from IUFRO members around the globe enriched the perspectives and exchange during the event.

The conference featured a keynote presentation titled (*Undoing gender in and through forestry networks - processes of inclusion and exclusion*) by Task Force Coordinator Gun Lidestav, Associate Professor at the Swedish University of Agricultural Sciences (SLU), as well as posters from various women's networks and initiatives presented during the information market.

The Task Force also started a [series of studies](#) in select countries in the Global North and South to examine the gender balance and analyze gender equality initiatives within the forest sector. The studies examine several equality initiatives throughout the globe.

Further reading: *Towards Gender Mainstreaming in Forestry* - [interview](#) with members of the IUFRO Task Force Gender Equality in Forestry and the Gender and Forestry Research Group and its Working Parties published in IUFRO News.

Can't See the Women for the Men

A special IUFRO World Day session organized jointly by the Forest Stewardship Council, Women in Forestry, SLU and the Fem4Forest project in the context of the IUFRO Gender and Forestry Research Group in collaboration with the Working Party on [Communications and Public Relations](#), aimed at understanding the forest sector through gender-disaggregated data. Research shows that many female foresters and women linked to forests experience challenges in relation to gender inequalities in forestry which continues to be a male-dominated sector. Despite this evidence, there is a lack of statistical data and research that provide insights into the range, nature and effects of the gender imbalance. Proper data constitute the basis for the strate-

gical work needed to support gender equality in forestry. The session gave examples of research filling the data gap and offered space for discussion on what data could support gender equality in forestry. [More...](#)

Indigenous and Traditional Knowledge and Practices

IUFRO Divisions 6 and 9, and especially the Working Party on [Forest History and Traditional Knowledge](#), successfully organized six special sessions, with 29 presentations, on the themes of Indigenous and traditional knowledge and practices, public policy and multi-jurisdictional governance, and social aspects as part of the 20th Commonwealth Forestry Conference hosted by the University of British Columbia (Canada) from 16-18 August 2021. Several presentations showed the continued reliance on traditional forest resources, especially for women, who shoulder greater responsibility for family subsistence in poor households, and for older people with few or no other sources of livelihood. The critical role of women in safeguarding commons' resources and traditional knowledge recurred in several presentations. [More...](#)



Photo: Shabnam Vagayenagar

Photo: SwamiJV on Pixabay





Top left, photo: Nelson Grima

Top right, photo: Dan Miller

Bottom: Traces of ancient forest settlements in the Kampinoski National Park, Poland. Photo provided by Emilia Janeczko

Addressing Social Dimensions of Forests

Adopted in 2015, the United Nations 2030 Agenda for Sustainable Development and its Sustainable Development Goals (SDGs) provide a global framework for addressing global development challenges, including those related to forests and trees. The 17 SDGs and their numerous targets attempt to be inclusive and achieve progress across the interrelated economic, social and environmental dimensions of sustainable development.

The 2030 Agenda also provides a global framework guiding the forest-related policy processes in the coming decade, and consequently, the direction of the future of IUFRO's strategic development. With the aim to strengthen science-society interaction and further enhance IUFRO's impact on policy processes, IUFRO addresses key dimensions and challenges regarding the relationship between forests and society as individuals or communities, as well as the institutional arrangements supporting people's livelihoods and quality of life. Hence, it is the vision of IUFRO to be *The Global Voice of Forest Science Promoting a Sustainable Future of Forests and Society*.

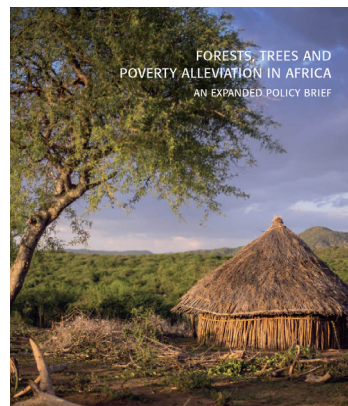
The [United Nations Forum on Forests](#) discussed the important role of forests in providing services that are crucial to tackling global crises such as the ongoing COVID-19 pandemic, the biodiversity crisis and climate change. The forum had a strong focus on the progress of the UN Strategic Plan for Forests 2030. The [Global Forest Goals Report](#) 2021 launched during the event offered a first evaluation of where the world stands in implementing the plan. The report stressed that progress in protecting the world's forests and the people who rely on them is at risk due to the escalation of the global crises. In response, IUFRO called on UNFF16 and member states to strengthen engagement with the scientific community. In this regard, a background paper on impacts of disasters on forests, in particular forest fires, was prepared by the Coordinator of the IUFRO Task Force Fire\$: Economic Drivers of Global Wildland Fire Activity. (The TF was terminated in 2021.)

Forests, Trees and Poverty Alleviation in Africa

The expanded Policy Brief titled *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). It was published by IUFRO's Global Forest Expert Panels (GFEP) Programme and 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. The publi-

cation outlines the most important scientific evidence of the nexus of forests, trees and poverty in Africa, explains the context, and highlights key conclusions to be taken into account by stakeholders across Africa.

This expanded policy brief derives its information from the global assessment report of the Global Forest Expert Panel on Forests and Poverty published in 2020 with additional complementary research in Africa and a stakeholder consultation. It contributes to the implementation of the 2030 Agenda for Sustainable Development by highlighting the relationships between SDG 1: No poverty and SDG 15: Life on land, as well as links to other relevant SDGs. The publication is available in [English](#), [Portuguese](#) and [French](#).



Next GFEP Global Assessment: Forests and Human Health

In 2021 IUFRO-GFEP announced the topic of the new scientific assessment: *Forests and Human Health*. This is the eighth assessment in the framework of the Collaborative Partnership on Forests (CPF)'s Global Forest Expert Panels (GFEP) initiative. The United Nations Organization estimates that less than half of the global population is covered by essential health services. Adding to the low rate of coverage there has been a recent surge in zoonotic diseases, including the ongoing COVID-19 pandemic, and illness and deaths from such diseases are expected to spike in the future. The implementation of the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs) can strengthen the momentum for combatting these pressing challenges.

The assessment will provide reliable and synthesized scientific information, crucial to efficiently utilize the synergies and achieve optimal trade-offs between human health, and the conservation, restoration, and sustainable management of forest ecosystems, their biodiversity, as well as trees in other land-uses. This global assessment report, planned to be published in March 2023, will contribute to the implementation of the 2030 Agenda for Sustainable Development by highlighting the nexus between SDG 3: Good Health and Well-Being and SDG 15: Life on Land, as well as relevant links to other SDGs. [More...](#)

2nd World Conference on Forests for Public Health

COVID-19 and similar viral diseases (e.g., Ebola, Anthrax) have reminded us that human health is closely intertwined with the health and well-being of our environment and the animals living in it, and that changing our lifestyles and the way humans engage with nature is a promising way forward. Being a major component of our environment, forests play a central role in the “One Health” approach, which aims at bringing multiple actors together to achieve better public health outcomes. Forests provide benefits that are crucial to different aspects of human welfare, including physical, mental, and spiritual health; food security; and protection against many diseases. The conference involving RG [6.06.00](#) provided an opportunity for cross-sectoral discussion related to forest welfare initiatives and contributions to the one health agenda. [More...](#)

Forests, Nature and Public Space during the Global Pandemic

The first webinar of a new [IUFRO Division 6](#) webinar series was successfully held on 19 March 2021. It presented research on the role of forests, nature and public space in urban areas during the COVID-19 pandemic. How have our local green spaces helped us to cope with the public health crisis? Have we seen changes in the use and perception of urban nature? Will this affect the way in which we plan, design, and manage our urban green areas and public spaces, and perhaps even our cities? Another webinar in the series discussed ‘Being a Forest Scientist during a Global Pandemic’. [More...](#)

