



Contribution of forests to the achievement of SDG2: Forests and Food Security



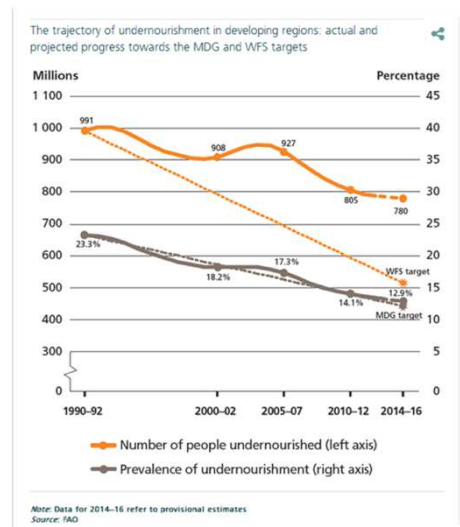
DR BHASKAR VIRA

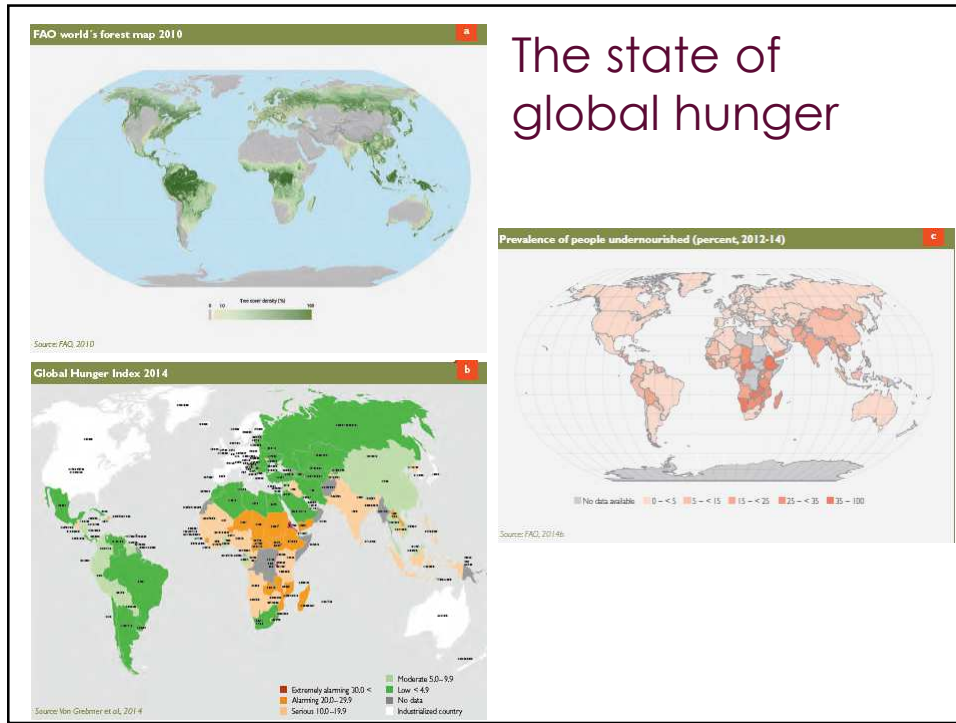
UNIVERSITY OF CAMBRIDGE/IUFRO



The state of global hunger

- ▶ 795 million people are undernourished (216 million less than in 1990-92)
- ▶ Malnutrition – under 5 stunting, anaemia among women of reproductive age or adult obesity – affects every country in the world
- ▶ In many countries that have failed to reach the international hunger targets, natural and human-induced disasters or political instability have resulted in protracted crises with increased vulnerability and food insecurity of large parts of the population.





Forests and food: exploring the links

The complex block features two book covers. The left cover is for 'Forests, Trees and Landscapes for Food Security and Nutrition: Contributing to the "Zero Hunger Challenge"', edited by Bhaskar Vira, Christoph Wildburger, and Stephanie Mansourian. It is part of the 'Global Forest Expert Panel on Forest and Food Security' and the 'IUFRO World Series Volume 33'. The right cover is for 'Forests and Food: Addressing Hunger and Nutrition Across Sustainable Landscapes', edited by Bhaskar Vira, Christoph Wildburger, and Stephanie Mansourian. Logos for CPF (Center for People's Forests) and IUFRO (International Union of Forestry Organizations) are visible at the bottom.

