Pre-crisis Market Mapping and Analysis (PCMMA)
Training and Market Assessment Facilitation
Beans and Corn
Gressier, Haiti

Submitted by

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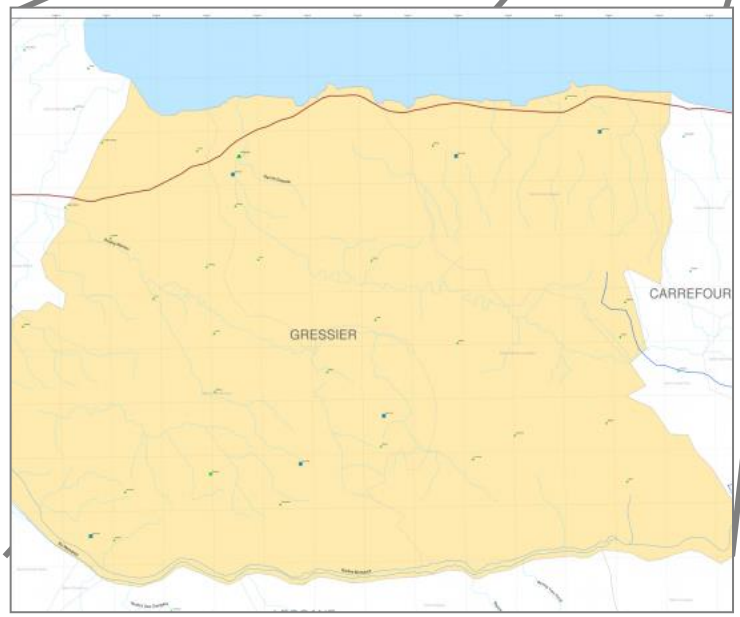


Gressier
pop 35,926
Area : 93 km^2

Introduction

This document presents the results of a Pre-Crisis Market Mapping and Analysis (PCMMA) undertaken for GOAL Haiti, focused on seasonal drought affecting the maize and beans market systems. Both products are important in the target region, Gressier, Haiti. On the one hand they represent a critical source of income for rural producers. Black, red and white beans in particular are considered among the most important cash crops in Gressier. Both are also important in terms of consumption. Maize is among the most popular cereal staples. Rural Gressiens consider maize more nutritious than both rice and millet - the other main cereal foods - at least one of which Gressiens typically include in the main midday meal. A nutritional rule of thumb in Gressier is that all three cereal staples should be consumed with beans. And indeed, beans are consumed daily by both rural and urban Gressiens. Because of the low cost of beans, they are arguably the most important local source of protein.

The analysis includes pre-crisis market maps for these commodities - maize and beans - and an assessment of the enabling and supporting environments for the movement of these products through the markets. The enabling environment includes elements such as regulation and institutional support while the supporting environment includes inputs such as availability of water, fertilizers, and credit. Included in the supporting environment are alternative cropping strategies and influences that may not actually support the production of beans and maize but that also help clarify how production can be reinforced in anticipation of crises such as drought.

A series of critical corollary questions to be answered were,

- How does the maize and bean market system function in “normal times” (or “period of reference”)?
- How does the market system facilitate the redistribution of maize and bean behave during droughts (“period of crisis”)?
- How do market system changes during drought affect the availability of beans and maize?
- How can GOAL use market-based interventions to help the local population prepare and respond to drought?

Before presenting the research, analysis and mapping, two significant caveats should be understood. First, the consultant did not precisely follow the PCMMA strategy. In part this was due to the pre-determined choice of crisis (drought) and mapping topics selected (beans and maize). Existing cropping and market systems are adapted to drought and hence reduce the importance of intervention made specifically with drought in mind. Modification of the objectives of the study was also due in part to a second caveat: Farmers throughout the country need assistance, there are growing threats to health and income; but there is a history of poorly informed and often misguided aid interventions and lack of accountability regarding the implementation of international aid projects throughout Haiti. As far back as 1981 Robert Maguire (1981:14) called NGO activity in Haiti, "a wave of development madness.” Twenty-eight years later, in an interview with Miami Herald reporters, Jean-Max Bellerive, Haitian Minister of Planning and subsequent Prime Minister under Rene Preval presidency would sum up what most Haitians feel about aid in the country when he said, “Surely we need money, but

we need better money…." With these points in mind, the consultant adapted PCMMA to a prioritized need for a holistic understanding of the market forces, the history and adaptability of livelihood strategies all tempered by a deliberate attempt to incorporate an understanding of the impact of past aid on the beneficiaries in Gressier in hopes that Goal may avoid mistakes made by aid organizations that have come before it.

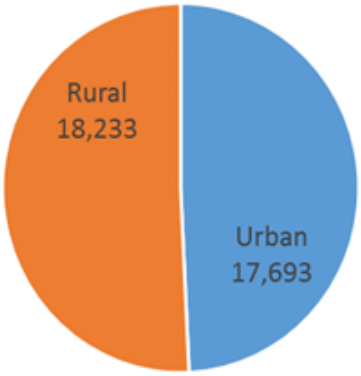
Research

The training of staff and research was conducted from December 7th to December 17th. The consultant spent two days presenting the PCMMA techniques and process, and assisting staff in creating preliminary market maps. The consultant relied heavily or information on the knowledge and experience of Goal's Gressier staff. Three focus groups were subsequently held with farmers in Gressier. A survey instrument meant to verify trends in planting, preference and consumption of local foods was applied at each of the focus groups (N= 40). The consultant then met with the local representative for the Ministry of Agriculture, an agronomist at a nearby Christian aid mission (Christianville), a Cuban Veterinarian and longtime Gressier resident working for a para-state organization assisting with livestock (ITEC), two resident feed makers, several large landowners, seed distributors, wholesale distributors, importers and market women as well as other peasant farmers (see Annex). The questionnaire, focus group guides and other research tools are provided in the index.

Presentation of the study area: Gressier

Gressier is a *commune*, a rural municipality, equivalent to a county or township in the S, England or Ireland. It covers 92.3 km^2, of which approximately 80% is plain and 20% is foot hills and low mountains, the highest elevation of which is 507 meters. Gressier counts 35,926 residents; 17,693 (49%) live in the town of Gressier and 18,233 (51%) are located in rural areas, for a rural population density of 195 people per km^2; 47% are under the age of 18 years. According to the IHSI [1](2012) there are an average of 4.3 people per rural household for a total of 4,420 households in rural areas and 4.0 people per urban household for a total of 4,423 households in urban areas. Denizens of rural areas live in lone homesteads and clusters of homesteads with individual households inhabited mostly by nuclear families but often in three generation family compounds, more often matrilineal with grandmothers playing prominent matriarchic roles. The houses, compounds and hamlets are distributed relatively evenly across the landscape. The commune borders the Sea of La Gonave and is located at the edge of greater *metropolitan* Port-au-Prince (approx. 2.5 million), both of which have a profound impact on livelihood strategies and market chains to be discussed below.[i]

Figure 1: Rural vs Urban Population in Gressier



Source: IHSI 2012, extrapolated to year 2015 using 1.08% population growth rate

[1] Institut Haitien de Statistique et d'Informatique

Uniformity of Livelihood Strategies, Conflict and Role of Beans and Maize

Approximately 10% of households have at least one member engaged in fishing and 90% of all households, even those with members who fish, are engaged in farming. There are tendencies for households to be differentially dependent on fishing, vs. livestock vs. agriculture. However, referring to any of these groups as exclusively engaged in a particular livelihood strategy would be a conceptual mistake. Fisherman typically farm as well. All tend to raise at least some livestock, most importantly goats and chickens. Those households invested in cattle tend to exhibit somewhat distinct interests and behavior. Conflicts between households heavily invested in livestock and those more heavily invested in cultivating garden plots are an emerging problem and will be discussed further in this report. Very importantly in terms of livelihood strategies is trade. At least one woman from almost all households engages in trade, the major female income generating activity. Commerce together with credit and charcoal production is among the major means of coping with crisis. In summary: regardless of their preferred livelihood, all the Gressiens consume beans daily and maize several times per week; many of the women either trade in maize and beans, will trade in maize and beans, or can at any moment engage in trade of maize and beans. The same is true of production: most households have at least one member who plants maize or beans, will plant them, or can at any moment engage in planting them.

Geography

The lower elevations of Gressier are geographically part of the Plain of Leogone, one of Haiti's principal bread baskets and a particularly import source of local beans. The higher elevations receive a consistent and high level of precipitation making it auspicious for the planting of both beans and corn. The land is broadly categorized edaphically as *te fret* "cool land", friable and fertile soil that retains moisture and on which beans flourish; versus, *te cho*, "hot land", sandy soil with low fertility and on which beans produce poorly, if at all, but on which maize will grow and produce if there is enough rain. Land near river beds, and in ravine bottoms or irrigated areas are considered *te fret.* A third broad category—or dimension—is *te wouze*, irrigated land upon which farmers are prone to plant beans (because of the high demand for them and their role as a cash crop). Only some 40 hectares of land in Gressier are irrigated. The canals have not been cleaned in three years, a task that has traditionally been the responsibility of the Mayor's office but with the financial support of NGOs. Cleaning and maintaining the canals can be thought of as low hanging fruit regarding pre-crisis intervention activities and increased production of beans. But complicating the opportunity is the fact that the current mayors were not popularly elected by appointed by presidential decree in 2011-12 and the farmer associations through which the mayors and NGOs work tend to be focused on the aid more than helping themselves. This issue of aid capture and farming associations should be recognized as a significant impediment to successfully implementing pre-crisis and crisis interventions and is discussed in more detail later in the report.

Crops and Cropping Strategies

The major cash crops on the plain are sugarcane (primarily used in the artisanal production of rum), plantains and beans. The subsistence oriented crops include manioc, sweet potato, corn, congo beans, pumpkin, melon, and okra. Crops planted in the mountains are similar, however, peanuts and millet take on greater importance in the mountains and yam are an important mountain crop not grown on the plain.

Differential patterns of seasonal rainfall mean that the mountains and plains have complementary planting and harvesting seasons, thus creating a significant interdependency. Farmers in the mountains traditionally purchase seed stock from those on the plain and vice versa. The point is of critical importance in assessing bean market circuits. In the semi-tropical environment where temperatures seldom dip below 15 degrees Celsius (60 degrees Fahrenheit), it is difficult and risky for farmers to conserve bean seed stock. Beans typically get infested with mites within two to three months. Treating the beans with those insecticides available reportedly diminishes the rate of germination (i.e. many do not subsequently sprout). Humidity causes stored beans to sprout in their storage container, rendering them useless for planting.

Access to Land

Land in Gressier is distributed in a highly egalitarian manner. An estimated 80% or more households own at least some land, the average is ~1.5 hectares. Less than ~5% of households own more than 5 hectares of land. Even those who do not own land have the option of accessing land through the common practice of share cropping, an arrangement where the sharecropper covers the costs of production while the owner of the land typically receives ½ of the harvest.

Drought

The Gressier region has been experiencing a prolonged drought. According to people interviewed during the course of the research, riverbeds and water sources have been exceptionally low for the past three years. Rainfall during the current year has been sparse. In November, CNSA (2015) cited rainfall deficits of 50% to 70% and anticipated a 50% drop in Haiti agricultural production for the year. Most of the country has also experienced below average rainfall. Gressier is in the region hardest hit by these deficits. Most bean and maize crops were lost during the last harvest season. The impact of low rainfall and restricted water supplies is particularly critical regarding production of black beans.

However, the major point being made in this report is that helping Gressier farmers prepare for drought and planning crisis interventions should be done with a holistic understanding of livelihood adaptions in the area and the factors that promote or impinge on the viability of those adaptations. There are growing threats to Gressien livelihood strategies. Increased population, deforestation, and soil exhaustion challenges the efficacy of traditional cropping strategies. But it should first be understood that farmers in Gressier as elsewhere in Haiti are already adapted to drought, indeed to crisis of all kinds, from natural disasters to economic embargoes. They have been surviving crisis for over 200 years. A cornerstone to that adaptation is the vigorous internal market system described in greater detail below. [2]

Crisis and adaptation

Gressier farmers and to some extent even those who live in the town of Gressier are embedded in a "peasant" economy (used here as a non-pejorative technical term describing a particular type of economy based on subsistence oriented household livelihood strategies and restricted access to the world market). This peasant economy is part of an adaptation to survival in a harsh natural

[2] A rather telling fact regarding the historical impact of natural disasters is that in the 28 years spanning 1980 – 2008, 65 hurricanes, tropical storms, and thunderstorms killed 8,165 people in Haiti. But if we skip back in time, the picture in the 28 years between 1935 and 1963–before most aid agencies arrived, is worse: only counting the three major storms during this period, at least 11,000 people were killed (and we can expect the disaster inflation then to have been less than in more recent years).

environment in which on average a hurricane or tropical storm strikes once in every three years and severe drought strikes every eight years. More devastating than natural calamities are the manmade disasters, the significance of which cannot be gainsaid. Haiti's colonial history involved 100 years of slavery ending with a 13-year struggle for independence that was arguably the deadliest conflict in world history: half of both the civilian and combatant population was killed, starved or stricken dead by disease. Social upheaval and internecine warfare continued through the 19th century, with more than 25 wars and uprisings, and 60 years of international trade embargoes. The 20th century brought an equal number of violent conflagrations and embargoes. Gressier's proximity to the Port-au-Prince makes the impact of political uprisings and embargoes that much more important to understand when preparing for crisis. Moreover, what is being described is not memories from a distant past. They real, present and powerful influences on Gressier livelihood strategies. The past 25 years have included a 3-year international trade embargo during which 400,000 urban migrants returned to the countryside and dependency on stone-age agricultural livelihood strategies. In 2001 a two-year international aid embargo began when development assistance and international loans were frozen again followed by a governmental collapse and then a three-year breakdown in civil society. The 2008 global food crisis hit Haiti particularly hard with doubling in price of imported staple foods such as beans and corn, giving way to riots in Port-au-Prince. Market women in Gressier repeatedly spoke to the consultant about banditry in the nearby urban Carrefour and the major Bossal market in Port-au-Prince. This has a significant impact on their living standards. The risks of banditry lead women to refuse to purchase or sell in these markets, translating into a loss of 10% when purchasing imported beans and corn and as much as 50% when selling these staples.

As elsewhere in Haiti, for most of its history, and arguably still, the vast majority of people in Gressier have confronted the challenges described above with little or no support from the state or international institutions. To survive they have depended on risk management in the form of crop and livestock diversification. The average rural Gressier household has two goats and four chickens. Pigs are common as well. Cows far less common and less than 1% of households have more than five cows. The typical household's ~1.5 hectare of land are often divided into two to three plots distant from one another and on which they intercrop some of the world's hardiest and most drought resistant food plants such as manioc, sweet potatoes, yams, pigeon peas, sorghum, melon, and peanuts; crops that together give slow and dependable yields over a period of many months, helping assure year round survival in the harsh natural, economic and political environment being described. Maize and beans are less drought resistant additions to these survival crops but beans in particular are a critical cash crop and arguably the most important source of protein in the diet of Gressier peasant farmers and those living in the town.

In summary, Gressier farmers are overwhelming 'subsistence oriented' as their livelihood strategies are first and foremost adapted to risk management and survival in the harsh natural and economic conditions described above - specifically, storms, droughts, embargoes and political unrest. However, they are also emphatically 'market oriented.'

The Market System

Gressier region is embedded in what anthropologist have long termed Haiti's Internal Rotating Market System, a network of regional markets internal to Haiti where on one or several days each week specific towns, villages, hamlets or even wide spots in the foot path become thronging

open air markets (see Figure 2). Underscoring the significance of these markets to household livelihood strategies is the fact that Gressier farmers produce more for the market than for auto-consumption. This is so because the complications with temperature and storage and the opportunities made possible through the existence of differential mountain vs. plain rainfall patters and microclimates. Storage is primarily in cash. Farmers sell their harvests and store the surplus in cash. The woman of the house uses as capital to trade in other goods, and then slowly spends the profits and eventually the capital itself in meeting household subsistence expenses. In this way the money is not just saved but extended over a longer period of time than it otherwise would have lasted. Even in the case, a household that receives emergency rations, the woman is likely to sell the rice, corn or beans and use the money in trading activity that yields profits and extend the value of the gift over a longer period of time.[iiiii]

Figure 2: Internal Rotating Market System

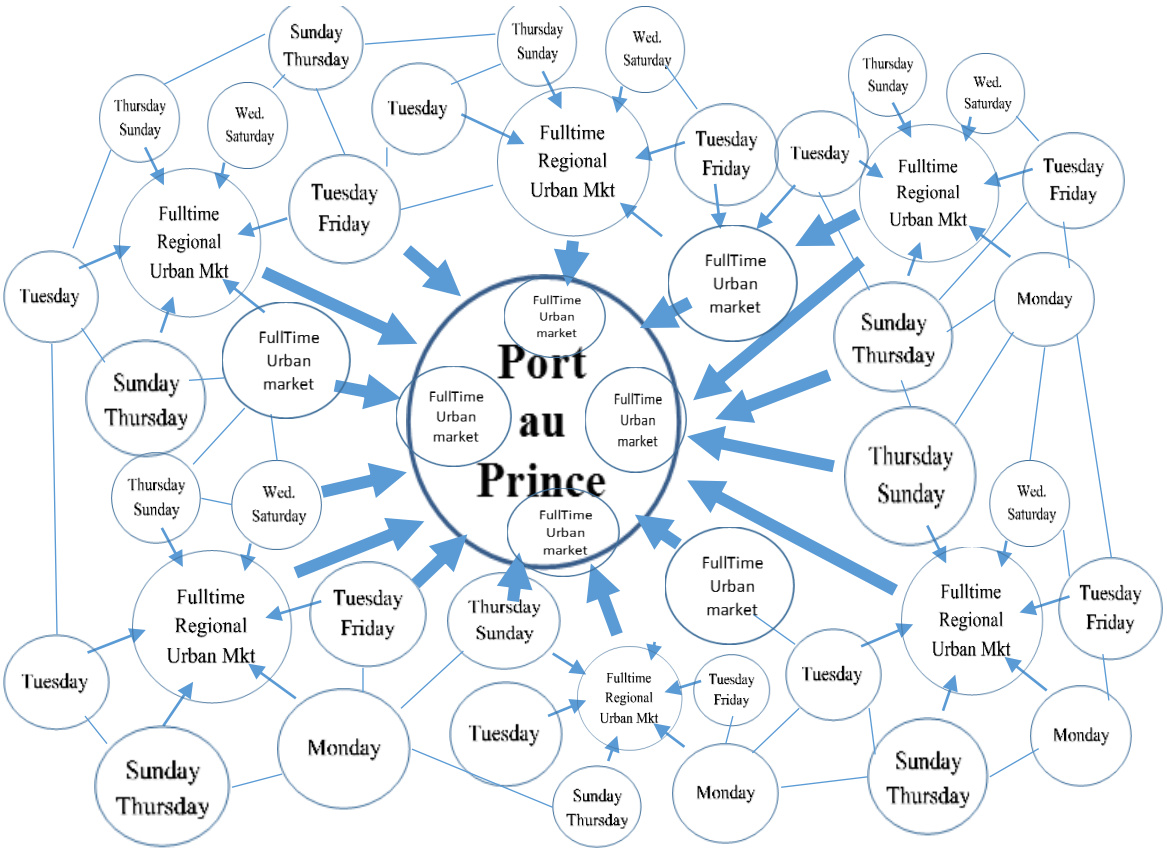


Table 1: Gressier Area Markets							
MARKETS	Days when markets are held						
	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Kamas (rural)			X		X		
Gressier Town			X		X		
Dabon (rural)		X			X		X
Kafou (urban)	X	X	X	X	X	X	X
Mariani (urban)	X	X	X	X	X	X	X
Lakolin (urban)	X	X	X	X	X	X	X

Internal vs. External Market System

It is critical to understand that in Haiti there are two market systems: the internal market system described above, that deals in production of goods internal to Haiti and that is informal in that it is for the most part unregulated and untaxed and receives little to no facilitation through any taxed transport or market outlets. The other market system or chain is that of imports, in this sense it can be called 'external' in that products originate outside of Haiti. It can also be thought as a formal market system in that goods are imported on freight ships or trucks, are taxed at the border or ports, and then pass at least in part through more formal distribution system of *boutik* (stores), albeit 80% of even these imported staples are ultimately sold in markets (SocioDig 2014).

