Forests and Food

Addressing Hunger and Nutrition Across Sustainable Landscapes

Dr. John Parrotta ~ U.S. Forest Service R&D

CSSP Semi-Annual Meeting - Session on Population & Food Security
Washington, DC – December 6, 2015

GLOBAL FOREST EXPERT PANELS

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GLOBAL FOREST EXPERT PANELS

Four scientific assessments published so far (climate adaptation, forest governance, REDD+ and biodiversity, forests & food security)

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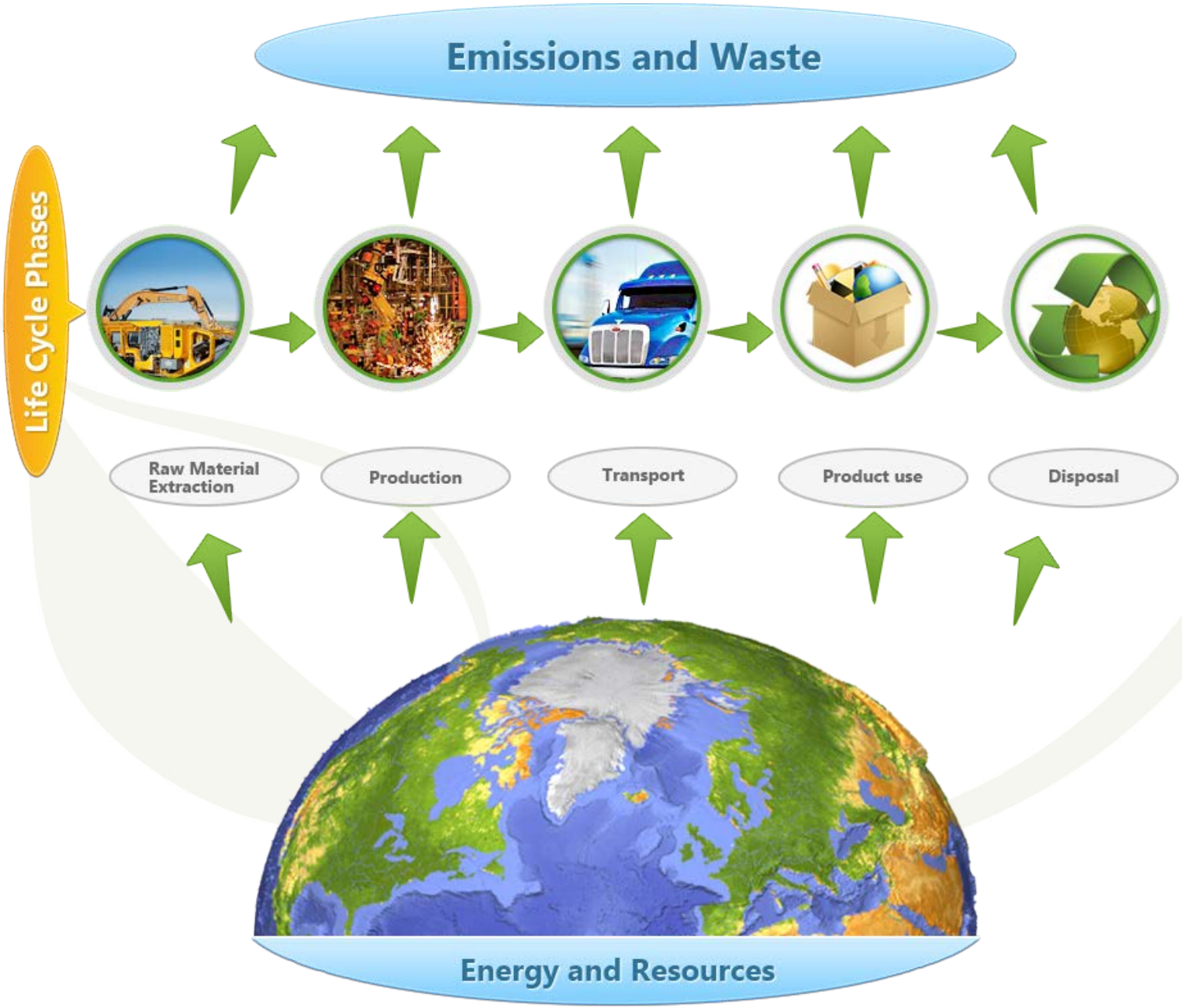
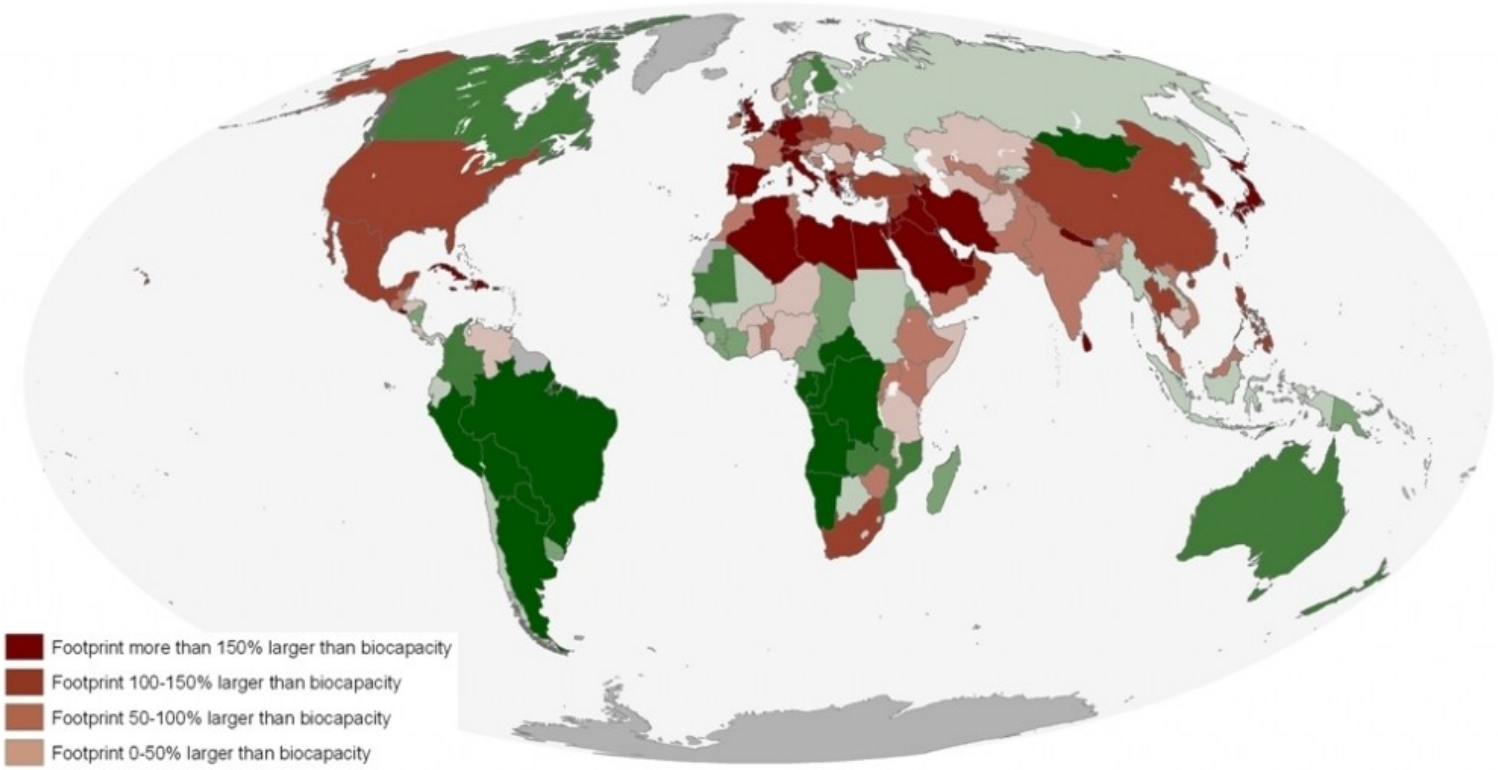
IUFRO
GFEP
CIFOR
Expert Panel on Forest & Food Security
Bogor, 12 – 14 March 2014

