



Enhancing the Value of Sweet Potatoes in Madagascar: Between Food Security and Productive Capital – A Socio- Anthropological Approach

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Abstract:

This study focuses on the valorization of sweet potatoes in Madagascar from the perspective of food security and the accumulation of productive capital, as defined by Nurkse – that is, through the establishment of basic infrastructure. The research was conducted in the geographic areas of Ankazobe, in the northern highlands, as well as in Tsarasaotra in the Amoron'i Mania region, and in Soaindrana and Talata Ampano in the Matsiatra Ambony region. These areas are distinguished by their diverse sociocultural and economic characteristics. The central question is whether it is reasonable to consider development based on a modest, indigenous yet widespread resource like the sweet potato. The findings indicate that if its production were to increase, following a shift in the devaluing perceptions commonly associated with it, this would lead to strengthened food security. Furthermore, if basic innovations – both technical and organizational – are adopted in rural settings, the production of this tuber crop could promote the rapid accumulation of productive capital, a key element in any development process. Drawing on De Sardan's framework of entangled social logics, which emphasizes changes in mentality, the concept of agency, and Weber's ideal-type vision of capitalism, the objective is to move away from grand macroeconomic development theories and adopt a pragmatic approach centered on local potential. Development must therefore be rethought as a cultural process, grounded in representations and enculturated behaviors (habitus, hexis), by establishing a link between increased production and rural mentalities. The study also shows that ongoing innovations in production methods – such as those related to sweet potatoes – do not necessarily need to be expensive to trigger mechanisms for the formation of productive capital.

Keywords:

sweet potato; valorization; social representations; food security; productive capital

I. Introduction

All the objective indicators reflecting development, used in econometric operations, consistently affirm the state of poverty and underdevelopment affecting Madagascar. Yet beyond these figures, local perception—or subjective poverty—is also of considerable importance (Razafindrakoto & Roubaud, 2005). According to the currently prominent indicator, the Human Development Index (HDI), which focuses on education, health, and life

expectancy in Madagascar, the level of national development remains low. Designed with a social development perspective—in which Myrdal and Sen are key theorists—this tool provides a global overview of development challenges and calls for reflection on the decisive weight of the health variable, defined as “*Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity*” in the dynamics of development. Indeed, one cannot ignore what Dr. Louis-Paul Aujoulat, in his lecture at a section of the former French ENA, referred to as “*the biological factors of development*” (**Leimdorfer, 1970**). According to Aujoulat (1962), it is utopian to aspire to development without first establishing, in a sustainable way, these so-called “*biological factors of development,*” which are embodied in individuals in perfect health whose physiological needs are met. This implies that caloric and energy needs must be adequately fulfilled, ensuring proper preservation of the soma (body).

In Madagascar, nutrition surveys conducted by agencies such as UNDP (United Nations Development Programme) and UNICEF (United Nations Children’s Fund) constantly raise alarm bells regarding the catastrophic situation in this sector—particularly for women and children in the driest regions, which are increasingly affected by the current impacts of climate change.

Rice, as the main staple food, accompanied by condiments, vegetables, meat, fish, or other ingredients, is the basic diet of Malagasy people. This “*dietary model*” (**Leroy, 1994**) does not include sweet potato in the daily meals, although paradoxically, this tuber crop—with its numerous varieties and whose production is significantly more economical in terms of time, energy, and even land use—has all the attributes needed to satisfy the caloric and energy requirements of the human body, enabling individuals to fully engage in productive work. The most rigorous studies confirm the high nutritional value of sweet potato, which can also be processed to enhance its nutritional content (**Ndibualonji et al., 2016**).

Studies show that improving agricultural productivity, particularly in rice cultivation, can significantly impact poverty and health outcomes (**Bockel, 2003**). However, the low labor productivity in rice farming contributes to rural poverty, necessitating interventions aimed at increasing work efficiency and diversifying income sources. Effective poverty reduction strategies require a comprehensive approach, including the identification of poverty determinants, analysis of household economic strategies, and formulation of appropriate policies (**Bockel, 2003**). While increasing agricultural yields and improving infrastructure is important, such measures may have limited impact on persistent poverty. The poorest households, lacking resources, are often unable to engage in protective diversification activities and instead resort to forms of diversification associated with chronic poverty (**Gondard-Delcroix, 2009**).

Therefore, the fundamental question becomes: what role can this very modest resource—excluded from economic planning frameworks—play in achieving the paradisiacal promise of development that everyone seeks and which is constantly promoted by the West?

Numerous agronomic studies have been devoted to sweet potato. They focus primarily on the most cultivated varieties, yields, cultivation techniques, and the suitability of soil types for selected varieties. Moreover, scientific literature, both national and international, abounds with research on the nutritional value of this plant.