Internal/Informal Market System

Interlinkages between the open-air market are made possible by itinerant female traders called *madan sara*. A *madan sara* is an itinerant market woman and the country's primary accumulator, transporter, and redistributor of agricultural produce, small animals, crafts, and fish. The itinerant *madan sara* market woman transports beans and maize between market places and the urban center. The average *sara* has US$50 in working capital (the principal she uses to purchase goods for resale) and may own a pack animal that she loads with local produce and hauls to a regional market or provincial city, making the trip and turning her capital over one to three times per week. The most heavily capitalized *sara* deal with thousands of US dollars' worth of local produce, and may own or lease a truck to haul tons of produce. If she travels to Port-au-Prince, the *sara* typically stores her goods in warehouses open to the public and frequented by other *sara*. She sells her produce in a matter of days. More than half of the time she provides goods on credit to *revande*--wholesale redistributors who sit in the market--or retailers, or to another *sara* who details it at lower level. Depending on the distance travelled, her profits vary from 30% to 100% (estimates are based on Stam 2013 and Schwartz 2009).

Figure 3: Internal Market System Chain of Actors

**The diagram to the right shows the flow of goods for internal Haitian market system or informal economy market chain. Note that local staples—such as beans and corn--typically do not flow to boutik (stores) but rather remain in the markets or are sold by small "sitting" or "ambulant" vendors.*

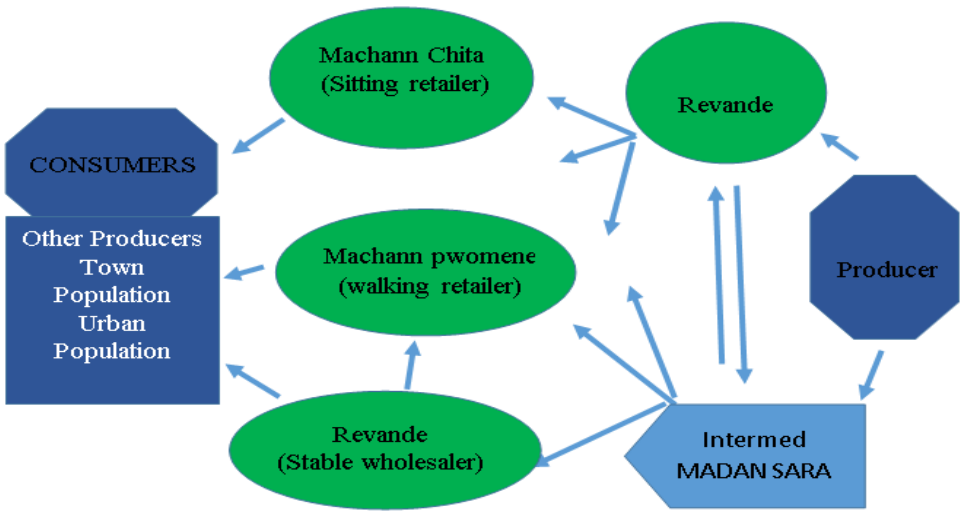
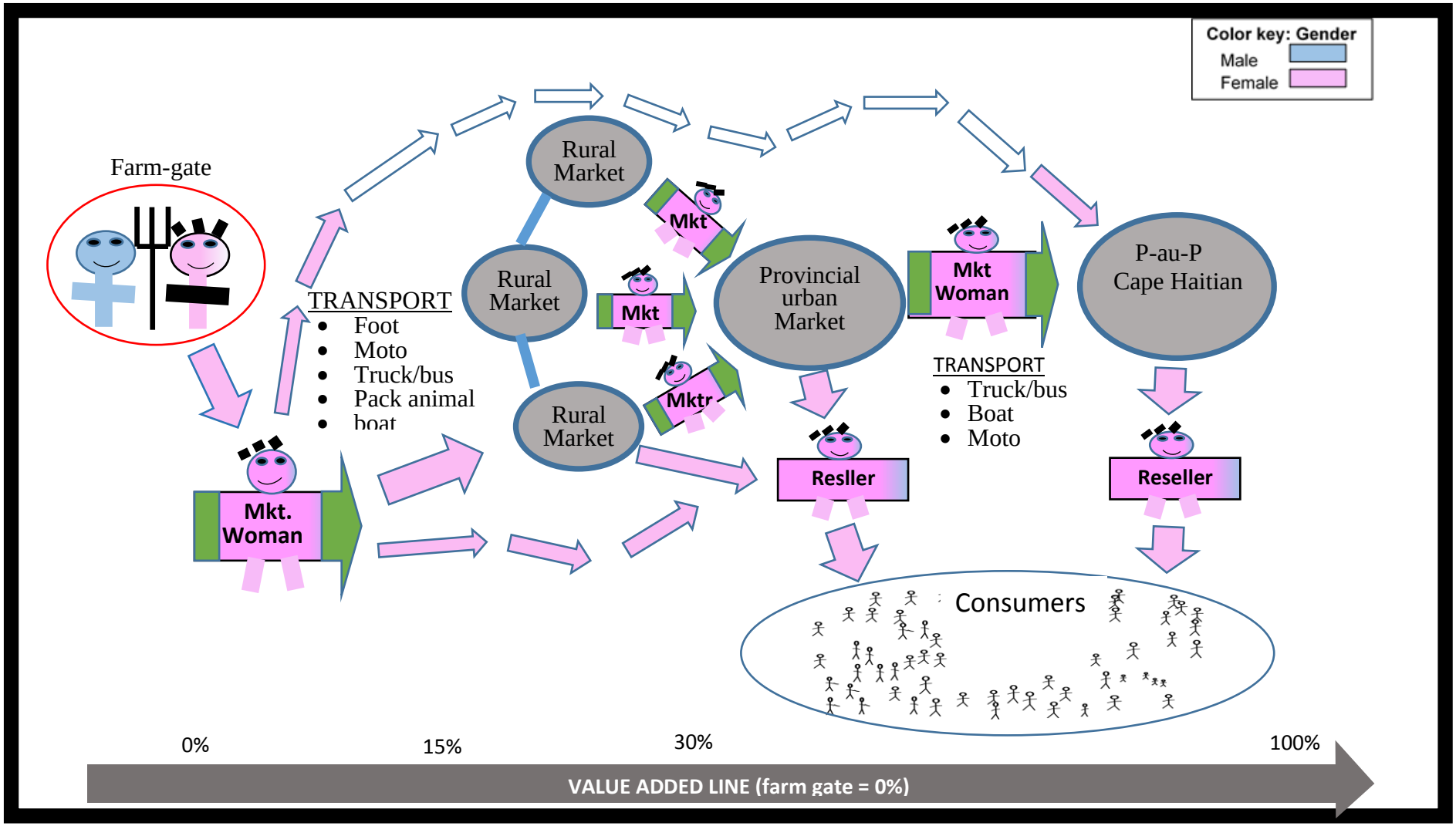


Figure 4: Internal/Informal Market System

Alternative illustration of the internal market chain, emphasizing the flow from rural producers to urban consumers.



Actors in the External/Formal Market System

The external market system is a formal system that deals almost entirely with imported goods. Beans and maize are imported from the US and in large part from the Dominican Republic. It is the external/formal system that makes it possible for the Gressier market to meet demands for beans and maize in the face of increasing short falls in Haitian Domestic production and to which merchants turn when drought further depletes local surpluses. The system has only become important with regard to processed food products as a function of the urbanization of the past 65 years, during which time the Haiti went from 85-90% rural in 1950 to 50% urban today. In just the past 35 years, since 1981, Haiti's small farmers have gone from producing more than 80% of the countries foodstuffs to dependency for on imports for more than 50% of all food consumed in the country (IFPRI 2013; IFAD 2014). [iv]

At the highest levels of the formal market chain are major *komesan* who import mass quantities of processed food (cookies, crackers, cheese puffs, cheese spreads, sugared beverages), as well as staples such as rice, cooking oil, maize and beans. In the case of Gressier, the formal market enters at the level of the town of Gressier market where some 30 small whole re-distributers have micro ~9 m^2 warehouses. Staples such as beans and maize are brought from main markets in Port-au-Prince and delivered to these intermediate wholesalers. The intermediaries sell the imported beans and maize and other goods to owners of *boutik* (stores) located in the town neighborhoods and throughout the rural areas; and they sell to *marchann chita* (literally "sitting seller") who sell in the local markets, roadsides, and/or out of their own homes. According to the intermediaries interviewed during the course of the research, 60% or more of the beans and maize available on the local market are imported from the USA and the Dominican Republic.

The most significant intermediary agent in the formal economy is the *komesan* (distributor). The *komesan* handle durable staples imported from overseas. Most *komesan* are men and transport goods in the opposite direction from the *sara,* i.e. from urban to provincial city, town, village, rural market place or *boutik.* The *komesan* is heavily capitalized: the largest Port-au-Prince *komesan* deal with warehouse stock valued at hundreds of thousands of US dollars. At the other extreme, the most remote rural *komesan* have, at any given moment in time, stock valued at several hundreds of US dollars. She/he often has access to a line of credit and always moves his or her sacks of rice, flour, sugar, corn, beans, and cases of edible oil, crackers, and cookies by truck. In contrast to the internal market *sara* who earn profits of from 30% to 100% on merchandise, the *komesan* profit margins are as low as 5% and seldom exceed 20%; and in contrast to the 3 to 4 days in which the *sara* turns over her merchandise, the *komesan* turnover rates can exceed one month.

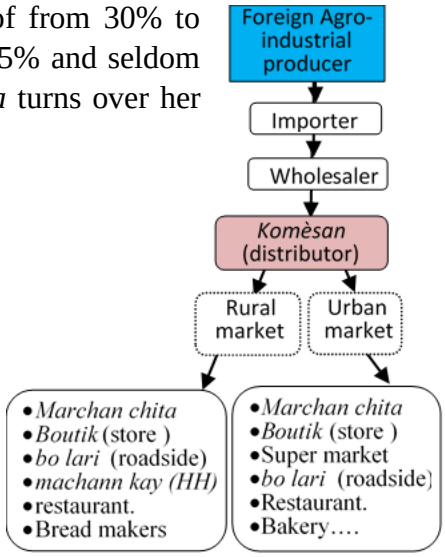


Figure 4: External Market System Chain of Actors
To the right is a diagram of the flow for the import or formal economy market chain. Note that the machan kay (women who sell a particular good out of their home) who deals in imported staples-- such as beans and corn-- does not exist in the urban areas. However, there are marchann kay in both rural and urban areas who specialize is items such as leaf tobacco and other non-staple items.

Figure 5: Import Market System Chain of Actors

The Machann, Credit, and the Inter-relationship between the Internal/Informal and External/Formal Market Systems

Both the *madan sara* and the *komèsan* make use of the *machann*, stationary resellers who sit in markets, by the roadside or who walk and peddle goods—among them fresh beans and corn-- in streets and neighborhoods. Any woman can be a *machann* (seller) and in fact most adult women with children are *machann*. The *machann chita* (sitting seller) or *machann pwomene* (ambulant seller) sells all types of local and imported staples—including beans and maize. She often gets credit from the *madan sara* or *komesan*, but it is the *komesan* who has the greatest access to credit, and gives the longest terms. (It is important to emphasize that this credit operates at the level of sales and does not extend to production).

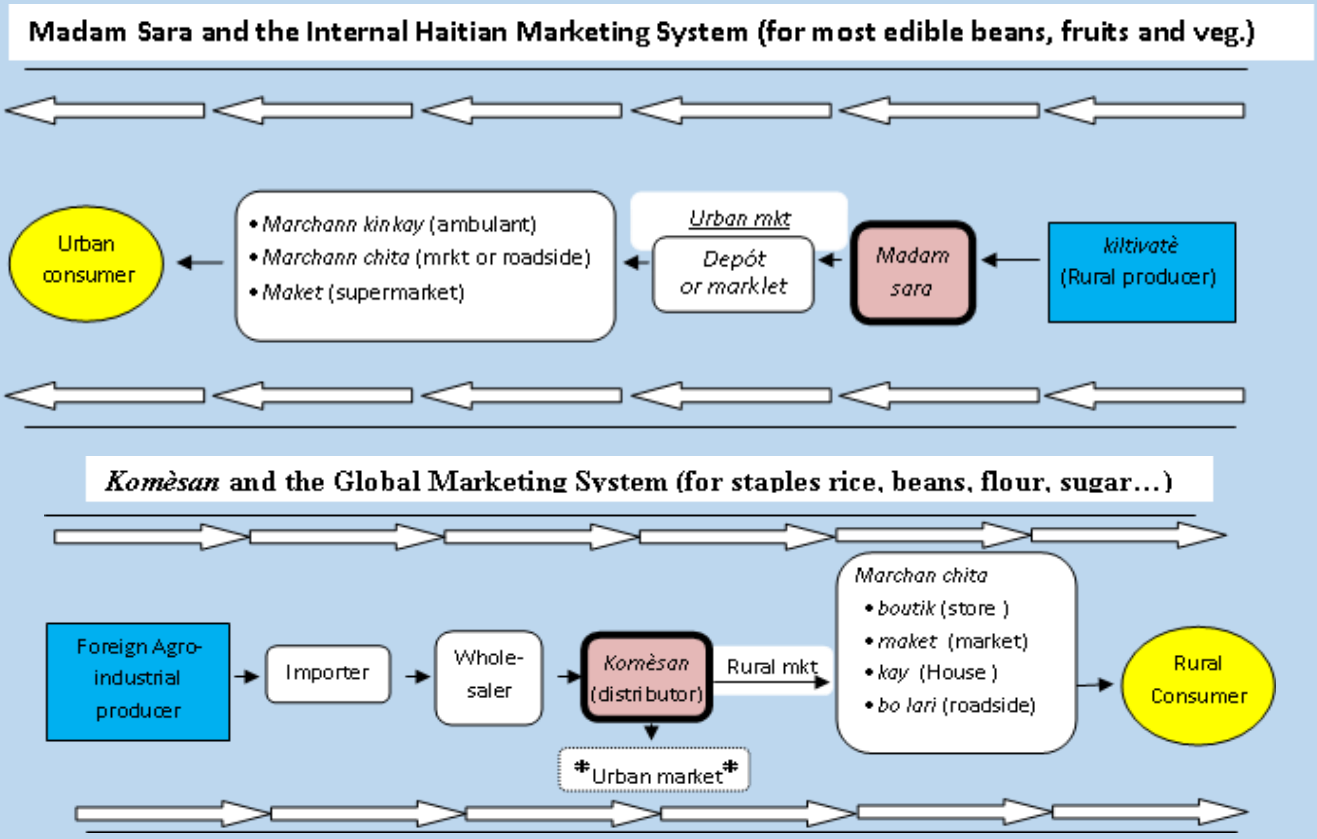
In times of stress, when local produce and cash are scarce, the poorest rural women often turn to credit from the *komesan* and sell imported produce such as beans and maize. In this way, the women fill a vacuum in the market, and act to facilitate and increase the movement and availability of imported staples during times when they are scarce while accessing needed cash for the maintenance and survival of their own families. A drawback of the relationship, however, is that some women take imported produce on credit and then sell it at below cost price so that they can use the money to trade in local produce on the more lucrative internal market chain. In this way they de facto subsidize the commodities of the import market chain (see Textbox 1 on following page).

In summary, the important point to keep in mind regarding the two main market systems is that the chains move in opposite directions: the internal rotating market system is part of an **informal economy** through which local produce moves from rural farm to village, town, and city. In this way, when considering rural producers, cash moves from outside the community to the producers. In contrast, the **formal import channel** is the means by which imports - in the case of this study, beans and maize - enter the country and then move to urban neighborhoods, and then to towns such as Gressier and out into the rural areas. It is also critically important to understand that the principal actors in the two contrary market channels are almost exclusively involved only in their own chain. The *madan sara* primarily trades in domestic produce. The *komesan* primarily trades in imported goods.

The only exception is produce from the Dominican Republic which participates in both economies. Because of the proximity to Haiti and the fact that the Dominican Republic also has dual economies but with a much more developed formal, agro-industrial sector, it means that the country has actors who participate in both sectors. On the one hand **small producers**, some of them expatriate Haitians produce within the informal economic chain, selling to female traders who bring the produce across the border in small lots. On the other hand, there are **major Dominican agro-industrial producers and importers** who sell to heavily capitalized *komesan*, who in turn transport truckloads of staples —among them maize and beans-- into Haiti, store them in warehouses and then market them through the formal economy market channels seen above.

