Non-timber forest products (NTFP) and their value chains

May 31st, 2023

FORESTS FOR THE FUTURE FACILITY

Setting the stage - INTPA

Chantal Marijnissen

European Commission

Session 1

Non-Timber Forest Products and their value chains (PPT presentation)

Jochem Schneemann, F4 Facility

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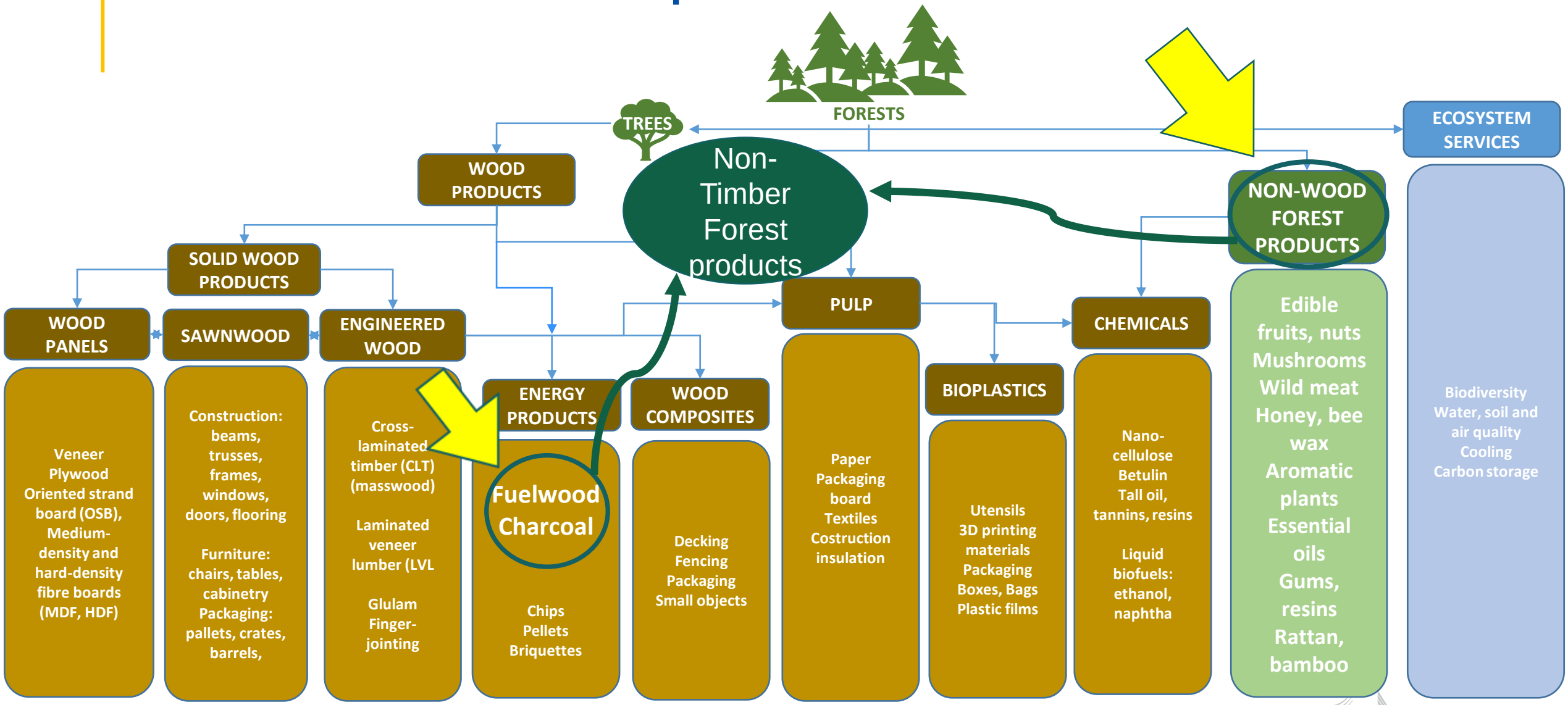
Universe of forest products and services



Definition NTFPs (FAO): Wild native or non-native biological organisms and materials, other than high-value timber, collected from forest landscapes and habitats.

Adapted from FAO: Forest products In the global bioeconomy 2022

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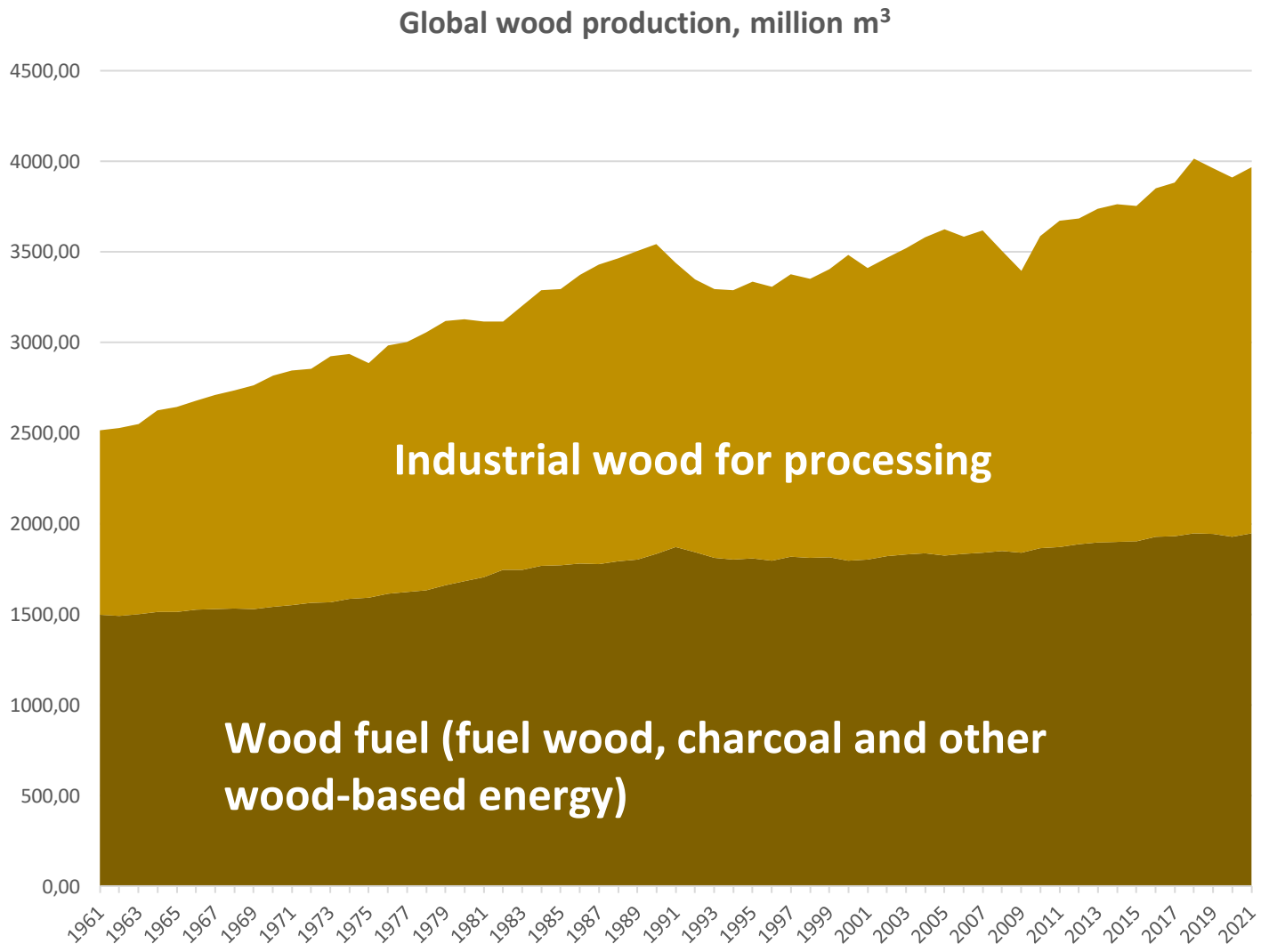
Global production of woodfuel and other wood products