These otherwise commendable studies often overlook the Malagasy cultural foundation (lifestyle) that shapes the specific human environment in which this crop is grown. They

neglect the symbolic and social representations surrounding this tuber and never elevate the analysis to a macroeconomic perspective, instead becoming lost in factual details that are ultimately stripped of any overarching systemic concern. As a result, the philosophical foundation of neoliberal capitalism itself (a chosen way of life) is never addressed, in favor of fragmented, sectoral studies.

This research is based, in order to avoid this pitfall, on the ultra-pragmatic approach to the study of development that De Sardan has termed the “approach through the entanglement of social logics” (**Olivier de Sardan, 2001**), on the concept specific to development specialists known as “agency” (The capacity for action, even among the most disadvantaged, is a central notion in development discourse), and finally, on **Weber**’s analysis as presented in his work “The Protestant Ethic and the Spirit of Capitalism,” which offers a window into the cultural aspect of the formation of capitalism at the time.

This approach has the merit of being pioneering, as few studies have focused on a first conceptualization of sweet potato within a macro framework through a spiral approach starting from the logoi of the actor—or, more precisely, from their sectoral representations within our diverse fields of investigation.

The research problem is to determine the socio-economic impacts of the growth in sweet potato production in a context of poverty. Put differently, it is about understanding whether development can be conceived and envisioned starting from a modest but widespread indigenous resource such as sweet potato.

Two hypotheses are proposed:

- a. if sweet potato production were to increase thanks to a shift in the demeaning representations associated with it, this would result in strengthened food security;
- b. if basic innovations—not only in cultivation techniques but also in social organization—are accepted within the rural circle, the production of this tuber crop could enable the rapid accumulation of productive capital, which is the primary axis of any development process.
- c. The overall objective is to move away from major macroeconomic theories that dominate the development discourse and to initiate a pragmatic study of the development process based on local potential. The specific objectives are as follows:
- d. to rethink development as a cultural process based on representations and enculturated behaviors (**Mouhtaj, 1991**) (*habitus, hexis*) (**Wagner, 2012 ; Protrka, 2006**), and to establish the link between increased production and peasant mentality on the Malagasy highlands;
- e. to demonstrate that continuous innovations—not necessarily costly ones—in the mode of production, including that of sweet potato, trigger the mechanisms for the formation of productive capital.

II. Research Method

2.1 Methods

The theoretical grounding of this study mobilizes development anthropology, the “approach by the entanglement of social logics”, as well as a Weberian interpretive sociology inspired by The Protestant Ethic and the Spirit of Capitalism. To this are added contributions from semantics and ethnobotany. Social representations, as shared frameworks of thought, perception, and action (**Clignet, 1998**), play a central role in the understanding of the relationships that communities maintain with sweet potato.

a. Entanglement of social logics in sweet potato representations according to Olivier De Sardan (2001)

Often, the deviations of development projects, such as the valorization of sweet potato, stem from the “*popular reactions*” to top-down initiatives and the diverse strategies of the actors involved, whose consideration is fundamental, hence the importance of analyzing the intertwining of these actors' logics.

In this regard, the metaphor of the “*arena*” comes into play as diverse social logics manifest. The social facts of development reveal numerous interactions. Many actors from different worlds (State, NGOs, associations, financial institutions, etc.) are involved, each with different statuses, heterogeneous resources, and, above all, pursuing distinct strategies (divergent interests, various values). This observation is perfectly valid in the case of the valorization of sweet potato in the highlands of Madagascar. Thus, practicing the analysis of this entanglement, the intertwining of social logics surrounding the valorization of sweet potato through a case study (empirical results) in the highlands remains fruitful for development anthropology.

The actors involved in the valorization of sweet potato carry divergent visions and expectations regarding it. Authors like Peemans, relayed by **Ayimpam** (2009), emphasize this diversity by stressing the central role of social actors in development dynamics. They advocate for a development conceived as an “order of peoples,” calling for the recognition of local populations' voices and enabling them to define their own development trajectories. This requires a deep understanding of the plural logics expressed within a single territory, in order to anchor policies in lived realities.

For the highlands of Madagascar, three levels of intertwined logics can be identified in the valorization of sweet potato:

- a) *Societal logics* that concern society as a whole and are reflected in culture;
- b) *Institutional logics* that correspond to the purposes and interests of various institutions, which can be understood through the development project;
- c) *Actor logics* that explain the behavior of actors and their perspectives on sweet potato and, more broadly, on development, which are often just reflections of societal logics.