Text Box 1: Dueling Economies

Credit from the *komèsan* in provincial towns can be construed as undermining the *madan sara* and the internal market system. The *komesan* is typically more heavily capitalized than the actors in the informal economy and often has a line of credit from importers or larger *komesan*. The *sara* in need of cash sometimes exploits the credit as a type of loan. She takes the produce - typically rice, beans, corn, sugar, and vegetable oil - but then turns around and sells the sacks of food for less than cost, for she knows that even if she takes the loss, she can use the money to make far more profit trading in the local produce of the internal market system (by a factor, adjusting for time, of about 25 to 1). But what seems like a good deal for the local market agents has a hidden, long term cost to local agriculture production and to the economy of the country. The effect is an artificial price reduction for imported goods because the purchaser can now resell the imported food at a price below the real cost. By doing this, by selling the imported foods at less than cost, the *madan sara* has *de facto* used profits from the Haitian internal market system to subsidize imported US and EU grains--crops that have already been heavily subsidized by their respective overseas governments, not least of all the United States, France, and Canada. To promote local production and place it on a fair playing field with imported subsidized produce—and hence strengthen the local market chain - GOAL can take two actions: 1) get the *komèsan* involved in the purchase of and movement of local produce, and/or 2) intervene on behalf of the impoverished *sara* and local market through provision of credit at reasonably low rates of interest.



Gender and The Prominent Role of Women in Intermediary Wholesale Redistribution

In the informal internal market system, the primary wholesale intermediary is the *madan sara*, all of whom are women. In the formal system the principal wholesale intermediary is the *komesan*, whom are all female at the bottom rungs but become increasingly male as one approaches the highest level of merchants and importers. At the highest levels more than 90% of *komesan* are male. Thus, the struggle between the formal and informal markets discussed above can be conceptualized, at least in part, as divided along lines of gender.

Table 2: Sexual division of labor

Task	Gender	
	Male	Female
Manage hh budget	*	*****
Purchase food	*	*****
Housework	*	*****
Home cooking	*	*****
Childcare	*	*****
Carry water	*	*****
Harvest crops	**	****
Plant crops	***	***
Tend livestock	****	**
Prep & weed	****	**
Sell produce	*	*****
Sell livestock	**	****
Other commerce	*	*****
Charcoal making	******	
Charcoal vending		******

Another important fact regarding gender is that in the informal internal market system the gender differentiated movement of goods into the market actually begins at the household level. Household labor tasks and responsibilities in rural Gressier are partitioned along the axis of gender. Women may work and even exclusively own a garden but the prevailing pattern is that, when present, men work gardens and tend livestock. Men are often thought of as the owner of a garden, but only in the sense that they dominate that stage of production. They plant the garden in the name of a woman, her children and the household. The woman is thought of as the owner of the produce from that garden (but, in the name of the household). And it is overwhelmingly the woman's responsibility to harvest, process, and sell that produce. [v]

The patterns of female management of funds are so strong that single male headed households essentially do not exist. Surveys typically find about 8% of households in Haiti are single male headed households vs. 27% of single female headed households (see CARE's 201 survey for neighboring Leogane). The single male headed households tend to be anomalies comprised of older widowers and, even more commonly, young pre-wed bachelors. Congruently, they have an average of only 3 members. In contrast, the single female headed households have an average of 5.4 members, higher even than the overall population average of 5.2 members per household.

This gender dimensions introduces yet another point that GOAL should be aware of when attempting to intervene in the market chains. Women control sales of household produce. It is the woman who takes it to market where they sell it either to another woman, either a *madan sara*, *revande* or *machann*. Even in the event the woman is selling produce of the household, after the produce is sold the woman typically manages the money for the household, rolling the money over in other trading activities and spending it on household food to make meals and other expenses as they arise.

This means that women operate and benefit from sales at multiple levels of the internal market chain. Men who would otherwise like to control the proceeds from sale of household produce are impeded by female domination of the internal market system. A man who tries to sell produce in the market will be ridiculed by members of both sexes. It is arguably this control of the market and household income that gives rural Haitian women a

remarkable level of autonomy and independence vis a vis men, something that makes rural Haitian society as or more egalitarian than any society in Western Hemisphere, if not the world. This point about the autonomy and power of women in rural Haiti is not here elaborated but it is critically important for Goal to understand. Anthropologists working Haiti have extensively noted and documented female prominence among the Haitian popular classes. It is also well documented in the highly regarded Demographic and Health Surveys (see EMMUS 2005-06; 2012). But donation seeking NGOs and grassroots organizations have so obscured, twisted and exaggerated the data that most NGOs have assumed the opposite, that Haitian lower-income women are among the most repressed women on the planet (for a review see Schwartz 2013).

Ironically, when NGOs enter the market chain they have often in the past intruded into female monopoly of the internal market system. The main instrument of NGOs is the *asosyasyon* of producers (essentially the equivalent of the "cooperative" in the US). NGOs use *asosyasyon* to conduct seminars, educate, create tree nurseries, and distribute tools. Organization membership tends to be predominately male. In rural Haiti men overwhelmingly dominate political and leadership positions. Congruently, they are expected to and do dominate *asosyasyon*. But these organizations tend to also serve as mechanisms for the aggregation and resale of produce. What this means is that they impinge on the economic domain of women and offer men a means to expropriate control of produce and, by corollary, the household budget. To promote female participation, NGOs typically impose *asosyasyon* membership quotas of 30% to 50%. But when the *asosyasyon* is dealing with the commercialization of household production this is tantamount to imposing quotas of 50% to 70% for male participation in a female economic activity. In planning any market interventions, Goal should be sensitive to this threat to female economic hegemony in the domestic economy.

Pre-crisis mapping of the beans and maize markets

The market maps on the following pages illustrate the two different market systems. There is the External/Formal Market System that, among other goods, deals with the *importation* and *distribution* of beans and maize on the local market. And there is the Internal/Informal Market System that, among other goods, deals with the *production* and *redistribution* of beans and maize on the local market.

The two chains are almost entirely distinct. Only in the case of importation from the Dominican Republic do they appear to merge. Even in this case, however, as discussed earlier on and again with the informal sector map seen shortly, what we are really seeing is both formal and informal market chains reaching into and emanating from the neighboring Dominican Republic.

The chains not only represent the flow of beans, they illustrate a **flow of revenue**. In the case of beans and corn produced in Gressier and sold on the internal market system, they represent the in-flow of cash exchanged for the maize and beans. For this reason the informal sector map is illustrated as flowing contrary to the direction in which beans and corns are trading, i.e. it is illustrating the flow of cash to local producers. This reflects the strong market orientation of Gressier peasant producers and the conclusion that, for livelihood security, cash from the production of beans and maize is more important than the proportion of these products consumed by households. In the case of imported maize and beans illustrated in the formal sector map, it is

the nutritional value of these staples, particularly beans, that is being emphasized and hence they represent inflow of beans and maize. It should, however, be borne in mind that the inflow of beans and maize corresponds to an *out-flow* of cash paid for those staples.

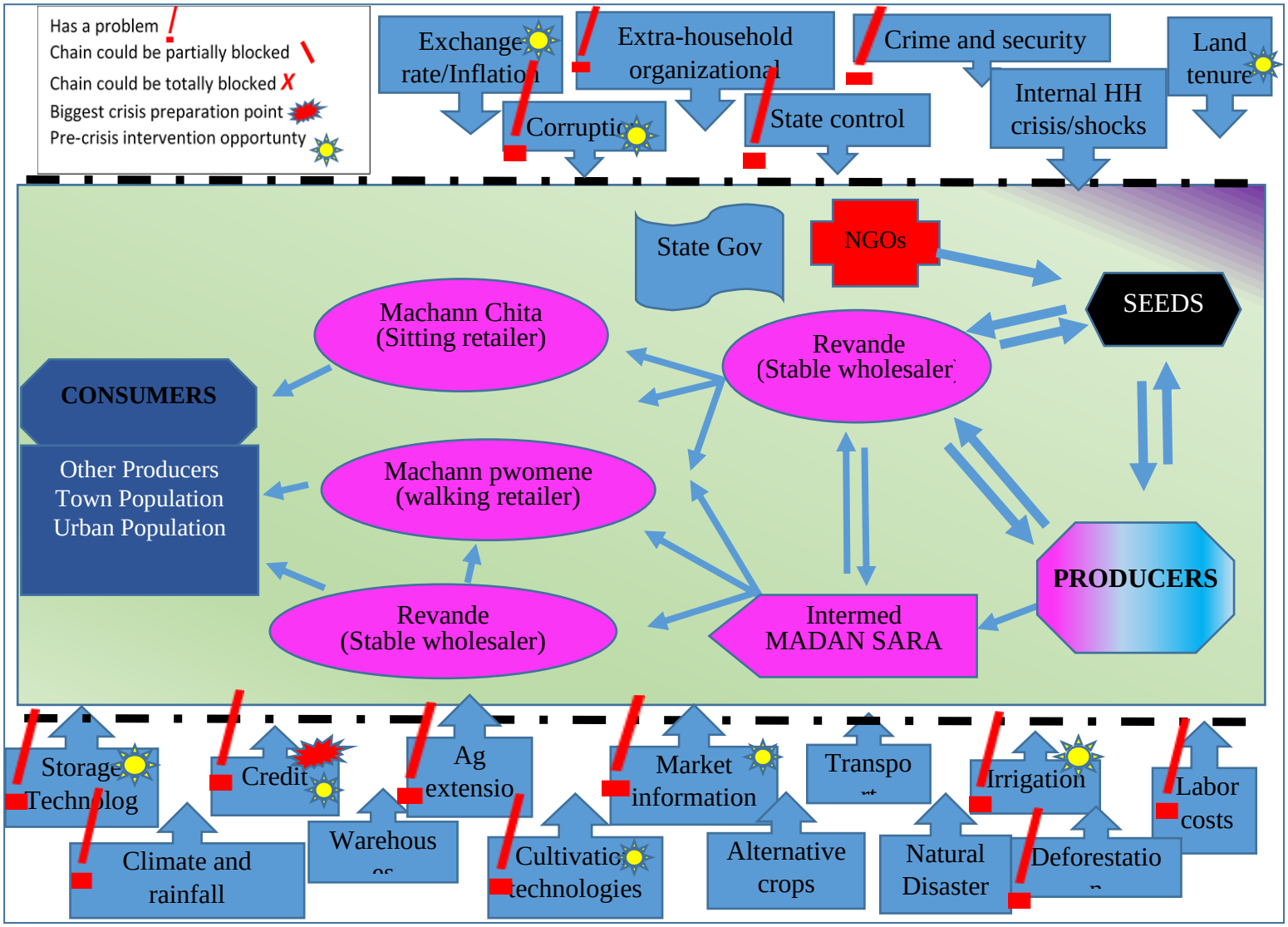
A gender dimension is incorporated into the maps in the form of color. Pink represents the prevalence of women in a particular market role and blue represents male activity. The map backgrounds are also colored in purple (for the formal sector) and green (for the informal sector). The extent of the coloring represents the extent to which respective areas of each market chain are dominated by this formal/informal dimension.

Above each map the enabling environment presents the rules, regulations and other social constructs that facilitate or inhibit production and market. The enabling environment can also be thought of as 'social-structural' or 'regulatory' components and influences in the sense they are ideational, political, or social. Beneath the maps are the supporting services and available inputs, or what can alternatively be thought of as 'infrastructural' components and influences in the sense that they are material. These include roads, pesticides, fertilizers, extension services, and market information systems. The maps are highlighted with the codes present in the legend on the upper left-hand corner of the map. These codes illustrate existing problems (*!*), threats to the market chain that could come with drought (partial (\) and total (*X*), opportunities for pre-crisis intervention of the chain  and the most significant points where interventions can be made when drought does strike 

Internal/Informal Market Map

In the Informal/Internal market map there are few of the expected (\) and (*X*) that would indicate market blockages and crisis. The reason is because rural Gressier farmers and even those non-farmers in the town of Gressier can be understood as adapted to a constant state of crisis. As discussed earlier on, drought, crop devastating storms, blight, economic, political or military crisis have been near constant features of the economy for at least the past 225 years. The system is always in a state of crisis or in pre-crisis preparation. Underscoring the adaption to crisis that despite a near 50 year bombardment from NGOs working throughout Haiti and introducing new cropping techniques and crops, Gressien farmers cultivate the same aboriginal plants cultivated by the Taino Indians who inhabited Gressier before the Spanish Arrived 500 years ago: The list begins with common beans and corn that are the subject of this study and extends to almost every major survival crop in Gresser: manioc, sweet potatoes peanuts, pumpkin and the most important ingredient in weaning formulas, Arrow Root. To this collection, Gressien ancestors long ago added the most drought resistant crops from the old world: yam, congo beans, okra millet and sorghum.

Figure 5: Internal/Informal Market System



Internal/Informal Market Chain Explanation for Enabling and Supporting Environment

Informal maize and Bean facts: Farmers in Gressier plant at least five different types of beans. The premier bean cash crops are black, red and white beans, all variations of the same 'common bean' (*Phaseolus vulgaris*) known in English as black turtle bean, string bean, field bean, garden bean, green bean, or snap bean. In Gressier they grow as bushy plants and are short season crops—2.5 to 3 months—that need abundant rain or irrigation to survive and yield. They all harvest at the same time when, as Gressiens say, they *rache pwa* –pull up the beans by their roots. A fourth bean is *pwa koni* or alternatively, *pwa inkoni* (literally "unknown beans"), in English known as Black-Eyed Peas or Cow Peas (*vigna sinensis*). They grow on vines, yield year round, grow almost anywhere and are highly drought and pest resistant. There are at least three types of *pwa inkoni* in Gressier and, according to agronomists at Gressier's Christianville Mission, their protein content is comparable to Soy. A fifth bean are *pwa kongo*. In English Congo Beans or Pigeon Peas (*Ca janus indicus*). Also high in protein, Congo Beans are similar to Black Eyed Peas in that they are drought and pest resistant, they yield for 4 to 5 months a year and live for four to five years. Although as with all crops, farmers sell them in the market as much or more than they consume them, the unique traits of Black Eyed Peas and Congo Beans mean they are subsistence-oriented, survival-type crops that compliment other hardy, drought resistant crops seen earlier (Manioc, Yam, Sugar Cane, Sweet Potatoes), those critical to the Gressier farming strategy of prioritizing, not profits, but risk management through diversity in order to assure survival. In contrast Black, Red, and White beans can be thought of windfall crops that bring in large amounts of cash at one harvest. Maize is less varied and less important than Beans, both nutritionally and as a cash. However, it is a major crop; and as long as it has rain, it grows anywhere and in any soil. Gressiens prefer short 2.5 to 3 month varieties. As with black, red and white beans, maize is harvested all at once or within the same few weeks. Gressiens store maize more readily than beans, hanging it to dry on the cob. As with all the bean varieties mentioned, even if maize fails to yield because of drought, stalks and leaves make good fodder for animals.

Crime and Security: Mentioned earlier, Gressiens suffer significant losses because of increased banditry in urban markets. A case in point is that Port-au-Prince's main market, Bossal, is controlled by bandits who levy informal taxes over marketers and sometimes rob them. The situation is such that over the past months the Haitian Newspaper Novelliste has reported on a turf war between rival gangs vying for control over the market: 30 people have reportedly been murdered over the span of one month. Many gunned down in public. Most women interviewed during the course of the research said that they would no longer travel to Port-au-Prince or Carrefour to sell produce, resulting in losses as high as 50% on sale of locally produced beans and corn.

Exchange rate/Inflation: The exchange and inflation rate have a much greater and inimical impact in terms of the external/formal market chain and imports to be discussed in the next section. Gressiens are heavily dependent on imported bean and corn. When local currency depreciates the cost to Gressiens for imported staples rises. Underscoring the impact that rising prices—and by corollary, inflation and devaluation-- 70% of respondents in the 2007 CNSA survey reported the most common shock to the household livelihood security was rising food

price. In comparison, 64% cited storms and 55% cited drought as the most common shocks. The shock of rising cost of imported food is especially hard on rural Gressiens who are far less likely to be recipients of remittances from family overseas. In contrast to the import market chain, locally produced maize and beans offer a buffer against depreciation of the Haitian Gourde vis a vis the US Dollar. They are produced locally and therefore fixed to local prices in rural areas. Yet, when the urban prices for stables rises with the rising cost of imports, farmers have the option of consuming stock and they can also sell their staples at lower but still increasing prices to more quickly adapt and recuperate lost income that comes about from the lag in currency value seen earlier.

Extra-household organizational structure: For people living in rural Gressier the household is the single most important structure around which labor is organized, it is also the single most important and arguably the only true social security mechanism for farmers. There are only two notable trends to the near total absence of non-religious supra-household organizational units,

- Reciprocal labor groups -- called *kwadi* by Gressiens, teams composed of men and sometimes women who work on one another gardens and sometimes sell their agricultural labor services to other farmers.
- Cooperatives and associations—almost entirely induced by the opportunity to capture donor funds, i.e. are the consequences of intervention from international organizations (see Formal Economy list for Enabling environment features)

Reciprocal labor groups are a local organization that receives little to no attention from NGOs. The *asosyasyon* however gets a great deal of attention, is very likely to be an entity with which Goal engages in its attempt to promote pre-crisis intervention, and has a history about which Goal should be aware. The Haitian economy has shifted in the past 40 years from an economy where upper level entrepreneurs were engaged principally in farming, commerce, and exports to one almost entirely dependent on foreign aid. The shift is massive, and the transformation such that the rural leadership of big land and livestock owners and exporters in the 1950s and 1960s got supplanted during the 1970s, 1980s and 1990s by evangelical preachers, orphanage owners and school directors, all supported by charity funds from overseas and vying to be custodians of food aid, free medicines and used cloths, most of which wind up getting sold on the local market. This shift to an economic hegemony favoring aid has been accompanied by an emerging culture of aid entrepreneurism. Among the purest and most common embodiments of that aid entrepreneurism is the *asosyasyon* (cooperative). As early as 1986 White and Smucker (1986: 109) described them as "project oriented" and trying to "capture" aid. Kaufman (1996:10) concluded that they "frequently are formed in response to community development programs and remain, to a significant extent, 'groups of symbolic participation'". And while trying to defend them, Jennie Smith (2001) admitted that they are "plagued with corruption, mismanagement and other problems." Research in Gressier suggests that the aid accountability 'problem' and associations is as significant as elsewhere in Haiti. Indeed, the inundation of assistance that came with the 2010 earthquake and Gressier's close geographic proximity to Leogane—ground zero of the earthquake and subsequent host to more than 50 NGOs and international aid organizations—suggests the problem might be worse and that GOAL should be vigilante in dealing with *asosyasyon* leadership. The link of the *asosyasyon* with development and outside aid is evident

in Gressier. The irrigation canals that have not been cleaned in three years fall under the responsibility of an *asosyasyon* of land owners, i.e. those who own the irrigated land bordering the canals. But they have not cleaned their canals in in three years because no one has paid them to it. Traditionally the mayor's office was cited as responsible for the task but those interviewed during the course of the research report that the initiative and money have in the past come from NGOs. This particular association is currently defunct and, when asked why, members said something one hears constantly in rural Haiti, '*pa gen ankadreman*' ("no one supports them") i.e. 'do not pay us and we will not clean our own irrigations canals.' Any pre-crisis, crisis, or post crisis interventions Goal makes in Gressier will likely be done in collaboration with some form of local organization all of which the locals will by default refer to as an *asosyasyon.* The tried and true strategy of keeping *asosyasyon* leadership honest and focused on membership needs—rather than only the needs of the leadership and their family, friends and clients—is transparency. And the tried and true means of maintaining transparency is for Goal to use strategies that cultivate a relationship with the membership (in contrast to only dealing with the leader). In the recommendations to come, rather than plugging into existing but defunct *asosyasyon*, it would behoove Goal to create new Producer Business Groups that operate more along the lines of ownership and profits and that are responsive to Goal. And for Goal to inform and work with new organizations membership as much as the leadership.

