SOUTHEAST MIGRANTS, INTERCULTURAL MEDIATION AND RESILIENCE PROCESSES LINKED TO THE GINGER INDUSTRY AND CULTIVATION IN THE DISTRICT OF BRICKAVILLE, ATSINANANA REGION, MADAGASCAR

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SUMMARY

Climate change is a reality worldwide and in Madagascar. Migrant groups from southeastern Madagascar are settling in the Brickaville district of the Atsinanana Region to specialize in ginger cultivation. How is intercultural mediation and resilience achieved during the process of launching the ginger sector and the socio-economic integration of southeastern migrants? The overall aim of this project is to study the functioning of the migrants' host society and their resilience strategies. It also aims to understand the constraints that arise at all levels of production, and the farmers' systems for adapting to the socio-system and socio-ecosystem through a system of resilience. The approach adopted focuses on the analysis of interrelations and interactions between the Malagasy worldview, the functioning of Betsimisaraka society, the dimensions of fihavanana application and the material benefits obtained through social integration. The systems approach was also used to prioritize constraints and resiliencies. In addition to the 120 households surveyed, 83 people were brought together in village meetings, 7 producers and 6 collectors in focus groups, and 15 met in open interviews. The results show that launching ginger cultivation requires intercultural mediation and a process of inter-ethnic mixing. Faced with constraints of all kinds, farmers adapt their behavior to the socio-system and socio-ecosystem, reorienting their strategies through resilience systems.

Key words: *Brickaville, climate change, intercultural mediation, social integration*

1. INTRODUCTION

As with all African farmers, the migratory impacts of climate and ecological change are being felt in Madagascar. Migrants, mostly Antesaka, from southeastern Madagascar have settled in a rural area of Brickaville in the Atsinanana Region, mainly cultivating ginger.

Native-migrant relations are subject to a number of constraints, particularly in terms of access to land, interaction between groups and value systems. Behind the scenes, the migrants' autonomy is limited. "These social integration structures are underpinned by the social integration capacity of the environment concerned, the involvement of

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individuals in structures that ensure the achievement of socially defined goals, employment and social protection, and interpersonal ties of an ethnic or community nature" (Pierre, Danlouxi and Ferry, 1993). The success of these migrant groups is the result, on the one hand, of resilience, a capacity to adapt to marketing systems and socio-cultural situations, and on the other, of solidarity with local populations. "Resilience is the ability to thrive in a complex, uncertain and threatening environment" (Lengnick-Hall, 2005).

These migrants have had "the capacity to adapt and learn to cope with external political, social, economic or environmental stress and disruption" (Adger, 2000). How are intercultural mediation and resilience achieved during the process of launching the ginger sector and the socio-economic integration of Southeast migrants?

Faced with this problem, the overall objective is to study the functioning of the migrants' host society and their resilience strategy. The specific objectives are to decipher cultural mediation in the ginger-growing area, and to understand the constraints that arise at all levels of production and the farmers' systems for adapting to the socio-system and socio-ecosystem through a system of resilience. The following two research questions determine the study: How do indigenous and migrant stakeholders interact in this ginger-growing area? What are the constraints faced by ginger growers, mostly from the South-East, in their farms and their interactions with socio-ecological systems?

2. MATERIALS AND METHODS

2.1. Study area

The District of Brickaville is located in the Atsinanana Region at longitude 49°04' East and latitude 19°48'South. The main town is located 100 km south of Toamasina, the regional capital. With a total surface area of 5,297 km², the District had a population of 27,865 in 2018 (Instat, 2020), with a demographic density of 23 inhabitants/km² and a birth rate of 3%. The population of the Atsinanana Region was 1,478,472 in 2018 (Instat, ibid), representing 1.9% of the Region's population. Some say that the name Brickaville comes from the name of an inspector general of Ponts et Chaussées Charles Brickaville, who was one of those responsible for building the TCE railroad (Besaina, 2010). Otherwise, it comes from Briquant, a European who mined graphite in this village, the village of Briquant, hence Brickaville (Vololomboahirana, 2011). The study area lies between the east and the ombrophilous cliffs, and is characterized by a warm, humid to per-humid climate (ONE/SAGE, 2004). This district therefore has favorable conditions for several crops, including ginger.