Data: FAOSTAT Forest product statistics 2022; FAO, 2014

Woodfuel:

- **50% of total wood production**, in some countries much more

Fuelwood and charcoal:

- **Collected/produced** by **850 million people**, **83% women**
- **Used** by **2.4 billion people** (30% of global population)

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Diversity of non-timber forest products

PRODUCTS

- Plant based :
  leaves;
  bark, cork
  fruits, nuts, oils;
  saps, resins and gums;
  mushrooms, roots/tubers;
  rattan, bamboo;
  charcoal
- Animal based:
  wildlife, wild meat, skins,
  honey, beewax;

USES and VALUES

- Food
- Construction
- Medicine (traditional and modern)
- Cosmetics
- Aromatics
- Chemical
- Cultural and spiritual
- Energy

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Importance of non-timber forest products

- **3.5 to 5.8 billion people use NTFPs**
- **Income** from formal and informal markets
- **Self-consumption: e.g food security** (e.g wild meat provides up to 60-80% of protein needs)
- **Health: 2.8 billion people** use traditional **medicine**
- Study (2022) estimated **value of plant-based NWFPs** removals **in Europe:**
  - ✓ **>25 billion EUR/yr, equal to 71% of annual roundwood removals value**
  - ✓ **86% for self-consumption**

Masuku (*Uapaca kirkiana*), popular fruit in Zambia. Photo © CIFOR

Brazil nut, Photo © CIFOR

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NTFPs highly underestimated and undervalued

- Majority NTFP for self consumption and informal markets → **lack of visibility**
- Lack of classification→ **inconsistent data**
- **Focus on wood**

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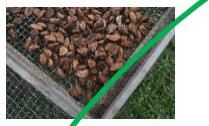
Non-timber forest products value chain map


NUTS

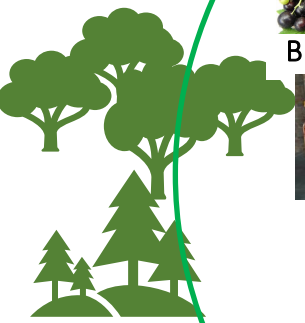

BERRIES


HONEY


RESINS


CHARCOAL


WILDLIFE, WILD MEAT


SUSTAINABLE MANAGEMENT OF NATURAL FORESTS

Harvesting, collecting

Transport, aggregation, storage

Processing, manufacturing

Consumption

Collectors, hunters (m/f)

Traders, Transporters (m/f)

Processors, manufacturers, exporters

Consumers (m/f)

Domestic markets – (in)formal

Export markets

Subsistence (own) use for food, medicine, construction, etc

Service providers, input suppliers

Regulators, standard organizations

USES and VALUES

- Food
- Medicine (traditional and modern)
- Aromatics
- Chemical
- Cosmetics
- Cultural and spiritual
- Ornamental

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ENABLING ENVIRONMENT: supporting functions, and rules and norms

Developing NTFP value chains

Opportunities	Challenges	Strategy
Renewable resource, appealing wild and green product	**Degradation** of resources	**Wild harvesting rules**, **tenure; domestication;**
	Cumbersome collection, value chains fragmented	**Establish sustainable production capacity and market demand (business case);**
Scope for quality improvement, value adding, new applications	**Poor processing technology, storage, and marketing**	**Tailored financial, other services**
	Organisational gaps	**(learn from) NTFP platforms**

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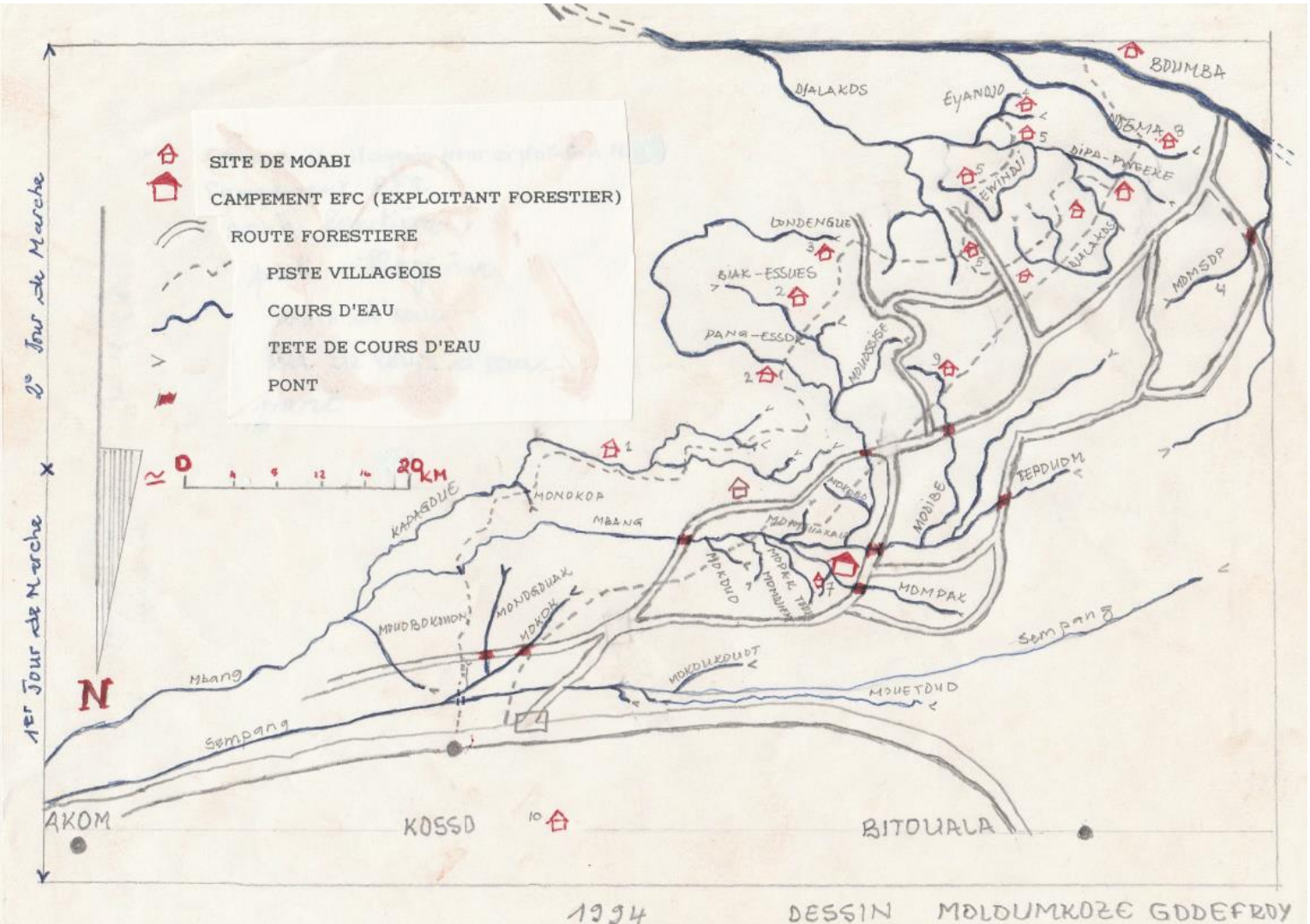
Non-timber, wood and Sustainable Forest Management



- **Cameroon: example of competing claims –** by local communities/ indigenous peoples and concessionaires
- **Moabi tree** in Cameroon, valued for **wood,** and since many generations - locals extract **oil** from seeds.
- Reduced availability of moabi for oil and wood

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Opportunities for EU support in NTFPs

TECHNICAL ENGAGEMENT

- Selection of most potential NTFPs
- Sustainable harvesting guidance
- Gender sensitive value chain analysis and upgrading strategies
- Finance for smallholders and SMEs, bankable proposals

GOVERNANCE and SCALING

- Improving forest governance and enabling environment, by political dialogue and technical engagement
- NTFP Platforms and organisations
- Engaging European development financial institutions, agencies, EU Member States and private sector

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Highlights

Non-timber forest products are underestimated but are a **significant part of Natural capital** and **Green Economy. Renewable** if sourced from sustainably managed forests

NTFPs are used by **3.5 – 5.8 billion people; and contribute to livelihoods** (food security, construction, medicine, cosmetics, culturally), **income and jobs** for hundreds of millions of people. Contribution to self consumption was long time underestimated.