State control: Weak State and weak law enforcement and community organization impinge on maize and bean production and market at two notable junctures. In the production section of the market chain, there are frequent conflicts between bean and maize farmers and farmers who are more dependent on livestock rearing. Free ranging livestock raid and sometimes destroy gardens. The consultant heard frequent complaints that livestock owners themselves would opportunistically harvest fodder to feed their livestock from gardens that did not belong to them. Complaints invariably focused on maize to such an extent that several respondents complained that one could no longer plant corn, i.e. because livestock owners harvest it all. The same is not true for beans, which make bitter fodder that is less attractive to livestock and that are deemed too valuable to risk a conflict with the owner of the garden. Notable in regard to discussion above about shifting patterns of leadership and the incursion of the aid industry are that complaints about the lack of recourse to redemption for wayward livestock focused on the migration and disappearance of powerful and invested local *notab*—community leaders to whom in the past complainants could seek to redress grievances. Weak State authority also impinges on the trade in local beans because of crime in the principal urban markets seen earlier.

Corruption: Jobs as state extension agents for the ministry of agricultural are given as a type of patronage, which is common throughout Haiti and something that the local representative for the Ministry of Agricultural re-affirmed is the prevailing pattern in Gressier. Just as importantly, what can only be called a culture of corruption among NGO workers and culture of aid capture among association/cooperative leadership and beneficiaries renders inert much of the assistance targeted to benefit farmers.

Storage technology: Lack of conservation technology for seeds—silos, pesticides, temperature controlled storage rooms—means that farmers overwhelmingly sell or consume beans and, to a lesser extent their maize harvest (more often than beans conserved as seed). As seen earlier, the

market and cash from sales acts as mechanisms of storage. Gressiens sell their produce. When the planting season comes they purchase seed. The availability of seed has traditional been made possible by differential montane seasons as well as imported seed from elsewhere in Haiti where seasons are complementary to Gressier. Nevertheless, because of the rise and fall in supply and demand, the price of bean seed stock tends to vary between harvest and planting season by a factor of two to three; meaning that it doubles and triples in prices between harvest, when farmers sell, and planting time, when the farmers are buying. This makes planting beans and maize costly. Seeds from the Dominican Republic and the US are alternatives, except that those interviewed during the course of the study report that this imported has much lower germination rates. Provision of seed is a critical pre-crisis and crisis intervention point discussed in the recommendations.

Climate and rainfall: Patterns of rain have been particularly problematic over the past three years. Riverbeds are lower than usual. This means less bean have been planted. The present year has been especially dry. High rainfall and humidity also impact storage of seed. When humidity is high or seed gets wet, they sprout in storage, thereby going to waste.

Land tenure system: Academics have often debunked the myth of peasant land insecurity in Haiti (Murray 1977, 1978a, 1978b, 1979; Locher 1988; Bloch et al. 1988; McClain et al. 1988; White and Runge 1994, 1995; Smucker et. al. 2000). Peasant farmers in Gressier feel secure about their rights to ownership. There is also a vigorous sharecropping system that makes land available to those peasants who do not have land or who want to access and farm additional land. This is a significant opportunity in terms of promoting pre- and post-crisis bean and corn production. It means that the land tenure system is elastic: if there is more seed more people will plant beans and corn, whether on their own property or land accessed through sharecropping arrangements. This is juncture at which Goal can intervene to promote increased investment in beans from farmers but also investment from formal sector *komesan.*

Availability and cost of labor: During planting season Gressien farmers must prepare fields, accomplishing a large amount of work, and they must do it in a short period of time lest they lose the advantage of seasonal rains. One way that farmers have dealt with the temporary spike in labor demand is through the reciprocal labor groups seen earlier. But procuring labor is persistent challenge for Gressien farmers, particularly in planting water-needy beans and corn that must be planted with the first rains. Helping farmers resolve the labor shortage with labor saving devices, such as roto-tillers mentioned below, is point of intervention elaborated in the recommendations.

Cultivation technology: On Gressier plain a tractor is available for rent. Few farmers use it. There are no animal drawn plows. Gressier farmers typically use hoes and machetes for soil preparation and weeding. However, there is demand for alternative plow technology. As mentioned in the previous feature on availability and cost of labor, farmers experience a labor crunch during planting season. A potential point of interventions is provision of mechanized, hand driven “roto tillers”, something successfully introduces on Haiti’s Artibonite flood plain.

Credit: Credit is particularly important at the production level regarding seeds and as the harvest approaches. As seen, almost all producers purchase rather than conserve bean seed and, to a lesser degree, maize seed for planting. Because of the high cost of seeds during planting season

and the general scarcity of cash, this inhibits planting. The worse the prior season, the scarcer the cash, and the more difficulty farmers have in purchasing seed. The Ministry of Agriculture usually gives seed to farmers under the condition they give back an equal or slightly greater quantity of seed. However, according to the Ministry of Agriculture representative who has held his Gressier post for 9 years, they never reach more than 5% of those farmers who would like to participate. The seed is also given largely as patronage. This is a popular program that when discussing the appeal of different interventions most farmers spontaneously recommended. [3]

Alternative crops/opportunity costs: The alternative to costly beans and rain-dependent corn that often gets raided by livestock owners is to plant less-costly survival crops—manioc, yam, sweet potatoes, pigeon peas, okra--that have the advantage of being drought and pest resistant and assuring steady income over longer period of time thereby providing a more secure source of food. However, regarding points of intervention, farmers already plant these crops, they do for low costs, and these crops do not hold the promise of large and relatively rapid income that farmers get from beans.

Market information: It remains unclear to what extent market information is a problem in Gressier. Word of mouth, the vibrant internal market system with itinerant female trader who carry information on prices as well as goods, all complemented by the recent revolution in cell phone means that there is a significant flow of information through informal channels. Nevertheless, in reaching out to the population with information about projects, info-mercials about crops, warnings, or bids for work, radio was widely cited among those interviewed as the most effective media.

Deforestation: The massive removal of forest cover, particularly on the hillside has given way to hillside erosion. An additional problem is the massive and ongoing removal of rock form river beds—destined for construction in Port-au-Prince. The consequence is soil loss, gully erosion, and landslides. Although not a point of market intervention, all are significant problems that can be addressed through extension service activities.

Pesticide and fertilizers: According to Gressien farmers interviewed, fertilizer and pesticides are rarely purchased. And if we generalize from national surveys, we can infer that less than 5% of them use any type of fertilizer or pesticide (Verner 2008:20). However, they recognize and lament the utility of fertilizer, particularly with respect to corn and availability of inputs on credit could be linked to a seed credit/bank program.

Irrigation: There are only 40 hectares of irrigated land in Gressier. Most of this land borders the river and is subject to flooding. As mentioned elsewhere, reportedly for lack of outside aid, the irrigation canals have not been cleaned for three years and are plugged with dirt and debris. It is difficult to see why Goal should assist the least poor of the poor Gressien farmers to clean their

[3] Another potential point of intervention is that farmers in need of cash sometimes sell the harvest at a prior to harvest. When they do so they sell the beans or corn at a discount. Regarding the sale of beans at the distributive end of the value chain, large *revande* and *madan sara* often give short-term credit for resales. No intervention can or should be made at that point.

own canals when a) they are uninclined to do it themselves and b) there are 1,000s of other less fortunate farmers who could benefit from assistance.

Agricultural extension services: As seen above, the Ministry of agriculture system of extension services is non-functional. The only services that exist are those provided by Christianville—to its own projects (mainly poultry) and those provided to by ITECA in livestock rearing. These are not purely market interventions. Nevertheless, they are important points at which Goal could intervene to help farmers combat the impact of deforestation and erosion (erosion walls and hillside cropping strategies).

Transport: Transport is arguably not a significant issue. Gressier producers deal in small quantities of beans and corn, easily transported by porter, pack animal, or motorcycle. Proximity to urban markets and to the national highway means that truck transport is readily available.

Warehouses: In the informal sector, internal market female traders use town and urban warehouses to temporary store produce, as places to sleep, and as points of sale to other *machann*. They pay the owners per day for use of space.

Internal/Informal Sector Recommendations for Actions

Program Recommendation: Seed 'credit/bank' based on the provision of appropriate short season seeds to farmers at planting time.

- The seeds should be provided on credit with the stipulation of a 20% return (i.e. for every 5 *mammit* of seed, the farmer must return 6 *mammit.*)
- Insurance component: in the event of low rainfall and estimated crop yields 40% or more below average, the loan is forgiven (adjusted where appropriate, for example farmers with irrigated land that has not lost access to water during the season must repay seed loan).
- Accountability component: Program should be launched through newly created Producer Business Groups in which farmers use the Grameen loan model: seed is loaned to groups of five farmers who are mutually responsible for repaying the seed loan. Members of group that do not repay seed loan are excluded from the program until they repay.
- Government component: Program should be executed in conjunction with the local AZEK and BAC (Ministry of Agricultural representatives), but only as partners and guarantors of the programs, not as recipients of aid, custodians of aid, nor as selectors of beneficiaries.

Benefits of the program are that:

- Encourages all farmers to plant beans on appropriate land.
- Creates positive pressure for farmers to exploit fallow fields, including through sharecropping arrangements. This increases income to multiple beneficiaries: poorest sharecroppers and those with land.
- Creates a positive environment and opportunity for formal sector *komesan* to invest in production and informal sector produce
- If local government is included, reinforces local government institutions and builds capacity.
- Reinforces NGO accountability: Could work to mitigate the impact of irresponsible development in the past, promote local production.

- After program is functioning, there is a possibility for linking the program to pre-harvest loans—loans given on expected crop, so that farmers do not have to sell harvest at discounted prices.

Secondary immediate points of intervention are soil preparations through provision of roto-tillers (either rented or gifted to organizations).

Program Recommendation: Roto-Tiller rental

- Purchase and rental of 30 roto tillers
- Rented to seed bank borrowers
- Associated with a program of basic instruction in mechanics and the roto-tiller repair
- Implemented through the Producer Business Group and/or private sector and linked to seed credit/bank initiative

Benefits of the program are that:

- Overcomes intensified labor shortage that will come with increased planting of beans.
- Initiates a micro-mechanization of agricultural that is currently non-existent in Gressier but recently made possible by low-cost Chinese made motor-powered plows and other tools (a type of revolution already seen in the transport sector with motorcycles and in the communication sector with cell phones).
- Could provide additional source of income to support seed credit/bank

The complications afflicting producers are also aggravated by more remote influences: erosion, soil exhaustion, negative impact of aid on local markets and organizational structure, as well as massive out migration. More immediate points of intervention regarding beans and maize are informal market chain are security/crime at urban sales point, conflicts between local farmers and livestock owners, something that has particularly impact on productions, availability and cost of seed, especially bean seed. Goal can participate in encouraging and instructing farmers to deal with these problems. However, they should be secondary to the concrete and reasonably achievable interventions discussed above. Whatever Goal does, it should avoid the common NGO temptation to do everything, lest it accomplishes nothing at all.

External/Formal Market Map

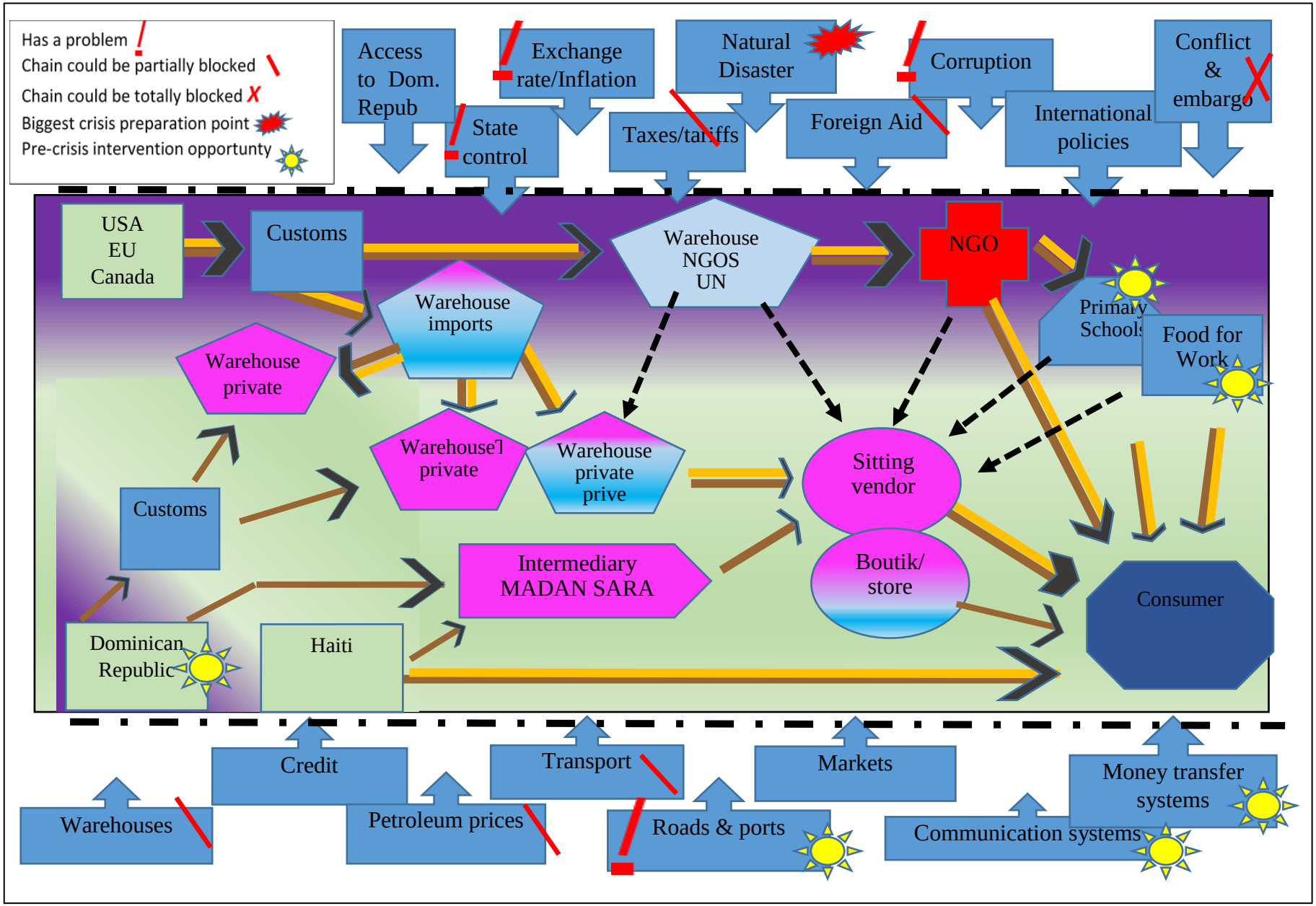
The role of the external/formal market is as important to pre-drought and crisis level drought interventions as that of the local market. The is true because imports have become the primary source of food for people living in Gressier town and a major source for farmers as well.

It should also be born in mind some critiques have convincingly argued food relief itself has had an inimical impact on the capacity of rural Haitians to adapt to crisis. As the argument goes, food aid delivered with almost no regard for local harvest seasons has crashed Haitian agricultural markets and weakened the Haitian farming family's capacity to produce food for themselves and the domestic economy; some have argued drove many Haitian farmers into near stone age subsistence strategies. Critiques of poorly implemented aid extend to inimical impacts on the state, grassroots organizations, and the disposition of beneficiaries to sincerely interact with the program, all points touched on earlier and elaborated in the analysis below.[4]

The External market map focuses on the market chain for the importation and distribution of staples, including corn and beans. Several issues that were left out of the informal/import market chain are included in the external/formal market map; specifically, Taxes/Tariffs, Conflict and Political Unrest, and Ports. Taxes/tariffs were not considered in the informal market map because while they exist at the import level and while some taxes are levied on sale of local produce in markets (by taxing rights to sell in the markets), they have little bearing on local production. However, they have a major bearing on the external/import sector. Conflict and political unrest were also not critical regarding the local markets as traders are able to work through or around the problems. With respect to the external/formal market chains, conflict and political unrest can shut imports down all together. Ports were important to domestic production only in the sense that they might lower the price of imports and create a level of competition. However, they are important with regard to the external/import sector, albeit Haitian formal sector traders (*komesan*) have adapted informal mechanisms to work around infrastructural port crises or blockages.

[4] No longer controversial, Bill Clinton apologized for his role in promoting the importation of inexpensive and subsidized US produce. The US State Department, WFP, and many NGOs (CARE International and OXFAM being two notable examples) have since changed their policies toward developing countries such as Haiti and adopted policies of Food Sovereignty (capacity to produce and sustain the Haitian population) independently of the world market (see CARE International 2006 US State Department 2006; WFP Strategic Plan 2008 – 2013; Oxfam International 11 April 2005).

