NutriHAF – Africa

Limiting factors in the development of vegetable value chains in southeastern Madagascar

Narilala Randrianarison, Herimihamina Andriamazaoro, Sofolo Sambatra Tolojanahary

Tropentag, September 20-22, 2017, Bonn, Germany

Project partners



Intervention areas

- Fokontany of Ankarimbelo 23°07'38,8" south latitude and 47°44'11,8" east longitude Medium altitude : 35 m
- Fokontany of Analameloka 23°03'32,5" south latitude and 47°43'27,7" east longitude Medium altitude : 50 m
- Common characteristics of landscapes
 - Succession of small hills, slopes and low land
 - Villages located on hills, surrounded by home gardens
- Human pressure on biodiversity
- Ombrothermic diagram

Hot and humid (hot and humid austral summer, winter less rainy and softer) Annual average temperature: 23,18°C / Monthly average rainfall: 165,50 Wet period from August to November ($P \ge 2T$ but P < 100 mm per month) Perhumid period from July to December ($P \ge 2T$ and P > 100 mm per month) Cyclonic period from January to March







welt hunger \blacksquare hilfe



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Methodology

Ombrothermic diagram / NutriHAF

Local community © NutriHAF



Vegetable plots © NutriHAF



Investigations carried out in two stages at the main actors level in the value chain <u> 1^{st} stage</u>: Establishment of an inventory of the current situations in the production, marketing and consumption of vegetables

- Sampling: 100 farmers, 40 traders, 60 urban consumers
- > Objective: To identify the factors limiting the development of the value chain related to the current situations of the production, marketing and consumption of vegetables

<u>2nd Stage: Identification of the preferences of the various categories of actors in the vegetables value chain, based on</u> the selection criteria, and using a scoring method (1st choice: 1 point, 2nd choice: 0.75, 3rd choice: 0.5 points, 4th choice: 0.25 points)

- Sampling: 134 farmers, 30 traders, 60 urban consumers
- > Objective: To determine the factors limiting the development of the value chain by considering the selection criteria of the

various categories of actors, and the corresponding vegetables.

Results

Most of the population (79%) grows vegetable crops but on very limited surfaces, between 6 and 80 m².

- \succ priority is given to the more remunerative nonagricultural activities (basketry, coal-making) in the allocation of labor and capital
- \succ he attack of crop pests (caterpillars, crickets ...), in particular for certain vegetables such as tomato

Uncommon and poorly diversified vegetable consumption at the producer level:

Table 2: Modes and frequency of tomato consumption

Consomptions patterns	Producers	Traders	Urban consumers
Cooked consumption	100% 1 per week	100% 1 a day	100% 1 a day
Uncooked	68%	98%	72%









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There is no obvious correspondence between vegetables grown in one hand, and vegetables marketed and consumed by urban consumers in the other hand.

Table 1: Grown vegetables, commercialized and consumed by the main actors of the value chain

	Vegetable 1	Vegetable 2	Vegetable 3	Vegetable 4
Producers	Petsaï (53%)	Eggplant (52%)	Tomato (43%)	African eggplant (38%)
Traders	Tomato	Onion	Garlic	Potato
	(100%)	(100%)	(70%)	(45%)
Consumers	Onion	Tomato	Carot	Potato
	(100%)	(97%)	(68%)	(57%)

Locally produced vegetables are mainly intended for self-consumption:

- Vegetables mainly for self-consumption (66% of farmers)
- Vegetables mainly for commercialization (27% of farmers)
- Vegetables 50% intended for self-consumption, 50% for marketing (7% of farmers)

Poorly developed marketing logic among vegetable growers:

- > 41% of producers not selling their tomato production
- \geq 59% of the producers partially selling their tomato production, with an average quantity of 2 to 3 kg per week during the harvest period (weekly market)

onsumption	1 per month	1 per week	1 per week

The preferences of the various categories of actors in the value chain

Towards a marketing logic of vegetables among producers **Table 3:** Producer selection criteria and corresponding vegetables

