



Edible trees in refugee settlements and host communities in Arua, NW Uganda

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In cooperation with:

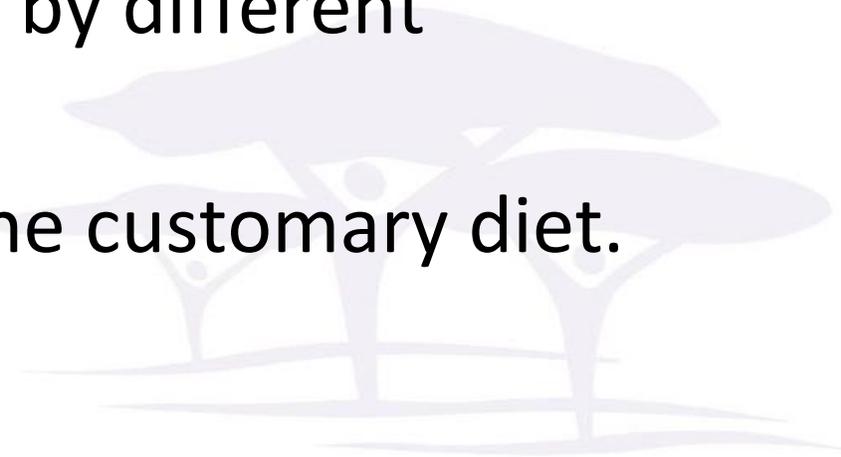


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Imvepi and Rhino Camp settlements and surrounding areas in Arua district contain a myriad of important tree species

- A forest inventory conducted by ICRAF found over 50 species.
- Particularly important are a dozen edible or food tree species – of which the leaves and/or the fruit and/or the oil of the seed or the pulp around the seed are consumed by different refugee and host populations.
- These are not “famine” foods but part of the customary diet.
- Many form part of local value chains.





Butyrospermum paradoxum subsp.

***Niloticum* Shea-butter tree**

Local names: Kakwa:
Kumuri, Lugbara:
Kumara

The fleshy part of the fruit is consumed, then oil is extracted from the seed and used for cooking. A major livelihood source for women. Can be used in soap making.

Borassus aethiopum

Local names: **Arabic:** Dileb, **Kakwa:** Wikiwaki
Lugbara: Itu

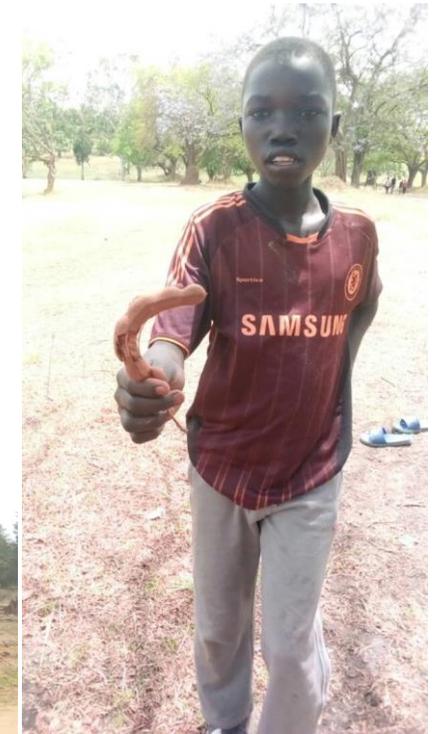
The fleshy part of the fruit is consumed then oil is extracted from the seeds. The roots of the young plant are also consumed. This tree is plentiful in the area.



Tamarindus indica

Local names: Arabic: Arideb, **Kakwa:** Iti

The fruits are consumed. A juice can be made using the fruit **Preparation:** The pod is removed and the fruit soaked in water where it dissolves and the seeds are removed. Sugar is added. It can also be added to porridge





Balanites aegyptica

Desert date **Local names:**
Lugbara: Logbo **Madi:** Lugba

Uses

The fruits are consumed then oil is extracted from the seeds and added to foods **Preparation:** The seed cover is removed then seed is roasted, crushed, and boiled to remove oil

The young succulent leaves are eaten as a dry season vegetable by the Madi and South Sudanese groups. The leaves are also goat fodder.

