



Food and Agriculture
Organization of the
United Nations

Non-Wood Forest Products in the bioeconomy

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Content

- **Contribution** of NWFP to the bioeconomy
- **Sustainability** of NWFP value chains in the bioeconomy (including indicators and monitoring)
- **Strategies and policy frameworks** to promote the transition to a bioeconomy taking into account NWFP



Contribution of NWFP to the bioeconomy

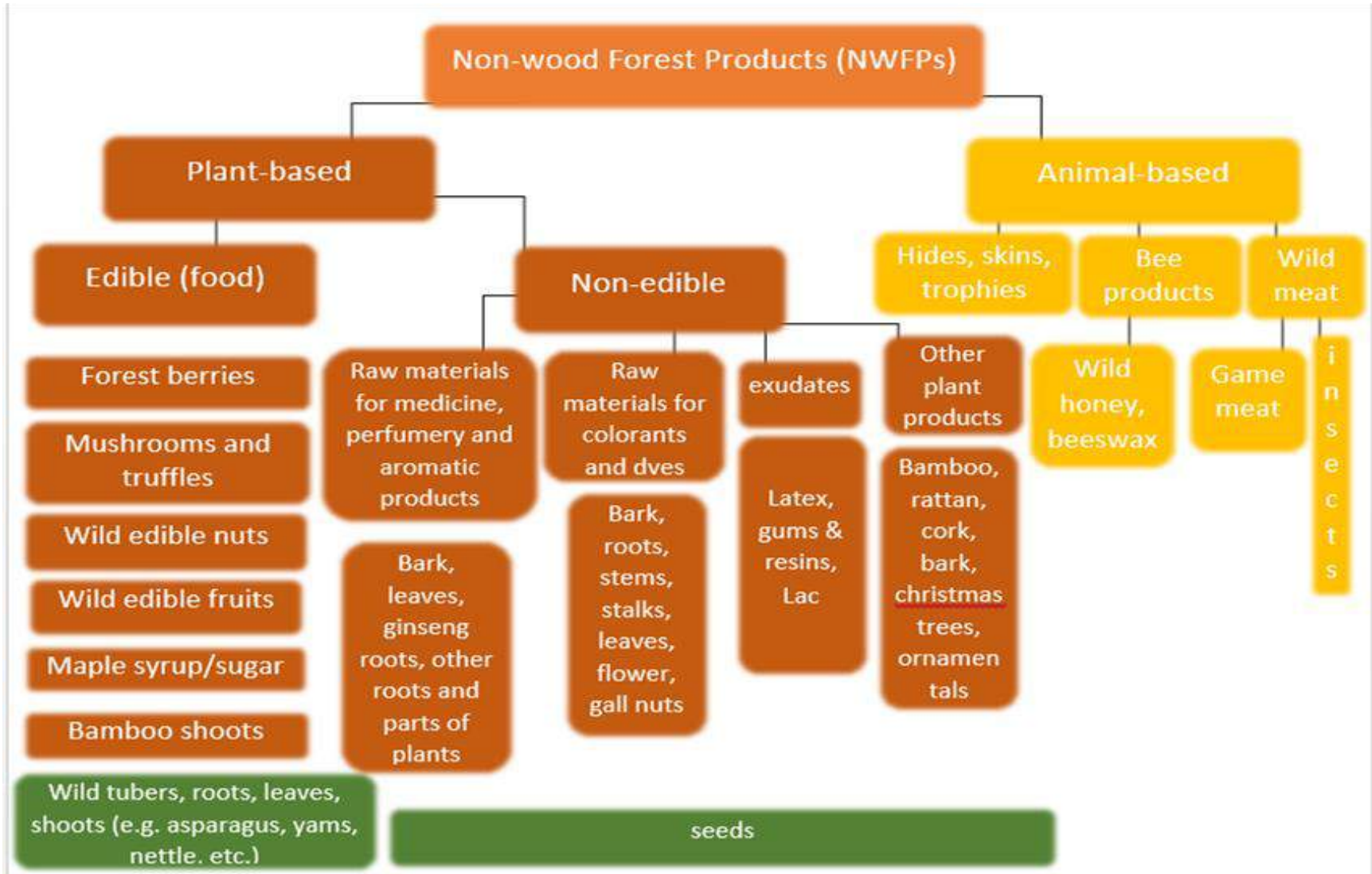
What are NWFP?