2.2. Data collection and processing methods

The sampling method used follows Benoit le Maux's choice method (Le Maux, 2009) based on the formula :

$$n = Z^2 \frac{(p)(1-p)}{e^2}$$

e : margin of error (e=5%) at 95% confidence level
z = constant resulting from the normal distribution at the confidence level
p = percentage of individuals representing the observed trait

The application of this formula defines the sample size at 120 households with :
z = 1,96
e = 0,05
p = 8,5% le pourcentage des migrants enquêtés
1-p = 91,5%

In addition, 83 people attended village meetings, 13 producers and collectors took part in focus groups, and 15 were interviewed.

2.3. Analysis of the host society and diagnosis of the ginger industry's internal and external environment

To test the hypothesis that "the launch of ginger cultivation requires intercultural mediation and a process of inter-ethnic mixing", we carried out an analysis of the functioning of the host society and a diagnosis of the ginger industry's internal and external environment.

The approach adopted is based on an analysis of the interrelationships and interactions between the Malagasy worldview, the functioning of Betsimisaraka society, the dimensions of fihavanana application and the material

benefits obtained through social integration. Diagnosis was carried out in order to prioritize constraints and resiliencies in the household farming system. Excel software was used to obtain descriptive statistics.

2.4. Analysis of resilience strategies

To test the second hypothesis, "Faced with constraints of all kinds, farmers adapt their behaviour to the socio-system and socio-ecosystem by reorienting their strategy through resilience systems", the ordering of resilience strategies and the dominance and influence effects of variables were mobilized.

- *Scheduling*

Ordination was used to identify and prioritize migrants' resilience strategies. A Hierarchical Ascending Classification (HAC) of variables followed by a Discriminant Factor Analysis (DFA) were performed. Next, variables with a p - value greater than 0.2 (risk of error α) were eliminated, then the lower diagonal part of the correlation matrix was removed. Variables above the diagonal whose absolute values were above the significance threshold were exploited and replaced by "X", with reference to the value of 0.178. Variables were then grouped on the basis of minimum values to prioritize them.

This formula has been used:

$$|\rho| > \frac{t_{\alpha=0,05}}{\sqrt{n - 2 + t^2_{\alpha=0,05}}}$$

|ρ| |: significance threshold
tα : Student-Fisher T = 1.96
n : number of households surveyed = 120

- *Dominance effect and influence of resilience*

Influential and dominant variables were presented in the strategic rectangle. After eliminating insignificant variables, the following formula was used to deduce X and Y values :

$$X = L/P$$

$$Y = L*P$$

with

L = sum of absolute values of row variables in the correlation matrix
P = sum of absolute values of variables in column of correlation matrix

The values of X were sorted in descending order, then values greater than 1 (X>1) were classified as influential variables; the values of Y were also sorted in descending order, and the highest values were used to obtain the dominant variables.

3. RESULTATS

3.1. Overview of how the host society works

The three main hierarchical values of Malagasy society are the Zanahary (Creator God), the razana (ancestors) and the Malagasy land. Betsimisaraka society is based on the fokonolona (village community), the tangalamena (traditional priest) and fihavanana (ancestral customs). It imposes strict observance of prohibitions, taboos, ritual celebrations and cults. Fihavanana creates community interactions between migrants and natives (Figure 1).
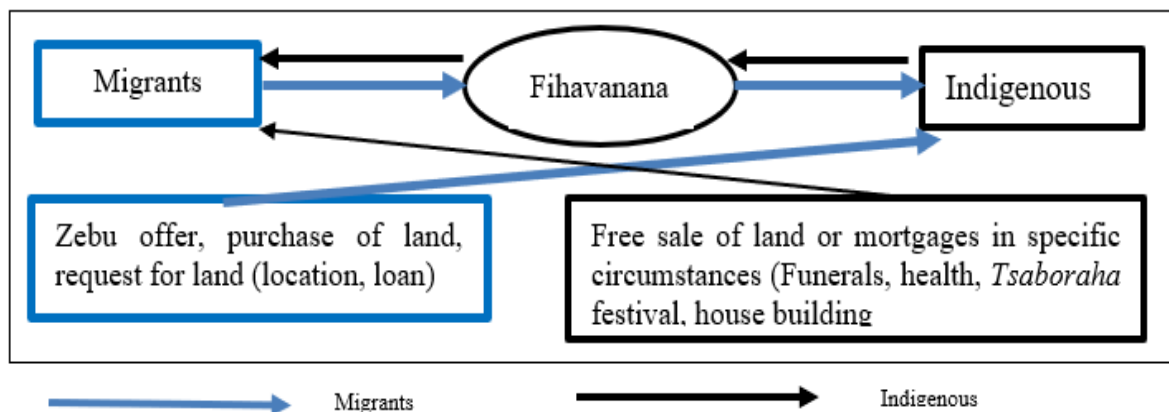
Figure 1 : Diagram of an indigenous-migrant model of complementarity and interdependence within the framework of Fihavanana, promoting cohesion.