- GFEP Expert Panel on Forests and Food Security commenced work in early 2014
- Around 60 scientists contributed to development of peer reviewed assessment report
- Assessment of direct and indirect roles of forests, agroforests and trees in food systems
- Role of food production systems across the forest-agriculture continuum
- Analysis of environmental, social, economic, political drivers of the forest-food security systems
- Examination of response options across the landscape for food security & nutrition, natural resource conservation and sustainable livelihoods
- Assessment of macro scale response options in relation to drivers of change (role of markets, incentives, governance, public policy)


Emissions and Waste
Life Cycle Phases
Raw Material Extraction
Production
Transport
Product use
Disposal
Energy and Resources

Percent of Earth's Biocapacity Used: 151%



2007

Global Footprint Network
Advancing the Science of Sustainability

Ecological Creditor/Debtor Countries

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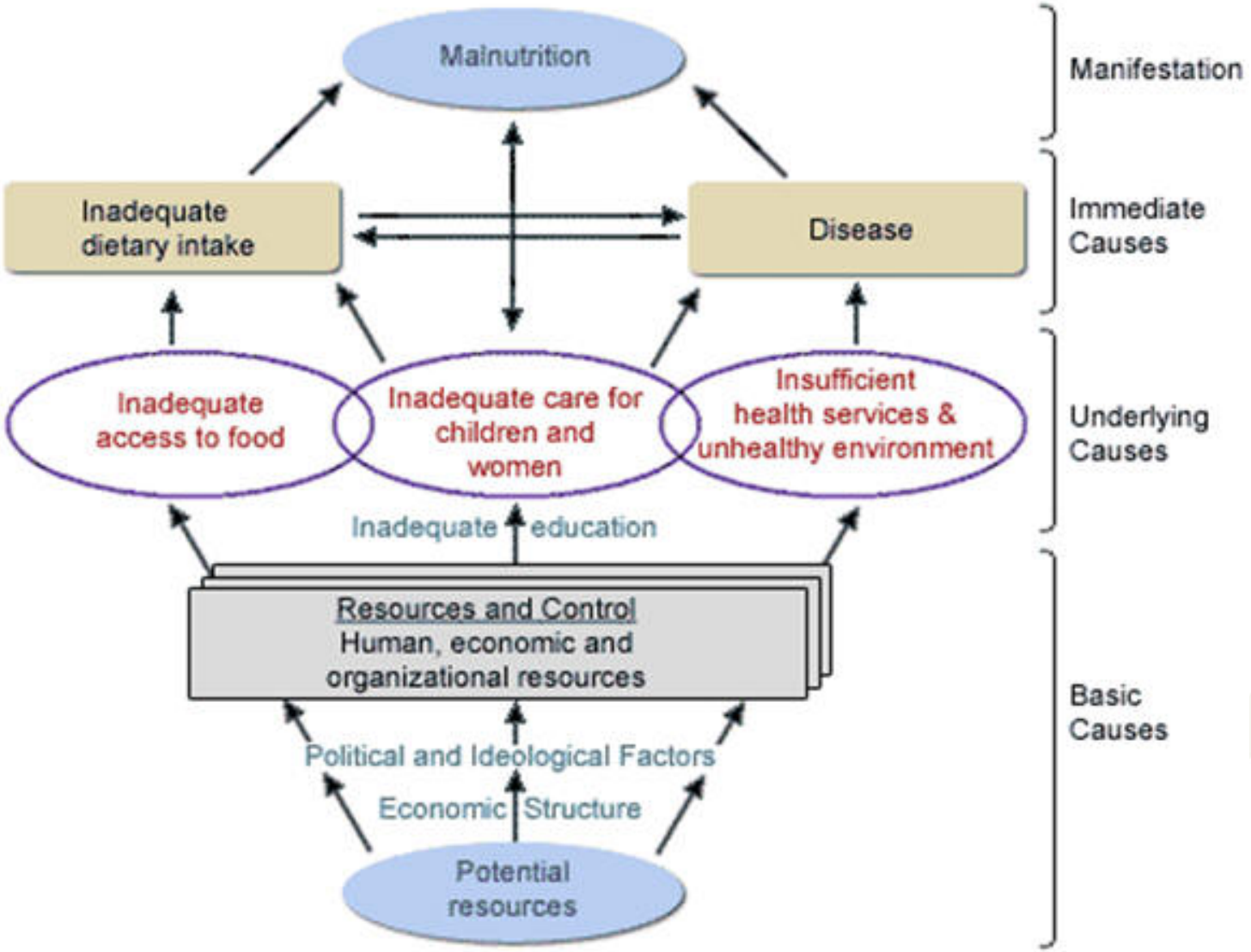
Malnutrition
Manifestation
Inadequate dietary intake
Disease
Immediate Causes
Inadequate access to food
Inadequate care for children and women
Insufficient health services & unhealthy environment
Underlying Causes
Inadequate education
Resources and Control
Human, economic and organizational resources
Political and Ideological Factors
Economic Structure
Potential resources
Basic Causes