Figure 6: External/Formal Market System



External/Formal Market Chain Explanation for Enabling and Supporting Environment

External/Formal Sector Corn and bean facts: as seen earlier on in the report, maize is one of the main three cereal staples consumed in both rural and urban Gressier. A typical household eats maize one to several times per week. Barbequed maize is also a popular street food. Bean are arguably the most important source of protein—if for no other reason than their low price vis a vis fish and meat and the scarcity of milk and cheese. Considered the most stable ingredient in the main midday meal, they are eaten every day by the entire population. Sold in *boutik* (small mom-n-pop stores found through urban neighborhoods and rural area, and by female *machann* in markets, by roadsides and out of homes. At least 60% of all beans are agro-industrial products imported from the US and the Dominican Republic. An important flow of artisanal beans also from the Dominican Republic, trading through the border crossing at Mal Pass (~80 km from Gressier) and to Croix de Bouquet on the far side of Port-au-Prince (from Gressier) and to the major Bossal market in lower Port-au-Prince. Alternatively, artisanal beans are shipped on wood transport vessels from the border town of Pedernales/Anse Pitre to the port of Jacmel and then transported by truck to Leogan, Gressier and the important Port-au-Prince Markets of Carrefour, and Bossal. It is in these latter urban markets that most Gressier *komesan* make their bulk purchases. The most popular bean type is black beans. Gressiens consider them more nutritious, they are physically harder and store better. Other common imported beans are pinto bean (known as *pwa Miami*, literally "Miami beans"). Maize is also imported, typically in the form of milled corn. Virtually all Gressien feed stores and makers of feed purchase all their maize from the Dominican Republic.

State Control: The Haitian State is weak and its influence almost non-existent in many areas. This has a particularly strong impact on security. As seen, banditry and gang activity in Bossal and Carrefour markets have led to a general boycott of these markets by Gressien market women and corresponding loss of income form beans and corn, i.e. the women no longer risk traveling and selling in these markets, the most lucrative outlets for local produce and, in the case of the external/formal market, a place where they can purchase imported staples such as bean and corn at a 5% to 10% less than in Gressier.

Taxes/tariffs: Despite the lack of state control, beans and maize are taxed at the border and at the port. Specifically, the taxes on beans are 15% import duties and additional taxes of 8% + 10% TCA (Sales Taxes), for a total of 33% on the value of the beans. Maize is 10 % import duties and additional 8% + 10 % TCA (Sales taxes) for a total of 28% of value. However, powerful merchants and those with connections to state officials are able to circumvent taxes through bribery and favoritism. This translates to the capacity to earn profits while selling the staples at prices that for other importers exceeds costs i.e. because they have to pay taxes. The circumvention of taxes is likely related to imported beans and maize tending to remain just below the market price of local counterparts--with the exception of harvest season prices for green produce in the rural areas.

Access to Dominican Republic: A substantial quantity of beans and maize are produced by Haitians on the Dominican side of the border. Dominican farmers in the border region have been migrating in mass to cities and overseas. But they maintain farms by inviting impoverished

Haitian farmers to cross the border and act as caretakers in a type of semi-serf relationship. An important and attractive advantage for the Haitians is that they get access to garden plots where they can produce beans and corn. Dominicans agro-entrepreneurs often underwrite the costs of seeds, labor, fertilizers and pesticides in exchange for half of the harvest. This is a massive and little reported source of beans and maize that enters Haiti. As mentioned earlier on, these beans are traded through the informal market channel *madan sara* and *machann* seen in the next map. However, the trade is included in the formal economy import map because they are technically imports. They are subject to a type of informal tax in that during harvest season low ranking Dominican soldiers guard trails along the border and take a portion of the harvests or payments for safe passage.

Corruption: As seen in the previous discussion of corrupt customs officials, the weak Haitian State, patronage and opportunities for personal gain at the expense of the State creates a turbulent and unpredictable business environment in which those unfamiliar with the system cannot compete. However, corruption also occurs with regard to foreign aid. Most Haiti primary schools are currently involved in USAID and WFP school feeding programs. Although it may be politically inexpedient to admit, for Haitians and those working inside the system it is common knowledge that vast quantities of the food get embezzled and sold on the local market. The essentially cost free food competes with other imported foods. The same aid 'leakage' occurs in cases of crisis. The extent and impact of embezzled foreign aid should not be gainsaid. In any given year food aid amounts to as much as 5% to 10% of all nutritional needs for the entire Haiti population. As much as 50% or more of this food may get embezzled. Although not the same as corruption, aid given on food for work programs or given to the Haitian government and aid programs and monetized through the government Bureau of Monetization (BDM) also has an impact on prices. For example, Haiti's Moulin's d'Haiti, a former State monopoly—now privatized—has annually received an average of US$5 million worth of US wheat at 70% of international commodity price. Beans and corn are also staples commonly monetized on the domestic market.

Natural Disasters: Interventions that focus at the market level should be tempered by robustness of both the informal and formal market sector. The informal market system readily functions as a surrogate for the formal sector, a pattern concretized in circumventing embargoes, military and political crises. Two notable examples are the 1991-1994 international embargo. Intended to shut down all non-humanitarian imports, and the 2010 earthquake that destroyed the Haitian port. In the case of the embargo, importers simply re-routed imports through the Dominican Republic. In the case of the earthquake, notwithstanding the international community's condemnation of the port and subsequent inundation of the country with surplus food aid from government donors, local importers claim to have effectively implemented a provisional port within four days of the disaster.

Foreign Aid: Similar to its impact on natural disaster preparedness, foreign aid has a massive impact on the formal-economy of bean and maize markets. As seen, this is the case in terms of both indiscriminately distributed food aid and associations and the capture of aid (see Extra-Household Organizational Structure on page 17 of this document).

International policies: International policies regarding food imports have a tremendous effect on the Gressier bean and maize markets, most notably through subsidized exports. For example, US subsidies on maize and bean average as much as 30% in any given year, enabling importers to overcome the Haitian taxes meant to give local staples an advantage.

Cost of petroleum and international commodity prices: The impact of international petroleum prices is best illustrated by the 2008 food crisis when the cost of staples such as imported beans and maize doubled. Food riots in Port-au-Prince followed. The impact and frustration among the population was foreshadowed by CNSA survey respondents in year 2007 when 70% of respondents identified rising food prices as the top shock their household suffered in the preceding year (see Table N1 in the endnotes). As seen earlier, in comparison, 64% cited storms and 55% cited drought as the most common shocks. The lesson here is that while drought might be a problem it is by no means the most severe crisis confronting rural Haitians and, by corollary, Gressiens. As reported in the CNSA survey, by far the *most severe shock* the household had suffered the preceding year was internal to the household. Specifically, 31% of respondents cited disease or accident suffered by a family member as the most severe shock and 12% cited death of a household members. In contrast, 11% cited storms, 10% cited increasing food prices, only 5% cited drought, and a mere 2% cited irregular rainfall.[vi]

Exchange rate/Inflation: Similar to international commodity prices, the currency exchange rate and inflation have had a critical and longstanding impact on bean and maize producers in rural Gressier. Beginning in 1912 the Haitian Gourde (HTG) was legally fixed to the US Dollar: 1 USD = 5 HTG. The standard was abrogated in 1989 and the HTG was allowed to float freely in value. The value of the Haitian Gourde (HTG) in relation to the US Dollar (USD) went from 1 USD = 5 HTG in 1989 to a recent 2015 high of 1 USD = 57 HTG, a change by a factor of ten. Considering only the period since year 1999, the value of the HTG to the USD more than tripled, going from 16 to 57 HTG = 1 USD. A devaluation of 20%. The Haitian economy is closely linked to the US economy, its major trading partner, source of some 50% of food staples, such as rice, and many durable goods. Even in the case of cell phones and motorcycles imported from China, the goods must be purchased with foreign currency the value of which is best approximated in US dollars. When the Haiti Gourde depreciates in value vis a vis the US dollar, the cost of everything in Haiti is not far behind. First comes those items purchased overseas: imported foods, durable goods such as batteries and plastics, and quite literally anything manufactured or that has imported ingredients. The impact of changing exchange rates on the wellbeing of the population is immediate and dramatic. Gressiens can purchase less stables, less corn, and very importantly, less protein. Ironically, beans become more important at these times because they are the most cost effective source of protein, considerably less expensive than meat and fish. Sudden increases in the exchange rates is linked—at least in the minds of Gressiens—to spikes in the rate of banditry. What this means in view of the recent spike in the value of the US dollar vis a vis the HTG is that lower income Gressiens may be suffering as much or more from increased prices as from drought.[vii]

Conflict and embargoes: International political conflict and embargoes can have and have had an influence on the maize and bean import market. However, the most powerful impact of the

1991 embargo was to reverse a historical trend of Dominican vs Haitian economic exclusionism and open the flood gates to Dominican produce. Since 2000, the quantity of food imports from the Dominican Republic have increased 20 fold (AlterPresse 2006; The Business Year, Strength in Solidarity 2013; Haiti Grass Roots Watch 2013; World Bank 2015). Attempts by the Haitian Government to reduce imports from its neighbor notwithstanding, the Dominican Republic is today a major source of formal and informal sector beans and corn in Gressier.

Warehouses: In the wake of the 2010 earthquake the cost of warehouse space of the storage of imported staples such as beans and maize shot from US$1.50 per square meter to US$6.00 per square meter, making it seem that warehouse space is a major obstacle to imported emergency food aid. However, the spike is arguably a bi-product, of a) the unnecessarily large amounts of imported emergency that arguably could have been obtained through market channels and b) exploitation on the part of warehouse owners. NGOs and international agencies adapted with a surfeit of new warehouses and use of temporary storage such as the two ~1,000 m^2 canvas structures that GOAL has erected in Gressier. The town has a surfeit of private micro-warehouse controlled by low level wholesalers that, for those working through the market, preclude the need to anticipate shortages of warehouse space. Indeed, the privatization of distribution channels in the hands of more than 30 small whole distributors creates robust system that should be adaptable to any foreseeable formal sector crisis.

Credit: All wholesalers of imported commodities provide credit to at least some of their customers. The use of credit by importers as a means of facilitating sales of imported produce such as beans and corns was discussed at length in Textbox 1 (page 11 of this document). Credit means that during drought and other crisis, impoverished women have recourse to an alternative means of earning income. They can take imported staples on credit and earn revenue retailing them in markets and roadsides or out of their homes. Reduced local production during drought means greater demand. Women also pass on the credit, extending it to their own clients thereby created a wide reaching and elastic social security net for imported staples. Credit for imported staples also creates the opportunity for women to take the staples and then dump them at below market prices, driving prices down for all imported staples; good in terms of costs to the consumer, but dampening profit margins for other women selling the same staples and having a long term detrimental impact of prices for local produce (see Textbox1 on page 11). A significant opportunity in regard to merchants and credit is to link them to local production, something that can be facilitated through the seed-credit/bank model and crop insurance.

Transport: Haiti's road system being of very bad quality, transport is commonly considered a major impediment to the distribution of commodities, particularly to remote rural areas. However, there is in fact an extensive and vigorous internal transport system comprising locally constructed boats, modified transport trucks of all dimensions, motorcycles, pack animals and ambulant porters that negotiate the country's ubiquitous foot paths. The industry not only facilitates distribution of imported commodities to the most remote areas of the country, it is also far and away the most important employment opportunity for males and the families to whose livelihoods they contribute. It would behoove NGOs such as GOAL that aim to distribute commodities in rural areas to use and hence support the local system rather than create costly

parallel transport systems. Local private freight transporters function with almost no corruption and very high reliability in terms of delivering cargo. In contrast, the NGOs' transport systems comprised of fleets of new trucks have been notoriously unreliable, plagued with corruption and high costs. For Gressiens the issue of transport is largely a moot point. Its proximity to Port-au-Prince and its location on the major thoroughfare (Route Nationale 2) means that Gressier's merchants have essentially unlimited access to public transport carriers.

Roads and Ports: From a formal economy perspective, Haiti's roads and ports are an impediment to commerce. However, one has only to watch twenty row boats offload in three days a 1,500-ton freighter of rice, maize and beans to appreciate the effectiveness of the local informal sector 'merchant-marines.' The same can be said for the distribution of commodities to the most remote rural areas. While traveling the worn footpaths and rugged mountains of Haiti may strike formal sector merchants and importers as daunting, these same merchants are keenly aware that the informal sector vendors have adapted their own highly effective micro-strategies. These include traditional foot porters but also more recent explosion in motorcycle taxis—made possible by recent surge in availability of inexpensive motorcycles from China—that effectively penetrate most areas of Gressier. As seen above, these same strategies offer employment to the poorest and neediest sectors of the population, precisely those who would qualify as GOAL beneficiaries in time of crisis.

Communication systems: Gressier has benefitted from the recent cell phone revolution, to such an extent that all the population now has access to telephone, either their own or one belonging to a family member or friend. Most of the area has telephone signal. This opens promising opportunities for precisely targeted pre-crisis and crisis interventions and implementation of a community-based monitoring and feedback system, one attuned to opinions and experience of rural Gressiens and capable of doing low costs, large, high quality and sophisticated surveys in a matter of days (see Recommendations)

Money transfer systems: Although the proximity to Port-au-Prince has long meant that Gressiens have nearby access to money transfer agencies, there are also a recent boon to Gressier. Today the town has at least six money transfer businesses. Digicel telephone company has also been involved in implementing a system of "mobile money." The status of the Digicel endeavor still remains unclear. NGOs commonly herald an impending future of mobile money that will make aid transfer efficient. Journalists who have investigated the millions of aid money invested in Digicel's mobile money have not share the enthusiasm, indeed, have been highly critical. Whatever the case, the fact is that for rural Gressiens, there is no existing system of mobile money transfer. A significant obstacle is the implementing a system of agents who can redeem the money. Nevertheless, GOAL should consider that if a mobile money system is deemed useful, a *de facto* system already exists. Cell phone owners can freely transfer minutes from one user to another. This means that gifting minutes over the telephone is tantamount to a mobile money transfer system, i.e. the minutes can be sold to other users. Gressiens interviewed during the course of the research affirmed that such as systems in fact exists—independently of any formal sector involvement of NGOs. Again, the presence of telephone opens up near

revolutionary opportunities for pre-crisis and crisis interventions as discussed in Recommendations at the end of this report.

Internal/Informal Sector Recommendations for Actions

Similar to the internal/informal market system, rural Gressiens are embedded in a vigorous functioning market and redistributive system. The system has its own informal and locally adapted mechanisms that overcome interruptions brought on by crisis. One example is the offloading with row boats freight ships loaded with 100s of thousands of tons of imported produce, thereby negotiating infrastructural crisis and blockages at ports. Similarly, embargoes are circumvented through trade with the Dominican Republic. Even in the case of interdiction at official border crossing, Haitian *komesan* re-route imported formal sector staples through informal market channels, moving them along remote trails on foot, donkey or by sea on wooden Haitian transport vessels. Regarding drought, corn and beans, it is in large part the external/formal market that makes up for shortfalls in local production.

If the objective were to reinforce the external/formal market, the most significant current 'crisis' points for imported beans and maize are informal market chain are security/crime at urban sales point. Intervening in the legal system is, however, outside the scope of Goal intervention opportunities. Where Goal can intervene is to facilitate connections between the two market systems, enhancing pre-crisis preparedness, capacity for rapid intervention when crisis does strike, and capacity for recuperation after crisis has struck. Goal has significant advantages over past intervention efforts because of the widespread availability of cells phones, an improved local transport system made possible by the widespread availability of motorcycles. And most importantly of all, Goal can learn from past mistakes of other NGOs. We begin our concluding recommendations with a discussion of how to avoid these past mistakes and what should be prerequisites for an effective pre-crisis and crisis strategy that will reinforce those mechanisms that already exist or that should be reinforced.

Recommendation Reinforcing the Existing External/Formal market System by Using It

The focus of this study was originally intended to prepare for drought and to anticipate points of intervention where drought does strike. Intervening and interacting with the formal/external market system offers Goal an opportunity to reinforce market mechanisms that help Gressiens deal with crisis brought on, not just by drought, but other crisis that Gressiens consider as or more severe: rising food prices, storm, and very important, internal household shocks.

In implementing market interventions, Goal should first consider that the beneficiaries of most aid programs are often consultants and aid workers. Other beneficiaries include nationals hired as staff, accountants, drivers, and mechanics. In the case of food distribution, beneficiaries include those who lease out warehouse space, those who provide freight services as well as dock workers and porters. In the case of voucher programs beneficiaries include businesses that produce the coupons and vendors who exchange the coupons for food, tools, seeds or other goods. Humanitarian aid beneficiaries also include elites who rent apartments and houses to NGO and UN agency staff, the banks that transfer money, and phone companies that provide communication services. All are beneficiaries of aid projects and often at monetary figures far greater than the value of what reaches the targeted beneficiaries. And all are operant in the

external/formal market economy. The point is that Goal should conceptualize its program as an integrated process that includes locals, not simply as aid recipients, but as actors in the distribution channels. They should bring expenditures closer to the Gressier activity area and economy by using local formal and informal economy services. If done correctly and with this point in mind, the very act of implementing Goal programs will inject needed income into the community and build capacity, and it will do so in an equitable manner that, in contrast to most current aid programs, wins community buy-in and acceptance.

Pre-crisis Recommendation

- Create and support with training and facilitation and society of local whole merchants
- Support merchants with a program seed conservation and resale (silos and pesticide techniques)
- Link the merchants to a system of seed credit discussed in informal sector recommendations
- Link merchants to external supply of appropriate short term bean and corn seed to be accessed in case of local seed shortfalls
- If the merchant society system becomes viable, Goal can subsequently link the merchants to a beneficiary voucher program that will make seeds, tools, pesticides available in preparation for crisis and post crisis recovery.
- Use local Transport systems rather than purchasing costly vehicles and hiring drivers (in an extreme form this would mean integrating a system with local taxis, both vehicles and motorcycles that can be used to carry messages and make deliveries)
- Purchase Roto Tillers locally and create a bid system where local businesses vie for contracts to rent out, maintain, and repair Roto Tillers (rather than doing it inside Goal organization structure)

The benefits of the program would be,

- Synergistically reinforcing the existing external/formal market system and positively strengthening links between the two economies
- Capacity building
- Community integration and buy-in
- Sensitizing Goal to the community and community issues and programs through economic involvement and embeddedness
- Enormous savings in costs to Goal, thereby freeing up resources that could be shared with beneficiaries in crisis preparation and crisis relief.

Crisis Recommendation

Goal can use the formal market to make rapid interventions when crisis does strike.

