



Policy Brief

Forests, Trees and Landscapes for Food Security and Nutrition

Contributing to the “Zero Hunger Challenge”



This publication is based on the report “Forests, Trees and Landscapes for Food Security and Nutrition. A Global Assessment Report” published as IUFRO World Series Volume 33.

Editors

Bhaskar Vira
Christoph Wildburger
Stephanie Mansourian

Layout

Eugénie Hadinoto

Cover picture

Forest and agriculture mosaic landscape, Cat Ba, Vietnam
© Terry Sunderland

Published by

International Union of Forest Research Organizations

ISBN 978-3-902762-41-2

Printed by

Eigner Druck
3040 Neulengbach
Austria





Contents

Foreword	5
Introduction	6
Key messages	8
Acknowledgements	14



Foreword

The forest-food nexus is complex and contentious. There is indisputable evidence that forests and trees play an important role in food production and nutrition, but agriculture also remains one of the key drivers of deforestation. This policy brief, of the Global Forest Expert Panel (GFEP) on Forests and Food Security, reminds us of the vital role of forests in building food security. It makes a convincing case for multi-functional and integrated landscape approaches and calls for community level engagement to reimagine forestry and agriculture systems.

This brief is particularly timely. As part of the review of the International Arrangement of Forests (IAF), Member States of the United Nations called for a strengthened science-policy interface vis-a-vis sustainable forest management. The brief, launched at the eleventh session of the United Nations Forum on Forests (UNFF11), will contribute to deliberations, as Member States define priority action areas for international forest policy for the next 15 years.

2015 is truly the time for global action. The UN General Assembly will adopt a universal and transformative development agenda. At the same time, the proposed Sustainable Development Goals will integrate economic, social and environmental dimensions of sustainability, and address issues such as unequal distribution of natural resources, and food insecurity.

UN Secretary-General Ban Ki-moon has noted that the new post-2015 development agenda will require serious commitments to redirect technology, money and ingenuity to transform economies, ensure equality and promote a

sustainable future. Scientific input, through initiatives such as the GFEP of the Collaborative Partnership of Forests, can help foster innovative strategies and proven solutions.

This policy brief is an important tool for informing policy-makers and stakeholders as they envision the framework for a future without poverty and hunger, a future where forests and food are plentiful.

Thomas Gass

Assistant Secretary-General
for Policy Coordination and Inter-Agency Affairs
Department of Economic and Social Affairs

Introduction

A total of 805 million people are undernourished worldwide, and malnutrition affects nearly every country on the planet. As population estimates for 2050 reach over 9 billion, concerns about food security and nutrition have been dominating academic and policy debates. In 2012, at the UN Conference on Sustainable Development: (Rio+20), the UN Secretary General proposed an ambitious goal to eliminate global hunger by 2025 – the so-called “Zero Hunger Challenge”.

Despite impressive productivity increases, there is growing evidence that conventional agricultural strategies fall short of eliminating global hunger, result in unbalanced diets that lack nutritional diversity, enhance exposure of the most vulnerable groups to volatile food prices, and fail to recognise the long-term ecological consequences of intensified agricultural systems.

In parallel, there is considerable evidence that suggests that forests and tree-based systems can play an important role in complementing agricultural production. They can provide better and more nutritionally-balanced diets; woodfuel for cooking; greater control over food consumption choices - particularly during lean seasons and periods of vulnerability (especially for marginalised groups); and can deliver a broad set of ecosystem services which enhance and support crop production.

However, the loss and degradation of forests exacerbate the problem of food insecurity both directly and indirectly: directly, by affecting the avail-

ability of fruits and other forest- and tree-based diets, and indirectly by modifying ecological factors important for crop and livestock production. At the same time the growing demand for food, fibres, energy and other goods produced on the land often leads to market pressures for exploitation. This can result in forest destruction unless managed through appropriate governance systems and institutions.

There is growing recognition that forests and tree-based systems complement farmland agriculture in providing food security and nutrition. However, in most countries responsibility for managing these diverse elements of the productive landscape is typically fragmented across different government departments and administrative jurisdictions. The complex, overlapping and interconnecting processes that link tree products and services to food security and nutrition are currently not adequately represented in forestry, agriculture, food or nutrition-related strategies at global and national levels. Yet their importance is often well known at more local scales by consumers, forest producers and farmers.

Sustainable land use approaches aim at balancing livelihood security and nutritional needs of people with other land management goals. The contribution of forests to these approaches is of high significance for the implementation of existing international commitments. In particular, in the context of the discussions on the United Nations post-2015 development agenda and the Sustainable Development Goals which seek to establish a more holistic

approach to poverty reduction, the contribution of forests to food security and nutrition, and the integration of food production across forests and landscapes are of particular relevance.

