



# Overview of baobab value chains

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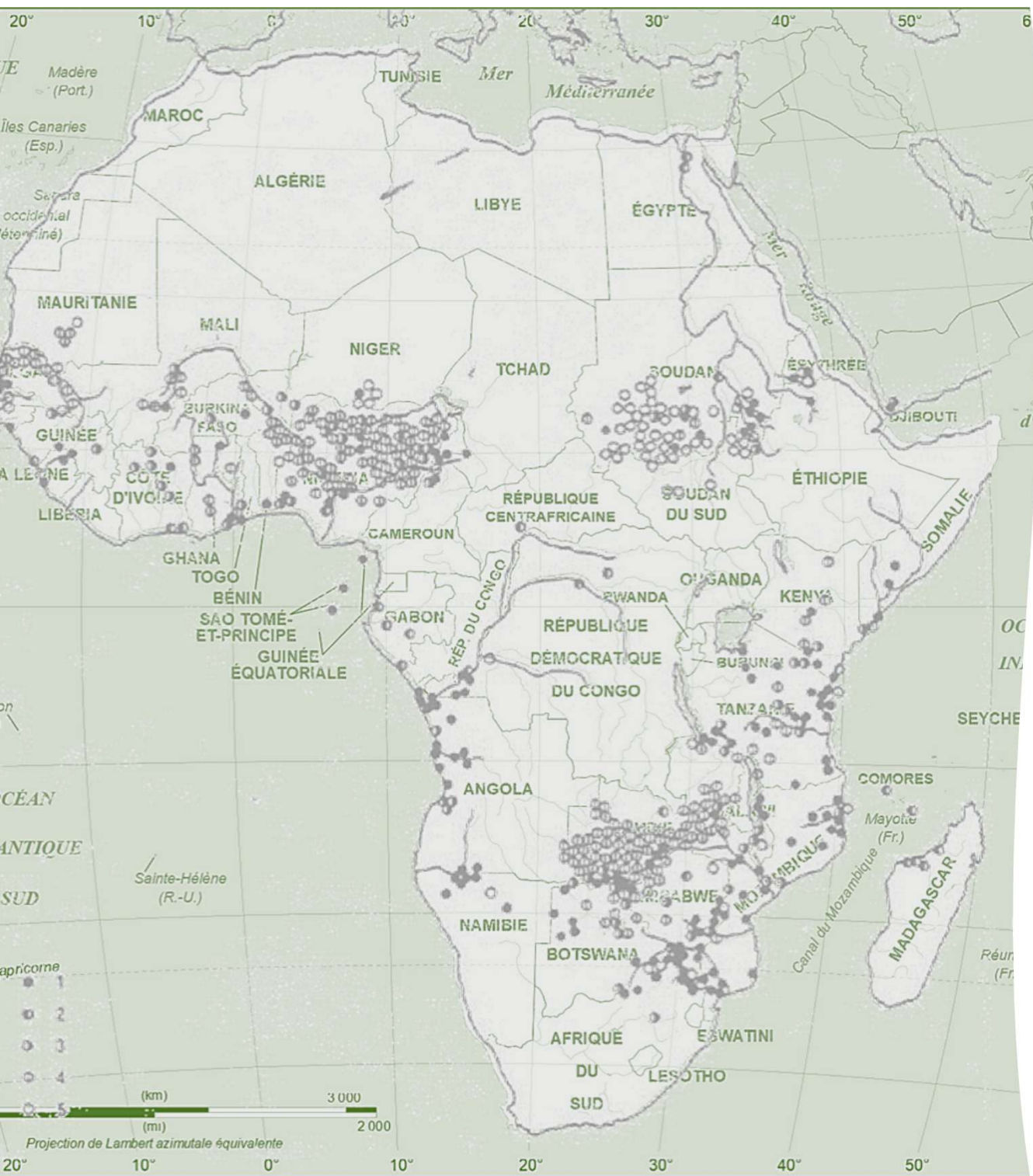
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# The baobab tree (*Adansonia digitata* L.)