Fihavanana comes into play when an absolute necessity arises, and one member of the group is unable to find a solution. As the resources exchanged are not the same, these exchanges create a situation of interdependence that positively binds both parties, migrants and natives. In most cases, the migrants are in possession of economic capital (34%), while the natives have land capital (41%). A game of control of the means of production is thus played out, to instill a new dynamic in the production relationship (Figure 2).
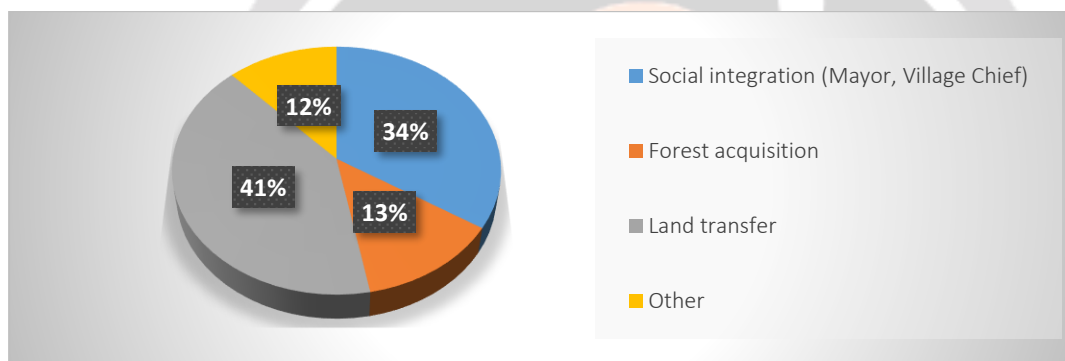
Figure 2 : Example of benefits received by migrants from social relations with natives

3.2.   Main constraints

Price instability (43%), the purchase of inputs and materials (28%) and the financing of activities (27%) are the main constraints linked to activities in the study area (Figure 3).

Figure 3 : Producers' main constraints

Engaging in other activities makes farmers more resilient. These include animal husbandry (31%), mutual aid, logging and the use of farm labor (Figure 4).

Figure 4 : Activities chosen to strengthen household resilience

3.3. Resilience scheduling and strategic variables

3.3.1. Resilience scheduling

The importance of ginger cultivation on farmers' incomes, and the place of subsistence crops such as maize, cassava or fruit trees in the study areas are highlighted in the scheduling.

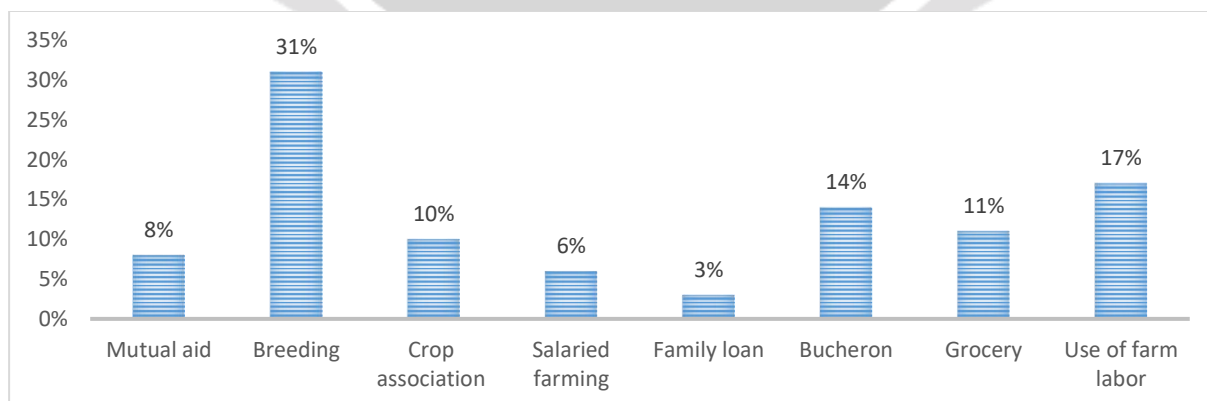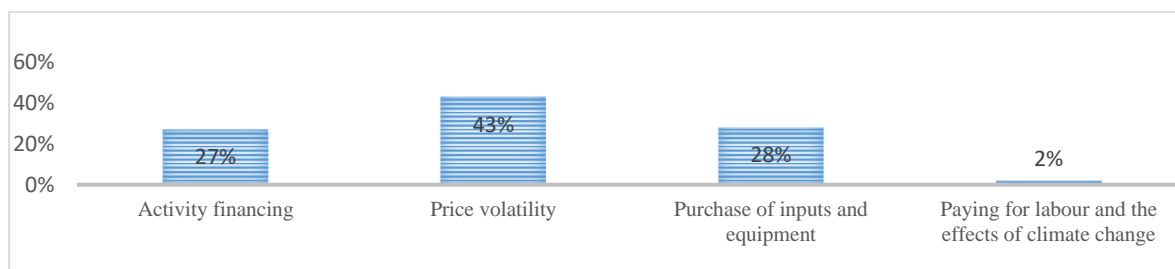Migrants are resilient thanks to their share of income (PDR), the importance of family labor (MOF), the training of the head of household (FCM), the dominance of maize and cassava crops at commune level (MMB), and fruit trees prioritized (AFA) by farmers at village (AFD) and commune (BADV) level. Ginger (GCS, GB, GD) is also very important, followed by banana fields and storage (unsold production: PN).