Against this backdrop, the Collaborative Partnership on Forests tasked the Global Forest Expert Panel (GFEP) on Forests and Food Security to carry out a comprehensive global assessment of available



scientific information on the relationship between forests and trees on the one hand, and food security and nutrition on the other, and to prepare a report to inform relevant international policy processes and the discussions on the post-2015 development agenda.

This policy brief summarises the key messages of the Panel's report.



Key messages

01

Forests and Trees Matter for Food Security and Nutrition

Close to one out of every six persons on the planet directly depends on forests, with food being one essential aspect of this dependence. Forests and tree-based systems have played a major role throughout human history in supporting livelihoods as well as meeting the food security and nutritional needs of the global population. These systems range from natural forests that are managed to optimise yields of wild foods and fodder, through shifting cultivation and a wide variety of agroforestry systems to single-species tree crop systems and orchards.

There is increasing scientific evidence of the importance of forests and other tree-based systems for supporting food production and contributing to dietary diversity and quality, and addressing nutritional shortfalls - the so-called "hidden harvest". Fuel, fodder and green fertiliser that are essential to food production, are also provided by trees. Forests and tree-based systems are particularly critical for food security and nutrition for the poorest and the most vulnerable, including women.

Non-timber forest products and agroforestry tree products, including tree commodity crops within agroforestry systems, are important sources of revenue to local people and governments, which can contribute to food supply. Tree-based incomes offer a considerably more diversified livelihood portfolio given the environmental and economic risks of relying on cash incomes from single commodity crops.

Forests and tree-based systems also provide valuable ecosystem services that are essential for staple crop production and that of a wider range of edible plants. For instance, many globally important crops require pollinators that are supported by forests and diverse tree-based cropping systems within landscape mosaics. These systems offer a number of advantages over permanent (crop) agriculture: they provide a diversity of food products and adaptability to a broader range of environmental conditions (which is particularly important with regard to climate change) and changing socio-economic conditions.

Integrated Governance is Necessary for Multi-functional Landscapes

Forests and tree-based systems are embedded within broader economic, political, cultural and ecological landscapes that typically include a mosaic of different, and often competing, food production systems and other land uses. How these different land use patches interact with each other in space and time can profoundly influence the productivity and sustainability of forests and tree-based systems as well as their food security and nutrition outcomes. The integration of biodiversity conservation and agricultural production goals must be a first step, whether through land sharing or land sparing, or more feasibly through a more nuanced, yet complex, multi-functional integrated landscape approach.

There is a range of diverse drivers (including climate change, armed conflicts, population growth, urbanisation, gender imbalances, commercialisation of agriculture and industrialisation of forest resources, rising food prices, increasing per capita income, and governance shifts) that affect forests and tree-based systems for food security and nutrition. They usually act by influencing land use and management or through changes in consumption, incomes and livelihoods, and are often interrelated. Thus, designing appropriate and integrated responses to these complex influences that are effective across multiple, nested scales is a major challenge.

Managing resilient and climate-smart landscapes on a multi-functional basis that combines food production, biodiversity conservation, other land uses and the maintenance of ecosystem services should be at the forefront of efforts to achieve global food security.

Governance shifts from state-focused government to multi-sectoral and cross-scale governance present better prospects for integration of different interests and goals related to forest and food systems. In order to maximise future potential, greater attention from the scientific and development communities is required. In particular, a supportive policy framework needs to be developed that considers both the forestry and agriculture sectors in tandem.

Current governance arrangements are imperfect and ambiguous. There is a need for different solutions on a case-by-case basis due to the complexity surrounding the forest-food landscape interface. Structural reforms that involve greater intervention from the state to harmonise regulatory regimes may be required in some instances. They can contribute to achieving more inclusive food systems that not only foster innovation but also value local practices, systems and knowledge. Co-regulatory approaches that involve both public and private actors also have the potential to enhance the effective governance of forest and tree-based food systems.

A central governance issue is how and to what extent policy and regulatory frameworks help ensure equitable access of the poor, women and disadvantaged groups to forests and tree-based systems, and to what extent do these regulatory arrangements recognise the rights to direct and indirect benefits for

food and nutritional security. Interventions could improve food security and nutrition for some groups while increasing vulnerability for others; responses must be sensitive to these differences, and ensure that they meet the needs of the most vulnerable groups.

03

Securing Tenure and Local Control is Essential for Forests and Food Security

Different bundles of rights are nested and overlap in forests and tree-based systems for food security and nutrition. They vary according to geographical, social, cultural, economic and political factors, and affect the access of different population groups to the trees and their products for food, income and other livelihood needs.

Policies that support communities' access to forests and that encourage the cultivation of tree products are required. There is a growing trend towards designating *de jure* land and management rights to communities and indigenous peoples who traditionally hold *de facto* rights to forest. However, some 80 percent of forest land worldwide remains under state ownership. Improved security of tenure has significant potential to enhance access to nutritious food.