Research on the culture and representations of sweet potato (*Ipomoea batatas*) in Madagascar and neighboring regions reveals a diversity of local varieties and management practices. In Niger, between 8 and 16 local varieties have been identified depending on the areas, with farmers using chemical pesticides and various storage methods to combat pests and preserve the tubers (**Issa et al., 2015**). Sweet potato is well-suited to humid tropical climates, requiring full sunlight and an average temperature of about 24°C. Yields vary significantly between selected varieties (40 to 50 tons/ha) and local varieties (5 to 10 tons/ha). In Madagascar, the introduction of yam species (*Dioscorea spp.*) by the first Indo-Malay migrants led to a diversity of cultivars and agroecosystems, with production levels comparable to those of Central Africa (**Harimanga Jeannoda et al., 2007**). Local perceptions and uses of introduced plant species, such as prickly pear (*Opuntia spp.*) in southern Madagascar, are influenced by political and symbolic ideologies, reflecting broader social debates (**Middleton, 2009**).

b. Weberian reading of social activity around sweet potato

Weber draws a parallel between Protestant ethics and the spirit of capitalism, highlighting the influence of lifestyle on the emergence of development. This perspective sheds light on the importance of cultural perceptions—here, those of rural communities—in the economic dynamics related to sweet potatoes. (**Weber, 1964**)

The aim is to understand the intentions that rural actors attribute to their actions related to sweet potatoes, which, through an “*emergent effect*” (Weber & Freund, 1971), construct the social reality under study—namely, the role and valorization of this crop. An ideal type will thus be developed to enable a nuanced understanding through a relevant analytical tool. Following Weber’s approach, the focus will be on actions and the subjective meaning individuals assign to their practices surrounding sweet potatoes.

c. Variables and Factors

This study on the valorization of sweet potatoes focuses on two main variables: the social representations of this crop shared within the surveyed areas, and the introduction of innovations aimed at transforming existing practices toward the goals of food security and, more broadly, development. The concepts of tuber representation and innovation diffusion in rural settings form the foundation of this analysis, whose empirical basis gives it a distinctly phenomenological orientation.

d. Types of Analysis

Three types of analysis were employed to process the data: the multivariate analysis, used to grasp the complexity of the phenomenon by cross-referencing several explanatory variables; the qualitative analysis, based on a discursive approach aimed at uncovering the meaning of social representations through semantic methods; and the quantitative analysis, focused on the interpretation of questionnaire results.

2.2 Material

The research was conducted in several regions of Madagascar: Ankazobe, Tsarasaotra, Soaindrana, and Talata Ampano, each presenting distinct sociocultural and economic characteristics. Ankazobe, located near the capital, is characterized by sweet potato production geared toward food processing and trade, while Tsarasaotra and the other rural areas play a central role in food security. Cultural differences between the Merina ethnic group in Ankazobe and the Betsileo in the other areas also influence approaches to sweet potato cultivation. The data collected, concerning social representations and sweet potato production, were obtained through both quantitative and qualitative methods, such as questionnaires, observation, and documentation.

To carry out this research, a rigorous methodology was adopted. The four-pole methodological space structures the work (Besnard *et al.*, 1975):

- a) a theoretical pole, serving as a frame of reference;
- b) a morphological pole, serving as an analytical framework;
- c) an epistemological pole, from which the methods are derived;
- d) a technical pole, guiding the modes of investigation.

The following epistemological aspects validate the scientific nature of the research.

Hypothetico-deductive research approach

The study prioritized direct observation and the analysis of previous works, focusing on those that employed similar methods for the valorization of sweet potatoes. A spiral approach was adopted, seeking regularities to formulate and test hypotheses. These were:

- a) If sweet potato production increased due to a change in devaluing representations, it would strengthen food security.
- b) If both technical and social innovations were accepted in rural areas, sweet potato production would promote the accumulation of productive capital, essential for development.

A study framework was designed, including a questionnaire to test these hypotheses.

Type of this research on the valorization of sweet potato

Descriptive research because it aims to establish a systematic inventory of the various elements of a given situation (a sort of status report on sweet potatoes), based on observation and the development of formalized data collection methods. This is therefore a task of meticulous description of the realities surrounding sweet potatoes. It is an effort of documentation and/or understanding of the structures and processes related to the valorization of sweet potatoes.

Action research because its purpose is to understand a situation, sweet potatoes and their valorization, through the representations held by the actors. Four main categories of objectives emerge:

- a) *Research – intervention*: solving intervention problems for valorization;
- b) *Research – development*: developing intervention tools for valorization;
- c) *Research – action*: implementing changes or innovations in the rural world;
- d) *Reflective analysis*: improving the professional skills of farmers.