The dominance of ginger cultivation indicates the existence of resilience systems implemented by farmers in this zone. Production is possible throughout the year, and the sale of fruit provides farmers with additional perennial income (Figure 5).
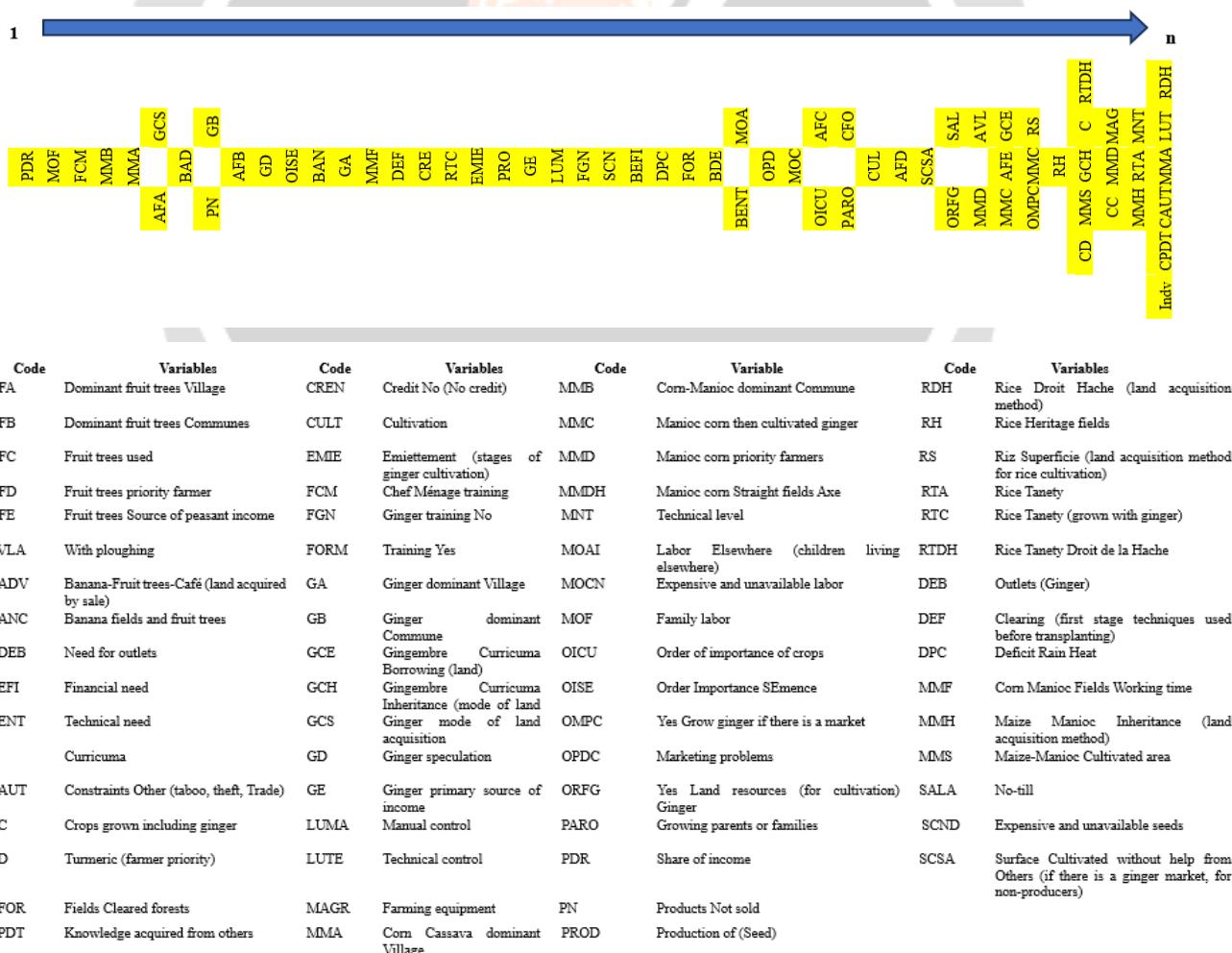