- “Non-wood Forest Products consist of **goods of biological origin other than wood**, derived from forests, other wooded land [and trees outside forests].” (FAO, 1999)
- NWFPs **cover** (1) wild products; (2) managed products; (3) cultivated products.
- **Includes:** mushrooms, fruits, nuts, herbs, aromatic plants, game, fibres (used in construction, clothing or handcrafts), resins, gums, saps, and products used for medicinal, cosmetic or cultural scopes.



Contribution of NWFP to the bioeconomy

What are NWFP?



Contribution of NWFP to the bioeconomy

What are NWFP?

- For most of human history forest products other than timber were more valuable for **nourishing, clothing, healing and for providing shelter**
- Species like rubber, quinine, oil palm, and cocoa were brought into **cultivation** around the world, and NWFP species like brazil nuts, gum arabic and rattan were harvested on an industrial scale.
- Most high value NWFPs became **agricultural crops**



Contribution of NWFP to the bioeconomy

How important are NWFP?

- FAO estimates that NWFPs generated **US\$88** billion in 2011
- **76 million tonnes** of food from the forest were consumed on average in 2011
- **1 billion** people are thought to depend on wild foods
- **80 percent** of the population of developing countries rely on traditional medicines, mostly plant drugs, for primary health care



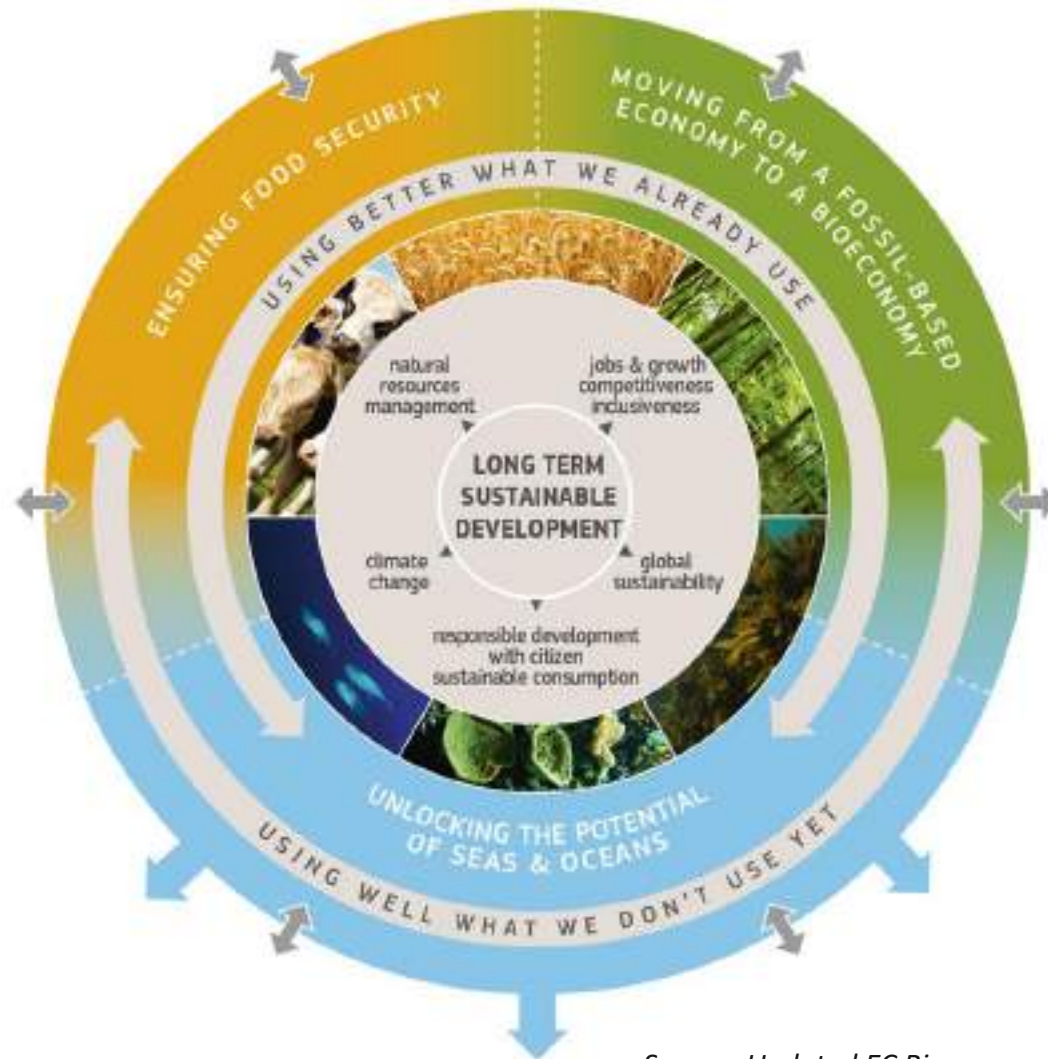
Contribution of NWFP to the bioeconomy

NWFP are important

- To secure **subsistence** needs like food, shelter, fodder, medicines, in particular for forest-dependent people
- To contribute to **income generation**, in particular for women and marginalized people
- **Value chains** at local, (sub) national and global level, providing traditional as well as emerging goods and services



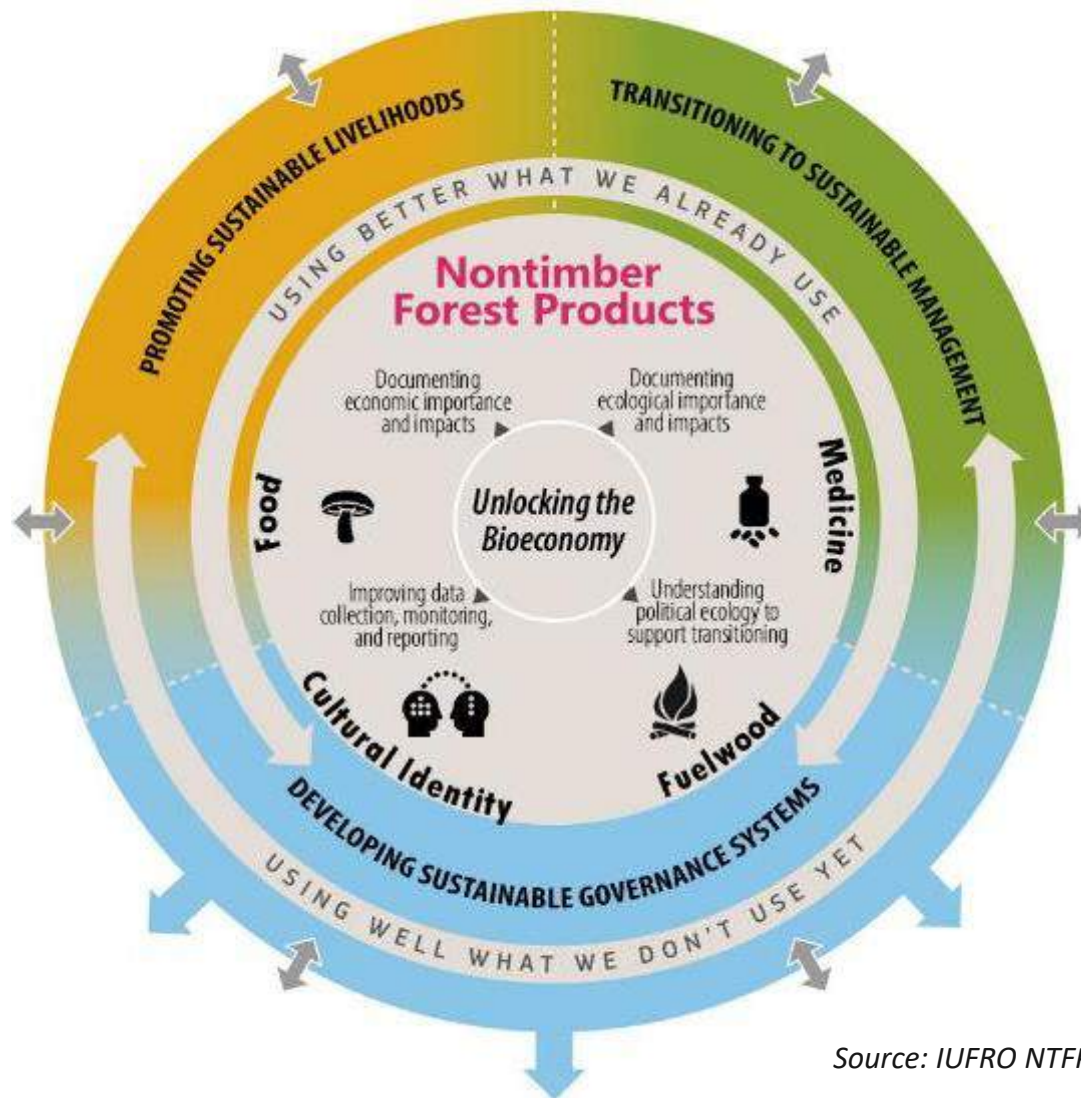
Sustainability of NWFP value chains in the bioeconomy