Moreover, action research in the context of sweet potato valorization:

- a) is a collective approach integrating both a research strategy and an action strategy;
- b) is carried out by a multidisciplinary team in which researchers and actors are engaged in a relationship no longer of subject-object research but of collaboration and consultation;
- c) is focused on a concrete situation that poses a problem, embedded in real social relations and linked to an action of social change in the highlands of Madagascar;
- d) aims to produce a better understanding of the conditions and outcomes of the valorization action for sweet potatoes, in order to extract lessons that could be generalized.

Ordered or ordinal variable / Quantitative or numerical variable

Two types of variables are used in the research: ordinal variables to assess the perception of sweet potatoes and the integration of innovations, and numerical variables, primarily for studying the technical aspects of sweet potatoes in these highlands.

The data collection takes place in the natural living environment of the individuals studied, whether at their home or workplace.

The degree of inference is high.

III. Result and Discussion

The fieldwork itself, including the administration of the questionnaire, interviews, and observations, is expressed through this central section. The focus of the surveys is on production, farming techniques, the use of the produce, the production methods surrounding sweet potatoes, as well as the social representations of the tuber through a qualitative approach.

3.1 Social Representations of Sweet Potato

The corpus created opens a dual perspective: the analysis of the "*semantic field*" and elements of "*ethnobotany*" (the relationship between humans and the plant), which are variations of the social representations of this tuber.

a. The semantic field of sweet potato, revealing the representations associated with it

In reality, the term "*sweet potato*" does not perfectly correspond to "*vomanga*" in its literal sense. This tuber carries a set of specific cultural representations, the understanding of which

requires an in-depth analysis of its semantic field. This situation highlights the complexity of intercultural translation.

The meaning of the linguistic form "sweet potato" and, therefore, its representations can only be determined by the totality of its uses, their distribution, and the types of associations that result from them (Benveniste, 1976). Thus, a careful study of all the contexts in which this form is likely to appear is necessary. Furthermore, it is important not to be unconsciously guided by the French semantics of the expression "sweet potato." Seeking a perfect match between "vomanga" and "sweet potato" would be contrary to linguistic science. It is essential to rely on context. Therefore, it is the reconstruction of a semantic process. Without this exercise, the approach to representations is distorted by imaginary judgments. Moreover, the approach that follows is a draft because isolating all the uses is complicated with the intercultural variants (comparison of cultures—here, culture refers to lifestyle) between the northern and southern study areas. The ideal would be to arrive at a semantic history with a definition of the combinatory capacities of meaning. The semantic notion of "sweet potato" is complex, difficult to objectify because it is linked to extra-linguistic substances that first require a description of the uses, which alone allow the meaning to be specified. This requires freeing oneself from false obviousness, references to "universal" semantic categories, and confusion with another language.

Table 1. Constitution of a corpus related to sweet potato, vomanga

ADAGE	TRANSLATION	MEANING
1. <i>Adala toa zokim-bomanga :ny lehibe indray no hosenan-davenona.</i>	Stupid as big potatoes: the biggest ones will be placed under the ashes to be cooked and eaten.	Stupidity
2. <i>Afa-baraka toy ny vomanga an-tanàna, fany akobo no avy mibehy.</i>	Dishonored in the eyes of everyone, even those of low status..	Disgrace
3. <i>Aza manao fanirim-bomanga :vao lasa kely dia mibodina.</i>	Do not break your word once given, as soon as you part ways.	Betrayal
4. <i>Aza mitarika ho lo toy ny lehibem-bomanga.</i>	Do not lead others to rot, like the potatoes where the large ones, by rotting, bring the rot to the others.	Bringer of misfortune
5. <i>Dongadonga tsy soa, obatraohatra vomanga ankady.</i>	Big and bad like the potatoes in a ditch.	Ugliness
6. <i>Homam-bomanga an-tsena : tsy hisarom-bava menatra ny olona, hisarombava ampangain' ny foto-tsofiny.</i>	Eating potatoes in public, a shame if you do not cover your face.	Shame
7. <i>Manary tena obatra ny vomanga misebo.</i>	Exposing yourself and attracting misfortune, like the potato that shows itself when coming out of the ground and is eaten by rats and chickens.	Bringing about one's own downfall through disgraceful behavior
8. <i>Mitono vomanga sendra vahiny, ka tofofy lavenona tsy ho hitany.</i>	Roasting potatoes when strangers enter: you must cover them with ashes so they do not see them..	Improper food

9. <i>Tabaky ny andevolaby voky vomanga :tsy taviny, fa salibany.</i>	It's like the slave who is full of potatoes: he is not fat, but he is swollen.	Food of the lower classes, poor quality
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Source: Our surveys, 2024

Sweet potato is often associated with negative connotations: stupidity, ugliness, ridicule, mediocrity, shame, dishonor, etc. These examples frequently appear in everyday discourse, even though there are many proverbs and sayings about it and vast possibilities for symbolic use in speech. This tuber thus comes to embody everything that society considers bad: vices, failures, disgraces. In the provinces, the expression "*Tale ben'tsomanga*" (free translation: the chief of sweet potatoes) refers to a pompous or ridiculous leader heading a group of people who stand out in society for their notorious foolishness and are objects of the greatest contempt. In the highlands, calling a woman "*vomanga tarehy*" (free translation: a face resembling a sweet potato) is a true insult.