Code	Variables	Code	Variables	Code	Variable	Code	Variables
AFA	Dominant fruit trees Village	CREN	Credit No (No credit)	MMB	Corn-Manioc dominant Commune	RDH	Rice Droit Hache (land acquisition method)
AFB	Dominant fruit trees Communes	CULT	Cultivation	MMC	Manioc corn then cultivated ginger	RH	Rice Heritage fields
AFC	Fruit trees used	EMIE	Emiettement (stages of ginger cultivation)	MMD	Manioc corn priority farmers	RS	Riz Superficie (land acquisition method for rice cultivation)
AFD	Fruit trees priority farmer	FCM	Chef Ménage training	MMDH	Manioc corn Straight fields Axe	RTA	Rice Tanety
AFE	Fruit trees Source of peasant income	FGN	Ginger training No	MNT	Technical level	RTC	Rice Tanety (grown with ginger)
AVLA	With ploughing	FORM	Training Yes	MOAI	Labor Elsewhere (children living elsewhere)	RTDH	Rice Tanety Droit de la Hache
BADV	Banana-Fruit trees-Café (land acquired by sale)	GA	Ginger dominant Village	MOCN	Expensive and unavailable labor	DEB	Outlets (Ginger)
BANC	Banana fields and fruit trees	GB	Ginger dominant Commune	MOF	Family labor	DEF	Clearing (first stage techniques used before transplanting)
BDEB	Need for outlets	GCE	Gingembre Curricuma Borrowing (land)	OICU	Order of importance of crops	DPC	Deficit Rain Heat
BEFI	Financial need	GCH	Gingembre Curricuma Inheritance (mode of land)	OISE	Order Importance SEmence	MMF	Corn Manioc Fields Working time
BENT	Technical need	GCS	Ginger mode of land acquisition	OMPC	Yes Grow ginger if there is a market	MMH	Maize Manioc Inheritance (land acquisition method)
C	Curricuma	GD	Ginger speculation	OPDC	Marketing problems	MMS	Maize-Manioc Cultivated area
CAUT	Constraints Other (taboo, theft, Trade)	GE	Ginger primary source of income	ORFG	Yes Land resources (for cultivation) Ginger	SALA	No-till
CC	Crops grown including ginger	LUMA	Manual control	PARO	Growing parents or families	SCND	Expensive and unavailable seeds
CD	Turmeric (farmer priority)	LUTE	Technical control	PDR	Share of income	SCSA	Surface Cultivated without help from Others (if there is a ginger market, for non-producers)
CFOR	Fields Cleared forests	MAGR	Farming equipment	PN	Products Not sold		
CPDT	Knowledge acquired from others	MMA	Corn Cassava dominant Village	PROD	Production of (Seed)		

Figure 5 : Resilience scheduling and strategic variables

3.3.2.   Strategic resilience variables

The strategic rectangle reveals two dials. The upper quadrant groups together five (5) dominant and influential variables (Table 1). These are the variables "seed production (PROD), non-use of credit (CREN), crumbling (EMIE), land clearing (DEF), ginger as first source of income (GE), ginger classified first at village level (GA)". They are dominant, the limiting value being marked by the value of (GE) with Y "202.9", the lower one being 171.4 (GA). They are also influential, as all X values are strictly greater than 1. The lower quadrant highlights 21 influential variables, the most important of which are "Share of income (PDR), Maize-Manioc/crop dominant at Commune level (MMB), Formation of Head of Household (FCM)". The values of X are all strictly greater than 1.

