

Introduction and Problem

Wild edible fruits are important constituents of biodiversity and provide numerous ecosystem services.

However, enduring land uses, alteration of rural ecosystems and landscapes values on conserving biodiversity, some wild fruits are disappearing and may be at risk of extinction.

Objectives and Methods

The objectives of this project were;

- to establish the knowledge on the diversity of wild edible fruits,
- to quantify utilization frequency,
- to compute cultural importance index based on use report.

We documented a total of 34 wild edible fruit species through interview surveys from 244 participants in Tabora rural, Uyui and Sikonge districts of western Tanzania.

A certain specie listed by participants, utilization frequency (f) (Ladio and Lozada, 2001) was computed using the formula below:

$$f = \frac{Nm}{Ni}$$

Where, f = utilization frequency, Nm is the number of informants mentioned certain species; Ni is the total number of informants. The higher the value of f , the more frequent is the fruit specie used.

Information of a species mentioned by a participant within one use category, Use Report (UR) was calculated by the formula below:

$$UR = \sum_{i=1}^n UR_{ui}$$

UR = use report, u = use category i = informant

Cultural Importance Index (CI) expressed in (Tardío and Pardo-de-Santayana, 2008) was computed in order to determine the diversity of use and the consensus of respondents using the equation below:

$$CIs = \sum_{u=1}^{UNc} \sum_{i=1}^{iN} UR_{ui} / N$$

Results

The top most wild edible fruits with higher utilization frequency (f), use report (UR) and cultural significance (CI) are shown in Table 1 and medicine uses in Table 2.

Table 1. List of the top most wild edible fruits recorded in the study areas

Species	Life forms	f	UR	CI
<i>Vitex mombassae</i>	Deciduous shrub or small trees	0.84	261	1.07
<i>Strychnos cocculoides</i>	Evergreen	0.81	212	0.87
<i>Vitex doniana</i>	Deciduous tree	0.70	176	0.72
<i>Friesodielsia obovata</i>	Scrambling shrub	0.50	144	0.59
<i>Phyllanthus engleri</i>	Deciduous tree	0.48	174	0.71
<i>Tamarindus indica</i>	Tropical evergreen	0.38	130	0.53
<i>Parinari curatellifolia</i>	Evergreen tree	0.32	79	0.32
<i>Grewia conocarpa</i>	Shrub or small tree	0.25	0.25	
<i>Hesperia garckeana</i>	Evergreen shrub	0.02	1.00	

Conclusion and Implications

Miombo woodlands ecosystem services based on wild plants are food and natural medicine.

Yet, wild fruit species are under threats due to cultivation expansion, charcoal extraction and expansion of livestock grazing which is deteriorating the habitats and biodiversity.

Promoting utilization of wild fruits through market soliciting, innovative technologies about drying, processing and capital will enhance sustainable conservation of biodiversity.

Results

Table 2. List of wild edible fruits with pharmacological applications in the study areas

Species	N of UR	Percent	UR
<i>Phyllanthus engleri</i>	56	29.9	0.23
<i>Vitex mombassae</i>	56	29.9	0.23
<i>Strychnos cocculoides</i>	14	7.5	0.06
<i>Friesodielsia obovata</i>	11	5.9	0.05
<i>Tamarindus indica</i>	37	19.8	0.15
<i>Flacourtia indica</i>	5	2.7	0.02
<i>Vitex doniana</i>	4	2.1	0.02
<i>Thespesia garckeana</i>	1	0.5	0.00
<i>Grewia bicolor</i>	1	0.5	0.00
<i>Parinari curatellifolia</i>	2	1.1	0.01