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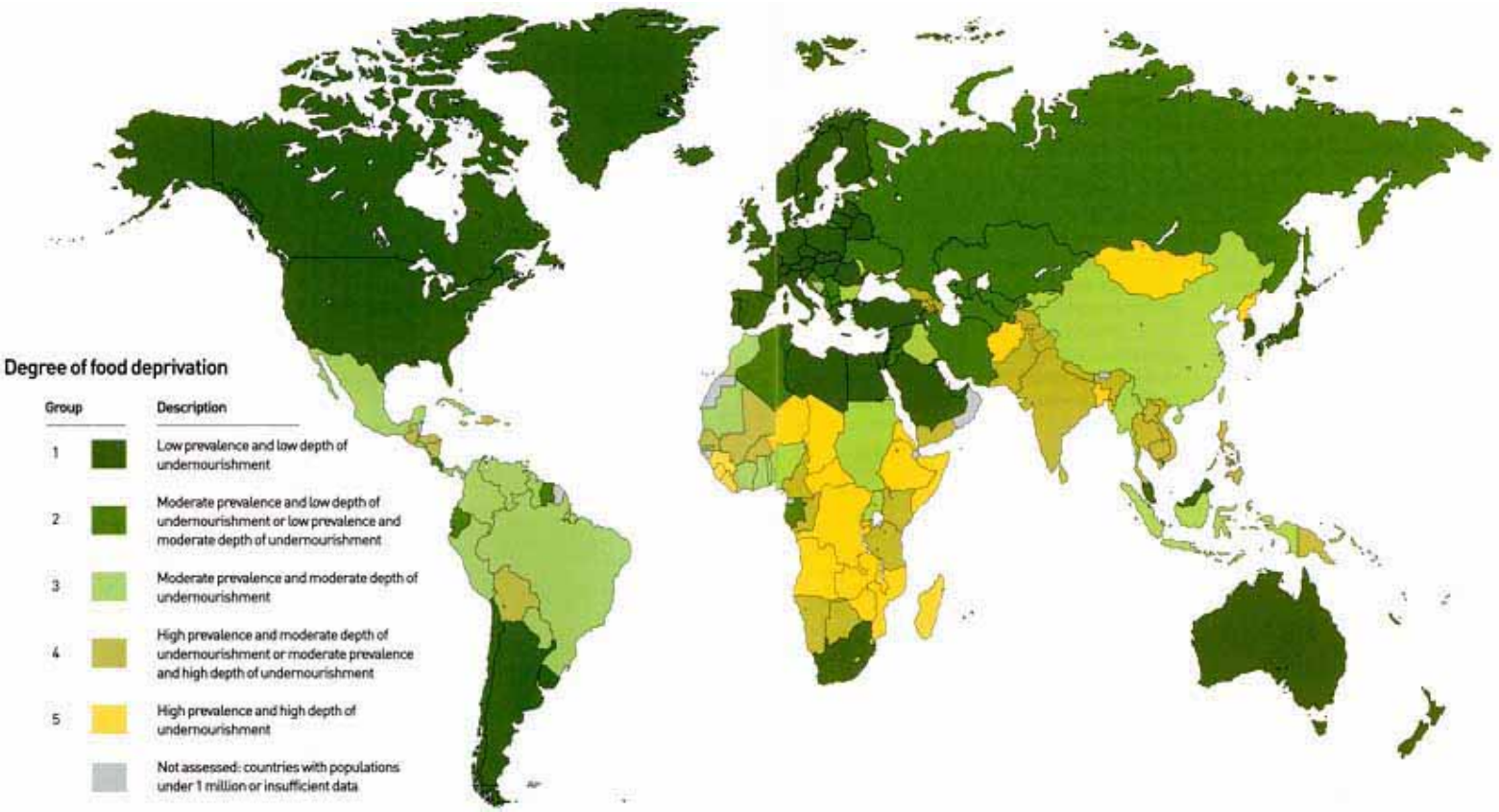