Ficus natalensis

Fig tree

Local names: Lugbara: Elio

The fruits are consumed mostly by children. It grows wild.



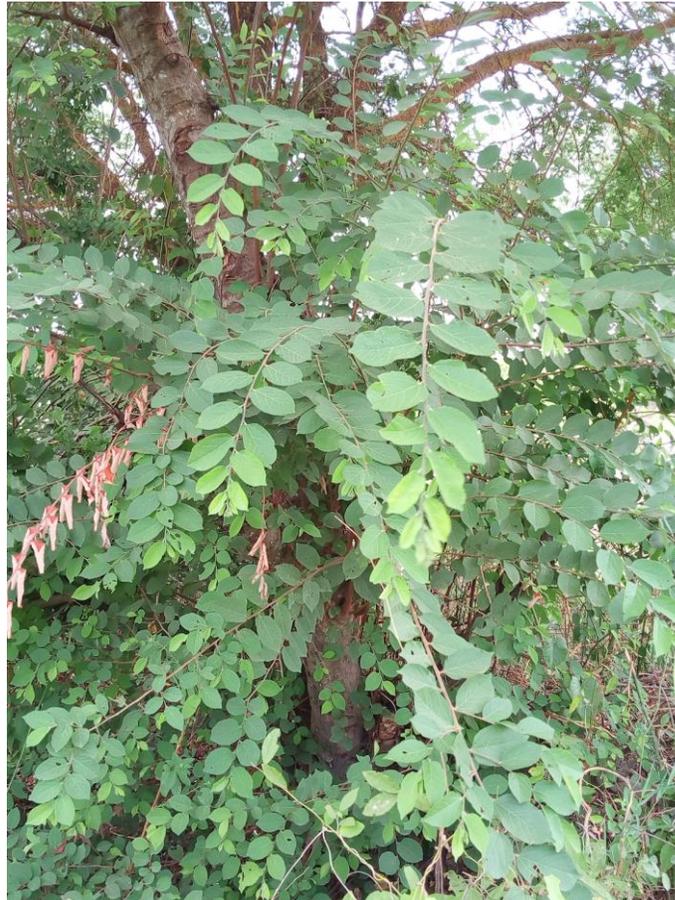


Grewia bicolor

Local names:

Kakwa: tire,

Lugbara: Inzu



Uses

- The young leaves are consumed.
- A sauce is prepared using the leaves and consumed with kalo (made from millet and cassava flour) or any other starchy cereal, roots or tubers
- The Lubgara and Madi people consume it



Gardenia ternifolia

Local names: Lugbara: Longboro

Reports of fruit being consumed by the local people. Leaves also reported as edible.

<http://tropical.theferns.info/viewtropical.php?id=Gardenia+ternifolia>



Ziziphus abyssinica

Local name:

Lubgara: Ela/Elaki

The fruits are consumed

Preparation:

The fruit is soaked in water to dissolve then seeds are removed. The juice can be added to porridge or consumed the way it is

The tree is growing at the roadside

Ximenia americana var *caffra*

Local names: Kakwa:
Kulumgbi/Katoro, **Lugbara:** Icuki,
Ocucu, Cucua
The yellow fruits are
consumed





Vitex doniana

- **Local names:** Lugbara: Odoo/Edioko
Madi: Ledo
- The fruit is consumed as food. In West Africa, the leaves are also eaten but this has not yet been identified in West Nile





Palm tree - *Elaeis guineensis*

- **Local name: Lugbara:** mbira **Congo:** mbela **Kakwa:** ngasi
- Fleshy part of fruit is eaten mostly by children
- Yellow cooking oil is then extracted from the seed and used for cooking
- Then seed is also consumed. The seed coat is crushed and the inner part consumed especially by children



Moringa oleifera

- The young leaves are consumed and eaten with kalo, posho (maize meal), sweet potatoes etc. Ground nut or sesame paste can be added.
- **Preparation:** Fry onions and tomatoes in a sauce pan and then add the leaves.



- The Dinka, Madi, Kuku, Kakwa and Nuer consume these leaves

Annona senegalensis - African custard-apple, wild custard apple, and wild soursop



- **Local names: Lugbara: Lipa, Kakwa: Lomuda**
- The fruits are yellow in color and are consumed as food.
- This fruit tree is wild - not planted by the local people.