Support needed to improve the **integrated sustainable management** of NTFPs and wood products; sustainable harvesting levels; and gender sensitive upgrading of value chains

EU support can make a difference by **political dialogue,** alongside **technical engagement, and by engaging EU finance institutions, MS and private sector**

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Collectors/producers of snails, a NTFP in Ghana. Photo by Jochem Schneemann

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Q&A

Session 2

Case 1- Realities, options and opportunities for greener charcoal in Sub Saharan Africa

Phosiso Sola

Jolien Schure, Mary Njenga (CIFOR ICRAF)

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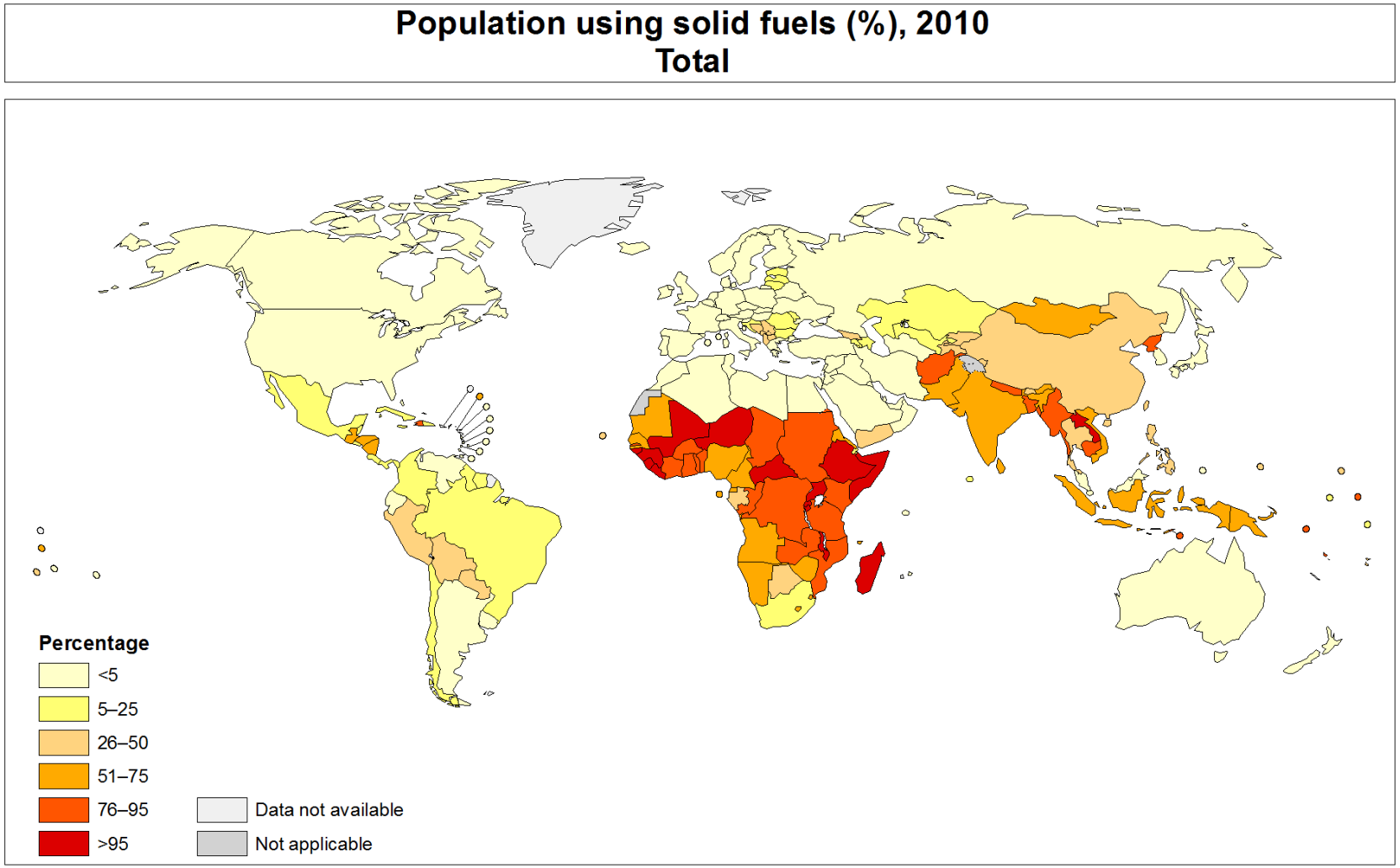
Million people using woodfuel and charcoal in SSA?



- Woodfuel remains the main source of cooking and heating energy for many especially in Sub Saharan Africa (SSA).

Data Source: World Health Organization
Map Production: Public Health Information and Geographic Information Systems (GIS)
World Health Organization

World Health Organization

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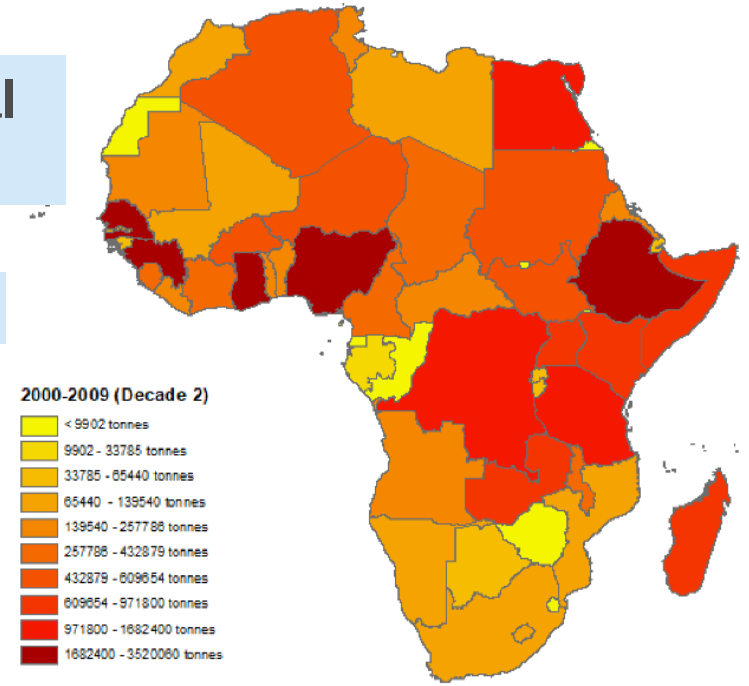
Why woodfuel, why charcoal value chains in SSA?