But more than anything, the following expression is revealing: "*raba razana tsy hitahy, mifobaza hiady vomanga*" (when ancestors don't bless, wake up to fight sweet potato), which highlights the importance of ancestral heritage in Madagascar. From this, we can explore the ontological place of this product in the collective imagination. The ancestor, who is sacred, the object of worship, and central to social organization in Malagasy traditions, loses its stature when in contact with this tuber.

This universe of meaning becomes clearer when conducting an analysis of interactional linguistics by examining the external homeostatic forces of discourse. Social representations are integrated into social cognition within the group, and here we consider the structuring of knowledge about sweet potatoes. It refers to a set of mental activities processing information about the social world, through which a mode of knowledge about reality is constructed, based on prior knowledge composed of values and beliefs.

Through this corpus of proverbs, we can detect how the representations of this tuber are structured as a tool of social cognition, enabling the understanding of socially constructed reality. These representations are a social phenomenon that reveals the "*logic of the social*." These representations validate the "*theory of naive psychology*" (Heider) due to its cognitive consistency, as it demonstrates a coherent treatment of the object in line with maintaining cognitive balance. This naive psychology is typical of the everyday person.

Table 2. Structuring of Social Representations of Sweet Potato

<p>Social transformation of a reality into an object of knowledge that is also social It is not a faithful replica. It mobilizes incomplete data through selection and distortion Theory of naive psychology (Heider)</p>	<p>Reflections of cultural models and dominant ideologies in society.</p>
<p>Construction in a relational process Vector: social communication (places the transformed object within the social system) Symbolic interactionism</p>	
<p>Remodeling of reality Meaningful information about an object No "<i>objective truth</i>" but a "<i>social truth</i>" Approach, etc.</p>	
<p>Naturalization of society (presents itself as an inventory of a set of evidences). Reduction of the reviewed and corrected reality.</p>	

Source: Our surveys, 2024

Through these representations, reality becomes simple; its model is assumed to be logical and rational. The "*vomanga*" (sweet potato) is a despised plant. The content of the representation of the sweet potato is "socio-cognitive," with a strong "signifying character" and endowed with symbolic content (imaginary structure). Thus, society has taken hold of the object sweet potato and transfigures it in a process of objectification, that is, an arrangement of knowledge about it, as well as an anchoring within the framework of cognitive polyphony, first through an interpretive mechanism that supports its social utility, a meaning based on the value system in society, and an integration function, as the representation is inserted into already existing systems of thought.

b. Ethno botanical Elements

These elements are based on oral traditions, collective memory, as well as on written texts. However, it is above all orality that predominates in these forms of expression, constituting an essential anchor in popular traditions. To this are added field observations carried out *in situ*. Moreover, ethno botany – a discipline at the interface of anthropology – enriches the analysis. The ethno botanical data collected thus serve as indicators of the "*field of representations*" and complement the semantic approach undertaken.

The field of ethno botany, as defined by Barrau in 1965, is divided into fourteen axes:

- a) The identification of sweet potato varieties based on samples and figurations or descriptions.
- b) The main varieties are numerous. They are encountered under the vernacular names below.
- c) Relative abundance and availability of sweet potato :

The sweet potato is available both in the southern and northern zones. It can be found in fields, markets. Though not abundant, it is available.

Vernacular names of this plant (popular phytonymy):

- a) The appellation or name.
- b) The basis of the appellation.
- c) The meaning or semantics of the appellation.
- d) The relationship between the plant and its appellation.

Vomanga Ebokehy; tongotr'akoho; voaloboka; voatavo; karaoty; tsy miala eto abo sana bavy, mbizo

These appellations reflect the status of the sweet potato. They are vulgar names belonging to the lower register of the language. The names are part of a sociolect of modest social classes. For example, the sweet potato "*tsy miala eto abo sana bavy* " belongs to the register of coarseness, even foul language.

- a. The parts of the plant used and their special names.

The tuber (*vomanga*), stems and leaves (*ravim-bomanga*).