The Power of Social Innovation

To increase the well-being of forest-dependent communities in the Carpathian and other mountain regions, IUFRO WP [4.05.05](#) organized a special session at the 6th Forum Carpathicum entitled “The power of social innovation in mountain areas to steer a sustainable governance of nature”. The session aimed to advance the knowledge on the role, power and place of social innovation in the development of the Carpathian socio-ecological system, seeking to provide innovative solutions and sustainability considerations and ideas potentially useful for policy makers and practice communities of different levels, with the ultimate aim of building resilience to global changes in marginalized mountain areas. [More...](#)

The Importance of Wooden Heritage – World Wood Day

Since ancient times, wood has had a close relationship with human life. The loss and diminishment of traditional wood techniques and cultural heritage are growing concerns with modernization. Such loss emphasizes the importance of wooden heritage and calls for the preservation and

awareness of as well as the education on this heritage. It is equally important for the inheritors of traditional techniques and the public to understand the value of preserving the heritage. Otherwise, much of this heritage will be lost to humanity. IUFRO through Division [5.00.00](#), RG [5.15.00](#) and WP [9.03.02](#), and World Wood Day present a unique environment for bringing people with a focus on cultural heritage and science together and cooperate with other organizations in order to work on the preservation and education of wooden cultural heritage. [More...](#)

Natural and Cultural Heritage in Forests – Contemporary Challenges

Natural and cultural heritage in forests are assets that offer unique development opportunities and a high-quality living environment. These sites are under increasing pressure from climate change, infrastructure development, mining, poaching, mass tourism and other threats. The challenge in the face of growing expectations on the social functions of forests is to adopt appropriate strategies for the moderate, sustainable use of the forest’s biological, cultural and landscape diversity. The conference held in December 2021 was hosted in Poland and involved IUFRO Research Group [6.01.00](#) Forest Recreation.

GreenRisk4ALPs Mountain Forest Conference

The final conference of the GreenRisk4ALPs project aimed to connect, discuss and move forward together with managing mountain forests sustainably as an effective protection measure against natural hazards, while also providing other important ecosystem services. This particularly involves translating scientific knowledge into policy and management actions as well as into the public perception. All experts at the conference agreed that climate change and



Rock avalanche in the GreenRisk4ALPs Pilot Action Region “Gries am Brenner / Vals” in Austria, endangering infrastructure, adjacent to protective forest reducing rockfall risk. Photo: Barbara Žabota, University of Ljubljana

socio-economic developments represent major challenges for the future of protective forests, and that close cooperation between science, practice and policy is a prerequisite for overcoming these challenges together. The online

meeting on 28-29 June involved IUFRO Units [8.03.02](#) Snow and avalanches and [8.03.00](#) Natural hazards and risk management. [More...](#)

Forests in Fukushima and Chernobyl - People, Wildlife and Landscape

In spring 2021 the 35th anniversary of the Chernobyl and the 10th anniversary of the Fukushima nuclear power plant accidents were commemorated. In the contaminated areas forest is the key ecosystem. The radioactive contamination affects everything in the landscape. Since vegetation, human activities and wildlife closely interact with each other, and these interactions shape ecosystems and landscapes, it is essential to take integrated approaches to address the impacts of nuclear disasters. On 14 April a webinar was organized as a collaboration between WP [8.04.07](#) and WP [8.01.02](#) addressing landscape ecology and radioecology. Among other things, it was discussed how the Fukushima accident affected local people's lives in the Satoyama, the rural landscape with forests and arable lands around Fukushima that is formed through close interaction between nature (forests) and people. [More...](#)

A Guide to Forest–Water Management

IUFRO primarily through its Task Force on [Forests and Water Interactions in a Changing Environment](#) contributed to an FAO-led report launched at World Water Week in 2021. This comprehensive global publication provides guidance on the contribution of forests for a holistic approach to water resource management. Forests and trees play a vital role in meeting the world's increasing demand for water and need to be managed for water-related ecosystem services. Among other things, the guide calls for enhanced forest management that prioritizes the provision of water-related ecosystem services. This is needed to ensure forests also fulfill their potential as a nature-based solution to address water security, helping ensure sufficient quality water to sustain resilient communities and ecosystems. [More...](#)

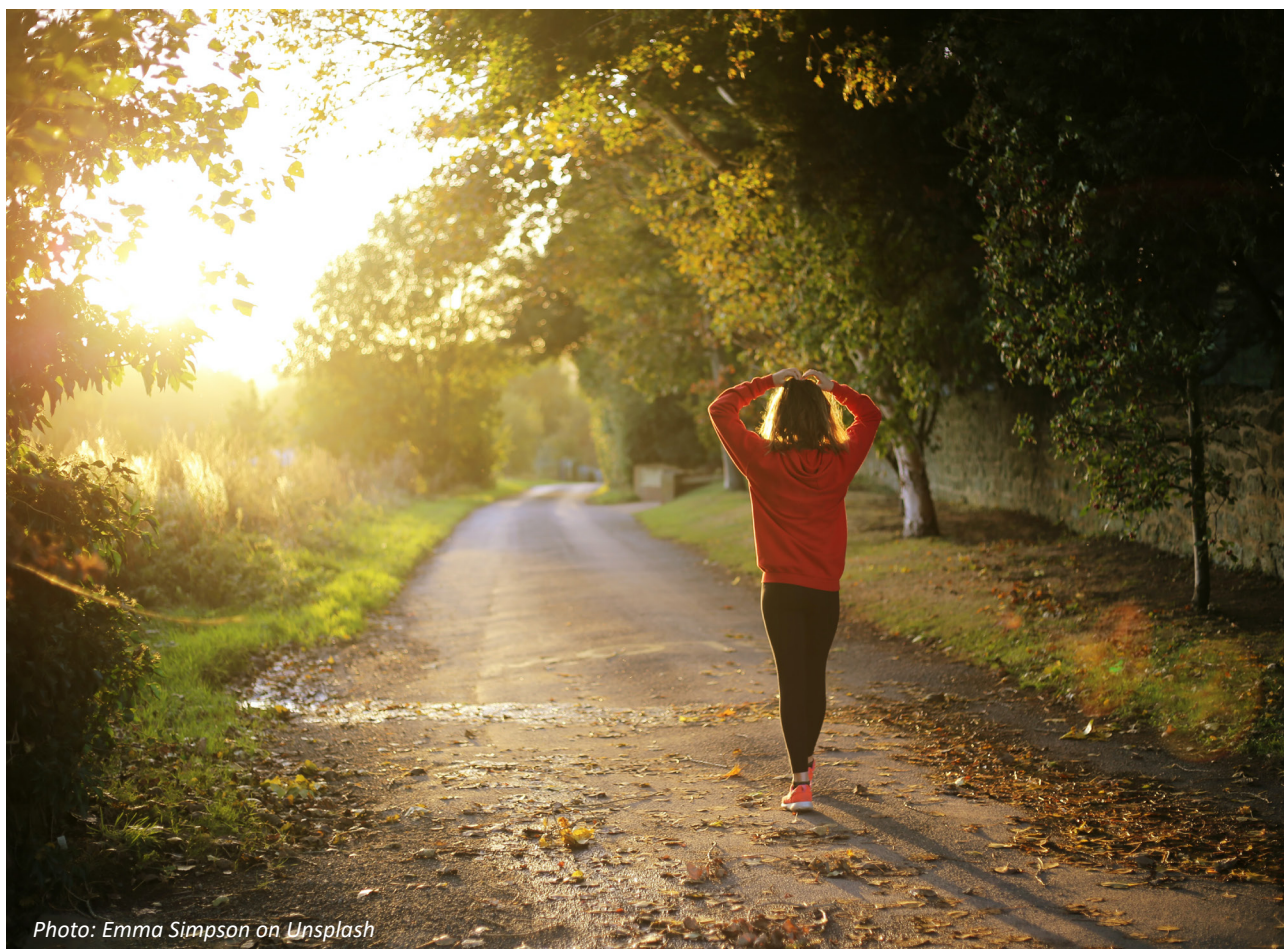
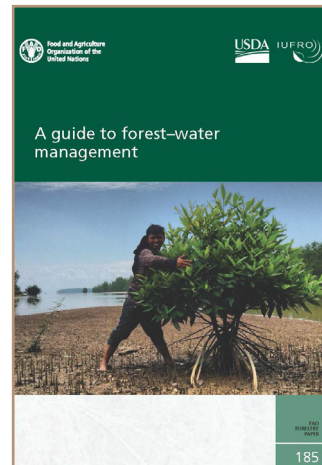