Policy Brief
Forests, Trees and Landscapes for Food Security and Nutrition
Contributing to the "Zero Hunger Challenge"

Forests, Trees and Landscapes for Food Security and Nutrition
A Global Assessment Report
Editors: Bhaskar Vira, Christoph Wildburger, Stephanie Mansourian

Global Forest Expert Panel on Forest and Food Security

IUFRO World Series Volume 33

Forests and Food
Addressing Hunger and Nutrition Across Sustainable Landscapes

EDITED BY BHASKAR VIRA, CHRISTOPH WILDBURGER AND STEPHANIE MANSOURIAN

CPF
IUFRO

Report: Proper Forest Management is a Key to Feeding Planet

Forests are 'key feature' of food security landscape

By Mark Kinver
Environment reporter, BBC News

6 May 2015 Science & Environment

The study calculates that almost one-in-six people depend on forests for food and income.

Forests and food: exploring the links

UN News Centre

New UN-backed report emphasizes possible contribution of forests to ending hunger

6 May 2015 - A new United Nations-backed report on the link between forests and food production and nutrition says that woodlands could be the key to ending hunger and will be intimately linked to the global fight against climate change.

Launched today at UN Headquarters in New York, where the 11th session of the UN Forum on Forests is under way, the Forests, Trees and Landscapes for Food Security and Nutrition report outlines the potential of forests to improve food security and nutrition, and to ensure the livelihoods of the world's most vulnerable people.

"What the report is trying to get us to focus on is the relatively neglected contribution that

From Global Forest Expert Panel ... to High Level Panel of Experts on Food Security and Nutrition (Committee on World Food Security)

CFS
Committee on
World Food
Security

HLPE
High Level
Panel of Experts

HLPE - High Level Panel of Experts on Food Security and Nutrition

**Sustainable
forestry
for
food security
and nutrition**

Food and Agriculture
Organization of the
United Nations

ILIFAD

WFP
World Food
Programme

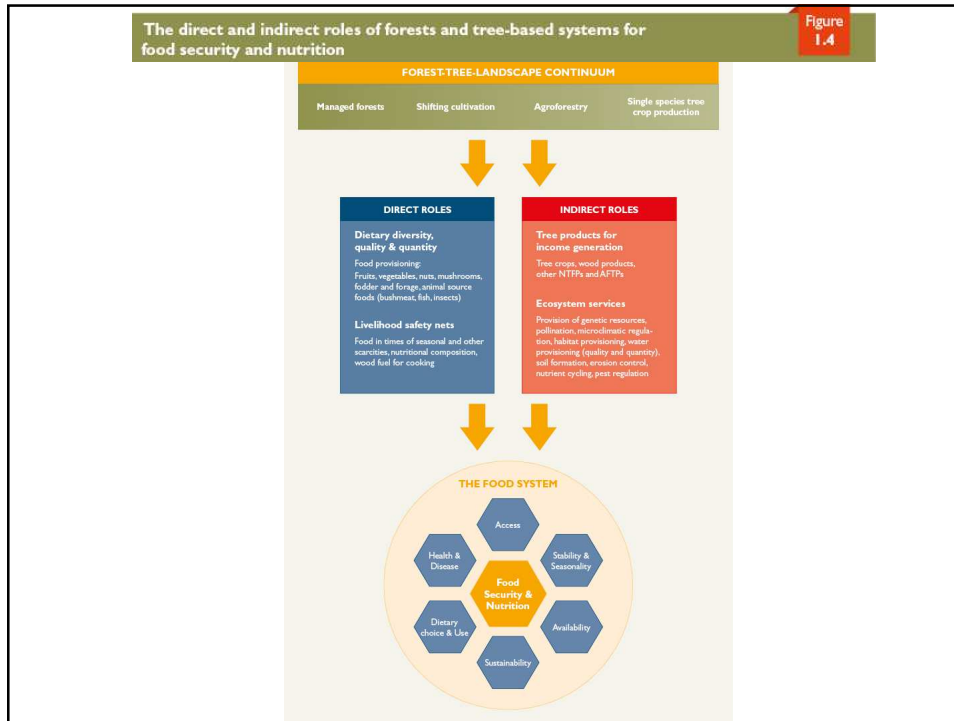
Sustainable forestry for food security and nutrition 2017