1. Over the decades number of countries and people relying on charcoal are increasing

2. In spite of all commitments by African governments and supporting stakeholders, transition to cleaner energy sources especially for cooking remains ***elusive***

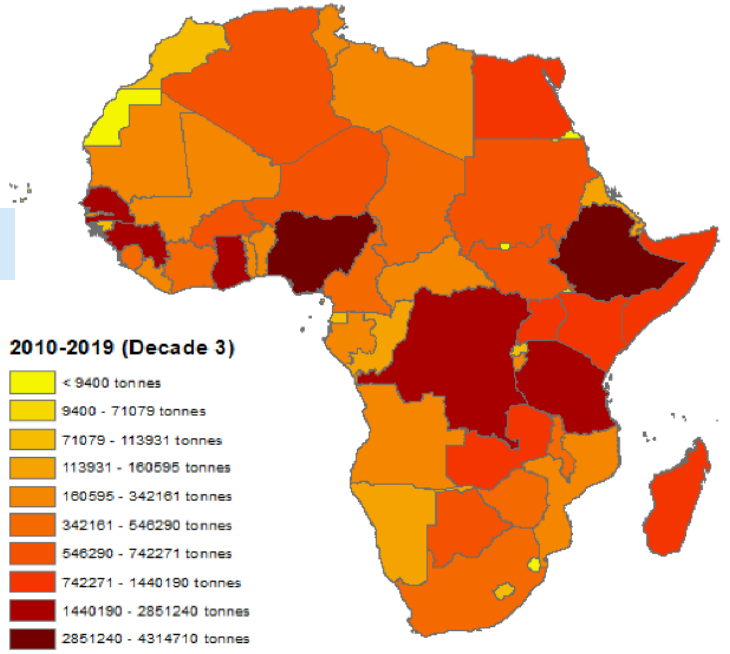
Wood Charcoal Production

2000-2009



(b)

2010-2019



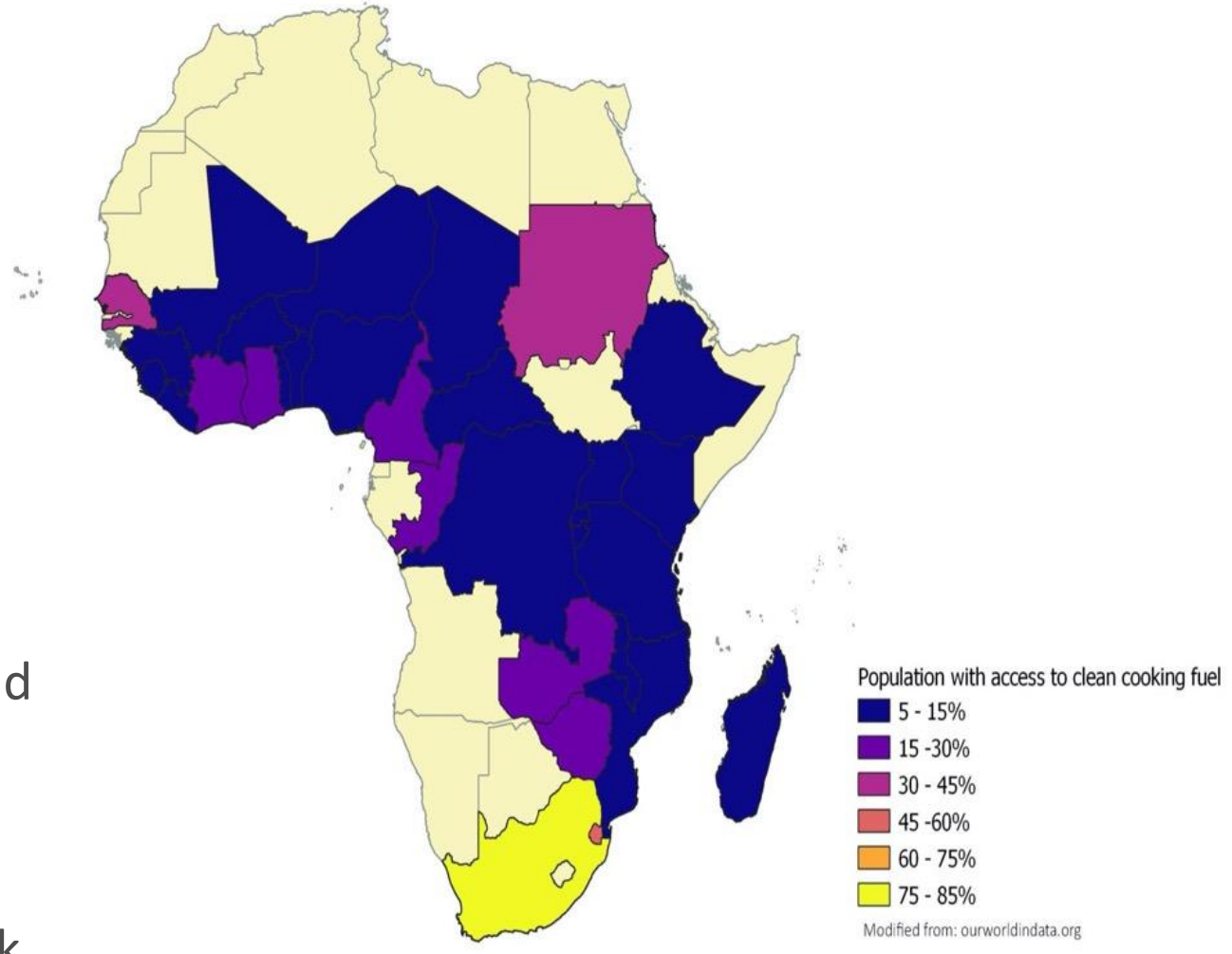
Nyarko, et al. 2021

No food security without energy security in SSA –food is cooked!!

- Lack of access to clean cooking means firewood and charcoal remain the main energy sources for cooking and heating in most countries

- Alternatives are not always:
  - Available, affordable, acceptable, appropriate and adaptable for cooking and heating

  - COVID-19 pandemic, pushed millions back into using woodfuel-, could no longer afford clean energy options



FAO, 2022; Mwampamba et al, 2022

Charcoal is an available, accessible, affordable, appropriate, and adaptable energy source

- For a 6-member family one charcoal tin cooks 3 meals and up to 6 meals with stacking with other energy sources

- One 38kg bag cooks 42- 66 meals and up to 81 meals with stacking

Estimates are that

950 million people rely on wood and charcoal for cooking, a number estimated to grow to 1.67 billion by 2050

https://unfccc.int/blog/too-many-cooks; Ndegwa et al, 2021

The challenge

- Unsustainable feedstock sourcing
  - Indigenous trees slow growth, non coppicing
  - lack of incentive and sustainable woodfuel management mechanisms,
  - Inefficient carbonization -traditional conversion as low as 10%

- Poor policy framework,
  - ‘’illegally legal” =corrupt practices
  - Value chain underground due to imposed bans even more difficult to regulate
  - Millions of tonnes of charcoal crossing borders as local supplies dwindle