Deciduous, majestic multipurpose tree up to 25 m high, thick, angular, wide spreading branches and stout trunk (Wickens 2008)

One of the most important indigenous fruit trees in SSA: direct and indirect contribution to food security / livelihoods





# Distribution

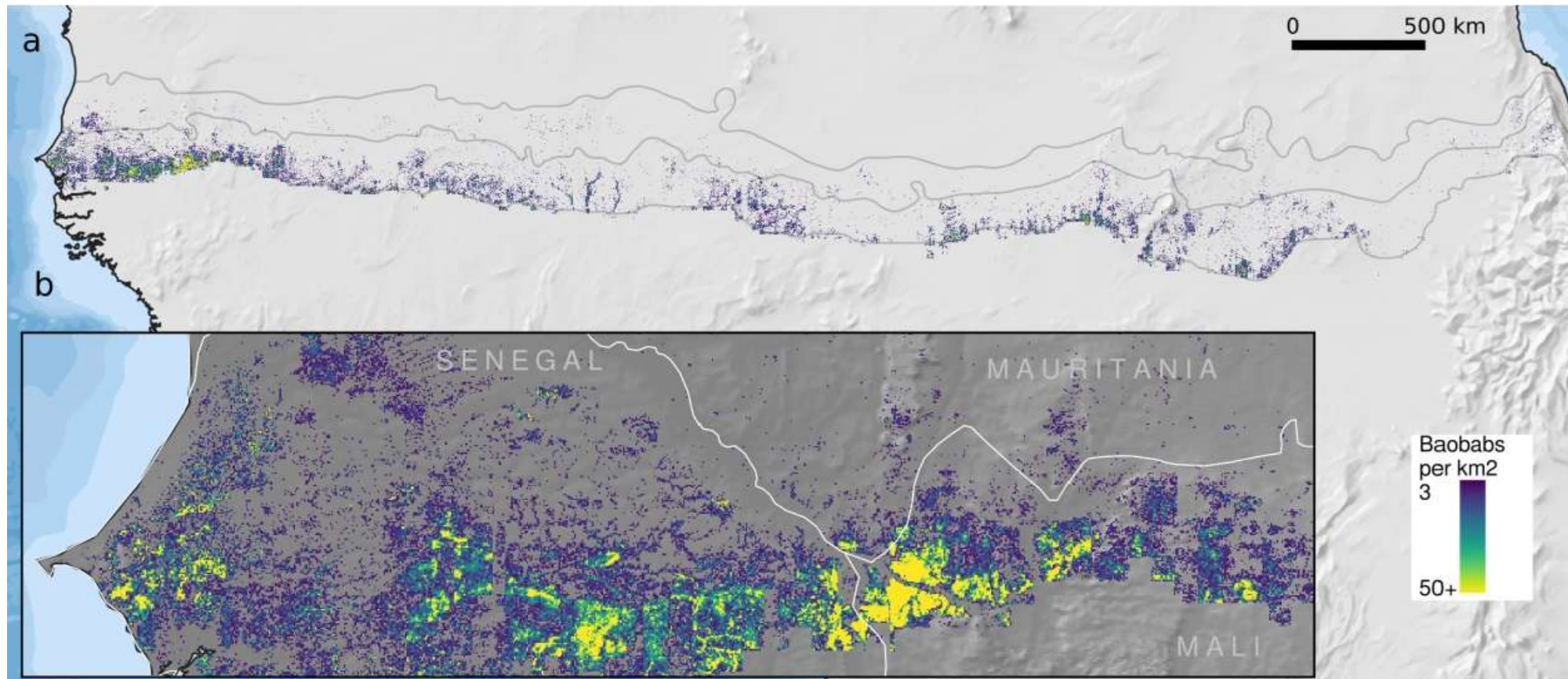
Semi-arid areas of SSA, food and nutrition insecurity hotspots

Often preserved on agricultural lands

Based on Wickens (1982)

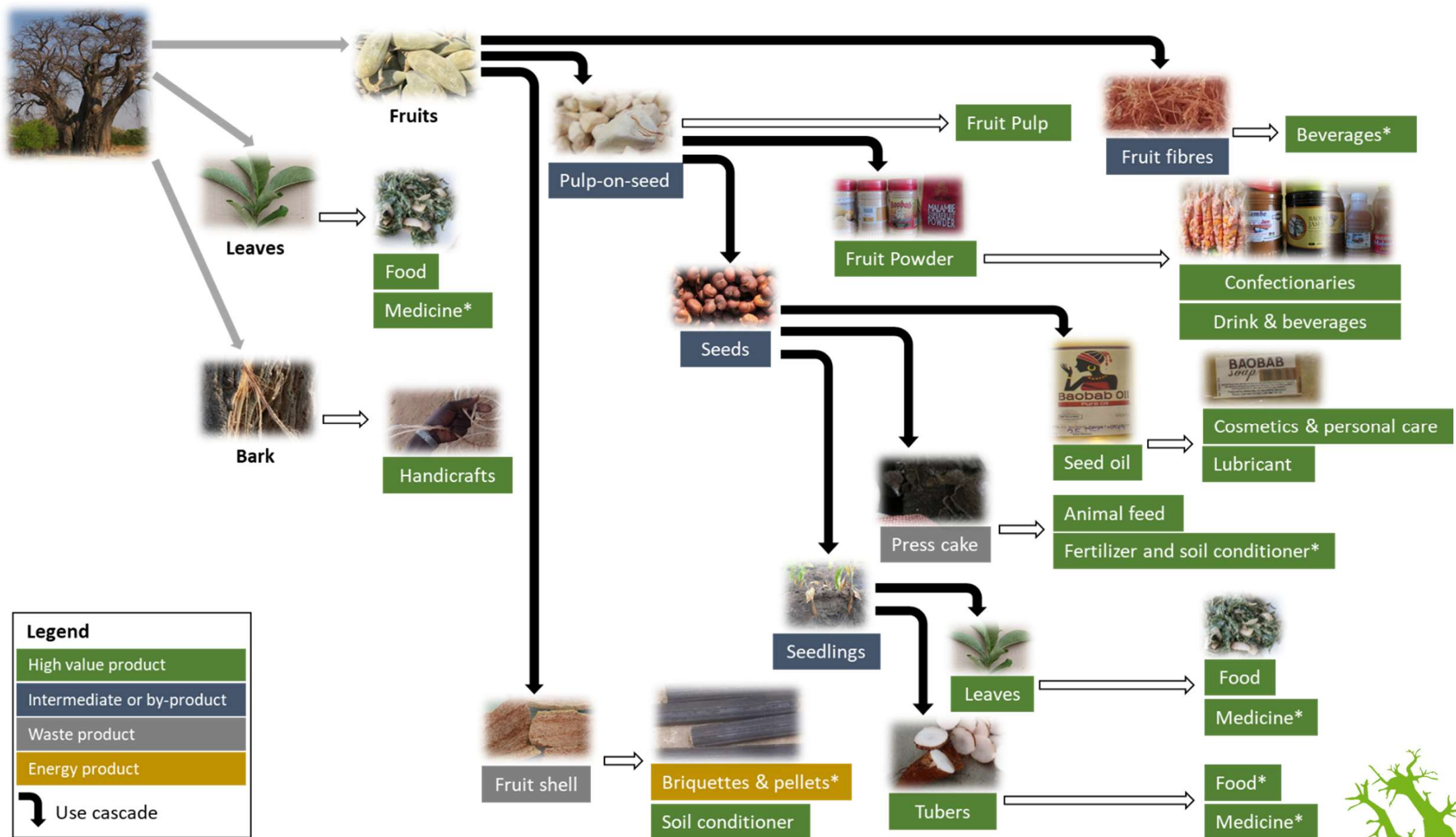


# Baobab mapping in the Sahel



Nearly 2.8 million (underestimation bias 27.1%) baobab trees in the Sahel!  
Baobab abundance is associated with a higher likelihood of people consuming a highly nutritious food group: dark green leafy vegetables.





# Products



Table 10.1. Potential for innovative bio-based products from baobab.

Baobab part	Product or application	Source
Pulp	Soft drinks, natural fruit smoothies, fruit fillings, jams, sauces, puddings, and desserts	Gruenwald, 2009
	Probiotic functional dairy product	Mpofu et al, 2014
Pulp and leaves	Polysaccharides for applications in the food and pharmaceutical industry	Alba et al, 2020
	Functional foods assist in controlling cholesterol levels	Tsetegho Sokeng et al, 2019
Leaves	Potential for novel food approval in Europe	Tsetegho Sokeng et al, 2019
	Leaf extracts for skin protection against solar UV radiation	Tsetegho Sokeng et al, 2019
	Repellent and larvicide against <i>Anopheles stephensi</i>	Krishnappa et al, 2012
Seed extract	Natural preservative for beef patties	Al-Juhaimi et al, 2020
Seed oil	Dermatological and/or cosmetics compositions	Vermaak et al, 2011
Seeds and fruit shell	Phenolic compounds	Ismail et al, 2019a, 2019b
Fruit shell	Adsorption material	Kabbashi et al, 2017
Essential oils from stem-bark	Post-harvest control of tomato spoilage as an alternative to synthetic chemicals	Kayode et al, 2018

Further baobab innovations are under investigation



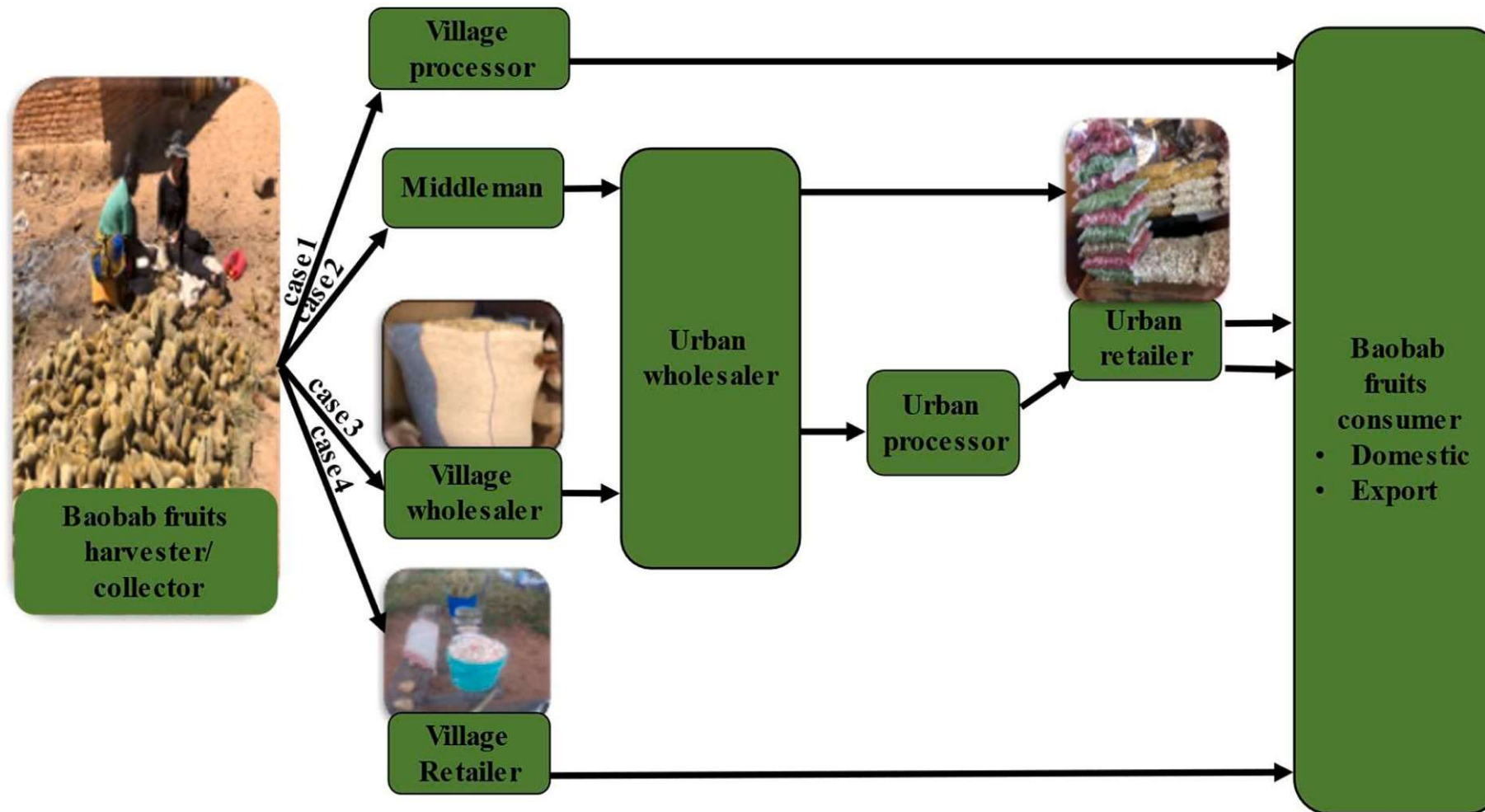
Currently marketed products are available on both **local** as well as **international** markets



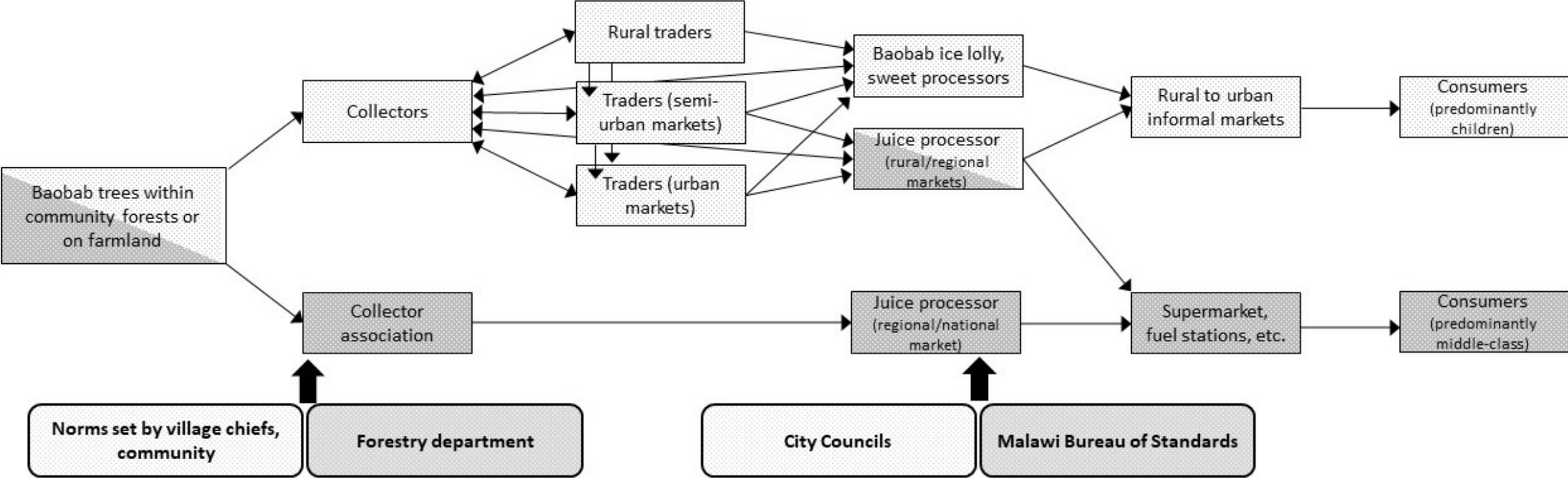
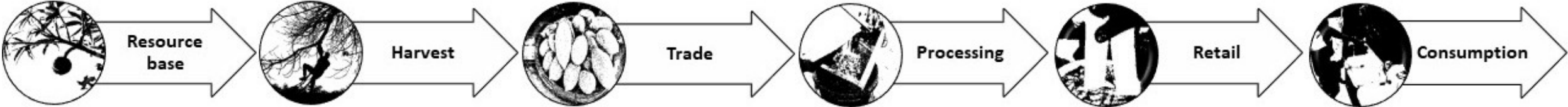
Both **informal** and **formal** economy involved



# Baobab value chain examples







## Processing informal

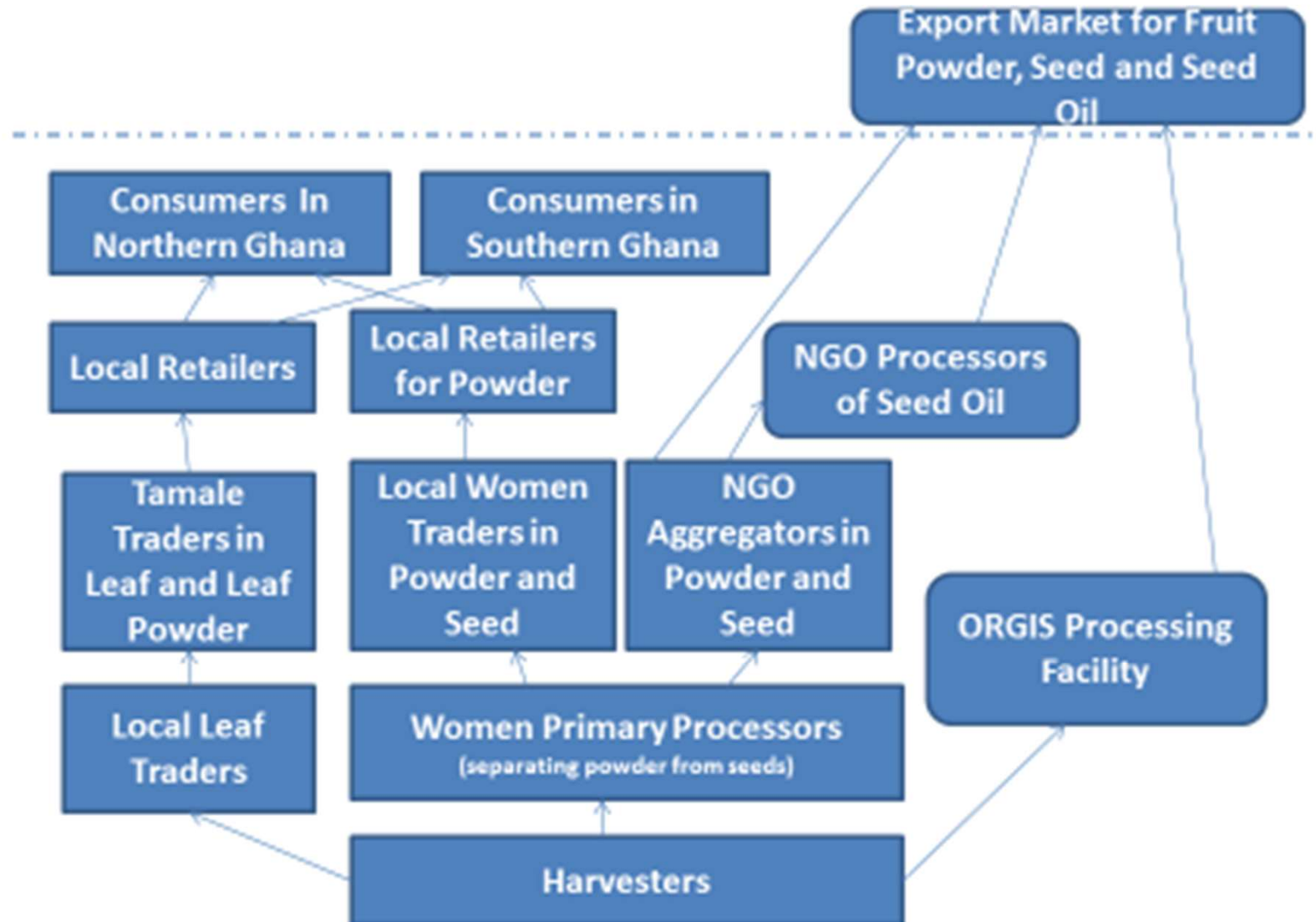


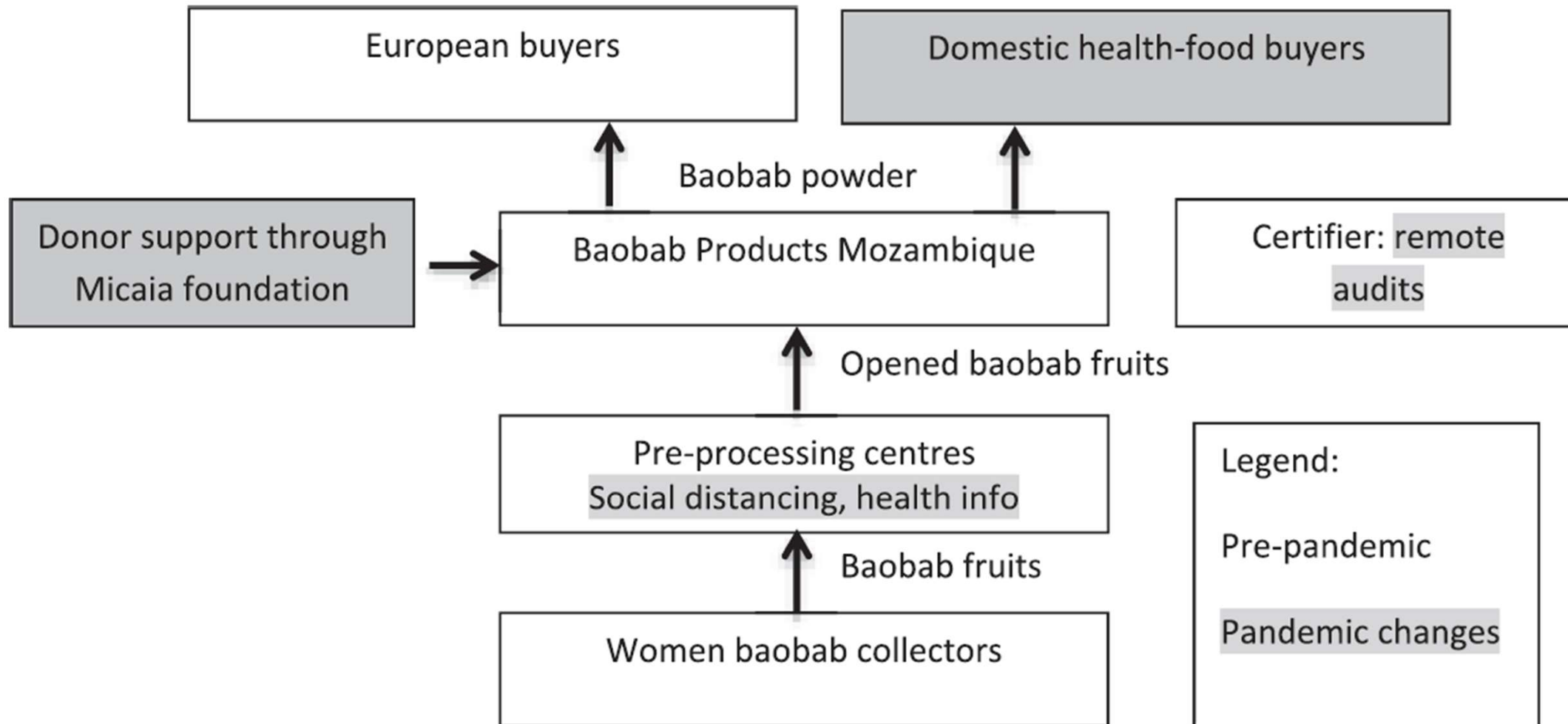
# Processing formal



Typically certified (Malawi Bureau of Standards), sold via supermarkets, small shops







Legend:  
Pre-pandemic  
Pandemic changes



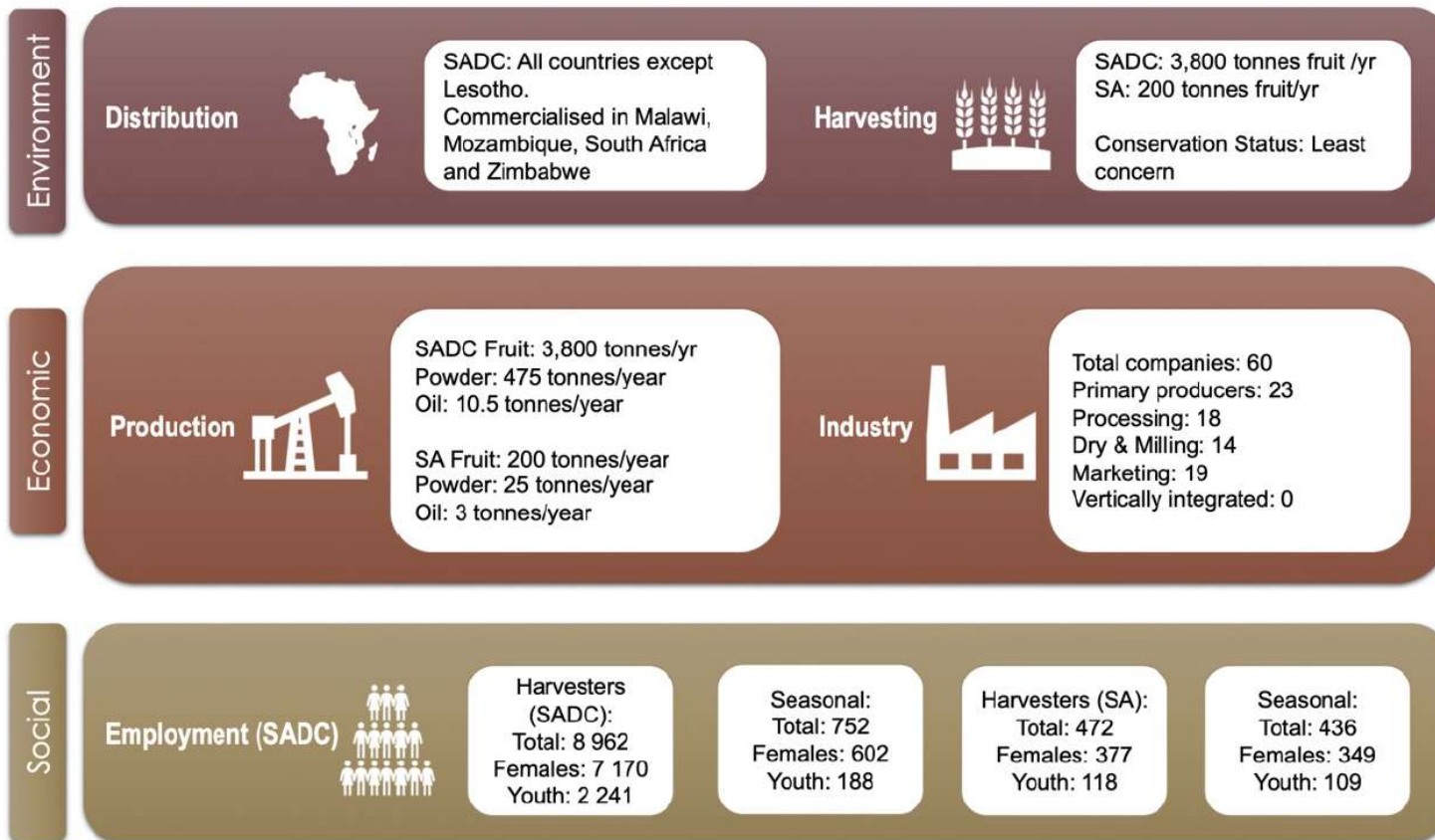
*“We do eat baobab fruit back in the olden days then but in this present time, it has become a source of income. Few people still eat baobab fruit though . . . Most of the people now and even the children go to the forest to take baobab fruits; you may be able to have a bag of it and sell it to have money” (Dide Village, 5).*



*“Some people that have money here can buy to re-sell. Some others from Dakar can bring millions of cephass with them to just buy the baobab fruits and sell them more expensive. There is a business around that fruit”.* (Koussan village, 11).



# Baobab sector: facts and figures



Formal sector (Southern Africa):  
Approx. 4,000t of fruit harvested, yielding 500t powder/13.5t seed oil; Approx. 60 SMEs involved, almost 10,000 rural harvesters, close to 800 (seasonal) jobs.

Vibrant informal sector trade in baobab products, yet little to no data on the scale

Kruger and Le Breton (2021)



Commercialisation activities initiated (entrepreneurs; PhytoTrade Africa)

- Baobab identified as priority species (~ 2000)

2008: Achievement of regulatory approval (EU, US markets)

Export, product diversity ↑  
(slowly) growing consumer awareness



**How did the transition from informal to formal occur?**





# Implications

## Change in value chain setup

- Value chain elongation (increased role of trading, processing)
- Supply chain organisation to enable high-quality production
  - Organisation of smallholders, traceability
  - Collection points/processing facilities

## Change in involved institutions

- From informal, customary rules to formalised standards (e.g. quality control)
- **Problem:** some of these had initially be developed first



# Baobab sector: Lesson's learnt

- ✓ Vast baobab populations across SSA, potential not fully exploited
- ✓ Baobab species may well be highly adapted to climate change
- ✓ Direct role in food security due to highly nutritious products
- ✓ Provision of (supplementary) income





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# Thank you for listening!

Find out more about our baobab research on

<http://baofood.de/>

<http://baoquality-project.de/>



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