- 1) Reasons for using sweet potato (human or animal consumption, consumption surveys, nutritional value, neglected food use, child feeding, etc.)
- 2) For human and livestock consumption. It is a secondary food source for humans. Its nutritional value is unknown. It is mostly used when rice and cassava are insufficient to meet the family's needs. It can thus be considered a sort of *ersatz*.
- 3) How the plant is used, cultivated, and treated.

In the northern highlands, sweet potato is cultivated secondarily, mainly to demarcate plots. It grows on the edges of cassava fields or rice paddies. It is planted only after priority crops like rice, cassava, taro, assorted vegetables, or pineapple.

In the southern highlands, sweet potato occupies larger areas, though it still does not rival major crops like rice and cassava.

Its cultivation remains artisanal and traditional: the techniques used are rudimentary, without inputs, and with low-yielding varieties.

- Harvesting season and ecological/habitat data.

It is cultivated year-round, without a specific season, depending on available space.

- Origin of the plant (introduced or not)

The varieties are generally local. However, the orange-fleshed variety has been introduced due to its high yield of 25 tons per hectare.

- Antiquity of use and related aspects: tradition, myths, legends, origins, uses, etc.

Sweet potato has always been cultivated, and a disparaging mythology surrounds it. Its consumption as a second or even third-rate food is traditional.

- Current value of sweet potato in the modern economy in various regions.

Its commercial value is poor. The leaves fetch more in the market than the tuber. It is not integrated into any economic circuit or value chain. Occasionally, low-market-value local transformations like chips are observed.

- Reasons for non-use and the plant's place in current nomenclature compared to those in use.

These reasons lie in the plant's reputation in oral tradition as an impure, low-value food. The staple remains rice and cassava. Being seen in the village as full from eating sweet potatoes brings ridicule and contempt.

- Popular nomenclature of sweet potato according to its utility.

This tuber is mainly used to feed children between meals. It is not a primary meal. The leaves are used as a soup accompaniment for rice. The main food remains rice.

- Importance of sweet potato in the economy of the human group.

Economically, cultivating sweet potato does not generate sufficient income. Selling a large quantity is difficult. The economy thus does not depend on this plant. Rice and *zebu* are the pillars of rural life.

- Popular beliefs regarding sweet potato.

They present sweet potato as a tuber of little utility, whether culinary or commercial. This trend is less intense in the southern highlands, where its food role and production are more significant.

Sweet potato is negatively connoted in Malagasy society, though this image is weaker in the southern project area, where tuber fields and their consumption are common.

- Sweet potato (*Ipomoea batatas*) is a versatile crop with nutritional and economic importance in Madagascar and other tropical regions. It can be processed into flour for bread-making, with incorporation rates up to 25% without significantly altering organoleptic properties (Ndangui, 2015). In Madagascar, sweet potato is part of a diversified tuber farming system that includes endemic yam species (*Dioscorea spp.*), appreciated for their nutritional richness and cultural value (Harimanga Jeannoda et al., 2007). The cultivation of sweet potato and other tubers plays a crucial role in local food security and traditional knowledge systems (Rejo-Fienena & Monnier, 1995).

Adapted to tropical climates, sweet potato requires temperatures around 24°C and good sunlight exposure. It is generally propagated by cuttings, with yields ranging from 5 to 10 tons/ha for local varieties, and 40 to 50 tons/ha for improved varieties. Good management practices are essential to combat pests and diseases (Vernier & Varin, 1994).

Box No. 1: Farmer in Talala-Ampano on the Southern Highlands

Aty aminay dia tena fomba mibitsy ny mamboly vomanga ka samy mamboly aby ny eto an-tanàna. Misy karazany ireovomanga vokarina eto ary ampiasaina atao sakafo fa matetika dia anomezana ireo biby fiompy ihany koa ny vokatra ...

In our village, cultivating sweet potatoes is a tradition, and everyone grows this crop. There are many varieties of sweet potatoes, which are used both as food and to feed livestock...

Source: our surveys, 2024

The example contained in this box corresponds to a modal case.

c. Peasant Conservatism and Realities of Sweet Potato

The prevalence of conservatism is a relevant indicator of the degree to which innovation has been introduced in rural areas. This attitude deserves close observation, as it determines behaviors and underlies the logoi of rural populations. Beyond this first aspect, it is also necessary to assess the realities surrounding sweet potato production in these Malagasy highlands. For this second aspect, prevailing trends and averages take precedence.

d. Peasant conservatism

The institutions and innovations put forward to promote rural development are numerous (rural animation, municipal unions of indigenous rural communities, rural development services, etc.), and their mere enumeration could form a study topic in itself. However, a constant that cannot be overlooked emerges: the strong traditionalism among rural populations. The grip of tradition is very strong, and our interviews, field visits, and discussions confirm this reality. Rural poverty can thus be viewed as a by-product of this phenomenon.

