



Opportunities for greater integration of fruit in smallholder farms and diets in southeastern Madagascar

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CONTEXT

- Southeastern region of Madagascar provides favorable conditions for fruit production.
- However, the level of fruit consumption is low throughout the year among smallholders.
- Increasing fruit production and consumption may improve family health, food security, and income.

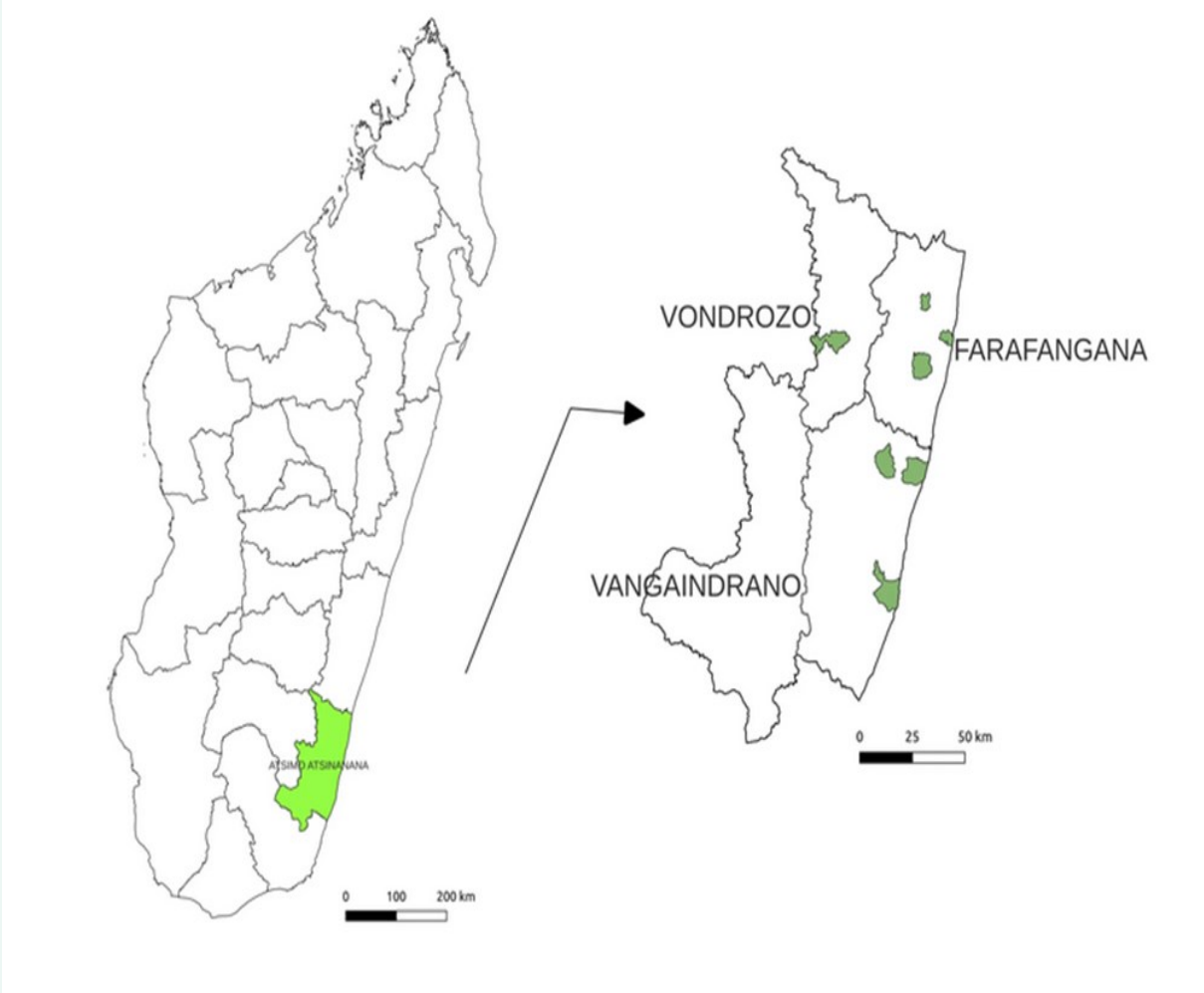


Fig 1: Targeted villages across 3 districts in Southeast region

METHODS

- From representative survey data, **9 villages** were selected: 4 villages with relatively high and 5 villages with relatively low fruit diversity (fig.1).
- **70 individual interviews** with 6 to 8 participants per village, **5 focus group** (august 2021).
- **4 main topics** : Production—Consumption—Gender and community aspect—Storage and preservation
- **Inductive and deductive coding** of transcripts to identify main barriers, and **SWOT analysis for the opportunities**.



Can fruit be made even more prominent?