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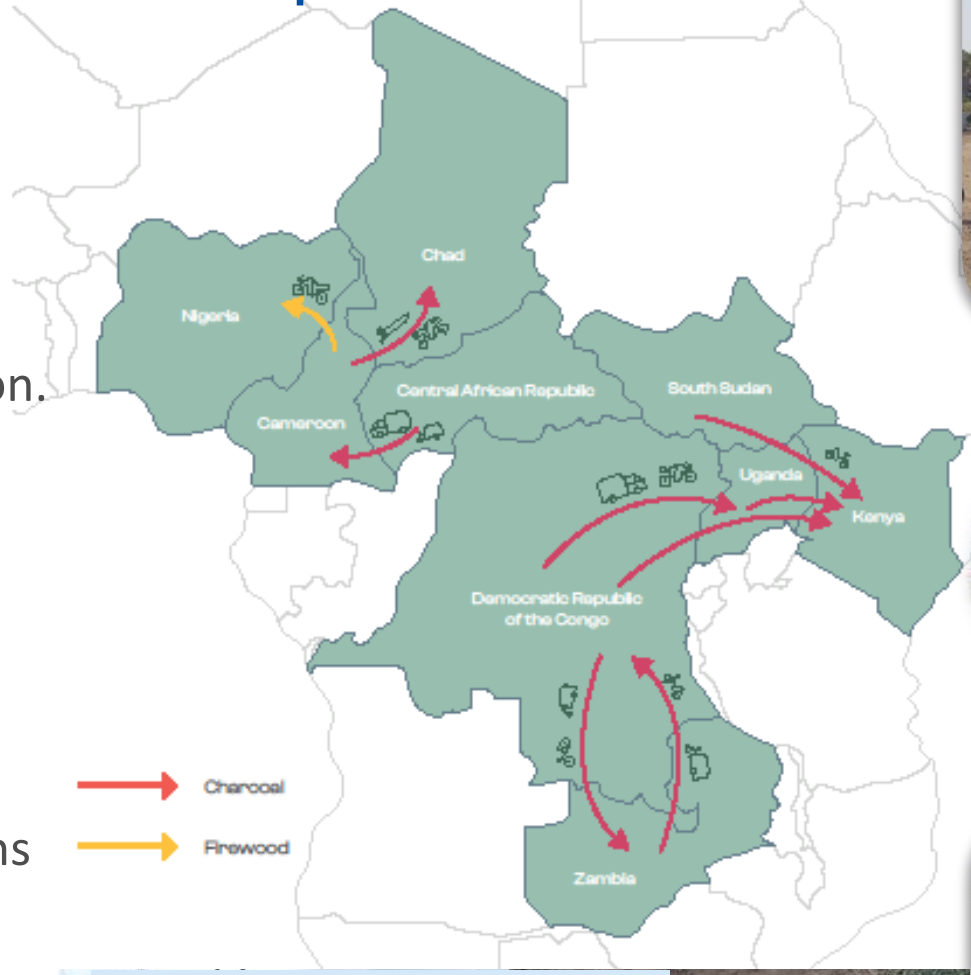
Charcoal Cross Border Trade in parts of SSA

- **Charcoal trade knows no boundaries, when demand calls**
- most governments ‘’outlawed’’ /export and in some cases large-scale production.
- But use remain legal, and markets are insatiable and remain legitimate even across borders.
- Unfortunately, some of the supply basins are threatened by and or already degraded or experiencing deforestation with impacts extending beyond international borders



Sola, et al, 2021

The opportunity: More sustainable charcoal production

Investing in sustainable feedstock sourcing

1. agro-forestry woodlots,
2. assisted natural regeneration in community-based forest/landscape management systems,
3. wood residues from timber mills.
4. Management and control of Invasive species

- **Demonstrating the benefits of contextually appropriate agroforestry systems as a source of woodfuel** in the Yangambi landscape, DRC
  - Community-led agroforestry systems for woodfuel in 19 villages
  - 604 producers, covering 300 ha per year
  - 2020-2026 (total of >1800 ha)
  - Improved carbonization practices (wood-to-charcoal conversion doubled from 11% to 22% on dry wood basis).

The opportunity: More sustainable charcoal production from Prosopis juliflora (invasive species)

Improving carbonization /kiln efficiency in Kenya

- Improving traditional earth mound kiln at USD55 (case Baringo) increased charcoal yield by 49%,
- Improved carbonization reduced GHGs emission by over 40% for CO, CO_2 and CH_4

Concentrations of gases during Prosopis juliflora charcoal carbonization	Improved Earth Kiln (n=246)	Traditional Earth Kiln (n=267)	% Reduction
carbon dioxide CO_2 (ppm)	24,915	44,861	45
carbon monoxide CO (ppm)	24,964	38,609	35
Methane CH_4 (ppm)	56,427	94,013	40
O_2 (ppm)	182,113	160,214	

Schure et al, 2021

Key messages: implications for sustainability and investments

Charcoal will remain a major energy source for many in SSA in the coming decades	• Affordable, available, and sometimes preferred
Transition to more modern energy sources has remained elusive in SSA	• Bans or elimination have not worked • Most household stacking fuels, firewood, charcoal, gas, electricity, etc
Diversified and better feedstock production systems and sourcing options required	• Agroforestry systems • Timber processing residues • Invasive species
A value chain/web approach is required, addressing quality standards, traceability etc	• Circular bioeconomy of production to consumption and waste management coupled with biochar, briquette production and use

Call for Action

Greater engagement of stakeholders at regional and continental level to harmonize policy and institutional mechanisms

Formulation and implementation of coherent, realistic policies that are informed by local realities **(recognize charcoal is a reality in SSA**)

Value chain/web and circular approach across broader forest-agricultural landscapes along the whole value chain

Investments **in affordable and enduring alternatives making energy transition sustainable and just in order** to reduce proportion of woodfuels in the household energy budget

Pathways towards more sustainable, green energy

Already documented in various frameworks, strategies, plans at subnational, country, regional and continental level

- **Challenge is lack of implementation**

Short to medium term

- **Sustainable supply** chain for sustainable feedstock options including timber residues
- **Processing efficiency** and cost effectiveness

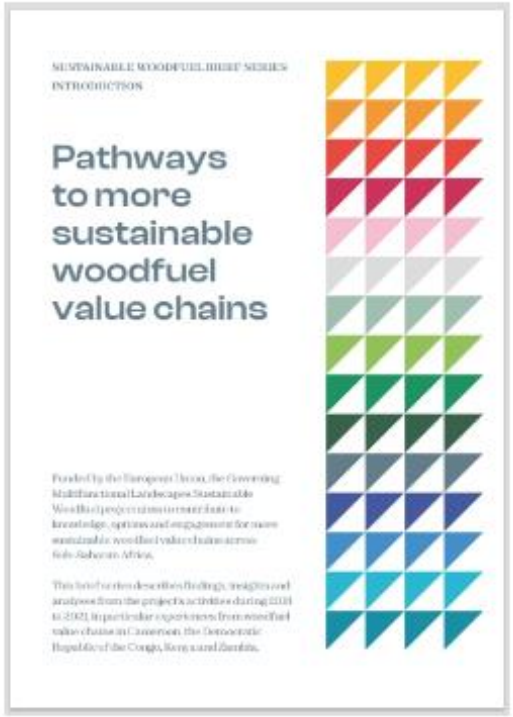
Medium to long term

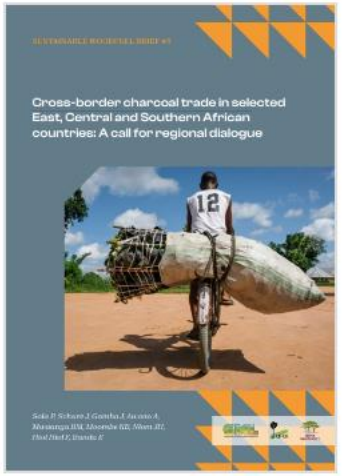
- **Diversifying to alternatives energy sources**, liquid biofuels, LPG, Solar etc

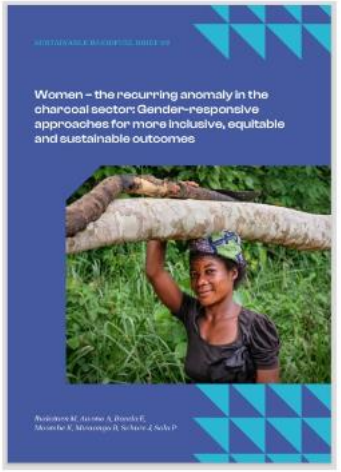
Pathways to address

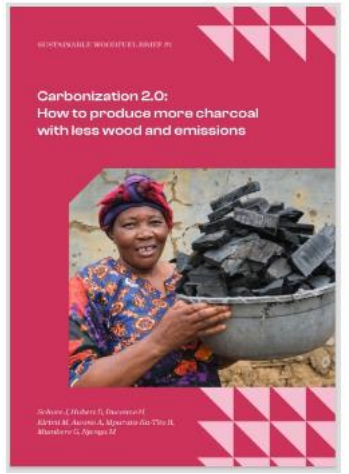
1. Appropriate technology requirements and promote /incentivize adoption
2. Knowledge and skills development
3. Advance investment and financing options
4. Facilitate policy formulation and implementation at national, subnational and local levels
5. Solicit political will