Forests, Trees and Landscapes for Food Security and Nutrition

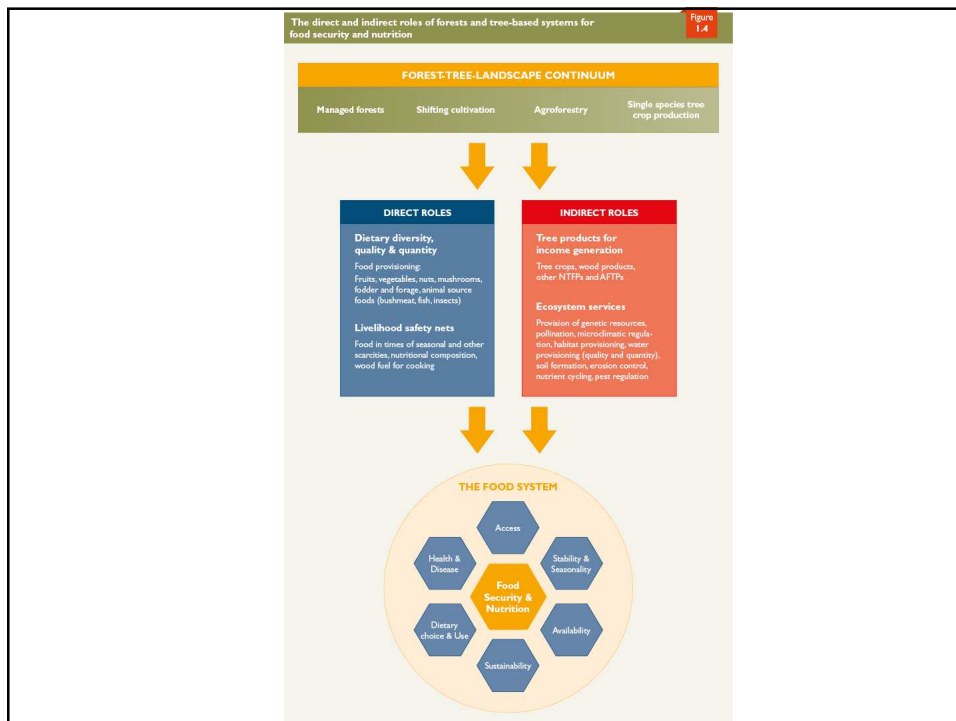
- ▶ Despite impressive productivity increases, there is growing evidence that conventional agricultural strategies alone:
 - ▶ fall short of eliminating global hunger;
 - ▶ result in unbalanced diets that lack nutritional diversity;
 - ▶ enhance exposure of the most vulnerable groups to volatile food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

Forests, Trees and Landscapes for Food Security and Nutrition

- ▶ In parallel, there is considerable evidence that suggests that *forests and tree-based systems* can play an important role in complementing agricultural production in providing:
 - ▶ 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, deliver a broad set of *ecosystem services* which enhance and support crop production