Photo: Emma Simpson on Unsplash

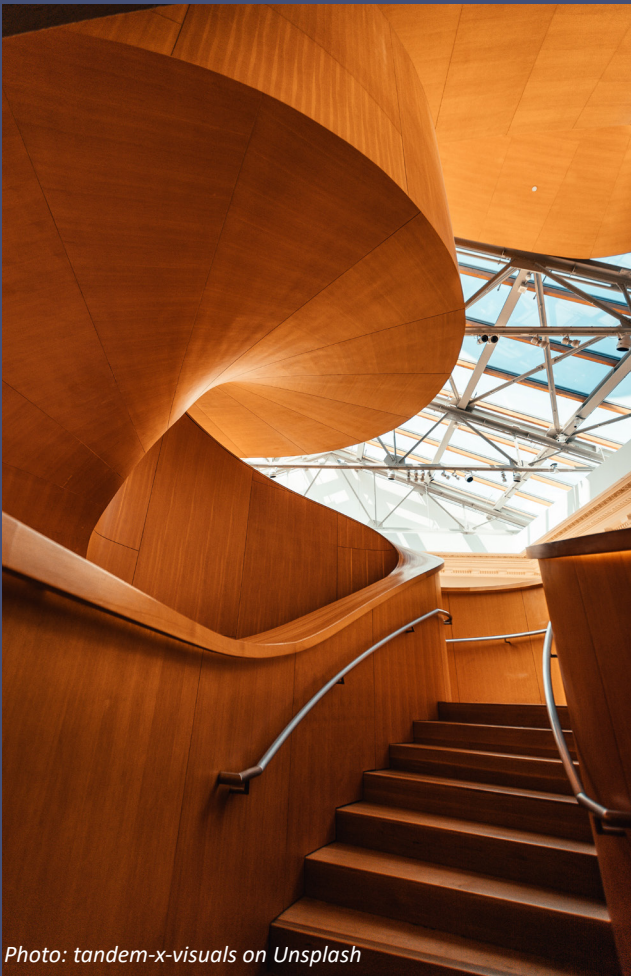


Photo: tandem-x-visuals on Unsplash



Photo: Gerda Wolfrum



Photo: marcinjozwiak on Pixabay

Innovating for Sustainable Forest Management and Bioeconomy

According to the [Global Forests Goals Report 2021](#) presented by the United Nations Department of Economic and Social Affairs and the United Nations Forum on Forests Secretariat, some 1.6 billion people worldwide depend directly on forests for food, shelter, energy, medicines and income. The report also states that about 1.15 billion ha of forests worldwide are managed primarily for the production of wood and non-timber forest products (NTFP).

Furthermore, one of the key messages promoted by FAO on the International Day of Forests in 2021 raised awareness of the fact that forests provide more than 86 million green jobs and that wood from well-managed forests supports diverse industries, from paper to the construction of tall buildings.

Sustainable management of forests and the sustainable production of forest products relies on strong scientific and technical cooperation as well as best research-based knowledge and innovation. The forest sector is also in a unique position to be at the forefront of an inclusive, low-carbon bioeconomy. Transition to a bioeconomy is expected to reduce dependence on fossil fuels and contribute to climate and environmental protection.

Forest-based Bioeconomy for All: Opportunities and Challenges

Forests are considered central suppliers of raw material in a bioeconomy, where biobased and renewable materials replace fossil, non-renewable resources. While a shift towards bioeconomy offers great prospects for the development of sustainable economies, it might as well foster conflicts through an increased pressure on forest resources. The [Science Policy Forum for Africa & Europe](#) at IUFRO World Day discussed opportunities and challenges of a bioeconomy based on forest and tree resources including non-wood forest products from a political and a scientific perspective. It addressed emerging questions on economic, ecological and social consequences and the role of science and policy with particular a focus on the African and European continents.

Untapping the Potential of Nontimber Forest Products for Latin American Bioeconomy

Bioeconomy emphasizes knowledge-based production and use of renewable biological resources through sustainable processes. NTFPs, including goods used by humans for food, medicine and other essential items, are for the most part 'invisible' in the accounting of forest-based economies and management of resources that supply such

economies. Latin America, with more than 20 percent of the world's forests, supplies many NTFPs to local and global markets. Brazil, Chile and Argentina are leading transitions to bioeconomies, developing national strategies and programs. At a session organized by the IUFRO Task Force [Unlocking the Bioeconomy and Nontimber Forest Products](#) on IUFRO World Day, a forum was launched under the title "Untapping the Potential of Nontimber Forest Products for Latin American Bioeconomy: Connecting bioeconomy & forests to people and human development". Furthermore, throughout 2021, the Task Force organized a webinar series that looked at the roles of NTFPs in different parts of the world. [More...](#)

Using a Social Science Lens on the Forest Bioeconomy

A special section in *Ambio: A Journal of Environment and Society* pulled together studies that look at how, for example, perceptions of the forest-based bioeconomy differ across countries and social groups. This is important, because it opens the door to more inclusive, locally and socially relevant bioeconomy policies and strategies. The special section is titled "Social dimensions of a forest-based bioeconomy: A summary and synthesis" and involved IUFRO WP [9.05.01](#). It was highlighted in an IUFRO Spotlight article. [More...](#)

Scaling-up from Tree and Stand Level Research to Sustainable Silviculture at Forest and Landscape Level

Research on silviculture is often conducted at tree or stand level. However, recent forest-related issues require a scale-up of silvicultural research at forest and landscape levels to deal with challenges such as climate change adaptation or the long-term procurement of sustainably produced forest products while maintaining or even enhancing biodiversity and ecosystem services. In light of this, the [all-Division 1](#) meeting in November 2021 discussed challenges and new approaches in silvicultural research. Participants concluded, among other things, that a landscape level approach could be applied to deal with multi-objective forest management, restoration of intensive plantations to naturally sustaining uneven-aged stands, group selection silviculture, aquifer management, old-growth forest management, and silvicultural treatment for fire resilience. [More...](#)

3rd IUFRO Acacia Conference 2021

Non-native acacias have become dominant components of many Southeast Asian plantation landscapes. They are increasingly being threatened by insect pests and

pathogens. Regional collaboration in Southeast Asia is urgently needed to lower the arrival and subsequent movement of invasive pests and pathogens and to better manage damage to trees by 'new encounter' or established pests. Against this background, the 3rd IUFRO Acacia Conference "Embracing Transformation for Sustainable Management of Industrial Forest Plantations" addressed the application of technology and innovation in upstream and downstream R&D. IUFRO WP [2.08.07](#) was involved in this event. [More...](#)

Plantation Forestry to Support the Sustainable Management of Boreal Forests – Examples from Eastern Canada

Plantation forestry, including tree breeding and novel tools such as genomic selection, can support sustainable management of boreal forests in the face of climate change. Plantations can provide high yields and offer the opportunity to select for species, genotypes, stand density and spatial arrangements. A IUFRO World Day session organized by the IUFRO Task Force on [Resilient Planted Forests Serving Society & Bioeconomy](#) presented examples of how plantations can play a significant role in augmenting, maintaining or restoring forest productivity in boreal landscapes, adapting forests to future conditions, restoring and maintaining natural species, sequestering carbon and supporting the bioeconomy. [More...](#)