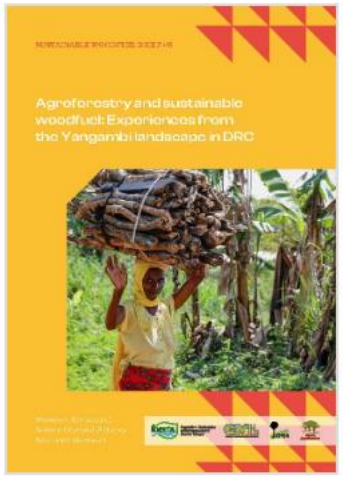
Just ended EU funded project SUSTAINABLE WOODFUEL BRIEF SERIES: https://www.cifor.org/gml/publications/swb/

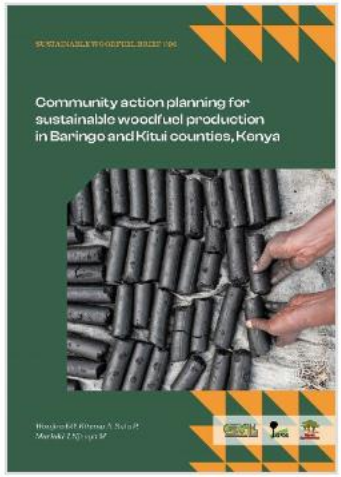


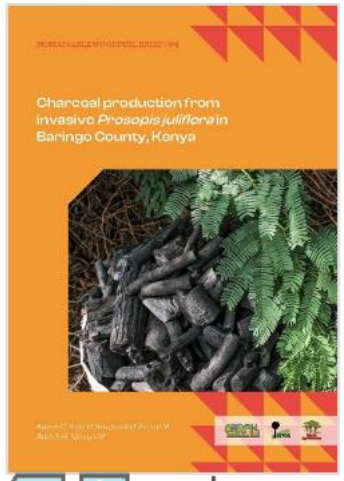












cifor.org | worldagroforestry.org

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Q&A

THANK YOU

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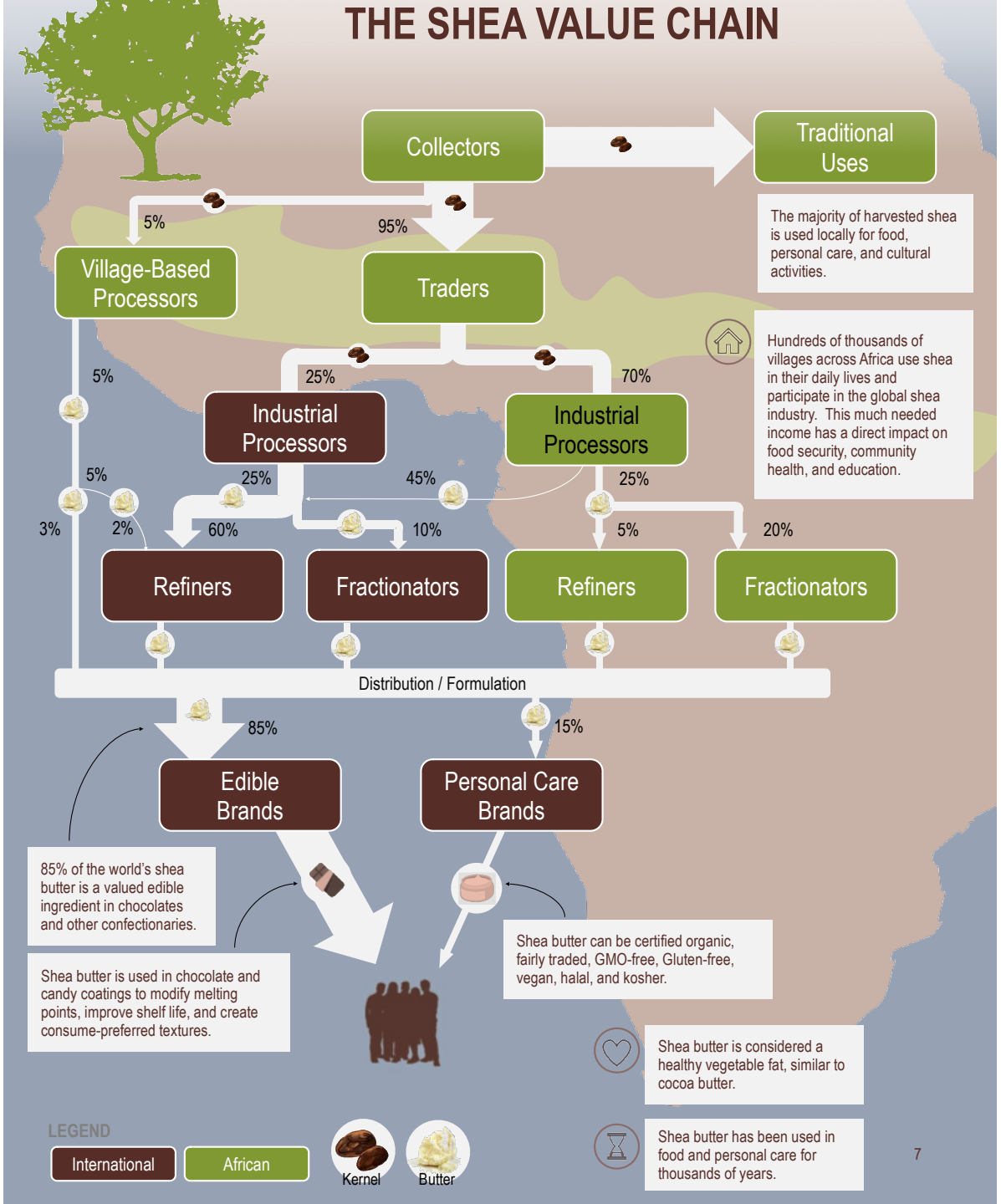
Session 3

Development impacts and lessons learned in the shea value chain

Marie Veyrier (Global Shea Alliance)

European Commission



Industry Overview

- 274 million hectares across 21 countries in Africa
- Agroforestry tree → collection activity
- 16 million women collecting and processing shea
- 50% harvest is used locally
- 85% of exported shea goes to the food sector and 15% in the cosmetic sector

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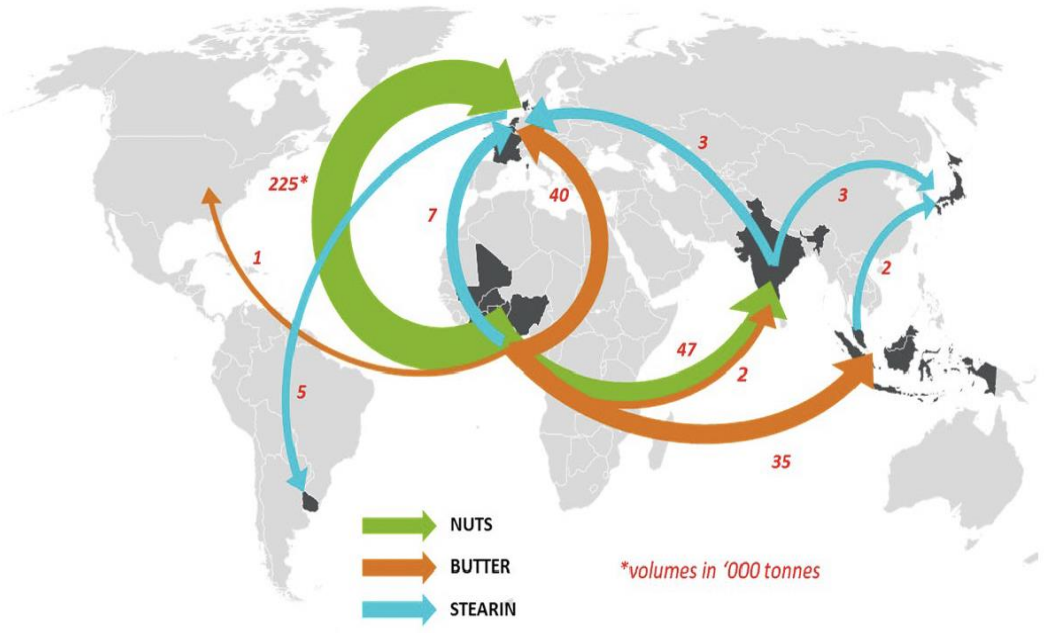
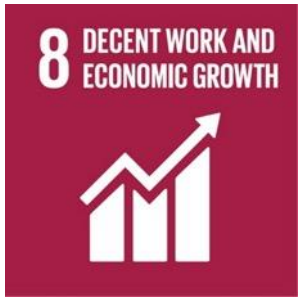
Trade Flows