Women represent 43 percent of the global agricultural labour force, and there is evidence of femini-

sation of agriculture in numerous developing countries. However, their weak and often insecure rights of access to land, forests and trees are undermining their engagement in innovation in forests and agroforestry systems with huge costs for their food security and nutrition, and that of their families.

Recognising claims over food sovereignty can support local people in their efforts to have better access to food, control over their own diets and improve the nutritional quality of their food intake. Community level engagement with local food and agricultural systems will be particularly important for those people facing a nutrition transition and the burden of malnutrition. It creates a setting ideal for more sustainable management of these food and agricultural systems and the broader landscapes in which communities reside and interact.

Forests and tree-based systems can contribute to the “Zero Hunger Challenge”. To do this efficiently, however, requires a much greater understanding of the forest-food nexus, the effective management of landscapes and improved governance. The role of different configurations of the landscape mosaic needs to be recognised as a critical element of response to global hunger and malnutrition. Furthermore, the ways in which forests and tree-based systems can be managed to effectively deliver ecosystem services for crop production, provide better and more nutritionally-balanced diets, and ensure greater control over food inputs - particularly during lean seasons and periods of vulnerability – are vital, especially for marginalised groups.

Applying an integrated landscape approach provides a unique opportunity for forestry and agriculture to coordinate efforts at the conceptual and implementation levels to achieve more sustainable agricultural systems. As such, a clear programme of work on managing landscapes and ecosystems for biodiversity conservation, agriculture, food security and nutrition should be central to development aid.

Conservation and restoration in human-dominated ecosystems requires strengthening connections between agriculture and biodiversity. Tree-based agriculture in particular may represent an

opportunity for conservation and ecosystem restoration.

Most forest- and tree-based systems are underpinned by the accumulated traditional knowledge of local and indigenous communities. This contribution needs to be acknowledged and incorporated into management practices and policy. Working with farmers to combine the best of traditional and formal scientific knowledge offers tremendous potential to enhance the productivity and resilience of these systems and the flow of direct (nutrition) and indirect (income) benefits to their practitioners.

By targeting particular species for improved harvest and/or cultivation, more optimal portfolios of species could be devised that best support communities’ nutrition needs year-round. An overall increase in production through cultivation of a wide range of foods, including tree fruits and vegetables, is required to bridge consumption shortfalls.

The development of “nutrient-sensitive” value chains is also needed. This means improving nutritional knowledge and awareness among value-chain actors and consumers, focusing on promoting the involvement of women, and considering markets for a wider range of tree foods. By promoting tree food processing and other value additions, the non-farm rural economy can also be stimulated.

There are multiple targets to improve food choices and nutritional knowledge and awareness, with women and children being key targets, as well as actors across the value chain. Education and basic awareness play important roles in empowering rural populations and have the potential to generate tangible and fundamental benefits for rural households and communities. Such benefits include food security, sustainable forest management, health, education and general household nutrition.

Although there is a growing body of evidence, much remains to be understood as concerns the role of forests and tree-covered landscapes in food

security and nutrition and the provision of nutritious diets. Overcoming these knowledge gaps is critical to ensuring that decision-makers and other stakeholders are fully equipped with accurate, scientifically-grounded information to take informed decisions.

The Assessment Report of the Global Forest Expert Panel on Forest and Food Security has identified and highlighted important opportunities for greater harmonisation and synergy between policies and global commitments to secure more sustainable landscapes for a hunger-free future for all.





Acknowledgements

This publication is based on the work of the Global Forest Expert Panel on Forests and Food Security and its report “Forests, Trees and Landscapes for Food Security and Nutrition. A Global Assessment Report” published as IUFRO World Series Volume 33. We express our sincere gratitude to all panel members, authors and reviewers.

We also gratefully acknowledge the generous financial and in-kind support provided by the Ministry for Foreign Affairs of Finland, the United States Forest Service, and the Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management.

Furthermore, we would like to thank the member organisations of the Collaborative Partnership on Forests for providing overall guidance to the Panel. Our special thanks go to the IUFRO Secretariat for providing indispensable administrative and technical support to the work of the Panel. We are particularly grateful also to the Food and Agriculture Organization of the United Nations (FAO, Rome, Italy), to the Center for International Forestry Research (CIFOR, Bogor, Indonesia), the University of Cambridge (UK) and to the World Agroforestry Centre’s (ICRAF) South Asia Regional Office, Delhi, India, for hosting expert meetings.

A short publication such as this cannot do justice to all the complexities and controversies related to the linkages between forests and tree-based systems, and food security and nutrition. For a more comprehensive assessment, the reader is directed

to the Panel’s full report. Nevertheless, the central thread running through both the full report and this policy brief is the importance of a greater understanding of the forest-food nexus, the effective management of landscapes and improved governance. It is our sincere hope that the policy brief may effectively assist policy- and decision-makers in tackling the challenges of eliminating hunger and fighting malnutrition in the future.

Bhaskar Vira
Christoph Wildburger
Stephanie Mansourian

GFEP donors:



CPF members:



