



## Introduction

Kitui and Kilifi counties in Kenya are marginalized agricultural areas characterized by recurring episodes of food insecurity and malnutrition, particularly among children and women (KDHS, 2014). These counties also have a large population of baobab trees that are underutilized as a source of food, and for several other uses (Momanyi et al., 2019), as they have been reported to enhance food security and income among households elsewhere (Braca et al., 2018). A survey was done in the two counties to determine the potential role of the baobab in addressing food insecurity and malnutrition.

## Objective



Figure 2. Anthropometric measurements of children and caregivers

To investigate the potential of baobab in food security among households residing along the baobab belt in Kilifi and Kitui counties.

**Table 1:** Nutritional status of children and caregivers residing in households along the baobab belt in Kilifi and Kitui (n = 216)

Nutritional status indicator	n (%)
<b>Nutrition status of children</b>	
Weight-for-age** (% Underweight)	53 (25.0)
Height for age (% Stunting)	61 (28.6)
BMI for age (% Wasting/Thinness)	25 (11.6)
<b>Nutrition status of caregivers</b>	
Underweight (<18.5Kg/m <sup>2</sup> )	14.8 (32)
Overweight (25 - 29.9Kg/m <sup>2</sup> )	18.8 (19)
Obese (>30Kg/m <sup>2</sup> )	9.1 (19)

## Materials and Methods

» A cross-sectional study design was applied in Kitui and Kilifi counties of Kenya. A sample of 216 caregiver/child pair was interviewed between July and November 2017. Information on food security status, malnutrition and utilization of baobab was obtained.



Figure 1. The baobab tree



Figure 3. Whole and cracked baobab fruit

## Results

- » Households residing along the baobab belt reported high prevalence of food insecurity (98.2%) and malnutrition (Table 1).
- » More than three quarters (81.5%) of the households in Kitui County and more than half (57.4%) in Kilifi County owned baobab trees.
- » The utilization of baobab among households was limited (Figure 4).
- » Lack of knowledge on the nutritional value of baobab ( $p < 0.001$ ) and perceive health effects ( $p < 0.001$ ) limited its utilization, significantly increasing households' food insecurity (Table 2).

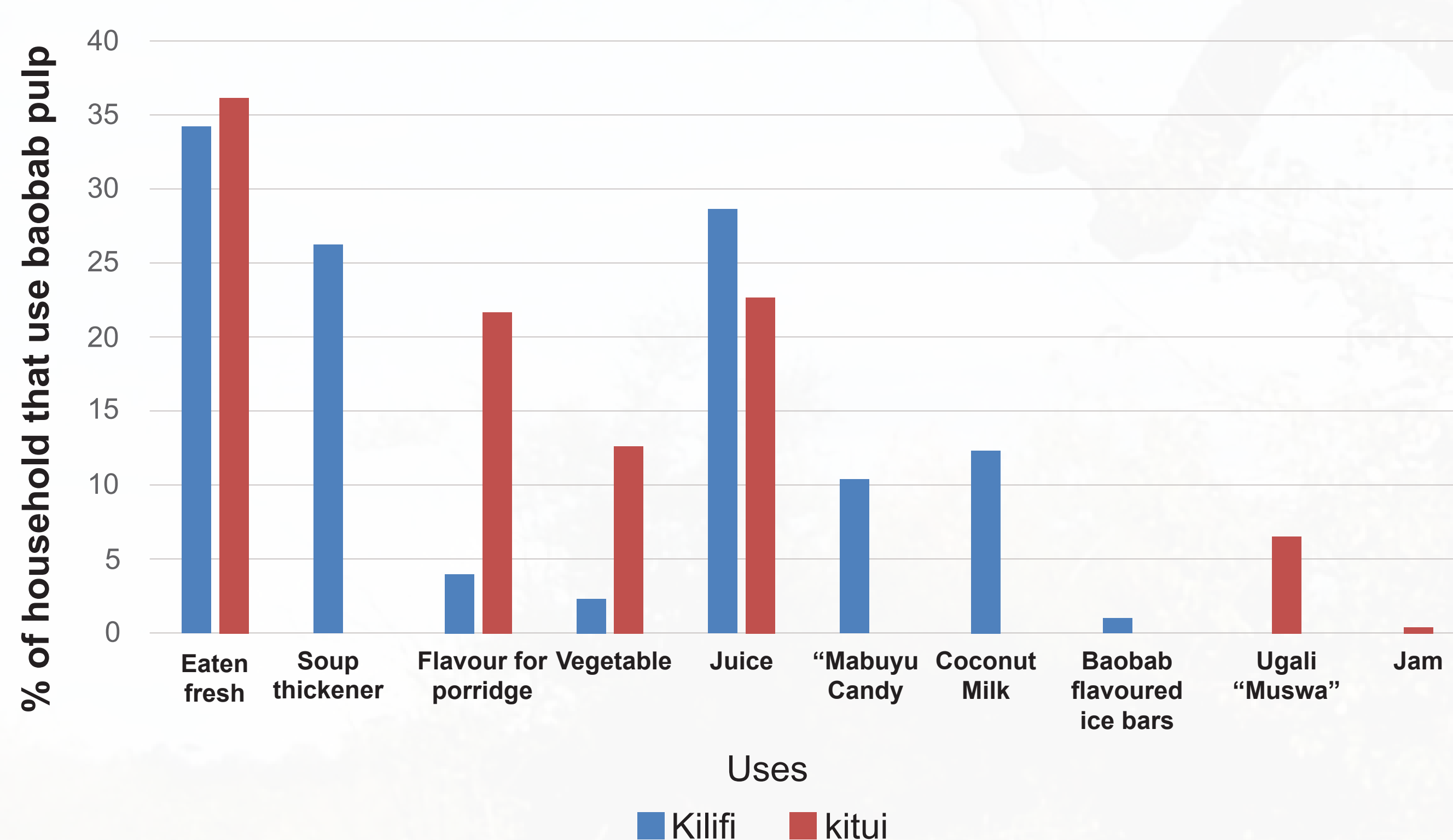


Figure 4. Uses of baobab among households

## Discussion/Conclusion

- » Overreliance on subsistence farming in this regions calls for a significant shift to use of drought tolerant crops such as baobab.
- » Despite the relative abundance of baobab, Its availability, accessibility and consumption did not influence food security. Creating awareness on its use and importance is key in ensuring its utilization.
- » There is a lot of subsistence and commercial potential of baobab through value addition and as a source of income which if well tapped could increase food security and improve nutritional status of households.

**Table 2.** Effect Logistic regression model of food insecurity status of households;  $\beta$ -coefficients significant at the  $< 0.05$  level are bolded (n=216)

Variables	Model R <sup>2</sup> = 0.2845 (p < 0.0001)	
	<b><math>\beta</math>-coefficient</b>	<b>p-value</b>
(Intercept)	7.12	<0.0001
Availability of baobab (1 = yes, 0 = no)	-1.33	0.41
Consumption of baobab	0.01	0.26
Income from baobab	0.01	0.41
<b>Factors associated with low consumption</b>		
Stringent taste (1 = yes, 0 = no)	-0.57	0.39
Lack of knowledge (1 = yes, 0 = no)	3.86	0.01
Tickling feet (1 = yes, 0 = no)	2.50	0.05

## References

- Braca, A. et al., 2018. Phytochemical Profile, Antioxidant and Antidiabetic Activities of *Adansonia digitata* L. (Baobab) from Mali, as a Source of Health-Promoting Compounds. *Molecules*, 23 (12), p.3104. Available at: <http://www.mdpi.com/1420-3049/23/12/3104>.
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## Acknowledgement