COFE-FORMEC Conference 2021

The Council on Forest Engineering (COFE) and the International Symposium on Forest Mechanization (FORMEC) were jointly hosting their 2021 annual meeting under the theme "Forest Engineering Family – Growing Forward Together". The meeting brought together forest engineering researchers, industry experts, government agencies and academics from around the globe and provided an online platform for participants to present, share and discuss the latest forest engineering research and technology development. The event, which involved IUFRO Division 3, was hosted by the College of Forestry at Oregon State University and chaired by the [Division 3](#) Coordinator. [More...](#)

Automation in Forest Operations

Forest operations are evolving rapidly. Thanks to the development of technology, a number of applications are now available as fully applicable products or at concept/prototype stages in the area of teleoperation, semi-automation and full automation. As these developments are also common to other areas of production (e.g., mining, harbor activity) exchange of information is necessary between these areas. A webinar series organized by RG [3.10.00](#) aimed to share the state-of-the-art technology both at academic and industry levels, building awareness about opportunities, issues, and the technology of automation and robotics, in special outdoor, harsh and unstructured environments. [More...](#)

Role of Data, Inventory, Model in Sustainable Forest Management in Asian Forests

Inventory designs and data collection and sharing are some of the first steps towards sustainable forest management with models developed as tools for decision-making during the planning process. Forest industry in Asia sometimes relies on forest certification processes to help achieve sustainability goals. This [Division 4](#) session on IUFRO World Day explored some of the common on-the-ground problems found during forest certification processes and discussed possible solutions through improved inventory and modeling efforts. It also looked at how sharing of long-term experimental data across the Asia region by a consortium of universities could lead sustainable forest management. [More...](#)

Managerial, Social and Environmental Aspects of the Forest-based Sector for Sustainable Development

The forestry sector is significantly affected by environmental change and currently facing one of the biggest crises in recent history. A continuous string of natural disasters increases pressure on forest management scenarios, timber and non-wood forest products trading and pricing, sales policies, labor productivity, and demand and supply responses. These challenges considerably influence the whole value chain. Forest management, timber and non-timber products, and wood markets are confronted with increasing pressure for enhanced managerial skills, planning, logistics, communication, marketing and analysis. These and other challenges and related response options were discussed at the 40th Anniversary Conference of IUFRO RG [4.05.00](#) held virtually. [More...](#)

Boosting Biodiversity in Wood Use by the Concept of Short Supply Chain to Cope with Pandemics and Climatic Changes

State-of-art technology is making wood one of the most promising materials of the future. Increasing attention is currently being placed on the future availability of wood and lignocellulosic biomass as renewable materials. In light of these trends, the forest sector needs to be reconsidered, looking to neglected species that could be a resource to face the effect of climatic changes and the compartmentalization due to unexpected events such as the pandemic, to promote social equality and development. A IUFRO World Day session of RG [5.01.00](#) showcased research activities in different countries related to the use of less known species in a more local wood supply chain as a tool to cope with climatic changes and procurement bottlenecks. [More...](#)

Sustainable Wood Fuel Value Chains in Africa

Wood fuel (charcoal and firewood) constitutes over 70% of the energy needs for cooking and heating in sub-Saharan

Africa. The consumption is on the rise due to population growth, poverty and urbanization. The production is accessible to a large number of households yet characterized by poor harvesting and processing practices. The wood fuel sectors in most sub-Saharan African countries are characterized by a high degree of informality. There are ongoing efforts in most countries to formalize the sector, that is, to organize, regulate and control the production and trade, typically under the heading of sustainability. The hybrid conference from Kumasi, Ghana, involved WP [9.05.09](#). [More...](#)

Assessing Wood Use for Traditional Products along with New Products for their Environmental Profiles

For many countries, forests provide harvested wood products for structures, energy, and food. There is a global impetus for materials that have a low carbon footprint (CFP) from sustainable resources while avoiding GHG emissions. By measuring all the direct and indirect energy and material inputs to product manufacturing and quantifying the GHG emissions per unit of product using life cycle assessment (LCA), the CFPs of products are found. There are new opportunities to utilize wood for replacing other products

to aid in climate change mitigation strategies while maintaining a sustainable source of raw material. These opportunities were addressed, among other things, in a session organized by RG [5.12.00](#) on IUFRO World Day. [More...](#)

Biological Invasions in Forests: Trade, Ecology and Management

In virtually all regions of the world, non-native organisms are establishing themselves, with many of these species having serious impacts on local economies and ecosystems. Forests are particularly affected by biological invasions that sometimes transform community composition and adversely affect forest ecosystem services. Organisms affecting forests include insects, tree pathogens, plants, fish, mammals and other taxa. Most invasions are a result of the increasing interconnectedness of global commerce and travel. The conference jointly organized by WPs [7.03.07](#), [7.03.12](#) and [8.02.04](#) at the Czech University of Life Sciences in Prague addressed the causes, consequences and management of biological invasions in forests. This is an important area of research that focuses both on the ecology of invasions, as well as improving our understanding of invasion pathways and biosecurity programs that seek to mitigate damage. [More...](#)



The Webinar Year

2021 was the year of the Webinar. Several webinar series and stand-alone virtual seminars were organized throughout the year. A selection of webinars - one per month - is depicted below.

The full list of IUFRO events including all webinars is available at: [IUFRO Calendar of Events 2021](https://www.iufro.org/Calendar-of-Events-2021)

“While we originally saw the webinars as a response to the pandemic, we quickly realized that, although a digital divide currently exists, virtual tools like webinars have immense potential to mitigate some of the variation in access to networks and information,”

*Quote by Jeremy Allison,
Coordinator of IUFRO Working Party 7.03.16*

Webinar series: Task Force Monitoring Global Tree Mortality Patterns and Trends



Photo: Laviajera333 on Pixabay

Forest Roads: Regional perspectives from around the world



Forest Roads in Southern Africa
Dr. Muedanyi Ramantswana: Nelson Mandela University
Live ZOOM: **Tuesday, February 9, 2021**
Time: 6:00pm to 7:00pm CAT, 4:00pm to 5:00pm UTC

Login using ZOOM:
<https://join.zoom.us/j/94965791379?pwd=NlZlWTZlSVhrQm01MjlnSk5sc0ZlUT09>
Passcode: 765630

Webinar Series 2021 on Behavioral and Chemical Ecology of Bark and Woodboring Insects



Photo: Giacomo Cavaletto

IUFRO Landscape Ecology Working Party 8.03.09

15th Anniversary!
<https://landscape.ecology.org/>

Forests in Fukushima and Chernobyl - people, wildlife, and landscape -

Joint webinar of IUFRO WP: Sakata and Sakai

Moderator and overview by Shoji Hashimoto
IUFRO Working Party 8.03.09
Fukuoka University, Japan

Lead papers by Etsuko Fujimura
Fukuoka University, Japan

Land cover changes by Takao Yukawa
Japan Agency for Environmental Agency (JAXA)

Wildlife by Mark Ward
University of Exeter, UK

Webinar registration
<https://www.iufro.org/Calendar-of-Events-2021>
(The video will also be available from the above link for a few weeks after completion)

14 April 2021
13:00-14:30 (GMT)
(Europe's 'Noon' Time)

Hosted by Toshiya Morimoto
IUFRO Working Party Regional Representative for Africa and Oceania



EL FUTURO DE LAS PLANTACIONES FORESTALES EN VENEZUELA

60 Años

DEL PINO CARIBE EN PLANTACIONES INDUSTRIALES EN EL PAÍS



Humusica 2021 - Soil: biodiversity and management



Photo: aisuri on Unsplash

WEBINAR FOREST OPERATION AND CLIMATE CHANGE: THE RIL-C APPROACH

WELCOMING SPEECH

Dr. Alessandro Roggero
Coordinator of IUFRO Working Party 7.03.16

TOP SPEAKERS

Prof. Dr. Elias
Coordinator of IUFRO Working Party 7.03.16

Prof. Dr. Indira Sena
Coordinator of IUFRO Working Party 7.03.16

Dr. Ismail Parkes
Coordinator of IUFRO Working Party 7.03.16

Moderator
Prof. Dr. Mehdi Youssoufi
Coordinator of IUFRO Working Party 7.03.16

Live on Zoom Meeting and Youtube

Free!