- Use the merchant system described above to interject emergency aid (seed or food transfers) through a voucher system.
- Use the transfer of cell phone minutes as a *de facto* cash transfer

The benefits of the program would be,

- Synergistically reinforcing the existing external/formal market system and positively strengthening links between the two economies

- Capacity building
- Enormous savings in costs to Goal, thereby freeing up resources that could be shared with beneficiaries in crisis preparation and crisis relief.

Recommendation: Working for or Against the State and Local Organizations

State provision of services, economic development programs, and guarantees of social security are precisely what reinforces the State and gives it credibility and support among its citizenry. The inverse of the State being reinforced in the role of protector and nurturer of the population is that targeting, governance, and provision of services and social security that does not involve the State works against the integrity of State institutions. It undermines the credibility of the State. Aid in which local AZEK, KAZEK, Mayors, Departmental and National government entities are excluded creates competing power brokers. Indeed, with little or no other services and aid, targeting that does not involve State entities runs the risk of rendering them inert, or worse, pushing State functionaries into a role of opponent or antagonist of aid and services intended for the good of the population.

Pre-Crisis Recommendation

- Include AZEK, KAZEK, and BAK representatives as partners in developing and applying the described system. This does not mean they should implement projects of receive funds. They should be construed as guardians and guarantors of the project. The project should be presented as reinforcing their capacity to deliver services, i.e. assistance to the legitimate existing organizations. Moreover, the use of targeting mechanisms discussed below should be presented as relieving state representatives of the onus of blame for poorly distributed aid, i.e. it is not them who make the decisions who are aid recipients.

Benefits of the program

- Gives the State greater legitimacy in the eyes of the population
- Gives Goal greater legitimacy in the eyes of the State
- Eliminates animosity from state officials
- Builds capacity

Negotiating Corruption and Charity Mentality

Past NGO interventions have been plagued by ineffective targeting, poor preparation for targeting and distribution, and the lack of accountability. The impact of little to no accountability cannot be gainsaid. Haitians themselves widely view it has having created an environment of competitive corruption, infighting, and resentment among those who are entrusted with making sure that aid reaches the intended beneficiaries. The individual who successfully steals or embezzles aid becomes more powerful than those who are honest. The honest worker or volunteer is discouraged and distracted from performing his or her job and in many cases their honesty and integrity may be seen as a threat to those benefitting from corruption. The consequence is the ironic situation where high moral standards make the individual a pariah and put him or her in physical danger. It has destroyed the credibility of aid programs and community buy-in. The general population has come to know and understand the extent of the

corruption far better than donors. Arguably the most important element is monitoring, a task that is often *not* rigorously conducted in Haiti and that can and often does undermine the entire Targeting and Aid Delivery process by creating the opportunity for corruption. On the other hand, an effective monitoring strategy means built in learning and a program capable of incorporating lessons into practice.

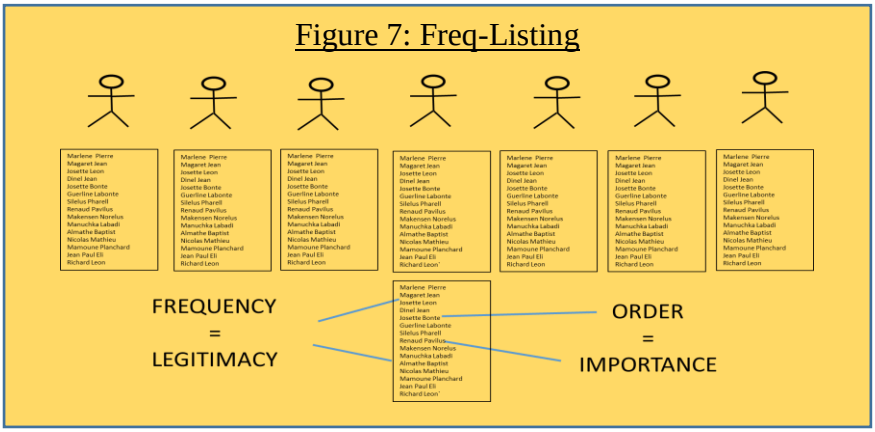
Pre-Crisis Recommendation

The simplest and purest generic accountability strategy is "transparency." Goal can achieve this by taking to the radio for communication. Working with Producer Business Groups in which information is shared with the membership and not only the leadership. What is still lacking is an effective means of reaching out into the total population, hearing them, and getting their feedback and input. Here is how we do that:

Freq-Listing

Frequency Listings (Freq-Listing) is derived from the Freelisting technique used in Cultural Consensus Analysis (Romney et. al. 1986; Borgatti 1992). The technique is designed to document categorical knowledge, usually among non-literate people. For example, a researcher may wish to learn about the types of local foliage rural Haitian leaf doctors use to concoct herbal remedies. The researcher would ask a sample of 20 to 30 traditional healers to give the names of plants they use to make remedies. Responses are then correlated. Those plants mentioned often--for example, by more than 5 respondents--are accepted as part of the semantic category of 'plants that Haitian leaf doctors use to make herbal remedies.'

Figure 7: Freq-Listing



The technique is simple in its conception and application and yields a depth of information. The more frequently an herb is mentioned the more commonly we can assume healers use it. A correlation in order of responses suggests the importance of that particular item, in this case a plant or leaf. Further analysis can be done to uncover relationships between different herbs and, very importantly, a cross-correlation of responses can detect who gives the most reliable responses, allowing for the development of statistically valid lists of "experts."

- In applying the technique to Humanitarian Aid Beneficiary Targeting, surveys ask for *notab*-- honest local leaders who they would trust in times of crisis. Responses are then correlated to detect the most frequently cited *notab*. The *notab* are then used as a resource for identifying beneficiaries. Each *notab* is asked to provide a list of the most vulnerable people in his or her area. The lists are then correlated to identify those individuals mentioned by more than one *notab*. Similar to the healer with his or her herbal remedies, the typically competent *notab* can be thought of as a type of expert in judging the resources and social

capital of his or her friends, and neighbors. *Notab* who are experts, tend to pick the same vulnerable people. In this way an exceptionally competent *notab* can be identified in a methodical and objective manner (those notab expert at detecting the most vulnerable or, put another way, sincere and reporting truly vulnerable individuals). Another advantage of what we are calling Freq-Listing is that it increases the credibility of the choice of the vulnerable. The community rather than outsiders have identified the most vulnerable household. Once Goal has a data base of *notab*, it can be drawn on at any time using cell phones to compile beneficiary lists, it can be used to conduct low cost rapid surveys of conditions in the area, beneficiary opinions on the effectiveness of aid programs and preference for new programs.

Benefits of the program

- Provides and objective and accurate means of identifying recipients
- Takes blame for choosing beneficiaries off of NGOs, local officials and organizations

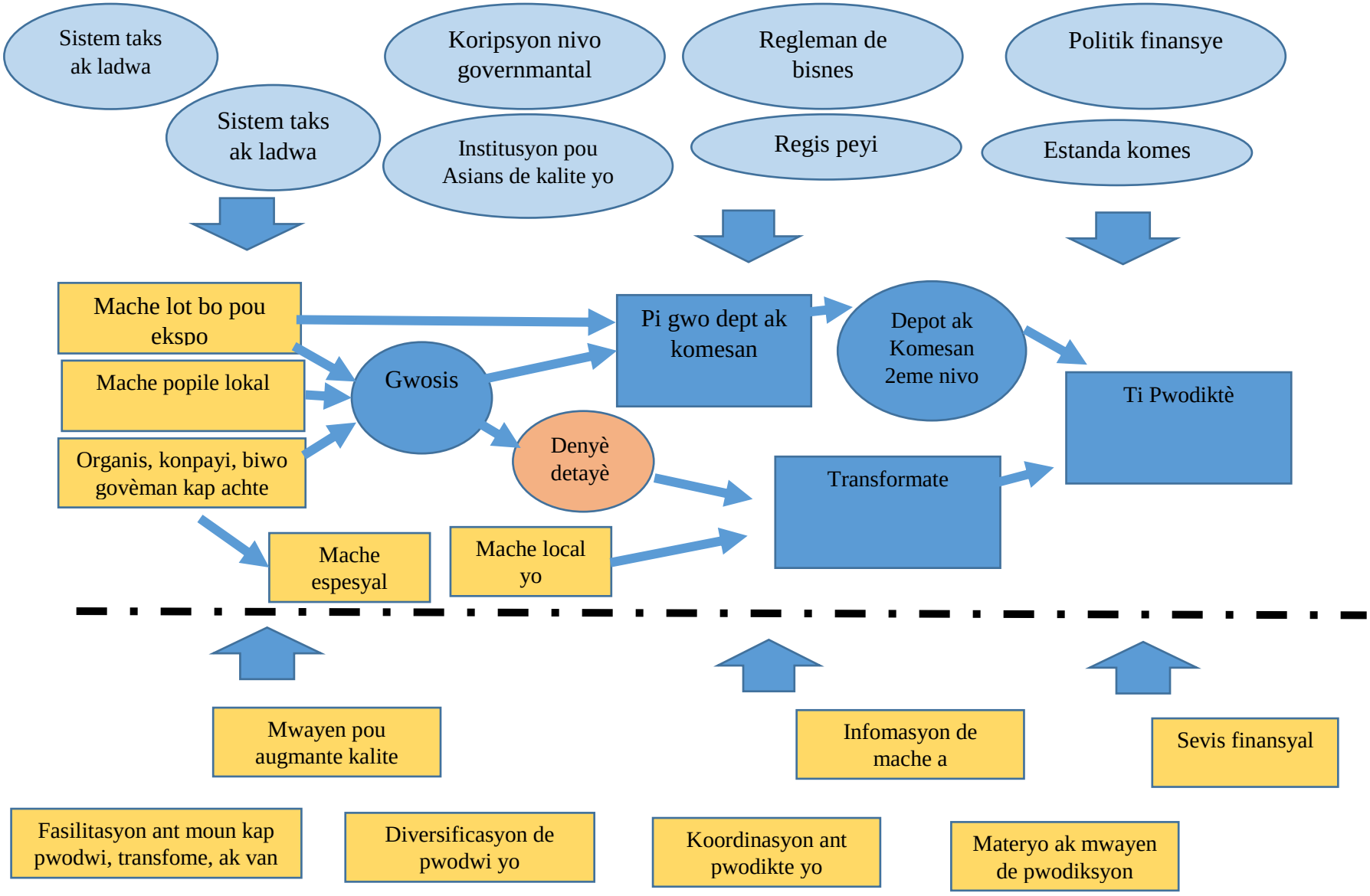
Annexes

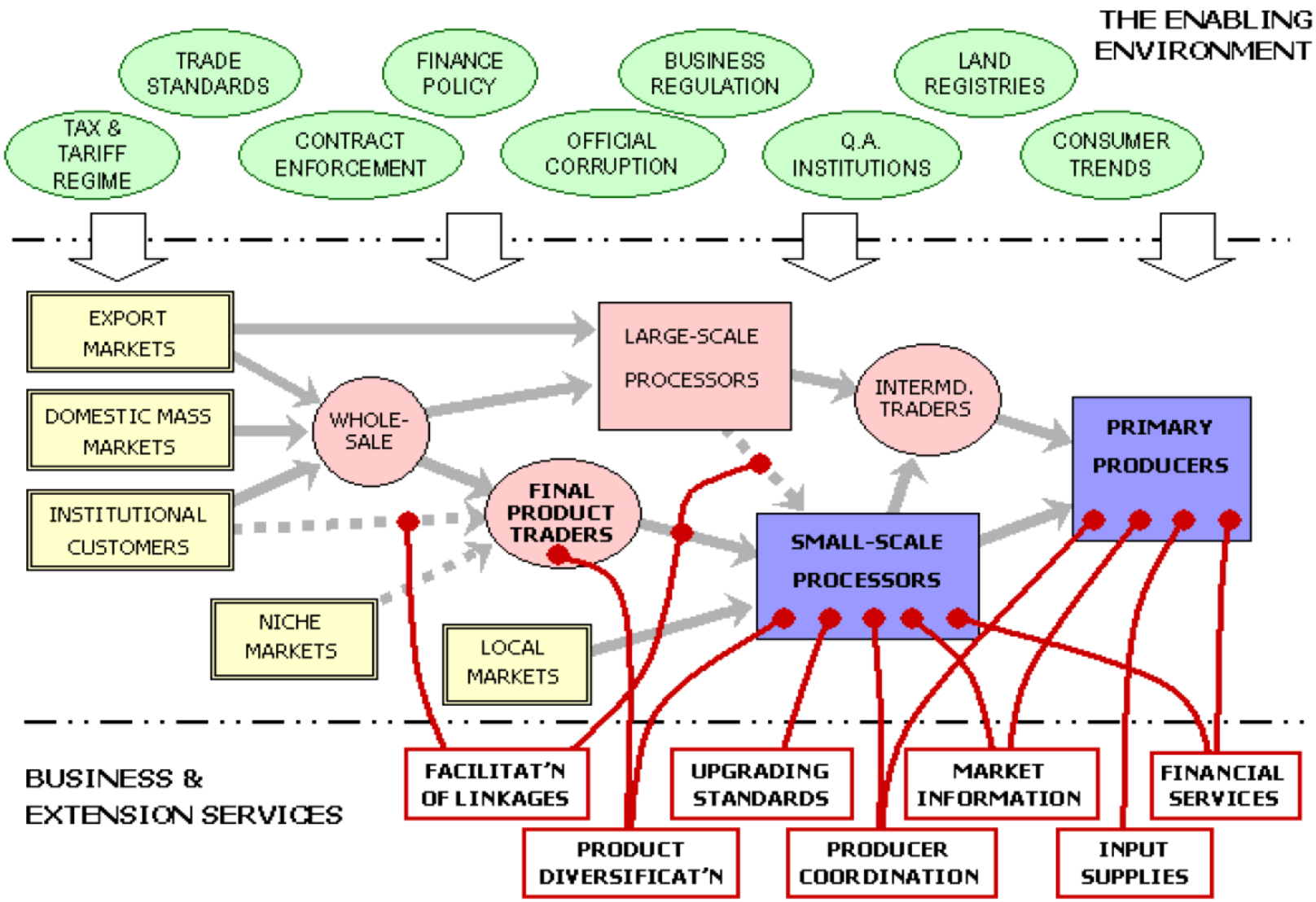
Annex 1
Instruction Materials

Gid pou Develope Kat Mache a

Teknik
Kat Mache Pre- kriz,
(KMPK)

Guide for the PCMMA


Sistem taks ak ladwa
Sistem taks ak ladwa
Koripsyon nivo governmantal
Institusyon pou Asians de kalite yo
Regleman de bisnes
Regis peyi
Politik finansye
Estanda komes
Mache lot bo pou ekspo
Mache popile lokal
Organis, konpayi, biwo govèman kap achte
Gwosis
Pi gwo dept ak komesan
Depot ak Komesan 2eme nivo
Ti Pwodiktè
Denyè detayè
Transformate
Mache espesyal
Mache local yo
Mwayen pou augmante kalite
Infomasyon de mache a
Sevis finansyal
Fasilitasyon ant moun kap pwodwi, transfome, ak van
Diversificasyon de pwodwi yo
Koordinasyon ant pwodikte yo
Materyo ak mwayen de pwodiksyon


THE ENABLING ENVIRONMENT
TRADE STANDARDS
FINANCE POLICY
BUSINESS REGULATION
LAND REGISTRIES
TAX & TARIFF REGIME
CONTRACT ENFORCEMENT
OFFICIAL CORRUPTION
Q.A. INSTITUTIONS
CONSUMER TRENDS
EXPORT MARKETS
DOMESTIC MASS MARKETS
INSTITUTIONAL CUSTOMERS
WHOLE-SALE
LARGE-SCALE PROCESSORS
INTERMD. TRADERS
PRIMARY PRODUCERS
FINAL PRODUCT TRADERS
SMALL-SCALE PROCESSORS
NICHE MARKETS
LOCAL MARKETS
BUSINESS & EXTENSION SERVICES
FACILITAT'N OF LINKAGES
UPGRADING STANDARDS
MARKET INFORMATION
FINANCIAL SERVICES
PRODUCT DIVERSIFICAT'N
PRODUCER COORDINATION
INPUT SUPPLIES

RESUMEN DE GID LA

1. Ki mache nou pral chwazi? (What market chain is chosen?)
   Ki objektif nou genyen? (What is the objective?)
   Sous sibje a: (Corollary subjects)
   Kote li prale? (Where does the chain begin end?)