Evidence on the role of forests and trees for diets and nutrition

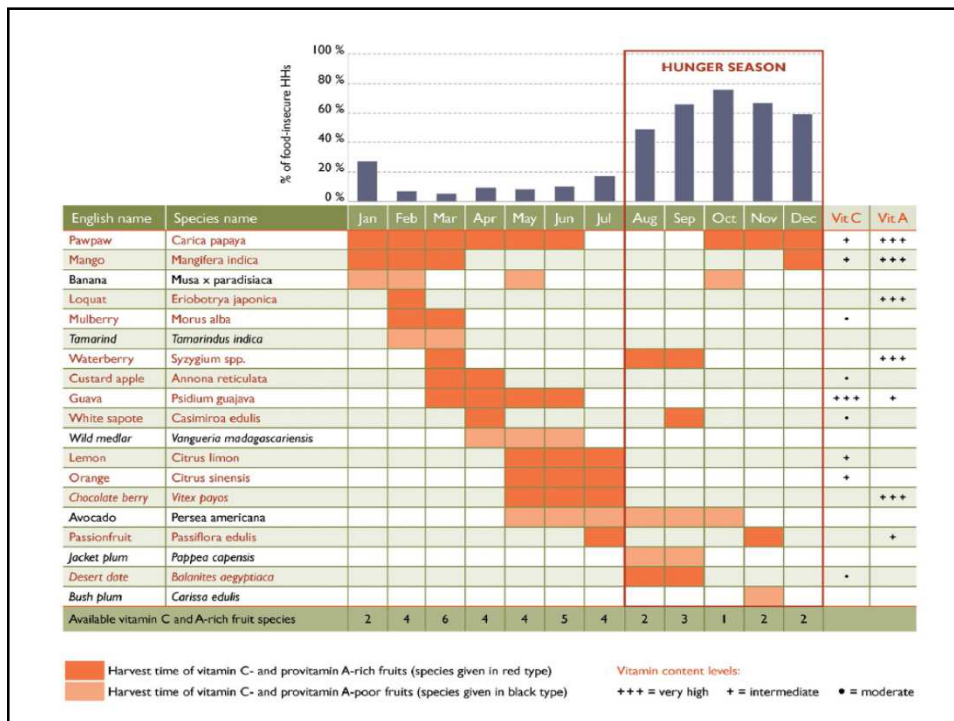
- ▶ Every sixth person depends on forests with food being an essential aspect – major role of forests and tree based systems throughout human history
- ▶ The vast diversity of forest products available includes not only those derived from trees, but a wide range of (often) 'less visible' products from other plants, fungi, animals and insects
- ▶ While rates of hunger (insufficient access to energy) have been falling in many parts of the world, there has been little change in the rates of micronutrient deficiencies
- ▶ Deficiencies of iron, vitamin A, iodine and zinc, are associated with poor growth and cognitive development in children, and increased mortality and morbidity in both adults and children
- ▶ Micronutrient deficiencies as '*hidden hunger*' - can occur within the context of adequate energy intake, and can be overlooked using traditional measures of food security

Evidence on the role of forests and trees for diets and nutrition

- ▶ 50 percent of all fruit consumed by humans originates from cultivated trees; many of these planted trees still have 'wild' or 'semi-wild' stands in 'native' forest that are also harvested and which form important genetic resources for the improvement of planted stock
- ▶ Tropical food trees are also widely cultivated globally as commodity crops (e.g., cocoa [*Theobroma cacao*], coffee [*Coffea* spp.] and oil palm [*Elaeis guineensis*])
- ▶ Tree foods are often rich sources of vitamins, minerals, proteins, fats and other nutrients

Evidence on the role of forests and trees for diets and nutrition

- ▶ Tree foods are often rich sources of vitamins, minerals, proteins, fats and other nutrients
 - ▶ Edible leaves of wild African trees such as baobab (*Adansonia digitata*) and tamarind (*Tamarindus indica*) are high in calcium and are sources of protein and iron (Kehlenbeck and Jamnadass, 2014)
 - ▶ Fruits from trees such as mango (*Mangifera indica*, native to Asia, but widely introduced through the tropics) are high in provitamin A
 - ▶ The iron contents of dried seeds of the African locust bean (*Parkia biglobosa*) and raw cashew nut (*Anacardium occidentale*) are comparable with, or even higher than, that of chicken meat (although less easily absorbed)



Evidence on the role of forests and trees for diets and nutrition

- ▶ Access to forests and tree-based systems has been associated with increased fruit and vegetable consumption and increased dietary diversity
 - ▶ In the East Usambara Mountains of Tanzania, children and mothers in households who ate more foods from forests, and who had more tree cover close to their homes, had more diverse diets (Powell et al 2011)
 - ▶ Children in Malawi who lived in communities that experienced *deforestation* had less diverse diets than children in communities where there was no deforestation (Johnson et al 2013)
 - ▶ Statistically significant positive association between the dietary diversity of children under five and tree cover in their communities, based on data from 21 countries across Africa (Ickowitz et al 2014)
- ▶ Forest foods often play an important role as nutritious supplements in otherwise monotonous diets

