

Food security among vanilla farmers in Madagascar: the role of vanilla boom and livestock keeping

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Introduction & objectives

- Madagascar's NE SAVA region = largest vanilla producing area in the world; boom in cash flow from vanilla improved socio-economic situation of local population, but malnutrition is still common.
- Livestock keeping offers potential to enhance food security through acquisition of calories, fat, protein, and micronutrients.
- Assess diet composition, food quality and food security of the local vanilla farming households (HHs)
- Analyze factors determining food security and intake of protein from animal source food (ASF_protein).

Methodology

- 12-month longitudinal food survey in the SAVA region (Figure 1).
- Food consumption (type and quantity) collected with pictograms of food groups; n=140 HHs, stratified random sample.
- Baseline data: socio-economic & agro-economic variables, field data
- Calculation of food security indicators and nutrient intakes (energy, protein, fat, carbohydrates, vitamins A and E).
- Analysis of factors influencing food security and contribution of ASF_protein using stepwise generalized linear model.

Results

- Recommended daily calorie intake per capita (2133 kcal day⁻¹) not met by 74% of HHs, but stable consumption of rice throughout the year (Figure 2).
- Relatively diversified diet and acceptable food consumption score.
- Insufficient intake of calories, high intake of carbohydrates (rice), sufficient intake of protein, low fat and very low micronutrient intake (Figure 3).
- Most important factors: HH size and cash income from rice sales for food security, number of income sources and cash crop income for ASF_protein.

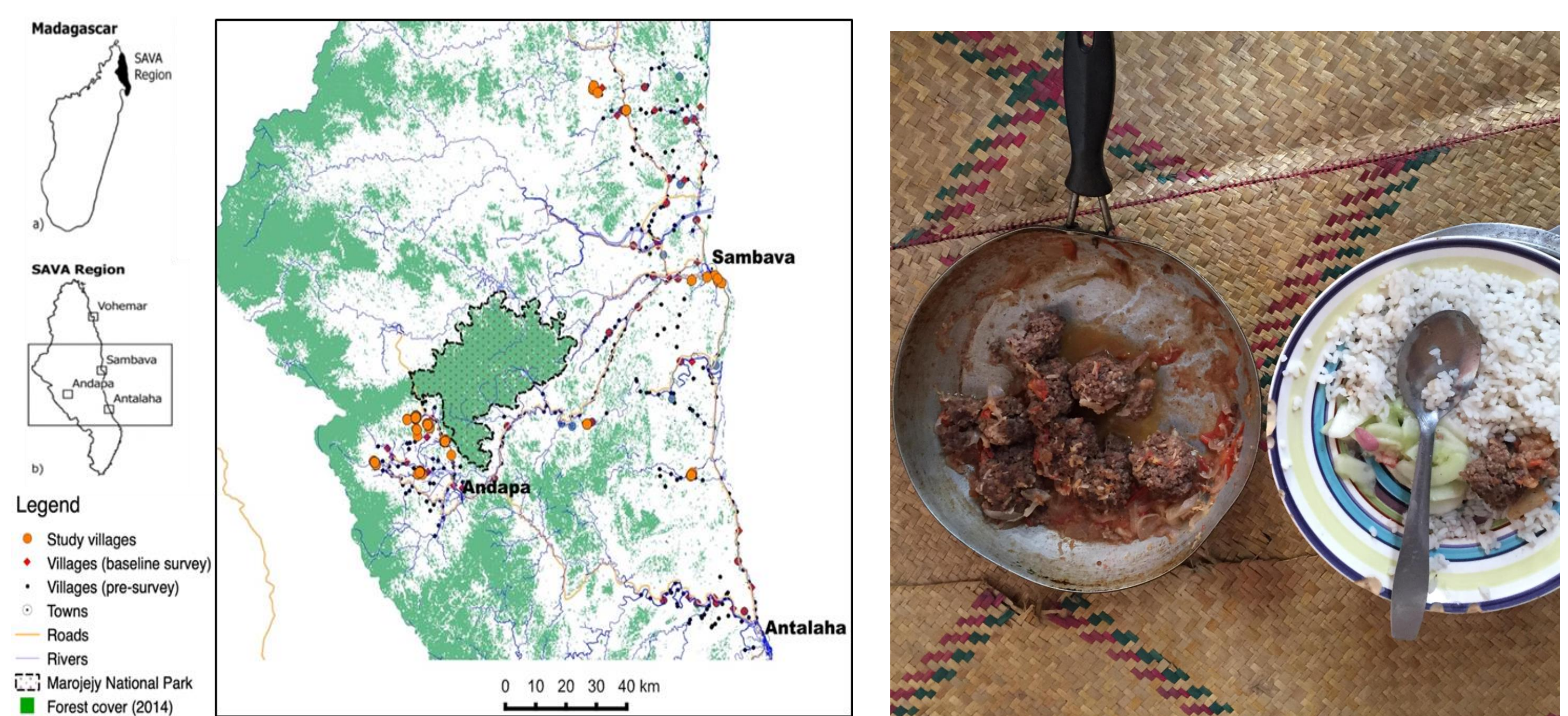


Figure 1: Localization of the study area (left) and local dish with meat (right)