Source: Updated EC Bioeconomy Strategy, , 2018



Sustainability of NWFP value chains in the bioeconomy

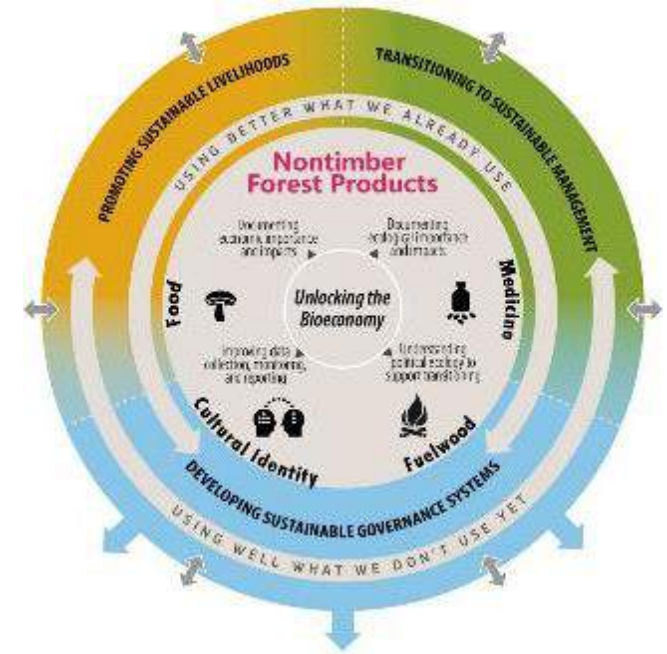


Source: IUFRO NTFP Task Force, 2019



Sustainability of NWFP value chains in the bioeconomy

- Ensure **sustainability** of NWFP management, governance and contribution to people's livelihoods
- Upscale **better use** of what we already use
- Promote **future uses** of NWFP what we do don't use yet



Sustainability of NWFP value chains in the bioeconomy

NWFP in Europe



- The **total value** of Wild Forest Products (WFP) is estimated at **EUR 2 bn**
- > 90% have **consumed** WFPs
- 25% **picked** WFPs in 2015 (82% purchased)
- 20% picked **wild berries**
- 18% picked **wild mushrooms**
- 13% picked **forest nuts**
- 12 % picked **wild medicinal and aromatic plants**



Sustainability of NWFP value chains in the bioeconomy

From “famine foods” to..... delicacies



Surveys
From famine foods to delicatessen: Interpreting trends in the use of wild edible plants through cultural ecosystem services

Nicolás Reyes-García¹, Dorita Marwede Baralt², Lorea Ayalauro-Matol³, Rufina Acosta-Dominguez⁴, Teresa Gamal⁵, Zeli Gilasa (Gagghar)⁶, ...

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...umption and gathering of wild edible plants in Spain
...ed popular, gradually abandoned, and mostly

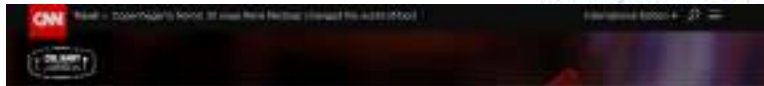


For \$300, You Can Drink Gin Made From The Bodies Of Foraged Ants

© 2015-2016 Herbic Food Lab



Tree bark in “gourmet” cooking (indigenous Sami culture)



Copenhagen's Noma: 10 ways Rene Redzepi changed the world of food

By Kim Klotz, CNN
© 2014 CNN
Updated 12:54 PM GMT (12:54 AM EST) Nov 20, 2014



Photo: [Copenhagen Noma](#)
Foodline: [Copenhagen Noma](#)

Sustainability of NWFP value chains in the bioeconomy

From “famine foods” to..... super foods



Sustainability of NWFP value chains in the bioeconomy

From “famine foods” to..... nutritional boons throughout the world, regardless of development status



Sustainability of NWFP value chains in the bioeconomy

New uses for “old”, abandoned or underutilized products

- Natural **resins** in the cosmetics industry
- **Oak acorn & chestnut flour/cous-cous**
- **Beeswax** (packaging)



Sustainability of NWFP value chains in the bioeconomy

Beyond niche markets...