The 5 variables in the upper quadrant constitute the key variables for development strategies focused fundamentally on promoting ginger cultivation in this zone (GE) as a primary income-producing crop. The majority of farmers, particularly small-scale producers, aspire to the availability of seeds (PROD) and the credit system (CREN), two techno-economic necessities enabling them to promote their cropping systems and cultivation techniques, including land clearing (DEF) and crumbling (EMIE). If these five elements are combined, they improve the steps already taken by farmers in ginger production and increase the level of production.

Tableau 1 : Strategic rectangle of farmers' resilience

CODE	VARIABLES	X = L/P	Y = L*P
PROD	Seed production	1,3	231,7
CREN	No use of credit	1,8	220,9
EMIE	Debt reduction	1,5	217,5
DEF	Land clearing	2,0	214,6
GE	Ginger (first income proxy)	1,2	202,9
PDR	Share of income	26	26
MMB	Corn-Cassava (dominant crop at Commune level)	12,6	36
FCM	Head of Household Training	8,6	24,7
MMA	Corn-Cassava (Priority at village level)	7,8	56,4
GCS	Ginger and Curricuma (Area)	6,6	29,2
AFA	Fruit trees (grown in villages)	5,7	57,5
MOF	Family workers	5,1	10,7
BADU	Banana / Fruit trees (number of fields)	4,4	36,9
GB	Ginger dominant crop (at local level)	4,2	98,3
GD	Ginger (farmers' priority)	3,8	131,7
OISE	Seed order importance	3,2	87,3
AFC	Fruit tree (cultivation)	3,1	15,9
AFB	Fruit trees (dominant at Commune level)	2,9	71,7
BANC	Banana and fruit trees (Fields)	2,6	115,9
SCSA	Area cultivated without help from others in Ha	2,5	12,6
PN	Unsold product	2,3	10,4
GA	Ginger (ranked first in the village)	2,2	171,4
MMF	Corn-Cassava (concern)	2,1	92,5
AFD	Fruit tree (Farmers' priority speculation)	1,6	17
ORFG	Yes, if land resources are available (ginger cultivation)	1,6	14,7
RTC	Rice on ground (Cultivated)	1,2	67,4

X = abscissa   L = sum of absolute values of row variables in correlation matrix
Y = ordinate   P = sum of absolute values of variables in column of correlation matrix

4. DISCUSSION

4.1. Fihavanana, cohesion and resilience

4.1.1. Malagasy cosmogony

Malagasy society believes in the pre-eminence of Zanahary (God) or Andriamanitra (perfumed prince). He is the source of life or "Aina" (Ralisiarimanitra, 2012). He is also Andriananahary, the Lord who has the power to create (Grandidier, 1932). In the hierarchy, after God, there are the razana, the ancestors, considered to be the true mediators between men and the supernatural world, also called God on Earth or Zanahary ambonin'ny Tany. They are invoked on all ritual occasions to protect their descendants (Chavanes, 1969).

4.1.2. Fihavanana, the glue that holds society together

Fihavanana refers to "the feeling of belonging to a single social block, so united as to resemble primitive society in the division of labor and in the strength of the collective actions that bind individuals to the community" (Durkheim, 1993). The notion of fihavanana essentially translates into a reciprocal bond and duty of mutual aid, implying a guarantee of mutual assistance (Figure 1). It is therefore a regulatory mechanism that binds society together (Sandron, 2008) and favors compromise and regulation (Tapia, 2010). Contact and bonding are also very important in the context of fihavanana animation. They establish a close relationship. Fihavanana, "in relation to tact, enables people to take a step back from themselves; it manifests the social virtue of contact" (Caune Jean, 1997). It creates cohesion through the interaction of individuals with their surroundings, the community. It thus creates resilience (Manciaux, 2001). At other times, it protects the individual within the group.

4.1.3. Foundations of the aboriginal-migrant alliance

In addition to the principle that "land belongs to the person who develops it" (Otch-Akpa, 1995), fihavanana also enables migrants to acquire land. The transfer of land requires a counter-gift on the part of migrants, underlining the moral duty that seals the alliance between natives and migrants (Babo and Droz, 2008). The cession of land to migrants creates a social system permanently linking migrants to natives. In exchange, migrants demonstrate their gratitude. This can be seen in a number of social dimensions, such as mutual assistance in farm work, and the marriage alliance between the migrant and the native. "Gradually, marriages between foreigners and natives strengthen these ritual kinship relationships, transforming them into kinship by marriage" (Babo and Droz, op cit.).