Criteria 1: Sale to meet daily needs: 52.75 / 134;	Petsais (16.75 / 52.75)
59% of farmers	Tomato (13.75 / 52.75)
Criteria 2: Vegetables intended mainly for sale: 37.5 / 134; 39% of farmers	Onion (12.5/37.5) Petsai(11.75/37.5)
Criteria 3: Vegetables intended almost entirely for sale: 33/134; 34% of farmers	Petsai (15/33) Tomato (10.25 / 33)
Criteria 4: Vegetables intended mainly for self-	Petsai (12 / 29,25)
consumption: 29,25 / 134; 30% of farmers	Chinese cabbage5,25 / 29,25

Farmer's choices: Petsai, Onion, Tomato, Chinese cabbage

Basketry activity prioritized © NutriHAF



Traders always looking for the satisfaction of the demand of the urban market

Table 4: Traders' criteria of choice and corresponding vegetables

Criteria 1: Vegetables that are frequently purchased with an average quantity purchased per buyer (12.25 / 30, 43% of traders)	Onion (8.25 / 12.25) Tomato (6.75 / 12.25)	
Criteria 2: Vegetables with a mean selling prices and high demand (11.25 / 30, 53% of traders)	Onion (8.75 / 11.25) Tomato (6.75 / 11.25)	
Criteria 3: Commonly purchased vegetables with a low quantity purchased per buyer (9/30, 37% of traders)	Onion (5.5 / 9) Potato (1.75 / 9)	
Criteria 4: Vegetables that can be stored for a few days (4.25 / 30, 33% of traders)	Onion (2.5 / 4.25) Potato (1/4, 25)	
Choice of merchants: Onion, Tomato, Potato		

Increasingly demanding urban consumers on the nutritional



Rural market © NutriHAF



AVRDC	 Market weakly developed: Vegetables sold mainly on a weekly communal market 	Table 5: Selection criteria of urban consumers and corresponding vegetables		
The World Vegetable Center	traders in the urban market:	Criteria 1: Vegetables with a mean purchase price and a good nutritional quality (35.25 / 60, 67% of urban consumers)	Carrot (27 / 35.25) Green bean (2.5 / 35.25)	
HORTICULTURE INNOVATION LAB	45% of the traders in the urban market refusing to collect tomatoes produced locally considered	Vegetables with an mean purchase price and a highly appreciated taste (33.75 / 60, 68% of urban traders)	Carrot (10.25 / 33.75) Cabbage (4.75 / 33.75)	
With support from	perishable easily The most frequent marketing problem raised by	Criteria 3: Vegetables whose preparation time is fast (17/60, 62% of urban consumers)	Potato (8/17) Carrot (6.25 / 17)	Urban market © NutriHAF
Federal Ministry of Food and Agriculture	urban traders is the high perishability of vegetables due to the hot and humid climate of Farafangana	Criteria 4: Vegetables with a mean purchase price and a satisfying external appearance (16,25 / 60, 60% of urban consumers) Consumer Choice: Carrot, Potato, Tomato, Head cabbage,	Tomato (6.25 / 16.25) Carrot (5.75 / 16.25) French beans	
by decision of the German Bundestag	NutriHAF project by carrying out experiments and demo Strengthen links between the main actors in the value	consumption of vegetables at the producer level (this is the current approach of the out experiments and demonstrations of vegetable preparations in rural areas) main actors in the value chain by developing vegetables whose characteristics meet the es of actors (e.g. vegetable varieties that are not perishable for traders)		Dish preparation © NutriHAF

Contacts:

Dr. Narilala RANDRIANARISON, ESSA / FOFIFA (narilalar@yahoo.fr) Mr. Herimihanina ANDRIAMAZAORO, FOFIFA (hery.andriamazaoro@gmail.com)