- 500,000mt of kernels equivalents exported in 2020
- Europe: center for both processing and consumption
- Growing value addition in West Africa – 22 processing plants

Impact

Shea exports provide **$150 million direct income** for women collectors and processors



Over 4 million women directly involved in shea trade and processing for export.

Shea income is received during the lean season and is crucial to bridge the gap between two harvests.

Every year, shea parklands in West Africa **capture 1.5 millions tons of CO2** that they store in the soil.

Women retain control of shea-related revenues. 90% of women view shea as the major source of their livelihoods.

The trees are integrated with crops on smallholder farms, creating an **agroforestry landscape, resilient to climate change.**

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Development Challenges

Women Empowerment

- Low and variable income for women shea collectors
- Fragmented value chain
- Safety issues
- Little attractiveness for youth
- Lack of access to finance

Protection of Ecosystem

- Decline in tree population
- Disconnect between economic benefits and tree management decisions
- Wood and water consumption of shea processing

→This impacts supply availability, climate resilience in rural areas, and pro-poor economic growth

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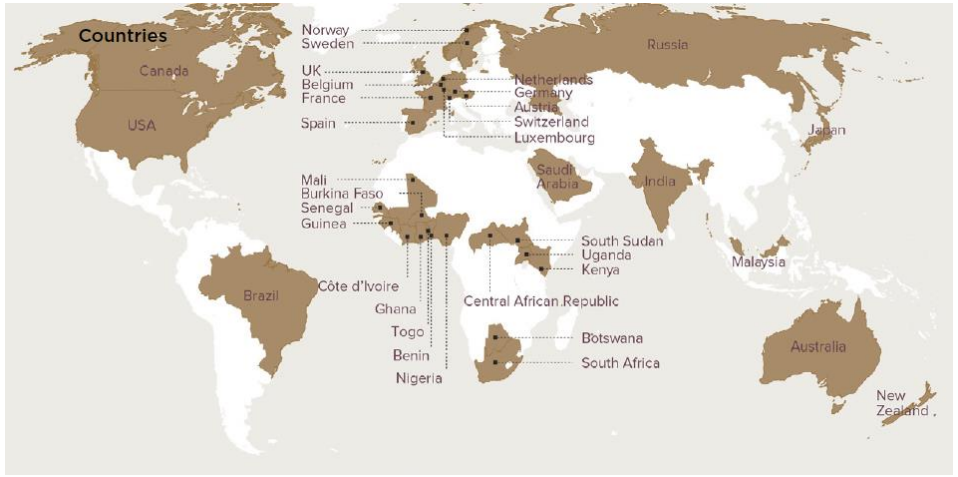
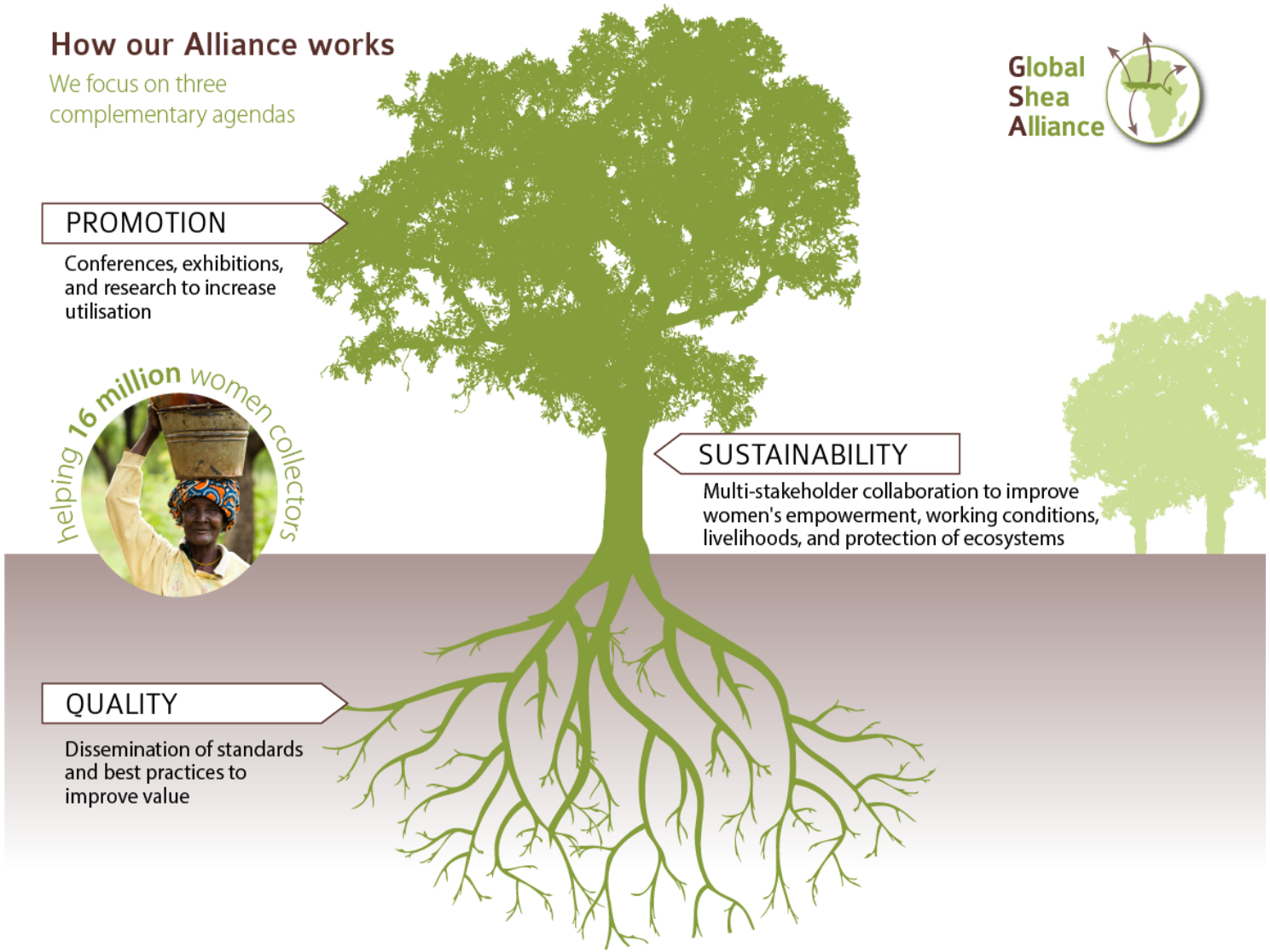
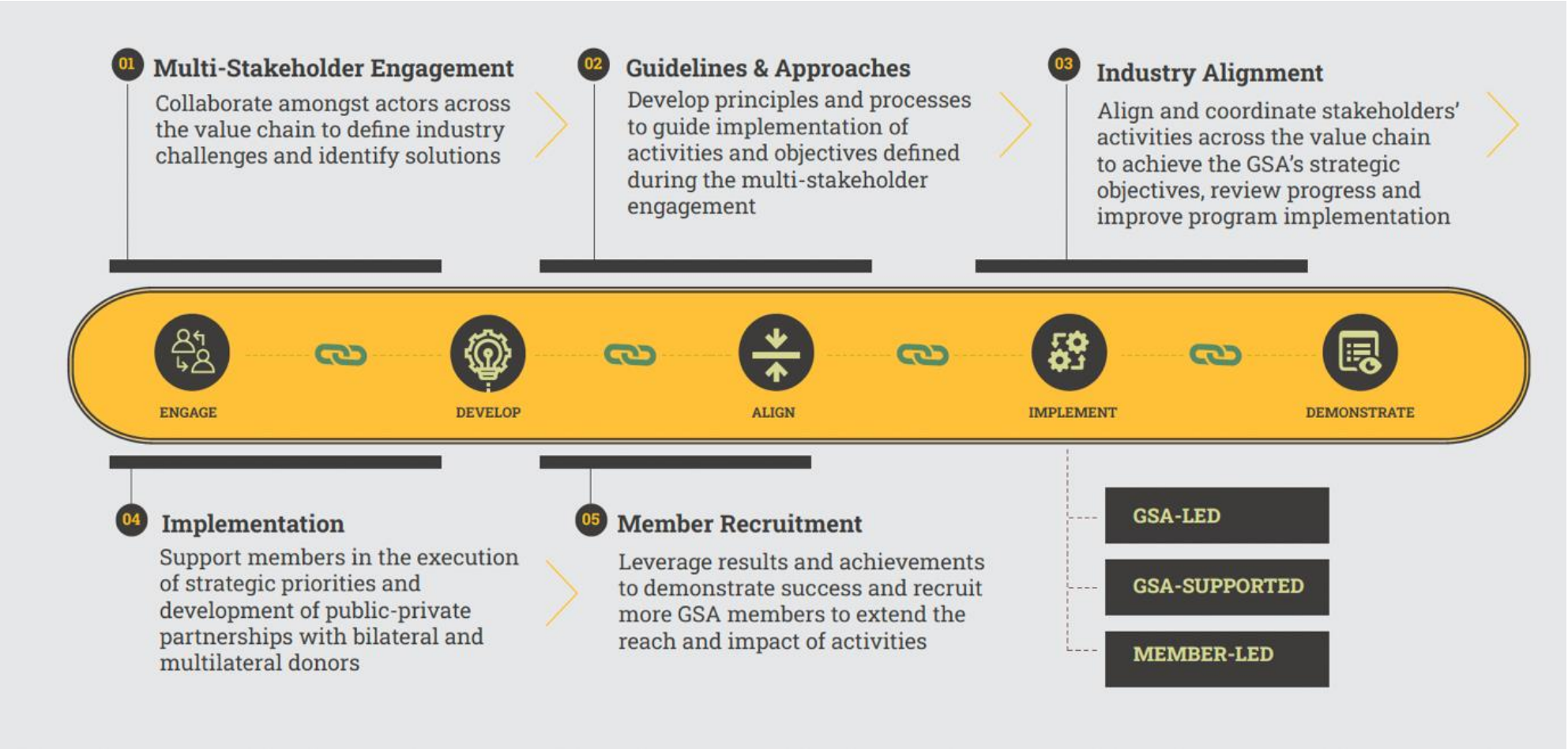
About the Global Shea Alliance