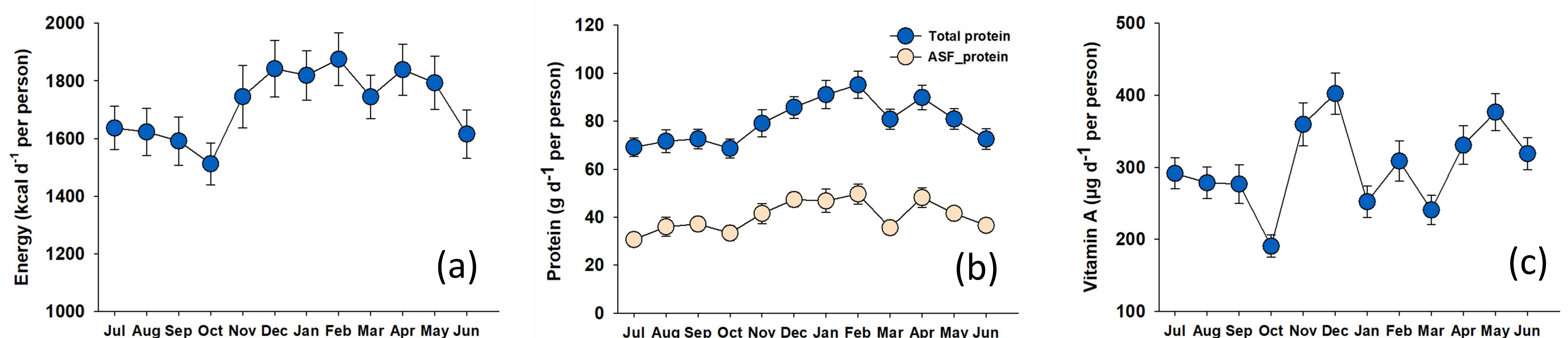


Figure 3: Seasonal variation of daily intake of (a) energy, (b) protein and (c) vitamin A in the SAVA region in NE Madagascar across 140 HHs.

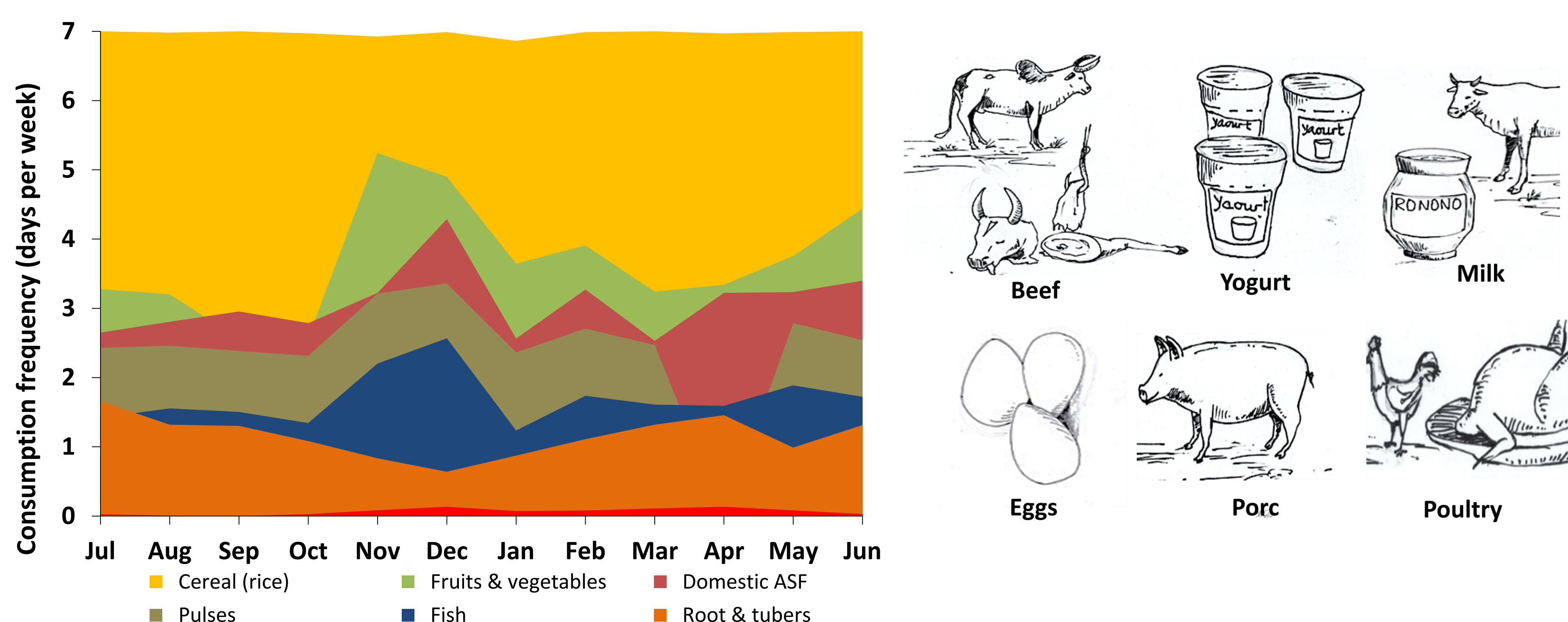


Figure 2: Weekly consumption of major food groups (left) and pictogram used to collect data on consumed animal source food (right)

Conclusions

- Diversification of income earning activities through subsistence crop farming or livestock production can enhance food security.
- Recommendations: programs raising awareness about diet diversity, improving nutritional education of women and youth, promoting high-quality local foods.