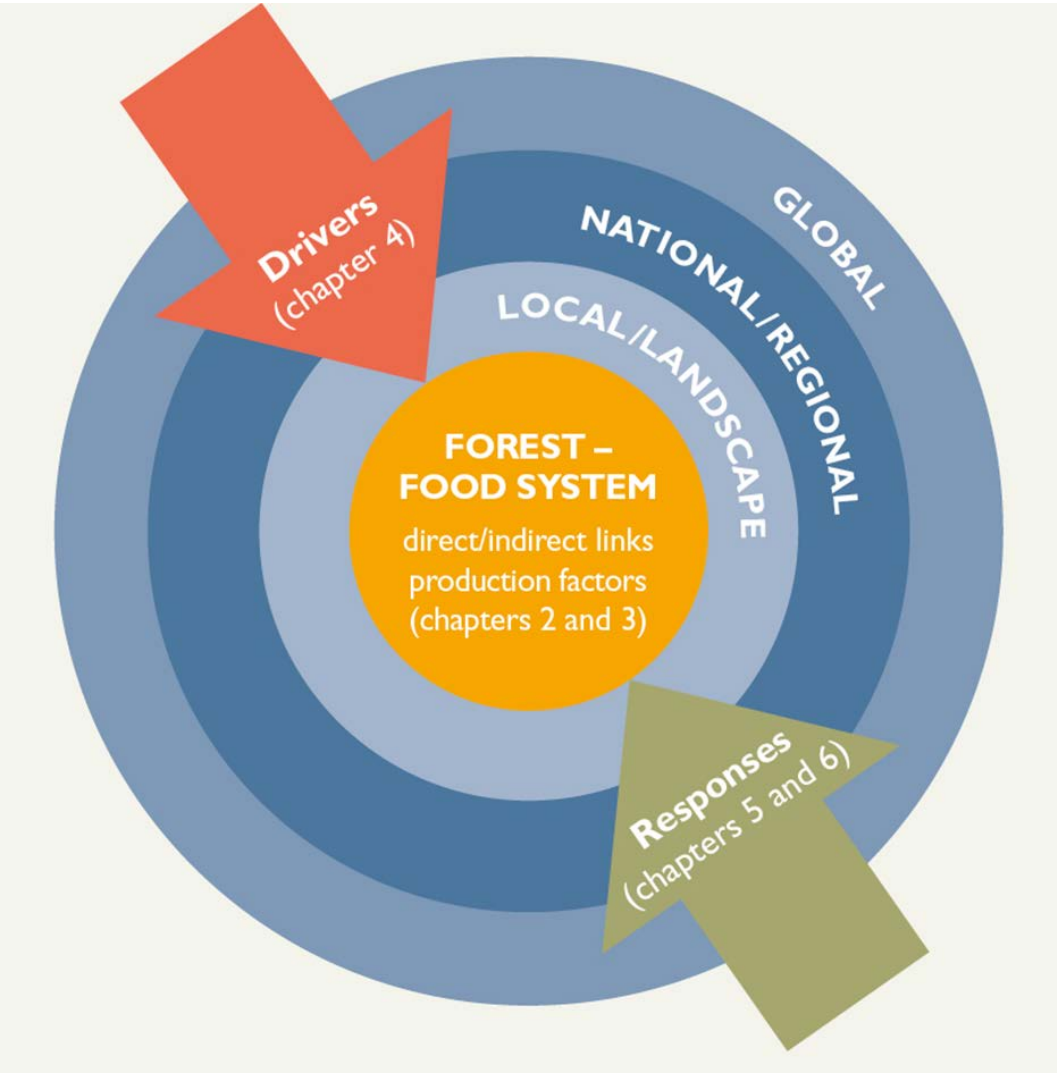
Changing paradigms in forest management