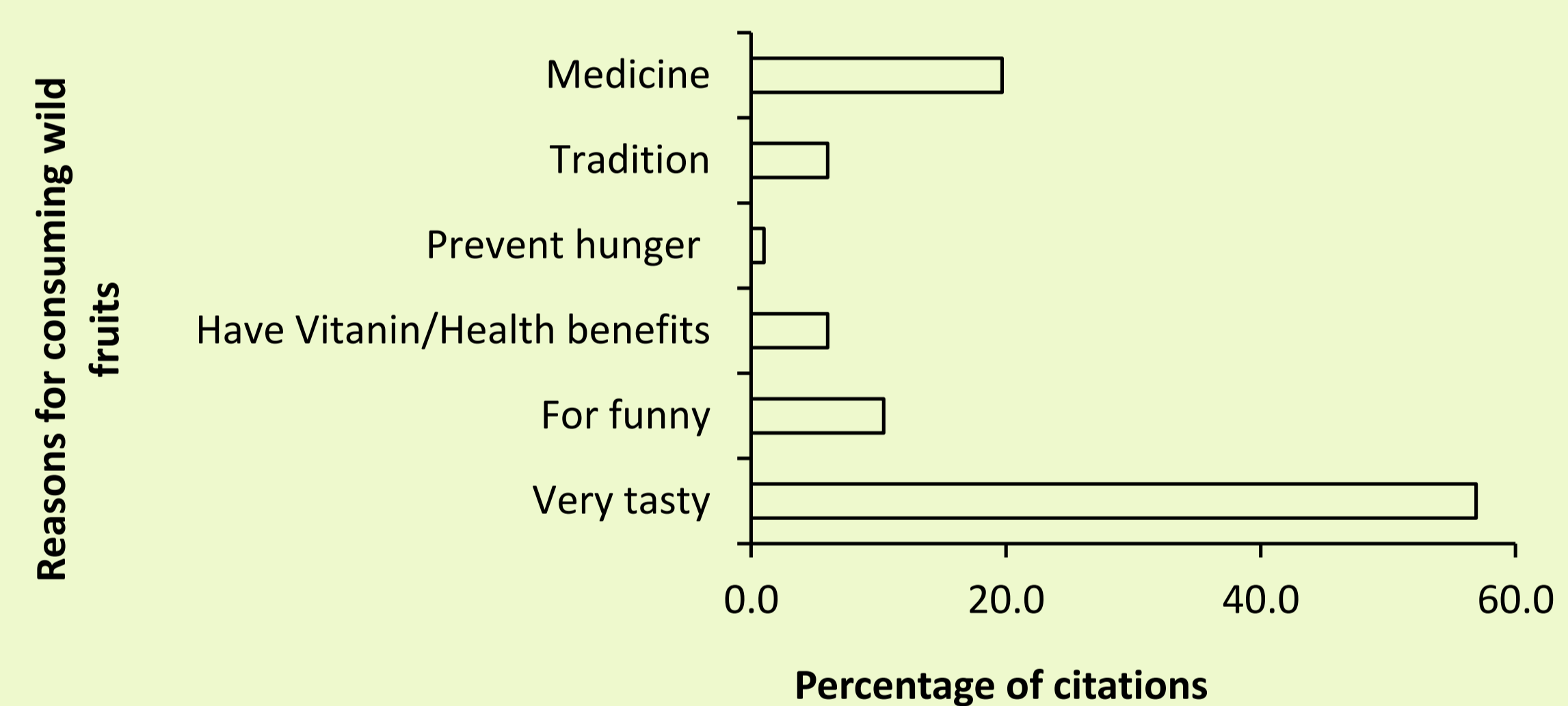


Fig 1. Use diversities of wild edible fruits in the study areas

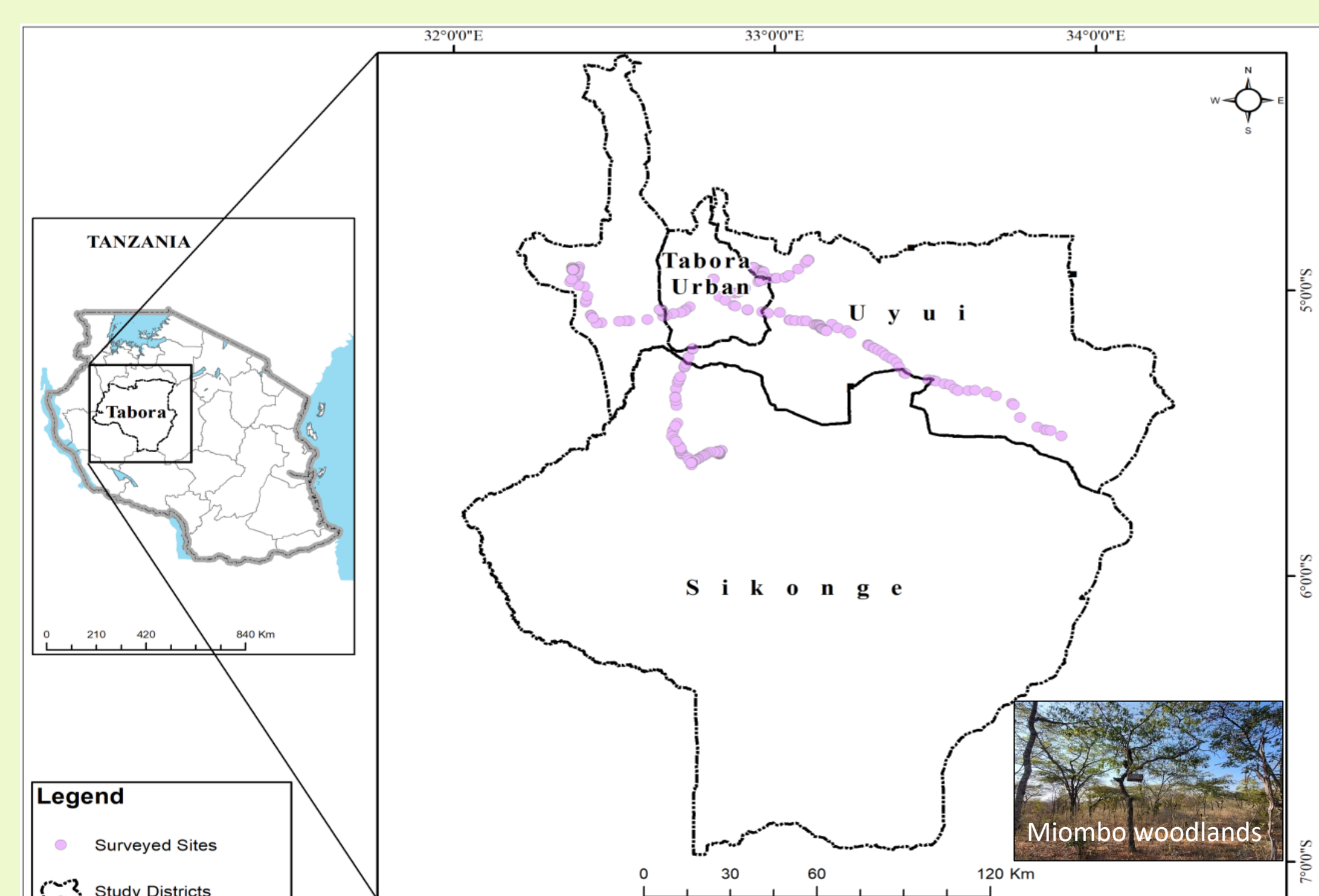


Fig 2. Location map of the areas surveyed