Date: 23 July 2021
Time: 11:00 am - 12:00 pm Jakarta Time (GMT +7)
11:00 am - 01:00 pm Malaysia Time (GMT +8)

Scan me!

Registration: <https://www.iufro.org/Calendar-of-Events-2021>



Automation in Forest Operations

Division 3.0 Webinar Series

Moderation
Dr. Saulo Guerra (FAO/UNEP)

Speakers

Dr. Alexandru Marquies
Romania

Neil Christie
Canada

Wim van der Meulen
South Africa

What will you get? 4 e-Content: Knowledge, Knowledge, Knowledge

Advances in automation and digitalization of forest operations in Portugal

Automation in Mining Operations

Automated Lysing plants in the professional forest industry

August, 25th, UTC-3, 11:30 am

Zoom meeting


Arts et Métiers Sciences et Technologies

IUFRO

BASICS IN WOOD MACHINING: FORCES, ENERGY AND PHYSICAL PHENOMENA

30/09/2021
15:00-16:30

Videoconference TEAMS



WEBINAR SERIES Unlocking the Bioeconomy for Nontimber Forest Products



Comparing the potential of Non-Wood Forest Products in different European regions

Wednesday, October 20

Historical Landscape Ecology – Challenges for the Twenty-first Century Webinar Series



Photo: steveam-s on Pixabay

Main native group of insect pests Forest Health Webinar Series: Updating on forest diseases and insect pests in the tropics

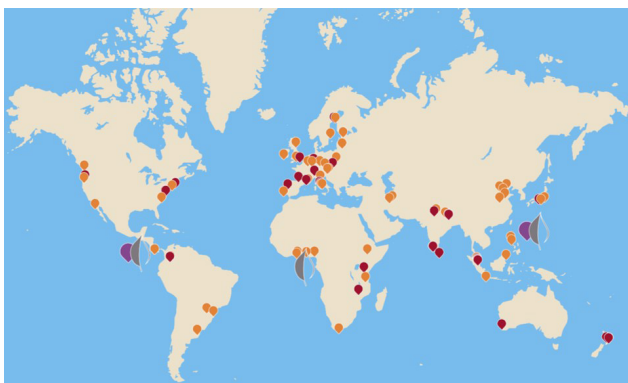


IUFRO World Day

On 28 and 29 September 2021 IUFRO held the first ever all IUFRO digital online forest science forum: IUFRO World Day. The forum offered 24 hours of networking with 79 live sessions, including three science/policy forums, and 50 contributions of static content on forest-related research topics. The [World Day](#) was held in three time zones - Africa/Europe, North/South America, and Asia/Oceania - and over 3000 participants from more than 100 countries all over the world registered for the event.

Interactive Map

An [interactive world map](#) was used as innovative meeting venue for the display of all contributions that were part of the IUFRO World Day. Over 50 Member Organizations and more than 50 IUFRO Units contributed to the event showing and sharing their work. The content was pinned on the map and participants were able to explore the map and its content at their own pace. Over 1700 visitors accessed the interactive map during the 24 hours of the IUFRO World Day, and more than 200 participants gathered on the interactive map at once during the peak times of the event.



Lunch with IUFRO

One central IUFRO Headquarters session per time zone invited people to a virtual lunch that served information on

how IUFRO works and how to get involved. This included words of welcome by the IUFRO President, a video message by the Austrian Federal Minister of Agriculture, Regions and Tourism, live discussions with early-career scientists, a poster room for IUFRO Divisions, a quiz, and more.

Science/Policy Forums

One [Science/Policy Forum](#) in each of the three time zone regions discussed emerging topics and highly relevant issues for policy makers. The forums aimed to make IUFRO heard and listened to by decision-makers who are shaping policies on climate change, the use of land and natural resources, and the SDGs, and thus, make a policy impact:

“Forest-based Bioeconomy for All: Opportunities and Challenges” was collaboratively organized by the African Forest Forum and the University of Freiburg, Germany, in Africa and Europe

“Forests and Fire: Intersectionality of Forests and People” was jointly organized by the USDA Forest Service and Embrapa Florestas, Brazil, in North and South America

“Forests and Water: Science-Policy-Practice Interface for Managing Forest and Water Interactions under a Changing Environment” was a collaborative activity led by the Chinese Academy of Forestry and Murdoch University, Australia, in Asia and Oceania.

The interactive map is still accessible on the IUFRO World Day website and contains contributions from the event to revisit! All static content items are still visible on the map and some recordings of live sessions are available in addition. IUFRO HQ will gradually upload more recorded sessions when they will be provided by session hosts.

The event has been a major step in the adaptation of the IUFRO network to new ways of meeting, knowledge sharing, and embracing new technologies due to the disruptions caused by the COVID-19 pandemic. Furthermore, it helped to achieve IUFRO's main goals of making forest science more visible, emphasizing diversity, and strengthening cooperation within our global research network.

IUFRO WORLD DAY
Digital Forest Science Forum | 24 hours | three time zones around the world

28-29
September
2021

Come and get to know the world of IUFRO!
www.iufroworldday.org

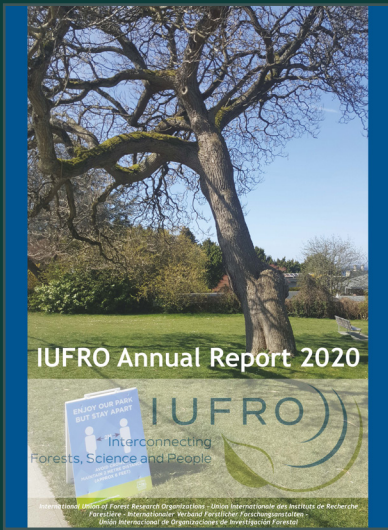
AN EVENT BY

IUFRO
Interconnecting
Forests, Science and People

FUNDED BY

Federal Ministry
Republic of Austria
Agriculture, Regions
and Tourism

IUFRO Publications



IUFRO News Vol. 50, Double Issue 4&5 (2021), Page 1

Biodiversity - the Foundation for a More Resilient Future
Interview with the Coordination Team of the IUFRO Forest Biodiversity Research Group 8.02.20

On 22 May the world is celebrating the **International Day for Biological Diversity**. This year's slogan is "We're part of the solution #Biodiversity". However, if we look at the unprecedented loss of biodiversity the world is facing today and we recognize that this loss is mainly due to human activities, it seems more likely that "we humans bring are part of the problem, if not 'the' problem."

The **IUFRO Biodiversity Action Plan "Forest Biodiversity"** addresses the influence of human-made and natural disturbances on biodiversity and explores the relationship between forest biodiversity and ecosystem processes and functions. Its results aim at strengthening the resilience and adaptive capacity of forests to anthropogenic impacts, natural disasters, and the effects of climate change worldwide, and eventually to halting and reversing the loss of biodiversity.