In our study areas, behaviors and attitudes are strictly dictated by custom and history. A rejection of modern rationality is evident. This traditional transmission is rooted in a sacred orientation, hence the resistance to behavioral change. Overall, rural populations view their way of life as true and sacred. For example, in many villages, rice is regarded as sacred like honey. Some people consume it only while standing, and its cultivation resembles a true religious ritual, where any deviation from the process is intolerable. Similarly, the cattle pen holds a sacred status. One may not enter it with shoes, as the zebu — the national emblem — is a sacred animal present in all group ceremonies. In many regions, a man without a zebu has no social status.

A weak presence of the "*mobile personality*" (**Lerner**), which is crucial for adopting new behaviors and openness to change, has been observed (**Lerner, 1958**).

The observed peasant conservatism constitutes a major obstacle to any modernization dynamic. For example, in land tenure matters, the idea of abandoning traditional land occupation in favor of a planned layout or migration project deeply challenges the entire rural cosmology. In the context of this study on sweet potato valorization, this factor acts as a structural barrier to rural development. Therefore, any valorization project must include a component of peasant education, in addition to mastering the necessary technical factors.

To further illustrate rural conservatism, the example of land occupation in Madagascar's highlands is particularly revealing. Whether in the southern or northern zones, family farming is generally structured around a descent group based on patrilineation — more rarely on undifferentiated filiation — with patrilocal residence. In this context, kinship governs all dimensions of rural life. This patrilineation group (called *akitsanjy* among the Betsileo, *teraka* among the Merina) then proceeds to gradually divide surrounding spaces. This process confers

a sacred character to the land, due to the presence of the founder ancestor’s tomb — the one who first cleared the original land. This land then becomes the *tanindrazana*, the ancestral land, imbued with deep symbolic and religious value. Conservatism permeates the entire rural world, far beyond traditional agricultural practices alone. It also plays a decisive role in social organization. Observing the division of labor in the fields immediately reveals the structuring role of kinship: gender-based task division stems directly from traditional prescriptions rooted in these kinship relations. In this sense, conservatism can be seen as a fundamental trait of the rural universe, woven into every social mechanism. The place occupied by sweet potato in these contexts is fully part of this cultural logic: the devaluing representations associated with it are a clear expression of this deeply rooted conservatism.

e. Realities concerning sweet potato

This phase corresponds to the actual sample survey, conducted after the immersion stage, and aims to collect precise data on various aspects related to sweet potato cultivation:

- The social structure of the farming household, including the composition of the domestic group, the age of its members, their primary and secondary activities, their workplace, their ethnic affiliation, as well as the available labor force;
- The technical structure, through the assessment of the area dedicated to sweet potato cultivation, the presence of livestock activities, the equipment used, the farming techniques employed, and the use of labor;
- The financial structure, seeking to estimate the forms of capital held: family capital, agricultural capital, and household capital;
- The economic structure, through the analysis of operating costs and the production generated.

Table 3. Summary of Results

<i>The social structure of agricultural exploitation.</i>	Exploitation units typically consisting of 4 to 6 people; Task distribution among household members (women, men, children).
<i>The technical structure.</i>	Small available areas (on average 4 to 6 acres) Low level of mechanization and limited use of inputs and chemical fertilizers Predominance of food crops (rice, maize, cassava)
<i>The financial structure</i>	Expenditures primarily allocated to food Limited access to credit
<i>The economic structure</i>	Recourse to mutual aid between families in the rural community and non-market exchanges Income from mixed farming and livestock activities, as well as from pluriactivity (wage labor, craftsmanship, trade).

Source: our surveys, 2024

Sweet potato cultivation takes place in a rural context marked by low productive capacity. Households often farm very small plots, sometimes less than 0.5 ares, with rudimentary equipment and limited or even non-existent use of modern inputs. Yields remain low, perpetuating structural poverty where hunger tends to become a norm of life.

Sweet potato is generally grown after other priority crops such as rice or cassava. In the northern highlands, it is cultivated marginally, along field edges, throughout the year. Harvest quantities, ranging from a few dozen to several hundred kilos, are intended for self-

consumption or animal feed. In the southern highlands, volumes can exceed one ton, but use remains essentially domestic or for fodder.

The agricultural system faces numerous constraints: climatic hazards (cyclones, floods, drought), locust attacks, soil degradation, and difficult access to markets. The social structure of farms remains fragile, notably due to uncertainty over whether younger generations will remain on family farms, in a context where individual land ownership struggles to take root against community traditions. Technically and financially, resources remain limited. Land, operational, and household capital are underdeveloped. Economically, these farms barely ensure self-sufficiency, thus reinforcing the cycle of rural poverty.