Evidence on the role of forests and trees for diets and nutrition

- ▶ Forest foods often provide a 'safety net' during periods of other food shortages caused by crop failure, as well as making important contributions during seasonal crop production gaps
- ▶ Bushmeat is often the main source of animal protein available to forest and forest-boundary communities, serving as an important source of iron and fat, and diversifying diets; especially where livestock husbandry is not possible and fish are not available
- ▶ Hunting has been estimated to provide 30 to 80 percent of the overall protein intake of rural households in parts of Central Africa and nearly 100 percent of animal protein (Koppert et al., 1996)
- ▶ Insects are a cheap, available source of protein and fat, and to a lesser degree carbohydrate. Some species are also considered good sources of vitamins and minerals
 - ▶ Sago palms (*Metroxylon* spp.) are managed in forest-agriculture landscape mosaics in Papua New Guinea and eastern Indonesia to support grub production

The image shows a screenshot of a BBC News article and a CrowdScience podcast player. The article, titled "Caterpillar farms: Growing the food of the future?", is by Louisa Field and was published on 7 April 2017. It features a large image of a white bowl filled with many small, brown, segmented caterpillars. The CrowdScience player shows a podcast titled "Should we eat Insects?" with a duration of 27 minutes and 7 days left to listen. Below the article, there are two video clips: "Are edible caterpillars the future of sustainable" and "Fighting Child Malnutrition with Caterpillars".

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Science & Environment

Caterpillar farms: Growing the food of the future?

By Louisa Field
Producer, BBC CrowdScience

© 7 April 2017 | Science & Environment

Two scientists and an entrepreneur are crunching the science behind edible caterpillars to help fight malnutrition and food security problems in West Africa.

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Should we eat Insects?

For most people the idea of chewing on a caterpillar or tucking into a tarantula is pretty unpalatable. Yet according to the United Nations, some two billion people around the world consume insects regularly ...

7 days left to listen
27 minutes

Show more
Download

Clips

Are edible caterpillars the future of sustainable
Fighting Child Malnutrition with Caterpillars

Send us yo

Indirect role of forests for food security

- ▶ Non-timber forest products and agroforestry tree products are important sources of revenue to local people
- ▶ Tree-based incomes offer a considerably more diversified livelihood portfolio and less risks than single commodity crops
- ▶ Forests and tree-based systems provide ecosystem services essential for staple crop production and a range of edible plants, e.g. pollinators
- ▶ Advantages over permanent (crop) agriculture: diversity of food products and adaptability to a broader range of environmental conditions (climate change) and changing socio-economic conditions

Key messages: forests and food security

- ▶ Forests and tree-based systems can contribute to the “Zero Hunger Challenge”. This requires a more subtle understanding of the forest-food nexus, beyond the conservation vs agriculture tradeoff
- ▶ Managing resilient, ‘climate-smart’ landscapes on a multi-functional basis involves food production, biodiversity conservation, other land uses and the maintenance of ecosystem services
- ▶ A shift to “nutrient-sensitive” landscapes and value chains – beyond a production-centric approach to food security, recognising the agency of farmers and consumers
- ▶ Need to reimagine forests, food security and nutrition, to recognise the complementary role of production systems and conservation across landscapes

Key messages: forests and food security

- ▶ Forest landscapes are political landscapes – they provide multiple outputs, serving multiple stakeholders
- ▶ Multi-sectoral and cross-scale governance present better prospects for integration of different interests and goals related to forest and food systems – development of supportive policy frameworks that consider forestry and agriculture sectors in tandem
- ▶ Policy and regulatory frameworks need to ensure equitable access of the poor, women and disadvantaged groups to forests and tree-based systems, and recognise the rights to direct and indirect benefits for food and nutritional security
- ▶ 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 for food security & nutrition



Forests and Food
Addressing Hunger and Nutrition
Across Sustainable Landscapes

Edited by Benedito Viana, Christiane Witzmann
and Stefano Mucchi

THANK YOU FOR YOUR
ATTENTION

Further information: Global Forest Expert Panel on Forest
and Food Security @iufro
<http://www.iufro.org/science/gfep/forests-and-food-security-panel/>
CFS HLPE on Sustainable Forestry for Food Security and
Nutrition <http://www.fao.org/cfs/cfs-hlpe/reports/en/>
Open Book: <http://www.openbookpublishers.com/>;
<http://dx.doi.org/10.11647/OBP.0085>