2. Moun ki pi impotan nan chen? (People/roles important in the chain)
   Ki jan yo konekte? (How they are connected)
   Ki sa yo fe? (What what they do)
   Kote yo fe? (Where they do it)

3. Reg fomal (Formal rules)
   Reg informal (Informal rules)

4. Djob fi ak gason (Male vs. Female tasks)
   Kantite fi vs. gason (Degree male vs. female)

5. Kantite nan chak nivo (Relative amount merchandise moved at each level)
   Benefis sou chak nivo (Profits margin and relative profits at each level)

6. Si l mache byen (Does each rle/level function well)
   Si gen kompetisyon/impotans/kontwol (Is there competition/monopoly)
   Blokaj (Blackages)
   Opotunite (Opportunities)
   Risk (Risks)

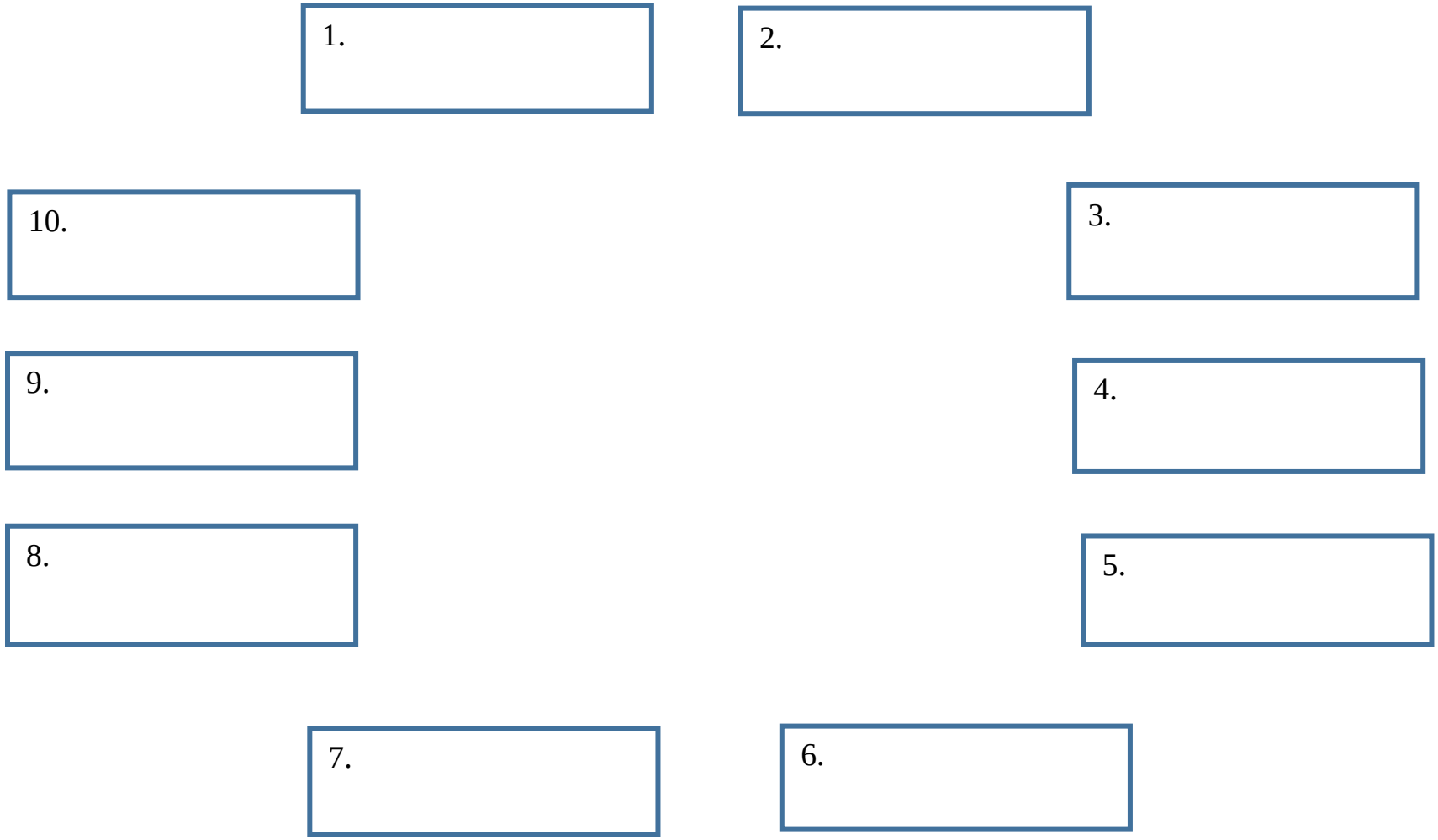
7. Ki jan n ap verifye tout sa? (How will all of this all of this verified)

Pa 1 (Step 1)	Ki mache nou pral chwazi? (What market chain should be chosen?)
	Pou ki sa? (Why?)
	Ki objektif nou genyen? (What is the objective)
	Sous sibje a: (Corollary topics)
	Kote li prale (Where does the chain begin and end?)

PA 2 (Step 2)

Moun ki pi impotan nan chen (People/roles most important in the market chain)	Ki sa yo fe (chak ti djob yo) (What they do)	Kote yo fe l (Where they do it)	Jan yo konekte (How they are connected)
1.			
2.			
3.			
4.			
5.			
6.			
7.			

KI JAN YO KONEKTE (How the roles/actors in the market chain are connected)



PA 3 (Step 3)

Moun ki pi impotan nan chen (People who are important in the market chain)	Reg fomal (Formal rules)	Reg Infomal (Informal rules)
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

PA 4 (Step 4)

Moun ki pi impotan nan chen (People who are important in the market chain)	FI (Degree female)	GASON (Degree male)
1.	********	********
2.	********	********
3.	********	********
4.	********	********
5.	********	********
6.	********	********
7.	********	********
8.	********	********
9.	********	********
10.	********	********

PA 5 (Step 5)

Moun ki pi impotan nan chen (People who are important in the market chain)	Kantite nan chak nivo (Number of them relative to other levels)	Benefis sou chak nivo (Profits relative to other levels)
1.	********	********
2.	********	********
3.	********	********
4.	********	********
5.	********	********
6.	********	********
7.	********	********
8.	********	********
9.	********	********
10.	********	********

PA 6 (Step 6)

Moun ki pi impotan nan chen (People who are important in the market chain)	Si l mache byen (Does the person/role function well?)	Kompetisyon (competition)	Blokaj (Blockages)	Opotunite (Opportunity)	Risk (Risk)
1.	********	********			
2.	********	********			
3.	********	********			
4.	********	********			
5.	********	********			
6.	********	********			
7.	********	********			
8.	********	********			
9.	********	********			
10.	********	********			

PA 7 (Step 7)

Ki jan n ap verifye tout sa (how do we verify all of this?)

Chok ki plis ka frape (What is the greatest shock to people in the region?)

Word Canvas Draw nan MS Word

Ouvri Word. (Open Word)

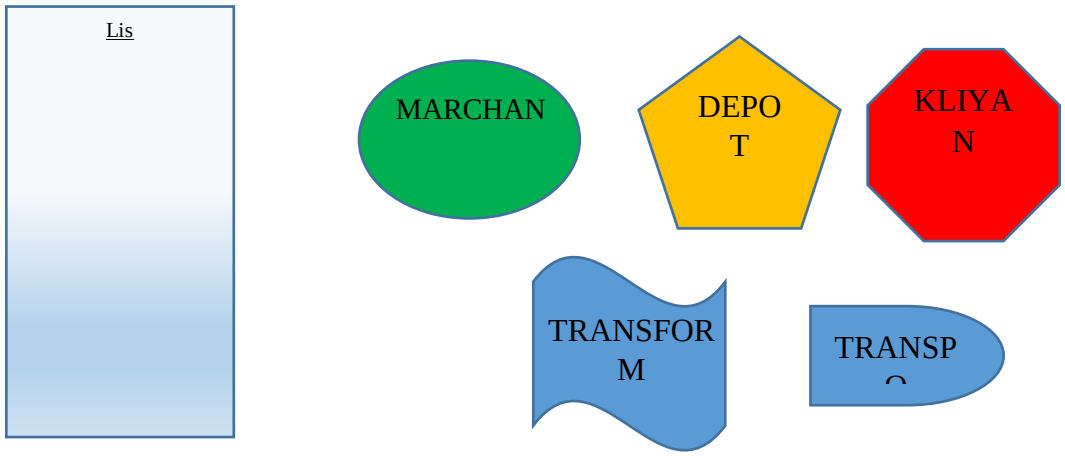
Klike sou “Insert” (Click on “Insert”)

Klike sou “Shapes” (Click on “Shapes”)

Al anba epi chwazi “New Drawing Canvas” (Got the bottom and click on “New Drawing Canvas”)

Pratik. Sevi avek fom yo ki represante diferan etaj nan chenn de mache. (Practice: Use different forms to represent different stagesin the market chain)

Sevi avek koule ak ‘gradient’ (Use color gradients to represent dimensions)

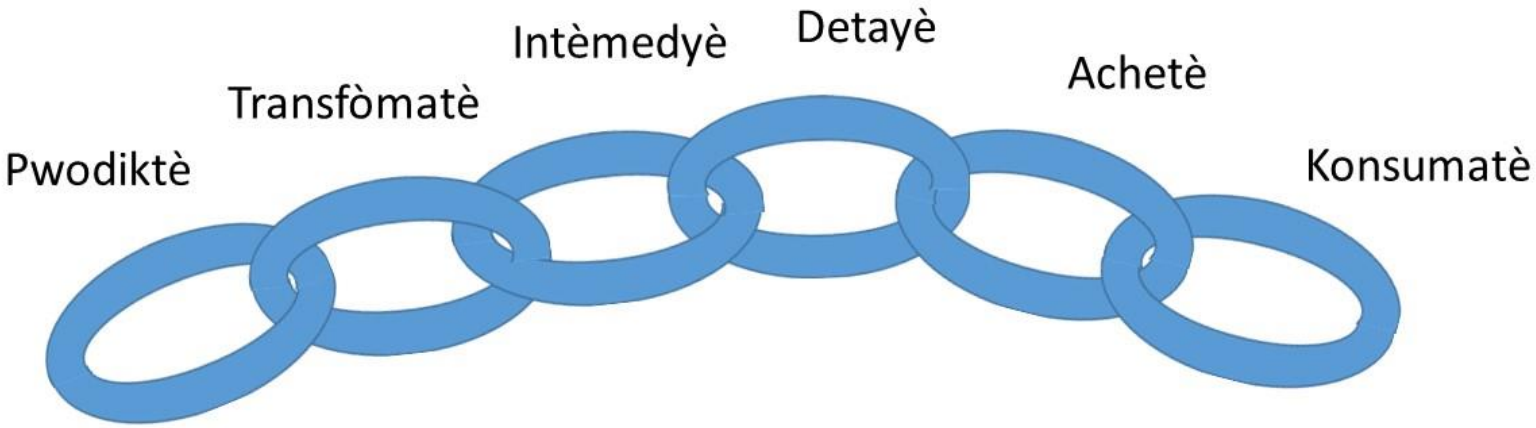


PRACTICAL ACTION
Consulting

Teknik
Kat Mache Pre- kriz,
(KMPK)
fòmasyon ak asesman

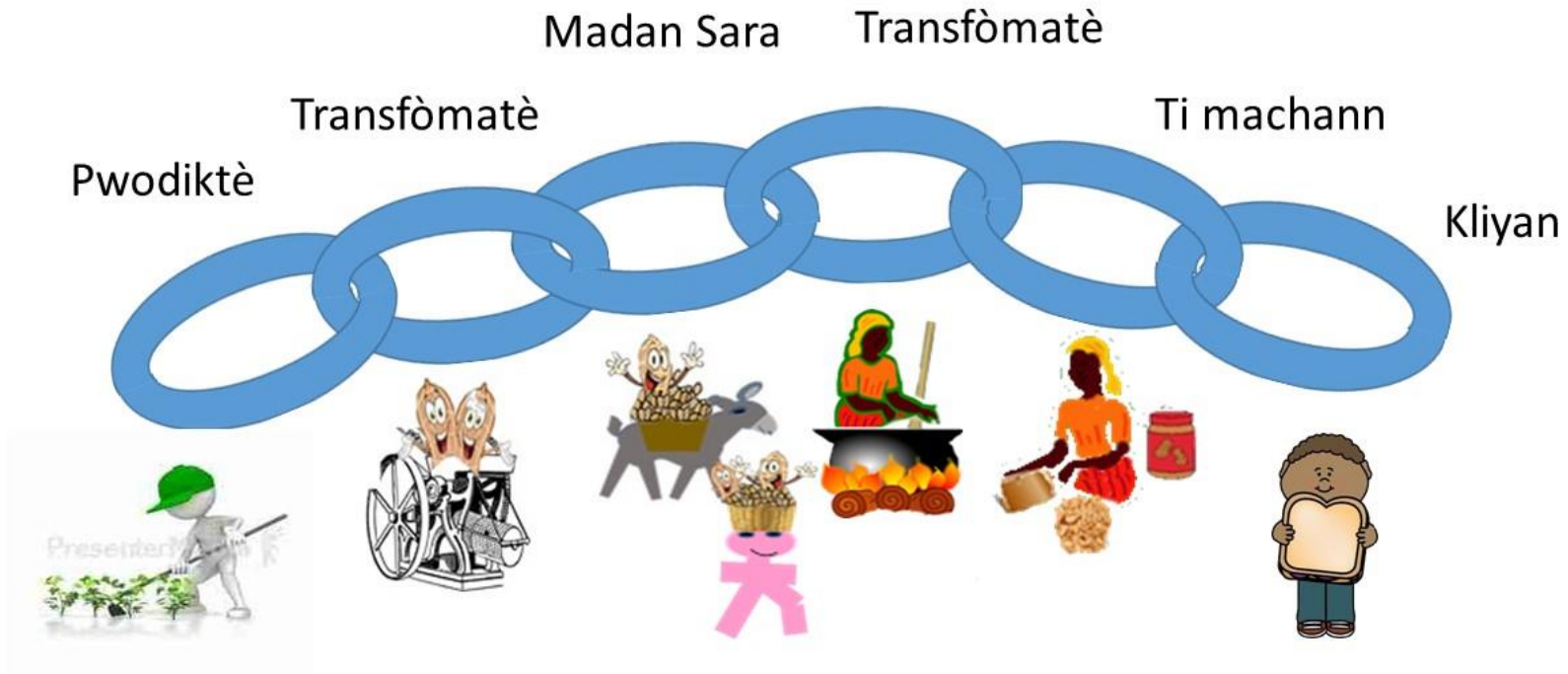
(Presentation on PCMMA Techniques)