Degree of food deprivation
Group
Description
1
Low prevalence and low depth of undernourishment
2
Moderate prevalence and low depth of undernourishment or low prevalence and moderate depth of undernourishment
3
Moderate prevalence and moderate depth of undernourishment
4
High prevalence and moderate depth of undernourishment or moderate prevalence and high depth of undernourishment
5
High prevalence and high depth of undernourishment
Not assessed: countries with populations under 1 million or insufficient data

Conceptual structure of the report



Chapter 2: Understanding the Roles of Forests and Tree-based Systems in Food Provision

2.1. Introduction

2.2. Food Security and Nutrition

2.3. The Direct Roles of Forests and Tree-based Systems

- Foods Provided by Forests and Tree-based Systems
- Dietary Choices, Access to Resources and Behavioural Change

2.4. The Indirect Roles of Forests and Tree-based Systems

- Income and other Livelihood Opportunities
- Provision of Ecosystem Services

2.5. Conclusions

2.6. References

Chapter 3: The Historical, Environmental and Socio-Economic Context of Forests and Tree-Based Systems for Food Security and Nutrition

3.1 Introduction

3.2 Forests and Tree-based Systems – An Overview

- Historical Overview and the Role of Traditional Knowledge
- Managed Forests, Woodlands and Parklands
- Shifting Cultivation Systems
- Agroforestry Systems
- Single-Species Tree Crop Production Systems

3.3. The Influence of Forest Landscape Configuration Management and Use on Food Security and Nutrition

- Interactions between Landscape Components
- The Influence of Landscape Use and Management of Forests and Tree-Based Systems on Nutrition.

Chapter 3: The Historical, Environmental and Socio-Economic Context of Forests and Tree-Based Systems for Food Security and Nutrition (cont.)

3.4. The Socio-Economic Organisation of Forests and Tree-based Systems

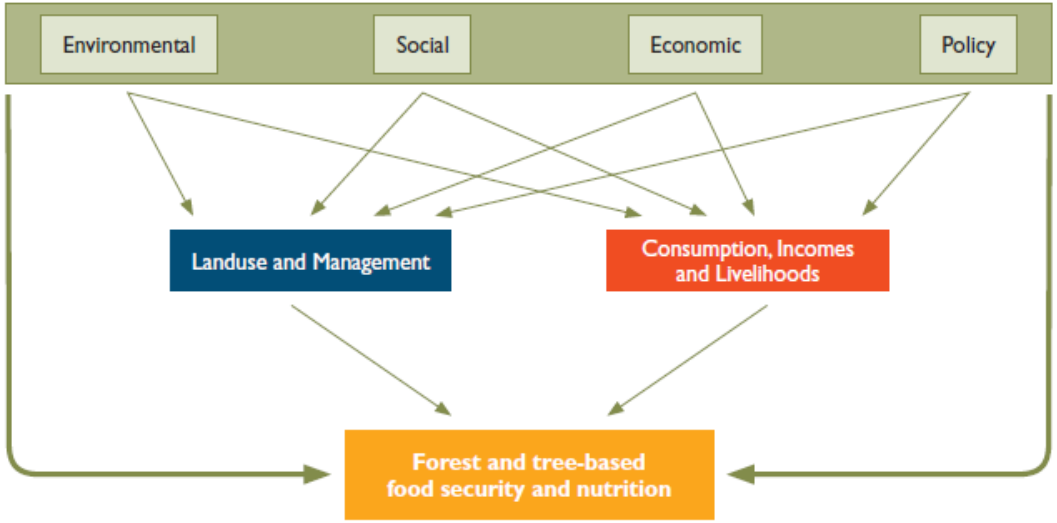
- Introduction
- Land, Tree and Related Natural Resource Tenure
- Gender, Rights to Land and Trees, and Food Security
- Human Capital, Control and Decision-making in Forests and Tree-Based Systems
- Financial Capital and Credit: Using and Investing in Forests and Trees

3.5. Conclusions

3.6. References

Chapter 4: Drivers of Forests and Tree-based Systems for Food Security and Nutrition

4.1. Introduction
4.2. Environmental Drivers
4.3. Social Drivers
4.4. Economic Drivers
4.5. Governance
4.6. Conclusions
4.7. References



