



## Can a Smallholder Farm Sufficiently Feed the Family? A Case Study from Kapchorwa District, Uganda

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### Introduction:

- Uganda's hunger situation is "serious"
- In rural areas, subsistence farming is the main source of food

Objectives of this study were to

- investigate whether smallholder farmers could produce enough food to cover the households' requirements
- identify whether missing nutrients are specific to certain households or insufficient in the whole region

### Methods:

Data of 58 smallholder's households were collected in Kapchorwa, Uganda (Fig. 2) during the long rain season (March-July 2016) covering

- household demographic data
- agrobiodiversity & yields
- amount of kept and consumed animals and eggs
- Nutrient content for all produced yields of each household were calculated using a food composition database (USDA\*)
- Dietary requirements of each household were calculated using recommended daily allowances (IOM\*\*)
- Average amount of nutrients produced per household was compared to the requirements respectively.

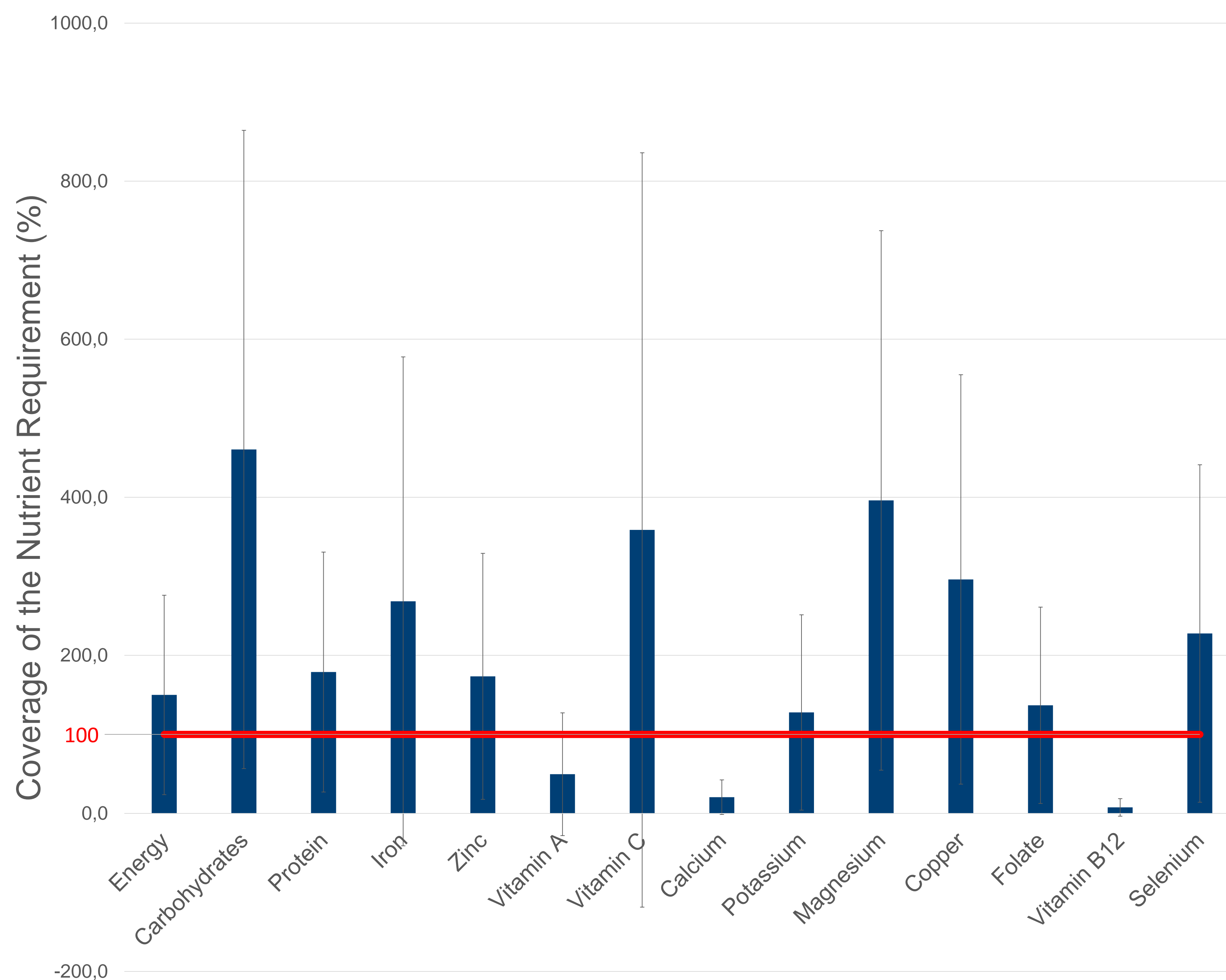


Figure 1. Potential of 58 smallholder farms in Kapchorwa to cover their households' nutrient requirements through subsistence farming