In line with this goal, several more specialized Working Parties (WPs) connected with the Research Group are looking into various aspects of forest biodiversity:

- WP 6.02.01** Key factors and ecological functions for forest biodiversity
- WP 6.02.02** Forest biodiversity and resilience
- WP 6.02.03** Insects and soil biodiversity
- WP 6.02.04** Ecology of alien invaders
- WP 6.02.05** Wildlife conservation and management
- WP 6.02.06** Aquatic biodiversity in forests
- WP 6.02.07** Biomass production systems and forest biodiversity
- WP 6.02.08** African wildlife conservation and management (AWCM)

Dr. Karol GARDNER, University of Georgia, USA
Karol's research mission is to enhance forest sustainability and productivity by managing forest insects and diseases and maintaining native biodiversity. His lab group works on the community and population ecology of forest insects under the context of impacts of natural and anthropogenic disturbances on forest biodiversity; his research on native and exotic forest insects has a strong applied and basic focus where the insects with high integrated pest management and insect conservation issues.

Dr. Anne OERBING, Edge Hill University, UK
Anne's research explores the juxtaposition between biodiversity, ecosystem functioning and resilience to response to environmental change with focus on the sustainable management of ecosystems in forestry and agriculture. Anne is a specialist in arthropod ecology and she has worked extensively with basic and applied research, including multi-taxa surveys with high integrated pest management and insect conservation issues.

Dr. Maria SANTOS, University of Earth, Switzerland
Maria's research focuses on bringing Earth System Science to the biodiversity. She examines social-ecological processes, their coupling and their reliance on biodiversity and ecosystem services and how this coupling enables sustainability. Maria's expertise is at the intersection between ecology, remote sensing, natural history and economics, with a particular focus on biodiversity as a common good.

Dr. Anna BARBETI, University of Tuscia, Italy
Anna's research focuses on the application of remote sensing and forest sampling strategies to forest monitoring, with a focus on forest biodiversity indicators. Recent interests concern interactions between biodiversity components that can be revealed by ordinary forest management (stand of dominant forest tree species and forest stand structure heterogeneity), ecosystem services (fuel wood production, forest biomass, carbon sequestration, habitat provision), and resilience to climate change.

Q: What are the strongest human-made drivers of forest biodiversity loss and what are the most critical consequences? (Answer by Anne, Maria and Karol)

The strongest anthropogenic drivers of forest biodiversity loss are land use change (through deforestation), overexploitation (through use of forests for timber and non-timber forest products), and invasion by high impact alien species. The most critical consequences are local population extinctions and the management of biological interactions fundamental to maintaining forest ecological communities and their functioning.

IUFRO Vernetzt Welt, Wald, Wissen
Ausgabe 3, 2021

IUFRO
Interconnecting Forests, Science and People

Fokus Afrika: Dossier betont Rolle des Waldes für Armutsbetroffene

Obwohl der afrikanische Kontinent reich an natürlichen Ressourcen ist, stellt die Armut in vielen Ländern ein großes Problem dar. In Afrika leben rund 70% der Armen Menschen der Welt und für viele von ihnen sind Wälder und Bäume überlebenswichtig. Die Wälder der Welt und der Beitrag der Wälder und Bäume zur Armutsbekämpfung unterschätzt und es fehlt an angemessenen politischen Rahmenbedingungen, um die Rolle des Waldes im jeweiligen Kontext zu stärken.

Das **Global Forest Policy Panel (GFPP)** Programm von IUFRO, das u.a. aus Mitteln des deutschen Bundesministeriums für wirtschaftliche Zusammenarbeit und Entwicklung (GIZ) finanziert wird, hat nun ein regionales Dossier (**Policy Brief**) veröffentlicht. Diese Publikation beruht auf dem **Globalen Wissenschaftsbereich von 2020 zum Thema Wälder, Bäume und Beseitigung der Armut** und legt den Fokus auf die Situation in Afrika.

Das Neue dabei ist, dass in diesem **Policy Brief** nicht nur Wissenschaftler:innen mitgewirkt haben, sondern dass auch Beiträge von insgesamt 207 afrikanischen Vertreter:innen unterschiedlicher Interessensgruppen aus Politik, Wirtschaft und Zivilgesellschaft in die Arbeit mit eingeflossen sind.

Der **Policy Brief** wurde im Rahmen des Hochrangigen Politischen Forums für Nachhaltige Entwicklung (GFPP) der Vereinten Nationen am 9. Juli 2021 vorgelesen. Eine Aufnahme der virtuell abgehaltenen Sitzung, bei der renommierte Wissenschaftler:innen zu Wort gekommen sind, ist hier zum Nachlesen verfügbar: [IUFRO YouTube Channel](#)

Mehr Informationen und ein Download-Link zum **Policy Brief** finden Sie hier: [IUFRO Forests, Trees and Poverty Allocation in Africa | Regional Activities | Global Forest Policy Panel \(GFPP\) Programme](#)

Annual Report [2020](#)

IUFRO News: [12 issues](#) (3 double issues)

IUFRO Vernetzt - new quarterly newsletter in German: [4 issues](#)

IUFRO Spotlight: [6 articles](#)

Media Releases: [4](#)

Policy Brief

Forests, Trees and Poverty Alleviation in Africa: An [Expanded Policy Brief](#) (see page 15)

Occasional Paper 33 in French

Mise en œuvre de la restauration des paysages forestiers: Leçons apprises de paysages sélectionnés en Afrique, en Asie et en Amérique latine. [OP33 in French](#)

Joint Publication

A Guide to Forest-Water Management
FAO, IUFRO and USDA. 2021. FAO Forestry Paper No. 185. (see page 17)

IUFRO SPOTLIGHT

International Union of Forest Research Organizations
Union Internationale des Instituts de Recherche Forestière
Internationaler Verband Forstlicher Forschungsanstalten
Unión Internacional de Organizaciones de Investigación Forestal

Using a social science lens on the forest bioeconomy

In many countries, forests are important sources of renewable biomass and figure prominently in bioeconomy strategies. Forests can be stretched beyond their traditional applications and used in textiles, chemicals, and cross-laminated timber, among other things, and can provide climate and ecological benefits, lead to rural employment opportunities and add to regional growth.

But there are competing demands on forest resources and competing perspectives on how forests should be used. These conflicting perspectives and perceptions on the forest-based bioeconomy impact policy, land use and forest management.

A recent special section in *Ambio: A Journal of Environment and Society* pulls together studies that look at how, for example, perceptions of the forest-based bioeconomy differ across countries and social groups.

It's important, says the special section editors, because it opens the door to more inclusive, locally and socially relevant bioeconomy policies and strategies.

The special section is entitled **Social dimensions of a forest-based bioeconomy: A summary and syntheses**.

"We wanted to better understand the different perspectives and perceptions of the bioeconomy among forest sector stakeholders, future professionals and urban citizens," said Dr. Leo Bruchner, an editor of the special section.

Press Release
International Union of Forest Research Organizations

ITTO and IUFRO release learning modules to encourage forest landscape restoration

Yokohama/Vienna, 17 November 2021: ITTO and the International Union of Forest Research Organizations (IUFRO) have released a new series of learning modules for high-school and university students to guide further understanding on forest landscape restoration (FLR).

FLR involves using holistic approaches to restore ecological functioning of degraded landscapes and simultaneously creating diverse, sustainable socio-economic benefits for people living in the landscapes on a wider scale. Putting it into practice, however, is not so easy. FLR has many dimensions, and educating future generations is crucial for its success.

Released as a contribution to the 2021-2030 UN Decade on Ecosystem Restoration, the new learning modules developed by ITTO and IUFRO have been crafted to raise awareness among the next generation of professionals and policy- and decision-makers of the vital role that FLR will play in restoring degraded landscapes. The modules contain the latest knowledge on FLR, drawing on publications such as the **ITTO Guidelines for Forest Landscape Restoration in the Tropics**, **IUFRO's Practitioner's Guide for Implementing Forest Landscape Restoration**, **IUFRO Occasional Paper No. 33: Forest Landscape Restoration Implementation: Lessons Learned from Selected Landscapes in Africa, Asia and Latin America** and **FAO's Sustainable Transition for Forest and Landscape Restoration**.