Chapter 5: Response Options Across the Landscape

5.1. Introduction

5.2. The Role of Landscape Configurations

- Temporal Dynamics within Landscapes
- Trade-offs and Choices at the Landscape Scale

5.3. Land Sparing and Land Sharing

5.4. Landscapes and Localised Food Systems

5.5. “Nutrition-sensitive” Landscapes

5.6. Landscape Governance

5.7. Conclusions

5.8. References

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Chapter 6: Public Sector, Private Sector and Socio-cultural Response Options

6.1. Introduction

6.2. Governance Responses to Enhance Linkages between Forests and Tree-based Systems and Food Security and Nutrition

- Reforms Related to Tenure and Resource Rights
- Decentralisation and Community Participation in Forest Management
- Regulating Markets
- Catalysing Governance Reform

6.3. Private Sector-driven Initiatives for Enhancing Governance in Food Systems

- The Challenges of Sustainability and Inclusiveness in Food Supply
- Global Initiatives to Support Sustainable Finance and Supply
- Emerging Corporate Sustainability Initiatives
- “Hybrid” Models for Sustainable and Inclusive Supply

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Chapter 6: Public Sector, Private Sector and Socio-cultural Response Options (cont.)

6.4. Socio-cultural Response Options

- Changing Urban Demand
- Behaviour Change and Education to Improve Dietary Choices
- Reducing Inequalities and Promoting Gender-responsive Interventions and Policies
- Social Mobilisation for Food Security

6.5. Conclusions

6.6. References

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Conclusions (1)

Forests and trees matter for food security and nutrition

- Prevalence and diversity of forest and tree-based production systems
- Contributions to dietary diversity, quality, nutritional shortfalls and rural incomes
- Complementarity with staple crop production systems: e.g., ecosystem services
- Adaptability to harsh environmental conditions and changing socioeconomic realities.

Conclusions (2)

Governing Multi-functional Landscapes for Food Security and Nutrition

- Integration of biodiversity conservation and agricultural production goals
- Management of resilient and climate-smart landscapes
- Importance of multi-sectoral and cross-scale governance
- Role of scientific and development community collaboration
- Complexity requires flexibility in management, governance and policy approaches
- Focus on impacts of interventions on vulnerable groups

Conclusions (3)

The Importance of Secure Tenure and Local Control

- Focus on food sovereignty
- Complexity of tenure regimes and associated “bundles of rights”
- Role of forest access rights and support for tree planting
- Critical role of women and need for supportive action and engagement

Conclusions (4)

Reimagining Forests and Food Security

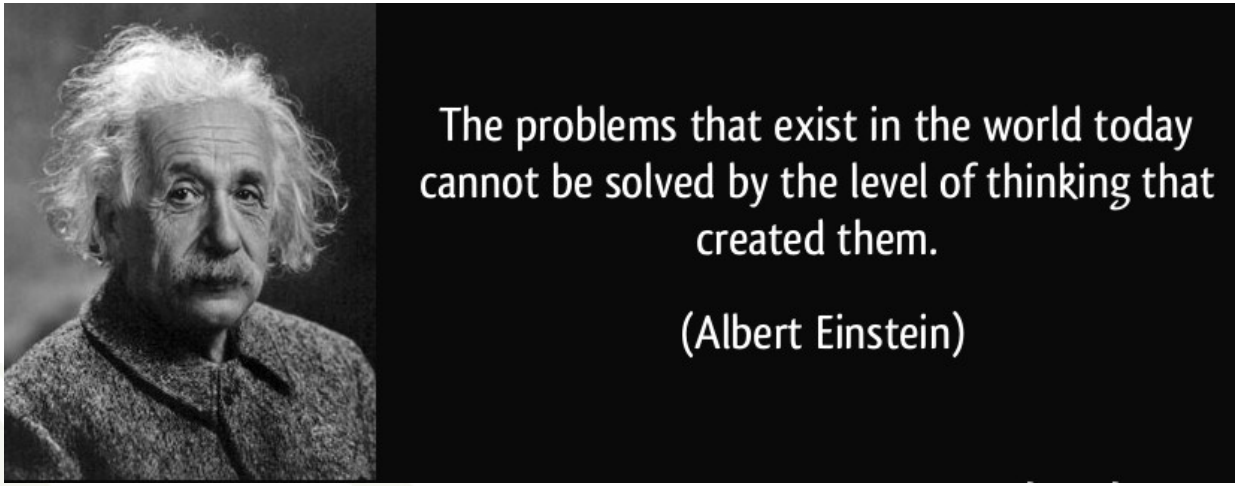
- Benefits of integrated landscape approaches
- Role of forest and tree-based systems in bridging the agriculture-biodiversity divide
- Enhancing the role of traditional knowledge
- Nutrition-smart agroforestry development and nutrition-sensitive value chains
- Education and empowerment of farmers and rural households