Note: To be completed

Ficus sur (fig species)



- **Local names: Madi:** Uwi, **Lugbara:** -
- The young leaves are consumed
- Possible consumption of fruit
- The leaves are also eaten by cattle and shoats

Note: To be
competed

Lophira alata



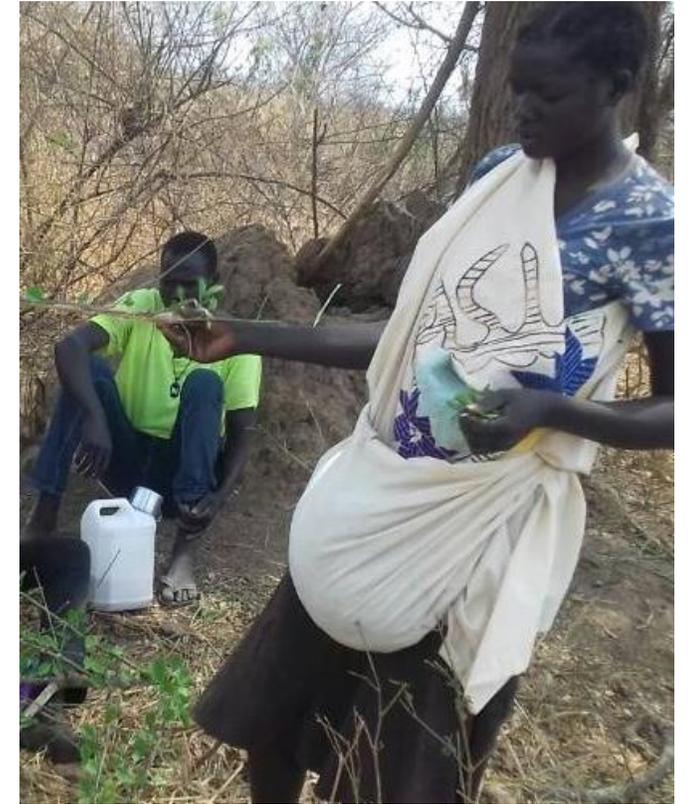
- The seeds are used to make oil for cooking
- Preparation: The seed canals are removed and roasted, crushed then boiled to extract the oil
- The oil is also used to make local soap

Note: To be
compared

Recommendations

- These trees are a source of both macro and micro-nutrients in the diets of the refugees and the local communities
- Some of the trees provide fatty acids which contribute to achieving the required daily allowance (RDA) for energy and also aid in absorption of fat-soluble vitamins such as Vitamin A, D, E and K
- The fruits are also a source of micronutrients such as Vitamin A, B and C, zinc, iron and potassium which are essential in boosting the immune system and child growth and development.

- Beside nutrition, their products are a ready source of income.
- At least three species have oil that can be used to make soap – a great value addition opportunity.
- Collecting the seeds and selling them to nurseries and NGOs generates further earnings.
- Many are highly compatible with crops and are important feed sources for livestock (agroforestry) besides their role for soil amelioration.
- They contribute to biodiversity & other important ecosystem services e.g. pollination, soil improvement and water regulation.
- Some thrive in poor soil.
- Most perform better than commonly used species such as citrus that are less adapted to the environment.



A refugee collects *Balinites* leaves to make sauce.

Suggested actions

Maintaining these species is key. Strategies for protection and promotion include:

- Advancing on-going marking of trees to reduce accidental or intentional cuttings
- Promoting regeneration of the species through farmer managed natural regeneration (FMNR)
- Raising the seedlings of the species in nurseries and supporting planting programmes within restoration, reforestation and homestead tree growing schemes.
- Community dialogues, radio programmes on their use and value
- Discouraging burning of these species for charcoal or cutting for firewood through persuasion, behaviour change and bye laws.
- Instituting strict rules and regulations regarding the exploitation of such species and imposing disincentives to discourage destructive actions.



The ICRAF nursery next to River Enyau between Imvepi and Rhino Camp settlements is propagating *Moringa*, *Balinites*, *Vitex* and other edible tree species

End