The modules can be used by high schools and universities across the tropics and elsewhere to boost curricula in science, social science, agriculture, climate change, environmental studies, forestry, geography, and planning and development studies.

The learning modules comprise four PowerPoint presentations, together with handouts for teachers and students. Each presentation is illustrated by case studies and videos and features a series of questions and assignments:

- Module 1 (FLR principles)** introduces the six globally recognized principles of FLR, discusses their conceptual basis and presents guiding elements for each principle.
- Module 2 (FLR project design and implementation)** explores the FLR process through the design and implementation of long-term on-the-ground interventions.
- Module 3 (FLR facilitation and capacity development)** looks at the skills people need to implement FLR.
- Module 4 (Securing FLR finances)** examines ways to obtain finance for implementing an FLR project.

IUFRO Document occasionné n°33 - fr

MISE EN ŒUVRE DE LA RESTAURATION DES PAYSAGES FORESTIERS
Leçons apprises de paysages sélectionnés en Afrique, en Asie et en Amérique latine

Préparé par les contributeurs:
John A. Friedland, Stephen Mamanstein, Anshu Desai, Michael Carter, Francisco J. Ruiz, Iñaki Iturriz

Préparé par les auteurs:
Agnes Azido, Øyvind Ove Barbu, José Pereira, Ernest Zoh, Alan Cooper, SM, Deborah Mack, Terrie R. Turner, Cesar Rodriguez

Contributeurs:
F. D. Adidi-Dennis, Fadiha Salage, Silvio Brenna, Pawan W. Chandel, Disha Chandra, Disha Chandra, Breno Clivio, Alberto Diemer, Greg Gendron, Benjamin Gervaise, E. G. Guebara, Hui Jinhua, Marco Antonio Jairo, Roberto Koppstein, Jyotsna Laloni, Francisco Leonel Lopez, Camilo Pereira, Rodrigo Rueda, Benoit Lecomte, Yves Rueland, M. Chirayem, Anshu G. Chandra, Anshu Desai, Cesar Rodriguez, Gembakar Diahbata, Sagar P. Thakre, Paulo Anacleto Torres, Wladimir E. Torres, Raj P. Verma

IUFRO, Vienna
November 2021

IUFRO
Interconnecting Forests, Science and People

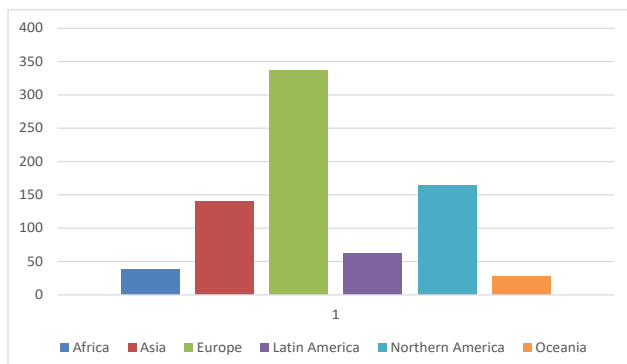
United Nations
Department of Economic and Social Affairs
World Forestry Centre

IUFRO Structure and Meetings

770 voluntary IUFRO Officeholders coordinate IUFRO Units and Task Forces.

Officeholders per Region:

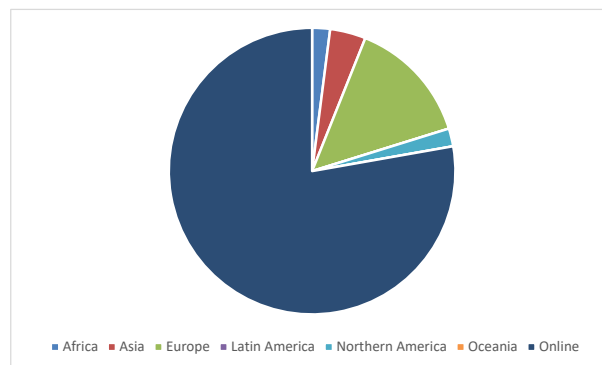
Africa (38), Asia (140), Europe (337), Latin America (62), Northern America (165), Oceania (28)



A total of 99 meetings were organized, 77 of which were held online.

IUFRO Meetings per Region

Online* (77), Africa (2), Asia (4), Europe (14), Latin America (0), Northern America (2), Oceania (0)



* Online meetings are not attributed to regions.
IUFRO World Day sessions are not included in this diagram.

256 IUFRO Units: 9 Divisions with 63 Research Groups (RG) and 184 Working Parties (WP)

Division 1 – **Silviculture** (10 RGs; 20 WPs)

Division 2 – **Physiology and Genetics** (5 RGs; 29 WPs)

Division 3 – **Forest Operations Engineering and Management** (10 RGs; 5 WPs)

Division 4 – **Forest Assessment, Modelling and Management** (5 RGs; 27 WPs)

Division 5 – **Forest Products** (11 RGs; 21 WPs)

Division 6 – **Social Aspects of Forests and Forestry** (10 RGs; 3 WPs)

Division 7 – **Forest Health** (2 RGs; 25 WPs)

Division 8 – **Forest Environment** (4 RGs; 27 WPs)

Division 9 – **Forest Policy and Economics** (6 RGs; 27 WPs)

8 IUFRO Task Forces

Task Force - Forest Education

Task Force - Monitoring Global Tree Mortality Patterns and Trends

Task Force - Forests and Water Interactions in a Changing Environment

Task Force - Gender Equality in Forestry

Task Force - Resilient Planted Forests Serving Society & Bioeconomy

Task Force - Strengthening Mediterranean Nursery Systems for Forest Reproductive Material Procurement to Adapt to the Effects of Climate Change

Task Force - Unlocking the Bioeconomy and Non-Timber Forest Products

Task Force - Transforming Forest Landscapes for Futures Climates and Human Well-Being

4 IUFRO Special Programmes and Projects

Special Programme for Development of Capacities ([IUFRO-SPDC](#))

Global Forest Expert Panels ([IUFRO-GFEP Programme](#))

Special Programme Directors' Forum (IUFRO-SPDF)

Special Project on World Forests, Society and Environment ([IUFRO-WFSE](#))

IUFRO Honours and Awards

Certificates of Appreciation were given to:

Prof. Dr. Daniel C Miller

for chairing the Global Forest Expert Panel (GFEP) on Forests and Poverty and for his contributions to the publication 'Forests, Trees and Poverty Alleviation in Africa: An Expanded Policy Brief'.