Conclusions (5)

Knowledge Gaps & Research Needs

- Refined estimates of extent and significance of forests and tree-based systems to food provision and nutrition
- Tree crop domestication and value addition
- Inter-relations between drivers affecting contributions of forests and tree-based systems
- Landscape issues: economic and environmental trade-offs
- Linking local knowledge & innovations in management, institutions and governance with enabling policies

Concluding remarks



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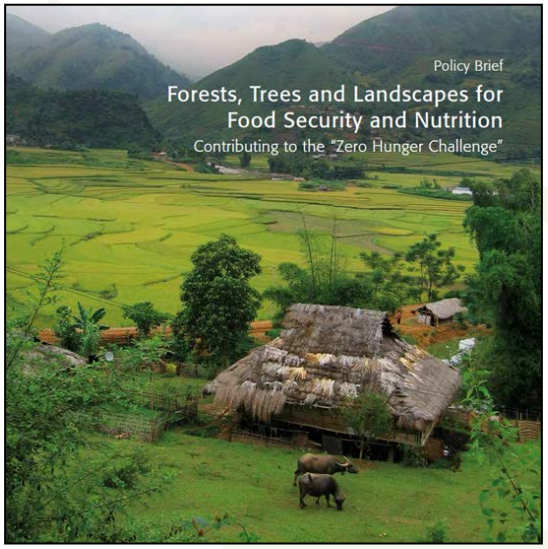

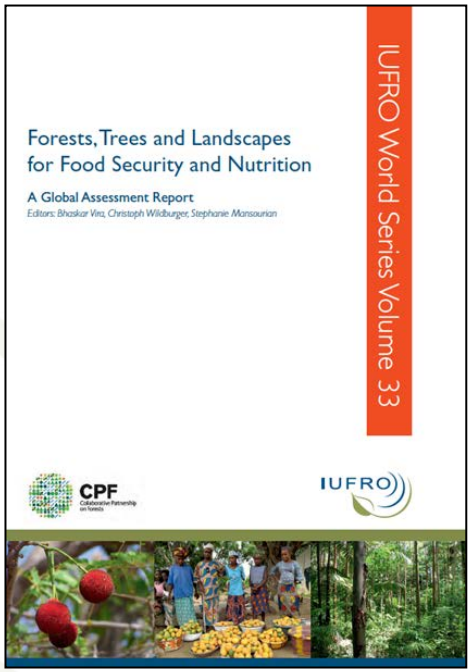

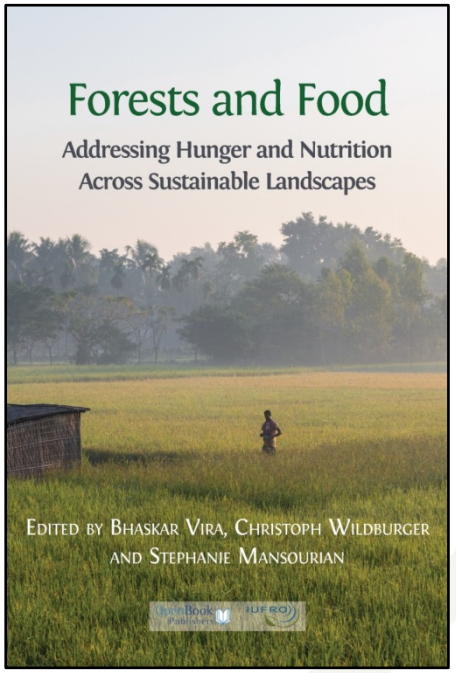

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