This whole situation creates social cohesion and forges links between these two groups. In the event of death, the deceased's family members are responsible for buying zebus. These are heavy, unpredictable expenses. Migrants exchange land for zebus in such circumstances. This is an expression of the informal social ties that have been established and interpreted as village and community solidarity and respect for the natives and their traditions (Figure 1). In this respect, natives ask migrants to respect their ancestral customs. "Customs and traditions govern daily life, and respect for them determines an individual's place in the community (Chavanes, op. cit.). Respect for local tradition is a source of integration and community ties (Pierre et al., op. cit.).

4.2. Local adaptation strategies in the face of constraints

4.2.1. Local knowledge and adaptation

Farmers apply a certain amount of empirical knowledge to take better care of their farms. These facts reveal the profiles of these Southeast migrants who were therefore previously "farmers" (Kaezing, 2015). This confirms their status as climate change-induced migrants. These are people joining a stable rural environment with a view to continuing their farming activities. Farmers know that the plant's needs consist of alternating rain and sun, and that the less the fields are exposed to afternoon sun, the better the productivity. What's more, ginger adapts to all types of soil only if the water is filtered, hence the choice of sloping land, for example. These innovations are capabilities. They are, on the one hand, the capacity to adapt and anticipate (ACF, 2012), and, on the other, the conversion of capacities and potentialities (Sen, 1990) to increase resilience, to have the capacity to reduce losses (Mileti, 1999; Burby, 2000), to protect against risks and thus strengthen capabilities (Rousseau, 2003).

4.2.2.   Strategies for accessing land

Land ties people to their ancestors and to the soil (Gondard-Delcroix, 2006). Land belongs to whoever clears it first. This is the concept of the first occupier (Desdoigts and Kouassi, op. cit.; Otch-Akpa, op. cit.), the right of the first axe. There are also cases where land is acquired following a formal request to the relevant administrative officials. The right of first refusal and the practice of formal application give migrants easy access to land. It is a factor of attraction (Raveinstein, 1885), which is more in line with the logic of land availability (Mcleman and Smith, 2006).

4.2.3.   Marketing and price constraints

The marketing of ginger in the area follows a territorial logic. It is linked to socio-economic and territorial issues (Erb, 2012; Buchheit, 2016). Three areas currently compete with ginger in the study area. These are the commune of Beforona and the commune of Anjiro (Alaotra-Mangoro Region), and, recently, the District of Soavinandriana (Itasy Region). As the main destination for these products is the Anosibe market in Antananarivo, the competitiveness of these new production zones threatens the study area. However, these new zones are price regulators insofar as their harvest, which takes place in April and May, is earlier than in the study zone. Prices then fall in June and part of July. Ginger in these areas is not cold-hardy, which is a weakness that forces growers in these areas to carry out a generalized harvest. As a result, their harvest lasts only about three months. Growers in the study area (Andekaleka and Loharendava, except Antongombato) wait for this precise moment to sell their products to their advantage. Harvesting in these areas, and in the study area, is therefore uneven. This situation is not too threatening, given the experience, skills and resilience of the farmers. According to Gulsun and Royer (2009), post-crisis learning is more likely when the origin of the crisis is external to the organization.

4.2.4.   Marketing strategies

If resilience is defined as the ability to reduce losses (Mileti, op. cit.; Burby, op. cit.), ginger farmers are already preparing for it by adopting preventive measures. With the exception of May, ginger sales are highest at times when farmers need more money: (i) before the national holiday on June 26, (ii) before and throughout September (planting season), (iii) before the end-of-year festivities. This strategy reduces farmers' risk. The stronger the actors' ability to adapt, the more their vulnerability will be reduced (Gemenne and Bocher, 2016). Ginger farmers practice resilient agriculture, even if it is only short-lived. Exposure to price risk is under control. These farmers know how to cope with almost recurrent price fluctuations. In the usual hypotheses, product flows and stocks depend on the socio-technical system and the resources used, the ecosystems of the territory and the actors who regulate the commodity chain (Erb, op. cit.; Buchheit, op. cit.). Some growers in the area, especially those with larger tonnages, use the soil conservation system to cope with price fluctuations. This is another resilience strategy linked to price volatility. While waiting for prices to rise, growers keep their produce in the fields: harvesting only when the need arises. If prices fall, farmers keep their produce standing until prices rise again.