RESULTS and DISCUSSION

1. Barriers to fruit production

- Domination of few species: mango, lychee, banana.
- Presence of cyclic problem (fig.2):

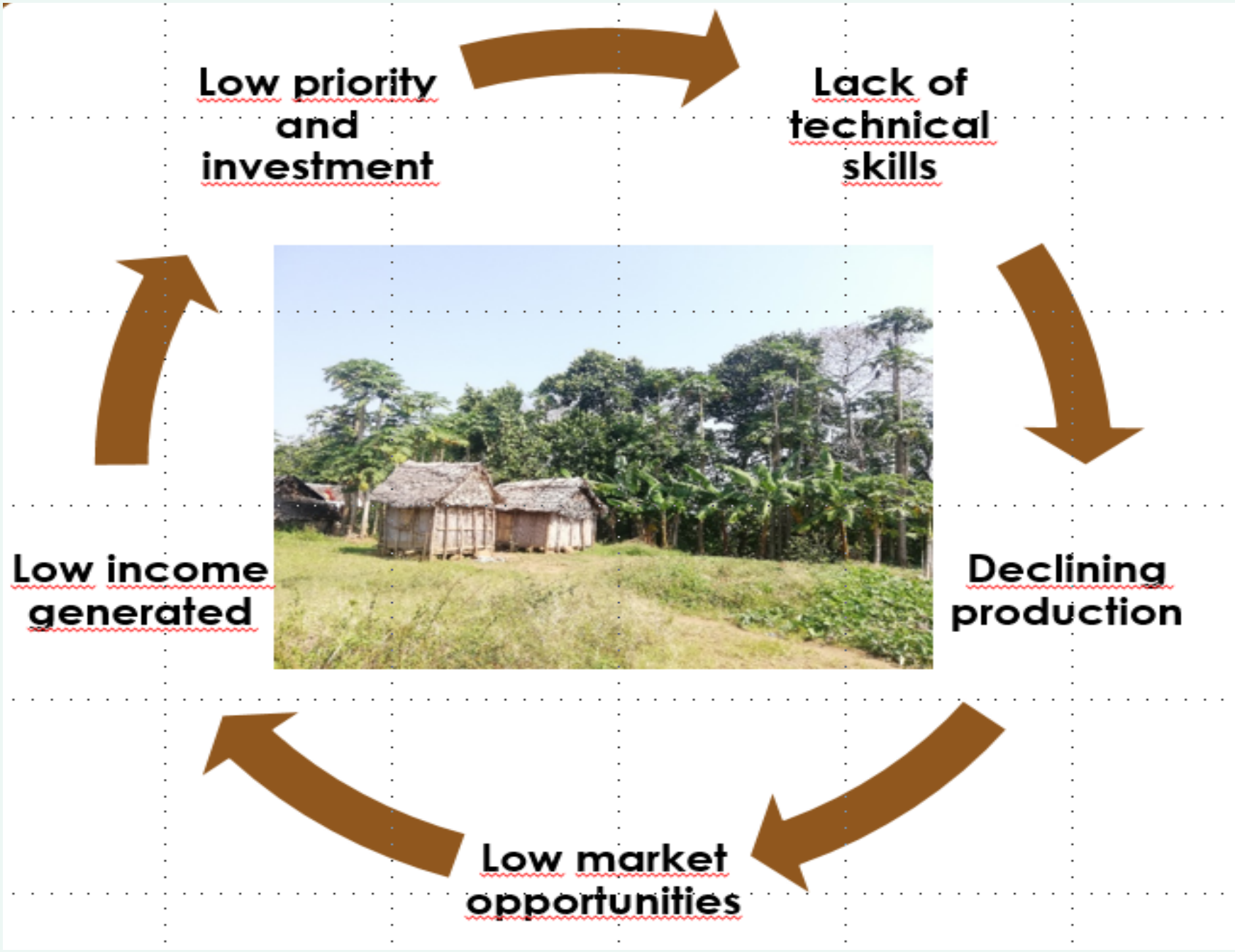


Fig 2: Cyclic problems of fruit production

2. Barriers to fruit consumption

- Own consumption, and varies in terms of quantity and distribution along the year.
- **Abundance/harvest period:** consumption in short period, not diversified, sometimes used to consume unripe fruit (fig.3).
 - **Outside harvest/ lean period:** not diversified, consumption of unripe or/and wild fruits (eg: pineapple, guava)



Fig 3: Unripe banana and papaya cooked and sold in the market




3. Gender and community aspect

- Women are handicaped in cultivation of perennial fruits due to land tenure.
- Women interest in short cycle and generating cash fruits species (eg: papaya, pineapple) (fig 4).
- Presence of common trees, shared between families and neighborhood: lead to low consumption per household.



Fig 4: Papaya cultivation of women's association in Vangaindrano

4. Opportunities to enhance fruit valorization

	Strengths	Weaknesses	Opportunities	Threats
 Drying	<ul style="list-style-type: none">• Easy technique• Extend consumption period	<ul style="list-style-type: none">• Time consuming• Depend on the weather	<ul style="list-style-type: none">• Can be sold easily	<ul style="list-style-type: none">• Can be spoiled if not dry enough• Taste might deteriorate
 Jam	<ul style="list-style-type: none">• Quick preparation• Extend consumption period	<ul style="list-style-type: none">• Difficult technique• Costly with the ingredients	<ul style="list-style-type: none">• Can be sold easily	<ul style="list-style-type: none">• Need sophisticated storage• Unclear how it is consumed• Health risk*
 Paste	<ul style="list-style-type: none">• New taste• Extend consumption period	<ul style="list-style-type: none">• Very difficult technique• Costly and time consuming	<ul style="list-style-type: none">• Attractive for children	<ul style="list-style-type: none">• Expensive• Unclear how it is consumed• Health risk*

*Unforseen threats: health risk related to the use of sugar in jam and fruit paste such as dental problem and overweight

CONCLUSION AND RECOMMENDATIONS



Sensitization on daily consumption of fruits and its importance on health



Promotion of pineapple and papaya cultivation for women headed household



Focus on communal food trees: diversifying, renewing the plantation, pruning and fertilizing



Improvement of solar drying technique for lychee coupled with affordable recipes for utilization

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