740 members





Public-private Partnership Model



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Public-Private Partnership Examples

Benin

EIF, Zikora, Coop. Karassou

Butter processing & quality training

Ghana

Green Climate Fund, Bunge Loders Croklaan

Tree planting & cooperative development

Burkina Faso

USAID, L'Occitane, others

Cooperative self-reliance, parkland management, and infrastructure

Nigeria

European Union, Salid Agr., Shea Origin, RMRDC

Shea agroforestry farming model pilot

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Industry Impact 2013-2022

SDG 2
31%
Annual Increased Income

SDG 12
175
Implementing Partners

SDG 4
529,493
Women Trained

SDG 13
7
Countries Implementing Parkland Protection Activities

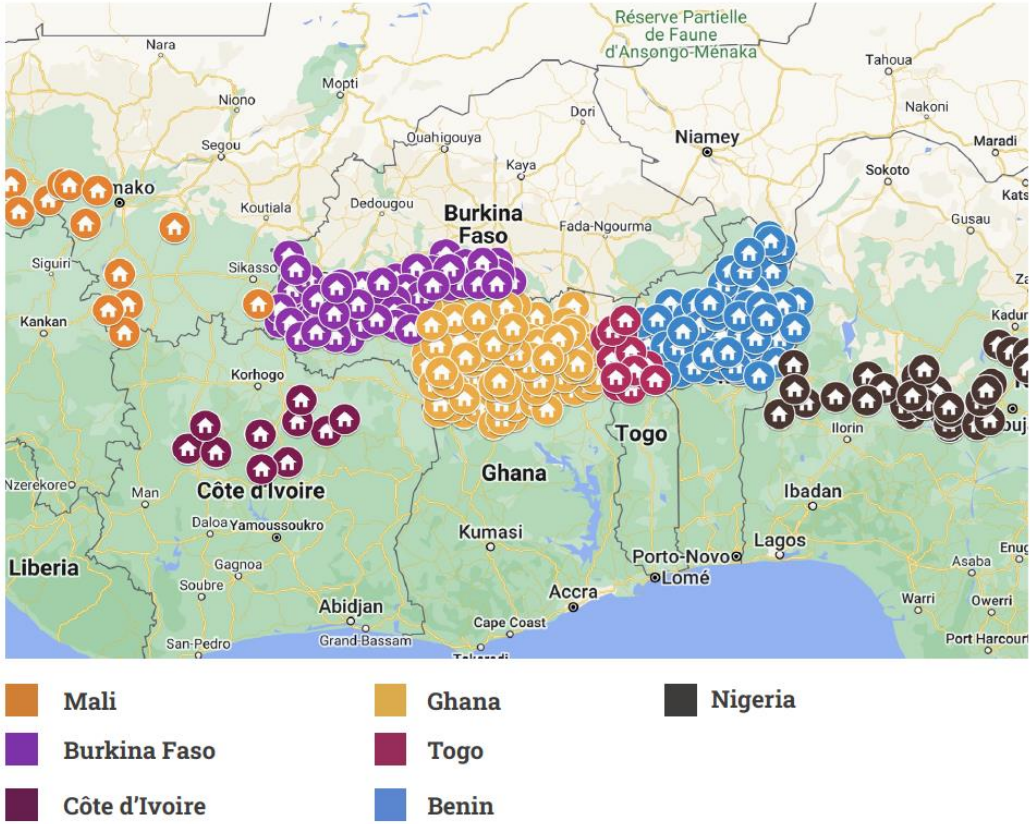
SDG 5
3,908
Women Leaders Managing Cooperatives

SDG 15
513,844
Seedlings Planted

SDG 8
50,830
Health & Safety Equipment Donated

SDG 17
100
PPPs Developed

Warehouses donated to women cooperatives



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Outlook

Challenges

- Sustaining cooperatives
- Access to finance
- Access to equipment
- Financing parkland restoration
- Security

Opportunities

- Growing demand for shea in food and cosmetic markets
- Using shea as an entry point for improved agricultural, climate, and social outcomes
- Strong private sector buy-in
- Landscape approach (e.g. charcoal associations, crops) to solve challenges

Q&A

THANK YOU

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Session 4

Patrice MOUSSY

Discussion and sharing experiences

Moderator, Jochem Schneemann, Egbert Topper

F4 Services & Future Webinars

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Closing remarks by INTPA

WEBINAR EVALUATION

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Thank you

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