The following members of [IUFRO Working Party 8.01.02](#)

Landscape ecology for their longstanding commitment, leadership and excellent services as an officeholder in unit 8.01.02 - Landscape ecology:

Dr. Thomas Crow

Dr. Jiquan Chen

Dr. Sandra Luque

Dr. Raffaele Laforteza

Dr. Ajith H. Perera

Dr. Kurt Ritters

Dr. Liding Chen

Dr. Cristian Echeverria

Dr. Louis Iverson

Dr. Ken Sugimura

Dr. Guillermo Pastur

Dr. Dolores Armenteras

Dr. Urmias Peterson



Photo: Daria Nepriakhina on Pixabay

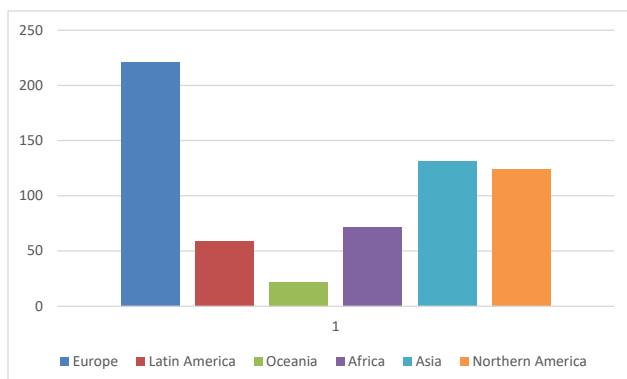
IUFRO Thanks Donors

Austrian Government (Ministry for Agriculture, Regions and Tourism):	530,163 €
Ministry for Economic Cooperation and Development (BMZ), Germany:	499,500 €
Ministry for Foreign Affairs (MFA), Finland:	400,000 €
US Forest Service:	183,022 €
Food and Agriculture Organization of the UN (FAO):	178,557 €
Mondi:	150,000 €
National Institute of Forest Science (NIFoS), Korea:	118,592 €
Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMU), Germany:	70,000 €
Austrian Research Centre for Forests (BFW):	30,000 €
International Union for Conservation of Nature (IUCN):	21,368 €
InNovaSilva:	15,000 €
International Tropical Timber Organization (ITTO):	8,392 €
TOTAL:	2,204,594 €

IUFRO Welcomes New Members

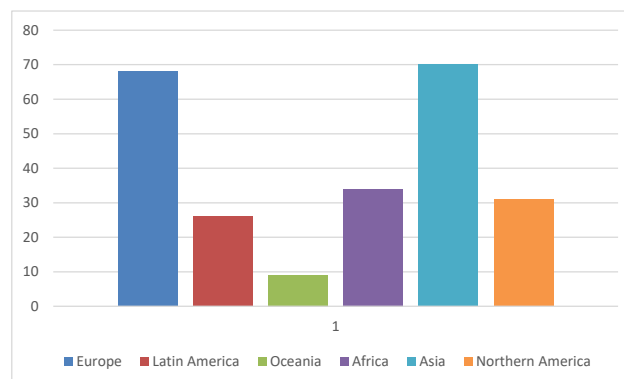
Member Organizations: 629

Europe: 221
Latin America: 59
Oceania: 22
Africa: 72
Asia: 131
Northern America: 124



Associate Members: 238

Europe: 68
Latin America: 26
Oceania: 9
Africa: 34
Asia: 70
Northern America: 31



New Member Organizations (MO)

MO 1050.00.00 Malaysia
Faculty of Forestry and Environment
Universiti Putra Malaysia

MO 1051.00.00 Norway
Inland Norway University of Applied Sciences (INN University)
Faculty of Applied Ecology, Agricultural Sciences and Biotechnology
Department of Forestry and Wildlife Management

MO 1052.00.00 United States
University of Vermont
Rubenstein School of Environment and Natural Resources

MO 1053.00.00 Belgium
Université de Liège (ULg),
Gembloux Agro-Bio Tech (GxABT)
TERRA Teaching and Research Centre / Forest is Life

MO 1054.00.00 Estonia
Estonian State Forest Management Centre

MO 1055.00.00 Portugal
CEGOT - Centre of Studies in Geography and Spatial Planning
University of Porto, Geography Department

MO 1056.00.00 United Kingdom
Oxford Systematic Reviews LLP

MO 1057.00.00 Brazil
Federal University of Technology
Forest Engineering Course

MO 1058.00.00 France
Institut Européen de la Forêt Cultivée

1059.00.00 Indonesia
Universitas Sumatera Utara
Faculty of Forestry, Department of Forest Products Technology

1060.00.00 Portugal
Universidade de Évora
Mediterranean Institute for Agriculture, Environment and Development

New Associate Members (AM)

AM 914 China
Chen, Wendy Yan
University of Hong Kong

AM 915 China
Du, Enzai
Beijing Normal University

AM 916 Hungary
Höhn, Maria
Magyar Agrár- és Élettudományi Egyetem

AM 917 Ethiopia
Sileshi, Gudeta
Addis Ababa University

AM 918 Poland
Pigan, Izabela
Stowarzyszenie Kobiet Lasu

AM 919 China
Zhang, Mingfang
University of Electronic Science and Technology of China

AM 920 United States
Bardon, Robert
North Carolina State University

AM 921 Italy
Bonifacio, Eleonora
Università degli studi di Torino

AM 922 India
Arora, Gurveen
Indian Council of Forestry Research and Education

AM 923 Brazil
Veiga, Renata
Instituto Nacional de Pesquisas Espaciais

AM 924 Finland
Karttunen, Kalle
Maa- ja metsätaloustuottajain Keskusliitto MTK ry

AM 925 Finland
Sarkki, Simo
Oulun Yliopisto

AM 926 United States
Hubbard, William
University of Maryland Extension

AM 927 Moldova, Republic of
Gulca, Vitalie
Universitatea Agrara de Stat din Moldova

AM 928 Peru
Miranda Beas, Cristina
Pontificia Universidad Católica del Perú

AM 929 Uruguay
Morales Olmos, Virginia
Universidad de la República

AM 930 Italy
Vizzarri, Matteo
European Commission

AM 931 Portugal
Branquinho, Cristina
Universidade de Lisboa / Faculdade de Ciências

AM 932 Chile
Trincado, Guillermo
Universidad Austral de Chile

AM 933 United States
Estifanos, Tafesse
University of Vermont

AM 934 Austria
Prüller, Renate

AM 935 Australia
Pandit, Ram
The University of Western Australia

AM 936 Australia
Watson, David
Charles Sturt University

AM 937 Japan
Tsumura, Yoshihiko
University of Tsukuba

AM 938 India
Gundimeda, Haripriya
Indian Institute of Technology Bombay

AM 939 Cameroon
Tonjock, Rosemary Kinge
The University of Bamenda

AM 940 Argentina
Diaz Zirpolo, Jose Antonio
Universidad Nacional de Santiago del Estero / Facultad de Ciencias Forestales

AM 942 Malaysia
Gisip, Judith
Universiti Teknologi MARA (UiTM)
Shah Alam



AM 943 Switzerland
Santos, Maria
Universität Zürich

AM 944 Canada
Cooke, Janice
University of Alberta

AM 945 United States
Cannon, Charles
The Morton Arboretum

AM 946 Ghana
Agyei-Boakye, Isaac
Accra Technical University

AM 947 United States
Poudel, Krishna
Mississippi State University

AM 948 Italy
Burrascano, Sabina
Università di Roma Sapienza

AM 949 Brazil
Veloso de Freitas, Joberto
Universidade Federal do Amazonas

AM 950 China
Lu, Huicui
Qingdao Agricultural University

AM 951 Malawi
Kamoto, Judith
Lilongwe University of Agriculture and Natural Resources

AM 952 Korea (Rep)
Park, Mi Sun
Seoul National University

AM 953 Japan
Suzuki, Yashushi
Kochi University

AM 954 Canada
Hickey, Gordon
McGill University

AM 955 Germany
Oppenoorth, Lars
Philipps Universität Marburg

AM 956 Canada
Wyatt, Stephen
Univesité de Moncton

AM 957 Nepal
Paudyal, Bimal Keshari

AM 958 Malaysia
Ratnam, Wickneswari

AM 959 United States
Coleman, Heather D.
Syracuse University

AM 960 Czech Republic
Woitsch, Jiri
Etnologický ústav Akademie ved České republiky

AM 961 Finland
Wichert, Marcos
Stora Enso

AM 962 United Kingdom
McCartan, Shelagh
Maelor Forest Nurseries Ltd.

AM 963 United Kingdom
Sayyed, Imam
Trees Please Limited

AM 964 Malaysia
Lai, Jia Yen
Monash University (Malaysia Campus)

AM 965 Slovenia
Todora, Rogelja

AM 966 China
Sun, Jianghua
Chinese Academy of Sciences