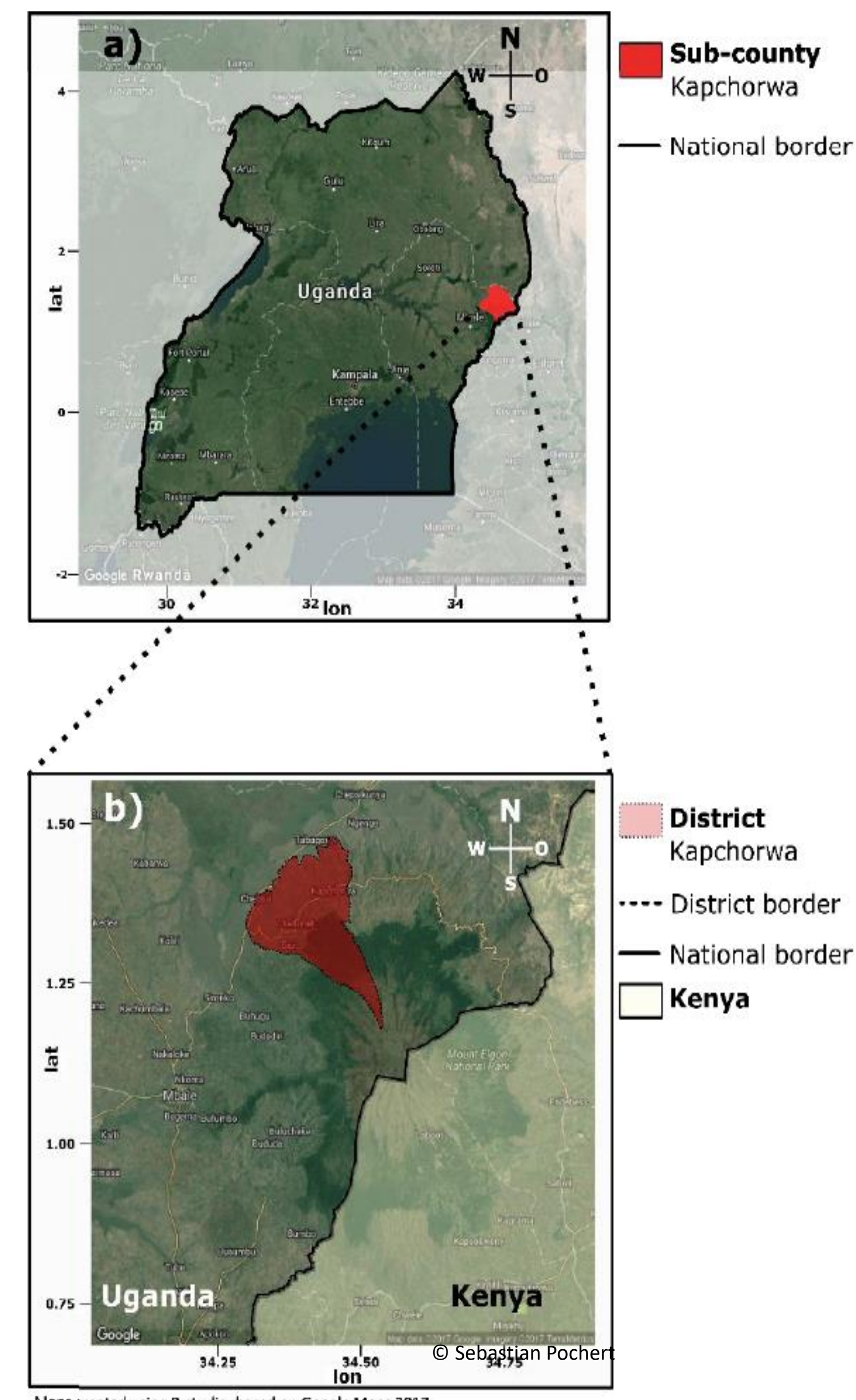


Figure 2. Research area

### Results:

- No household could fully cover its members' requirements
- There was no nutrient that was produced sufficiently by all households
- Most critical nutrients (Fig. 1):
  - vitamin B12 - no households could cover its requirements
  - calcium - one household could cover its requirements
  - vitamin A - six households could cover its requirements
- Production of energy, carbohydrates, protein, zinc, vitamin C, potassium and magnesium not considered a major problem (Fig. 1)
- Main source of nutrients were plants, animal foods being a major source of the critical nutrients were rarely consumed
- Higher diversity of cultivated crops was associated with higher coverage of some nutrients, among them vitamin A and calcium.

### Conclusions:

- Households cannot cover members' nutrient requirements by own farm production.
- Interventions should therefore focus on increasing production of crops/animal based foods containing iron, vitamin A, calcium and vitamin B12.
- Suggested foods: cowpeas, climbing beans, groundnuts, fruits, eggs, leaves, milk of goats and sheep as well as indigenous plants like spider plant and black nightshade.

\*USDA – United States Department of Agriculture

\*\*IOM – Institute of Medicine

This study was carried out within the HealthyLAND Project ([www.healthyland.info](http://www.healthyland.info)), supported by the German Federal Ministry of Food and Agriculture.

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Tropentag 2018, Ghent