

# Food Security from Traditional African Oils

## Background

Women in rural Africa traditionally extract oil from the seeds of numerous native trees, but the potentials are far from fully realised. There is an extraordinary potential for improving food security, health and economic development in poor African communities via increased and improved oil production.

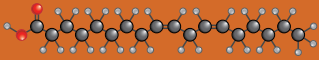
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## Edible oils

In semi-arid West Africa only two oils are widely produced and exported (palm oil and shea butter), although at least 30 native tree species have potentials for oil production and two thirds of the oils are edible.



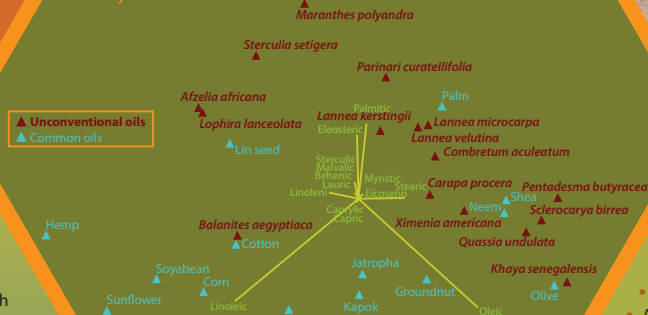
### Examples of edible oils:

- Balanites aegyptiaca* – desert date
- Bombax costatum* – silk cotton tree
- Combretum aculeatum* – bushwillow
- Elaeis guineensis* – african oil palm
- Khaya senegalensis* – african mahogany
- Lannea acida* – lannea
- Lannea kerstingii* – lannea
- Lannea velutina* – lannea
- Lannea microcarpa* – lannea
- Lophira lanceolata* – red oak
- Moringa oleifera* – horseradish tree
- Parinari curatellifolia* – mobola plum
- Pentadesma butyracea* – sorleah
- Raphia sudanica* – raffia palm
- Sclerocarya birrea* – marvolanut
- Vitellaria paradoxa* – shea tree



## Food security and health

Unconventional West African oils have characteristics similar to conventional oils such as corn, soybean, cotton, lin seed, shea and palm oil. The native oils provide a good potential supply of healthy cooking oils, which can replace imported oils in rural communities and thereby improve food security and health.



Principal Component Analysis of oils based on their fatty acid composition. Similar oils are grouped together.

## Carbon sequestration

Agroforestry, plantations and protection of natural habitats with oil-tree species can (besides of oil-seeds) lead to enhanced carbon sequestration as a basis for carbon sale via Plan Vivo or other carbon certification schemes.



## Green, sustainable and climate-friendly production

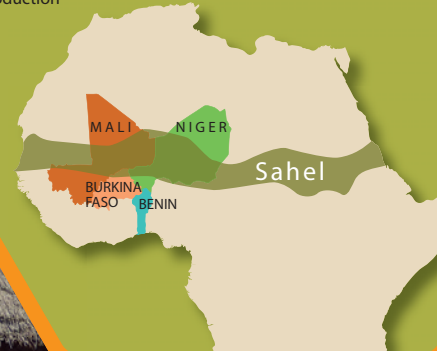
Oil production is naturally green, sustainable and climate-friendly as no pesticides are used, seed extraction is extensive and trees sequester carbon during growth. Marketing interests of oils include both local and international markets, but considerable improvements in the production process are needed to meet requirements of high quality products for international markets.



## TREEFOOD

Aims to advance sustainability and food security by diversification of food systems in Mali, Benin, Niger and Burkina Faso. The research includes:

- literature review of promising native food plants
- Analysis of chemical properties of promising species
- Analysis of value chains and marketing potentials
- Investigation of domestication potentials
- Participatory approaches to establish green and sustainable oil production



## Women and oil extraction

Women groups are widespread all over West Africa and have always been part of the social structure. As oil production is a female activity, women groups are the natural stakeholders in oil production. Improved and enhanced oil production for sale will give stronger market access, better prices and thereby economic development for women.



## Nature conservation and biodiversity

Nature conservation, tree planting and assisted natural regeneration are needed to ensure sufficient and continuous supplies of seeds. Such activities can enhance the local biodiversity and threatened habitats as an additional advantage of oil production.

## Potentials of oil production

- Various uses from many oils
- Improved food security and health
- Economic development for women
- Green and sustainable production
- Nature protection and enriched biodiversity
- Carbon sequestration, certification and sale