3.2 Discussion

a. For the Valorization of Sweet Potato

On the Malagasy Highlands, sweet potato—still socially devalued—occupies a marginal place in agricultural production and food consumption. It is not embedded in a genuine commercial logic, due to the absence of a structured value chain. Field data confirm this reality. This situation illustrates a significant waste of potential: in addition to contributing to food security, this plant could play a strategic role in building productive capital—a fundamental lever for development. Today, it remains an underutilized asset, making a better understanding of its complex reality essential for its valorization.

According to Carrière et al., sweet potato cultivation on the Malagasy Highlands holds a marginal role in both agricultural production and nutrition, despite its potential for enhancing food security (2005). This contrasts with other regions such as Papua New Guinea, where sweet potato is a staple crop, though excessive dependence can lead to vulnerabilities in food supply and land degradation (Bayliss-Smith, 1991). In Madagascar, farmers have turned to vegetable crops like carrots and potatoes to meet urban demand, demonstrating an ability to adapt to changing socio-economic conditions (Rabemanambola et al., 2009). Research conducted in Benin highlights the neglected status of sweet potato despite its contribution to food security, identifying producers' varietal preferences as well as production constraints (Doussoh et al., 2016). These studies underscore the complexity of interactions between traditional farming practices, crop diversification, and socio-economic factors in defining the role of sweet potato and other crops across various cultural contexts.

b. Final considerations

The study of the reality of sweet potato through the entanglement of social logics has revealed several levels of coherence. The project-based discourse differs from that of the farmers, who undermine it. The technical rationality or technical model endorsed by the project does not align with the national model, which shows little concern for sweet potato. Traditional donors likewise seem to keep their distance from sweet potato. Finally, the rural world attributes little importance to this resource, despite its proven nutritional and economic potential. This entanglement of social logics in the arena of the Malagasy highlands explains the marginality of sweet potato.

Moreover, the entire process of sweet potato valorization, which is a development action, is built on purely philosophical postulates. The viewpoint on sweet potato is a lifestyle choice determined by numerous factors, including the culture of the social group to which one belongs and the tendency to conform to it. The weight of traditionalism, the ideas of changing dietary habits, of saving, of not being influenced by Western consumption... are all lifestyle choices. The postulates of The Protestant Ethic and the Spirit of Capitalism align perfectly with realities on the ground. Thus, the focal point in sweet potato valorization is purely

cultural. It is crucial for farmers to develop a taste for progress and to embrace the constraints that come with it by changing their behavior. By valorizing sweet potato, it is possible to address food security issues and even trigger the formation of productive capital.

To the question of whether development can be conceived and envisioned starting from a modest yet widespread indigenous resource such as sweet potato, the answer is yes. Indeed, if sweet potato production were to increase due to a shift in the negative perceptions surrounding it, this would lead to strengthened food security. And if basic innovations—not only in farming techniques but also in social organization—are accepted in rural communities, the production of this tuberous plant could enable the rapid accumulation of productive capital, which is the primary axis of any development process.

IV. Conclusion

In light of the widespread poverty that plagues the country, it is essential to consider solutions marked by pragmatism. This means breaking free from the unfortunate tendency to develop large-scale development projects that require colossal resources, which are rarely available and often limited to mere announcements. The example of sweet potato valorization demonstrates that it is possible to think about and achieve development through food security using a local, nutritious, widely known resource whose production is relatively easy due to its short cycle compared to rice.

However, beyond this aspect, sometimes considered as primary or basic, sweet potato has a broader potential when considering the role it could play in the mechanism of productive capital formation—a concept formulated by development economist Nurkse, which represents the central problem in poor countries.

These conclusions, however, remain partial. The study area was limited to the Malagasy highlands, and a more sustained focus on other regions of the island would have allowed for a broader empirical triangulation of the data. For example, in the far south of the island, among the Masikoro communities, sweet potato already plays a key role in basic nutrition. Furthermore, the final conclusions are influenced by the theoretical framework chosen, which is shaped by the subjectivity of the researcher and guides the analysis. Therefore, the question of what the conclusions would be from the perspective of other theories remains open. It is thus essential to continue research on this topic.

Finally, in order to valorize sweet potato in the Malagasy highlands, the cultural dimension must be prioritized. As Weber indicates, in the West, and particularly in Germany, capitalism emerged from a lifestyle, which is a purely philosophical choice. Similarly, unlocking the potential of this tuberous plant will depend on changing behavior and mentality. So, how can one perform in this key area?

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