4.3.   Crisis, post-crisis and resilience

4.3.1.   Sectors in crisis

There is a "before and after crisis" and an "in-between" (Sibony, 1991). The resilience phase is followed by the learning phase in the post-crisis phase. A crisis is a destructive situation generating major losses, or even jeopardizing an organization (Gulsun and Royer, op. cit.), due to the disruption of activities (Ursacki-Bryant, 2008). It is a period that extends from the onset of the crisis, when there is a shock, until the situation returns to normal (Meyer, 1982; 1990). The resilience or crisis management phase is the shock absorption phase (Roux-Dufort, 2004). During the resilience phase, organizations put in place operational responses to absorb the shock and learn from it. This is a learning phase (Meyer, ibid). The final phase is the post-crisis phase. It is characterized by the selection and retention of operational responses to crisis management, and the development of new strategic responses. The aim is to capitalize on past experience to increase resilience or cushion the impact of a new crisis (Meyer, ibid.).

The study inventoried six major sectors in crisis situations which were the subject of a resilience study: (i) the storage and handling sector, linked to price and financing problems (ii) price risk or price instability, (iii) production constraints affecting the purchase of inputs and materials, payment of labor and climate change-related struggles (iv) land access constraints, (v) marketing-related constraints and (vi) constraints linked to stakeholder coalition (Figure 3).

4.3.2.   Some responses to crises

Every crisis has its own strategy. Crisis is a source of adaptation (Meyer, ibid). In the past, a general drop in prices has provoked a crisis situation. Farmers have formulated two responses. The strategy of selling across the board, and the introduction of other cash crops, particularly in areas where cultivation has been abandoned. Ginger growers

respond to ecological circumstances with local knowledge. As for labor costs, they prefer to use family labor (Figure 5). Capabilities (Sen; 1990, 1999, 2004), capacities (ACF, op. cit.) and potentialities (Zerbo, 2002) are combinations that develop the capacity for resilience. The crisis situation can be identified in terms of access to land. The resilience shown by migrant farmers depends on the crisis situation (Figure 4). Indeed, the reasons for settling in Antongombato (along the RN2), Andekaleka (along the TCE) and Lohariandava (along the TCE) are generally linked to access to land. The settlement areas correspond to their land strategy panel. Forests and land capacity are attractive factors for migration (Freudenberg, 1998; Otch-Akpa, 1995; Desdoigts and Kouassi, 2012). These land strategies are linked to the application of leases, the purchase and borrowing of land, the recovery of native long fallow or savoka fallow and the clearing of forests (right of the first axe). The ginger fields had to be combined with other crops to meet the family's vital needs, which are harvested several times a week. Household needs dictate the harvesting schedule.

4.3.3.   Strategy to cope with price volatility

Fluctuating or soaring prices, threats from newly-productive competing areas, the retention of ginger in the field or on the ground, the harvesting of these areas and that of the study area are therefore all on the ups and downs. Growers apply a strategy of survival or distress (when selling stock reserved for seeds). Sub-collectors (commission agents) adopt a survival and speculation strategy. Local collectors adopt a strategy of adapting to demand and crises by accepting credit sales imposed by monopsony wholesalers. External collectors, like those from Beforona who come to Andekaleka, apply a strategy of enrichment by speculating on price. Wholesalers and wholesaler-retailers in the towns apply a strategy of enrichment. These monopsony wholesalers impose the method of payment they prefer, often by credit.

4.3.4.   Diversification of income sources

According to Meyer (op.cit.), diversification promotes resilience. Income diversification is part of the resilience initiated by the farmers themselves. Non-agricultural activities are beginning to take hold in ginger-growing areas, in response to constraints linked to seed acquisition and with a view to supplementing family incomes. A number of local residents are interested in gold mining. In the communes of Andekaleka and Lohariandava, young people and adults are gradually abandoning their agricultural fields or reducing their agricultural working hours in favor of gold prospecting in nearby rivers and valleys. The majority of these people are those who do not have enough seeds and land to cultivate.

Conclusion

Ginger cultivation, which began around 1970 in the rural communes of Andekaleka, Lohariandava and Ranomafana (specifically in the village of Antongombato), was developed by southeastern migrants. The study confirms that the launch of this culture is the result of intercultural mediation and a process of inter-ethnic mixing. The study found that Fihavanana is a system that inevitably pushes towards cohesion. As constraints arise at all levels of production, the use of local knowledge in farming practices has been the means by which farmers have been able to continue producing despite all circumstances. Farmers were able to adapt to the socio-system and socio-ecosystem by reorienting their strategy through resilience systems. The first hypothesis confirms that the launch of ginger cultivation requires intercultural mediation and a process of inter-ethnic mixing; the second insists on the fact that, faced with constraints of all kinds, farmers adapt their behaviour to the socio-system and socio-ecosystem by reorienting their strategy through resilience systems.

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