- **Cork** - uses beyond bottle stoppers (e.g. thermal, acoustic properties)



(NWFP) Strategies and policy frameworks to promote the transition to a bioeconomy

Promoting NWFP along the value chain

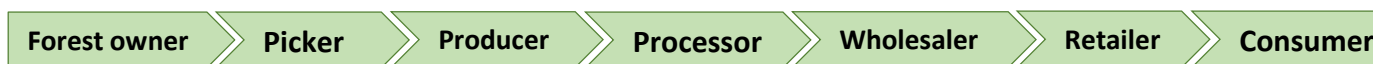
- Many **actors** are involved in the NWFPs value chain from the provision and harvesting, to the final consumption



(NWFP) Strategies and policy frameworks to promote the transition to a bioeconomy

Promoting NWFP along the value chain

- Regulatory and institutional framework
- Policies and governance
- Data and statistics
- Resource management and ecology
- Economics and markets



(NWFP) Strategies and policy frameworks to promote the transition to a bioeconomy

FAO's NWFP Programme

- Supporting biodiversity-friendly and nutrition-sensitive **NWFP-based value chains** for improved food security, nutrition and livelihoods
 - ✓ NWFP **policy and regulatory frameworks**
 - ✓ NWFP **certification and labelling**
 - ✓ NWFP **data and statistics**
 - ✓ NWFP **Harmonized Systems (HS) Coding**
 - ✓ NWFP **value chains** at all levels
- ⇒ **Supporting countries in the transition to a bioeconomy through the sustainable consumption and production of NWFP**



(NWFP) Strategies and policy frameworks to promote the transition to a bioeconomy

IUFRO NTFP Bioeconomy Task Force

■ Activities

- ✓ Facilitate **dialogue** with global cross-sectoral network of researchers
- ✓ Propose frameworks to improve **reporting**
- ✓ Develop **conceptual** and **analytical** frameworks
- ✓ **Case studies** of NTFP contributions, across scales
- ✓ Recommendations to improve **integration** into bioeconomy strategies

■ Products

- ✓ Global **network** of institutions focused on NTFPs and the bioeconomy
- ✓ Synthesis report on '**state-of-knowledge**' of NTFPs and the bioeconomy
- ✓ Recommendations to improve standardized national-level **data collection** and **reporting**
- ✓ Peer-reviewed journal **publications**
- ✓ **Policy briefs** translating research to recommendations



(NWFP) Strategies and policy frameworks to promote the transition to a bioeconomy

IUFRO NTFP Bioeconomy Task Force members

- Forest Research Center INIA-CIFOR, Spain
- University of Tennessee, USA
- University of Freiburg, Germany
- Federal University of Parana, Brazil
- University of Idaho, USA
- University of Zagreb, Croatia
- Agriculture and Forestry University, Nepal
- UN, Food and Agriculture Organization, Italy
- TRAFFIC International, United Kingdom
- IUCN Medicinal Plant Specialist Group, UK
- University of Belgrade, Serbia
- Government of Canada, Winnipeg
- University of Copenhagen, Denmark

- University of Padova, Italy
- Natural Resources Institute [LUKE], Finland
- European Forest Institute, Finland
- Network for Natural Gums and Resins in Africa
- Universidad Distrital Francisco José de Caldas, Colombia
- Kenya Forestry Research Institute [KEFRI-FAO], Kenya
- Universidad Autónoma del Estado de Hidalgo, Mexico
- World Agroforestry Center, Indonesia
- Forest History Society, USA
- Brazilian Forest Service, Brazil
- US Forest Service, USA
- Renmin University of China



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Contribution of NWFP to the bioeconomy

Thank you!

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