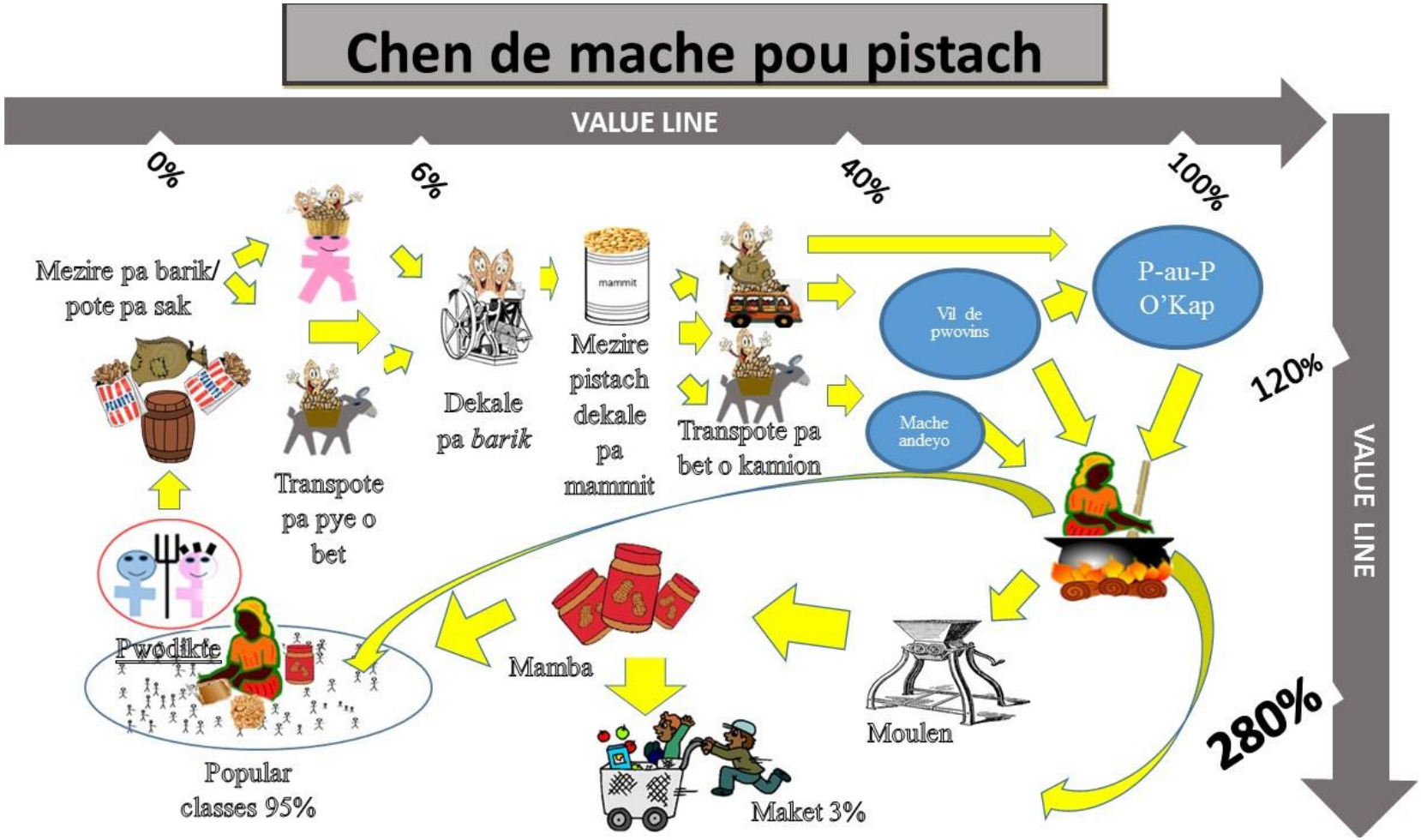
Chen de Mache

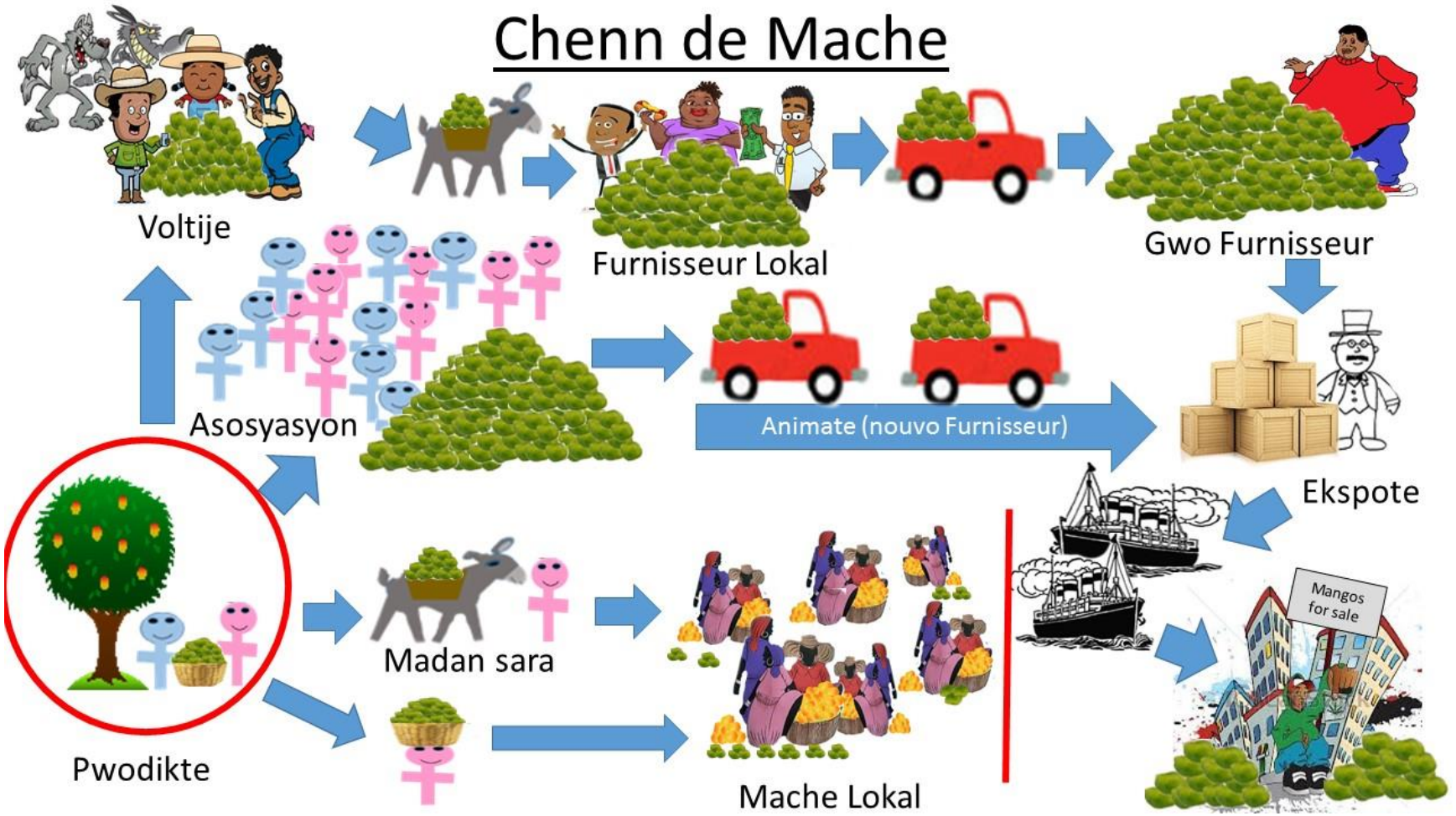


Chen de Mache

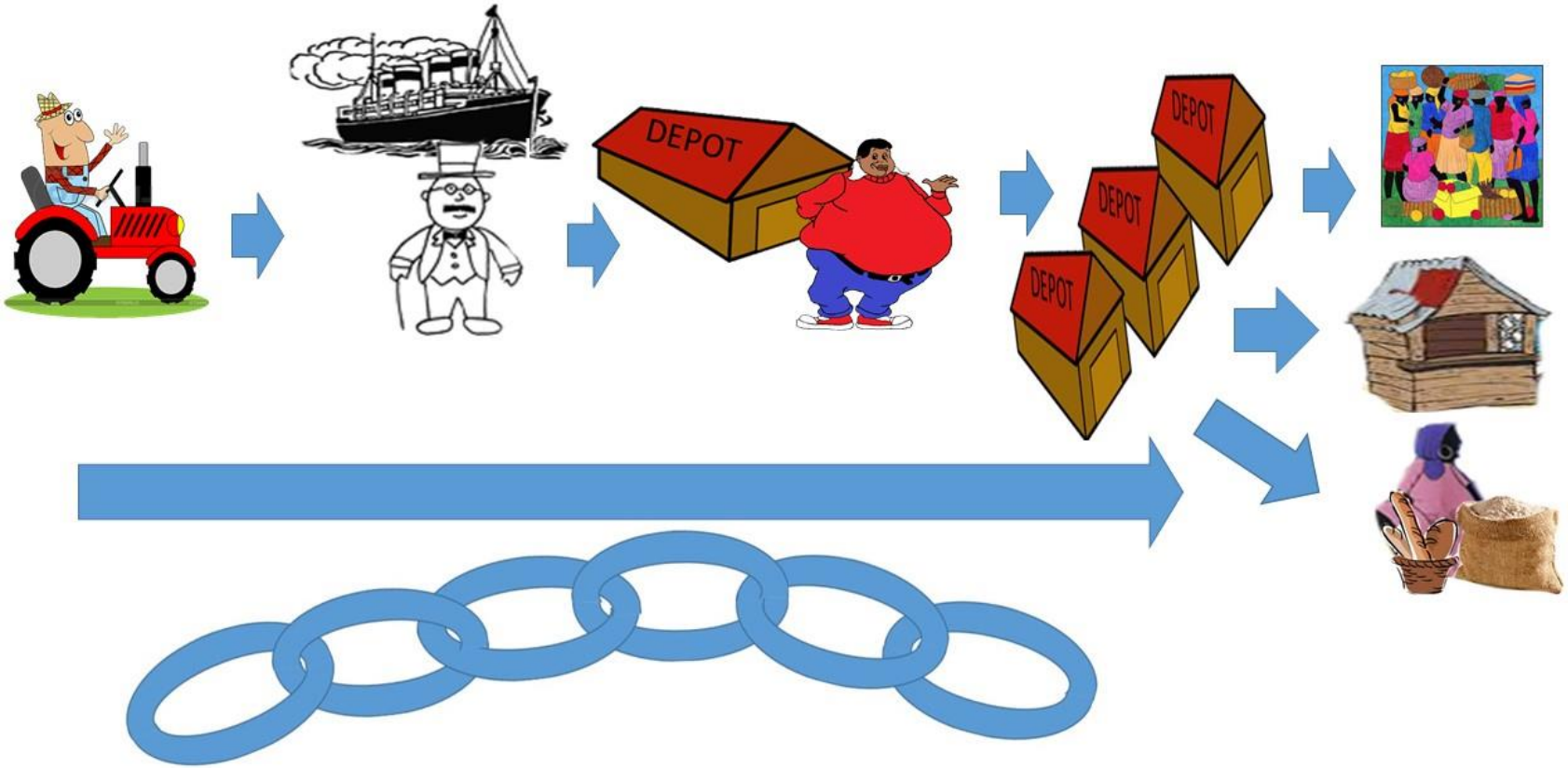
Pistache



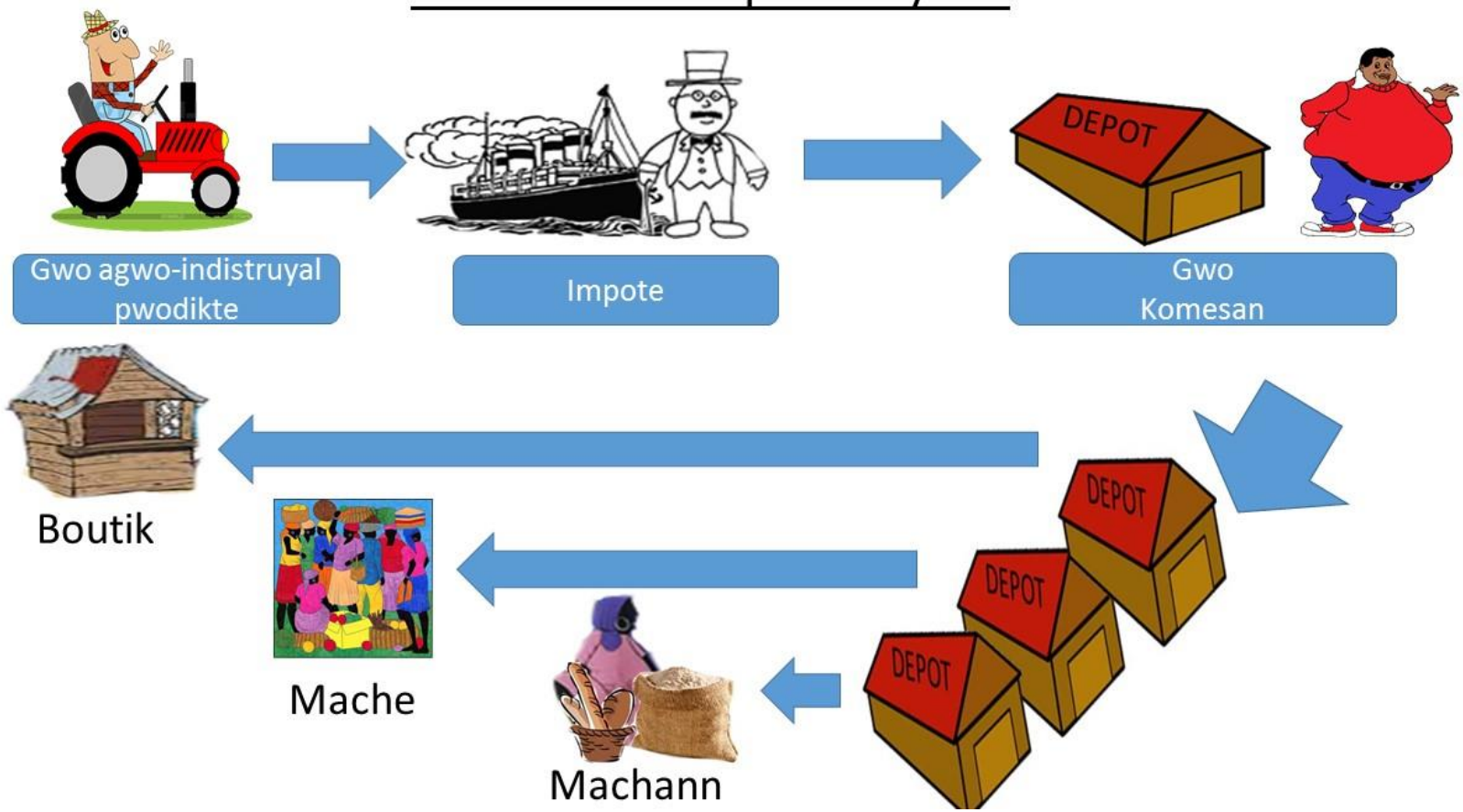

Chen de mache pou pistach
VALUE LINE
0%
6%
40%
100%
120%
280%
VALUE LINE
Mezire pa barik/
pote pa sak
Transpote
pa pye o
bet
Dekale
pa *barik*
mammit
Mezire
pistach
dekale
pa
mammit
Transpote pa
bet o kamion
Vil de
pwovins
P-au-P
O'Kap
Mache
andeyo
Pwodikte
Popular
classes 95%
Mamba
Maket 3%
Moulen

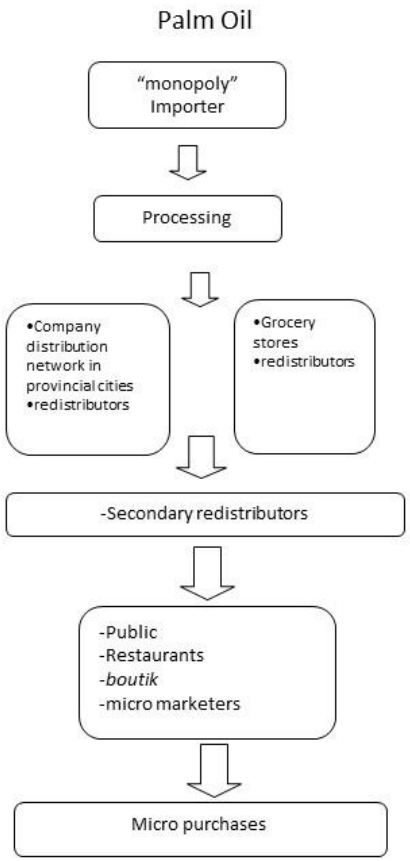

Chenn de Mache
Voltije
Furnisseur Lokal
Gwo Furnisseur
Asosyasyon
Animate (nouvo Furnisseur)
Ekspote
Mangos for sale
Madan sara
Pwodikte
Mache Lokal

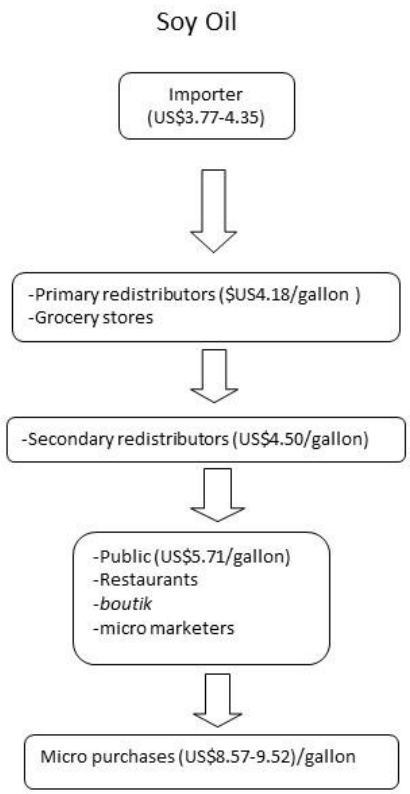
Chen de Impotasyon

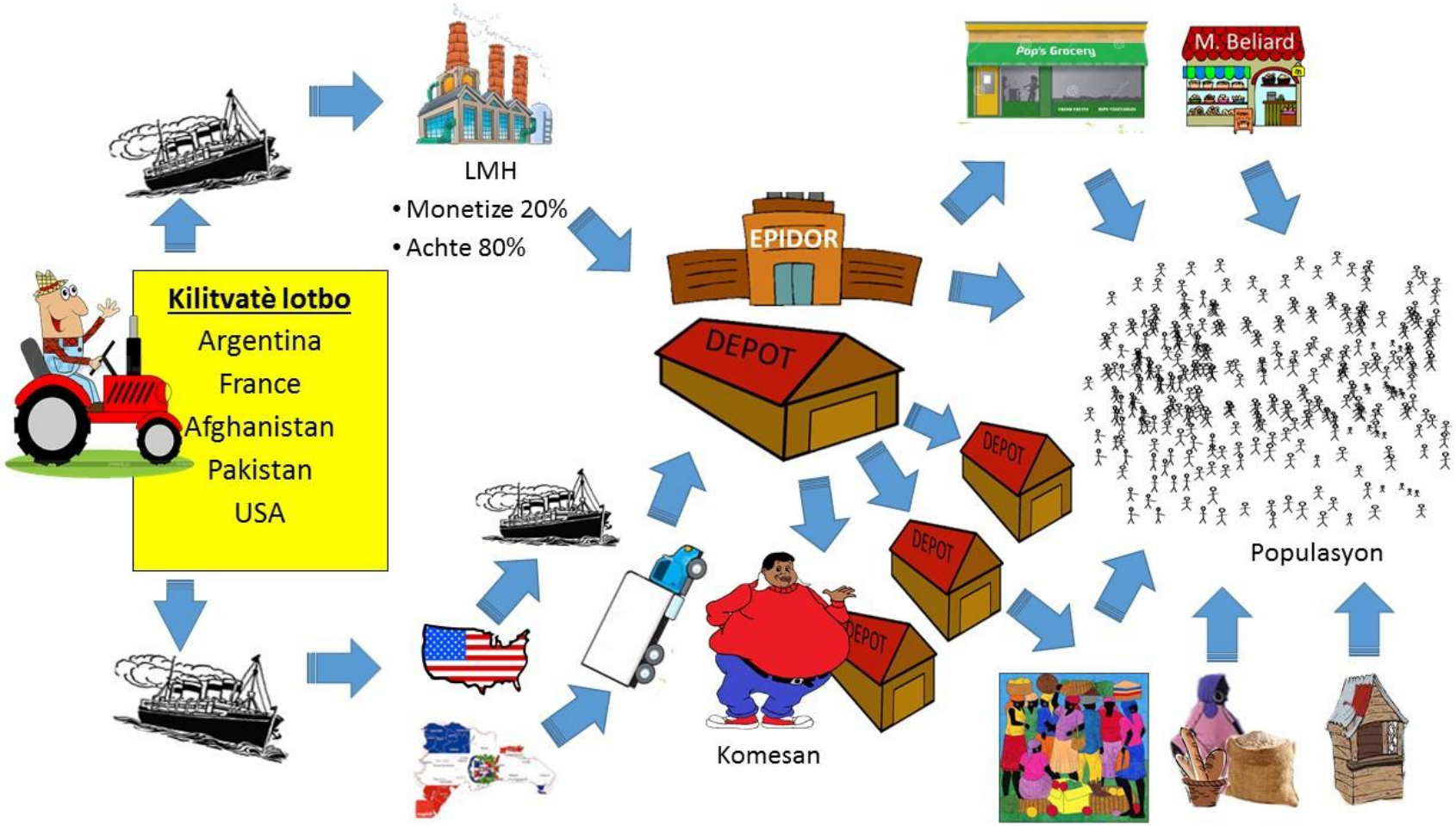


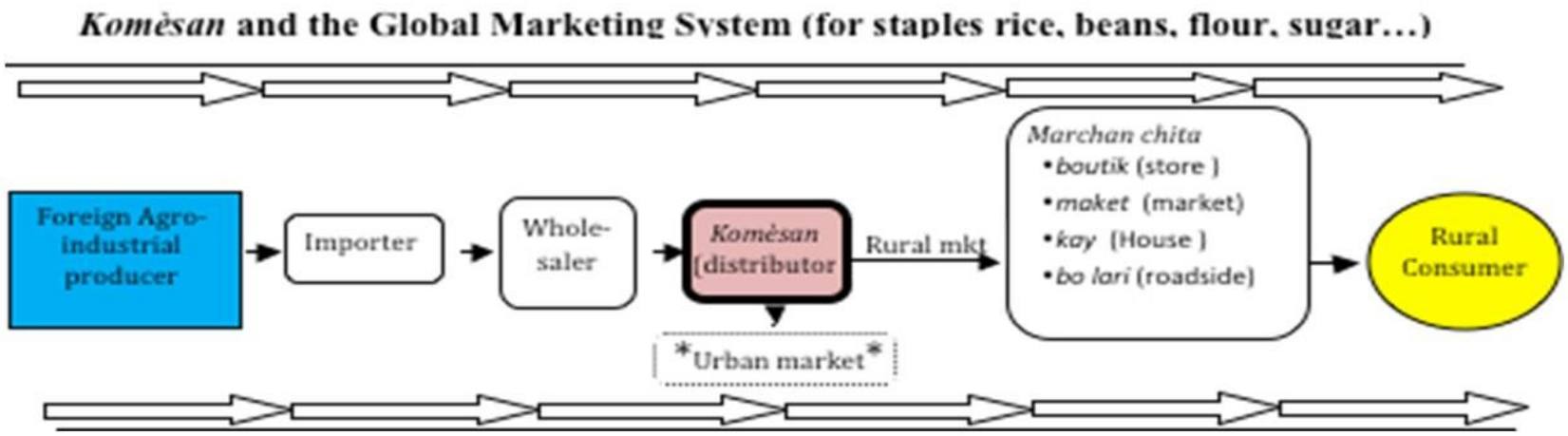
Chen de Impotasyon



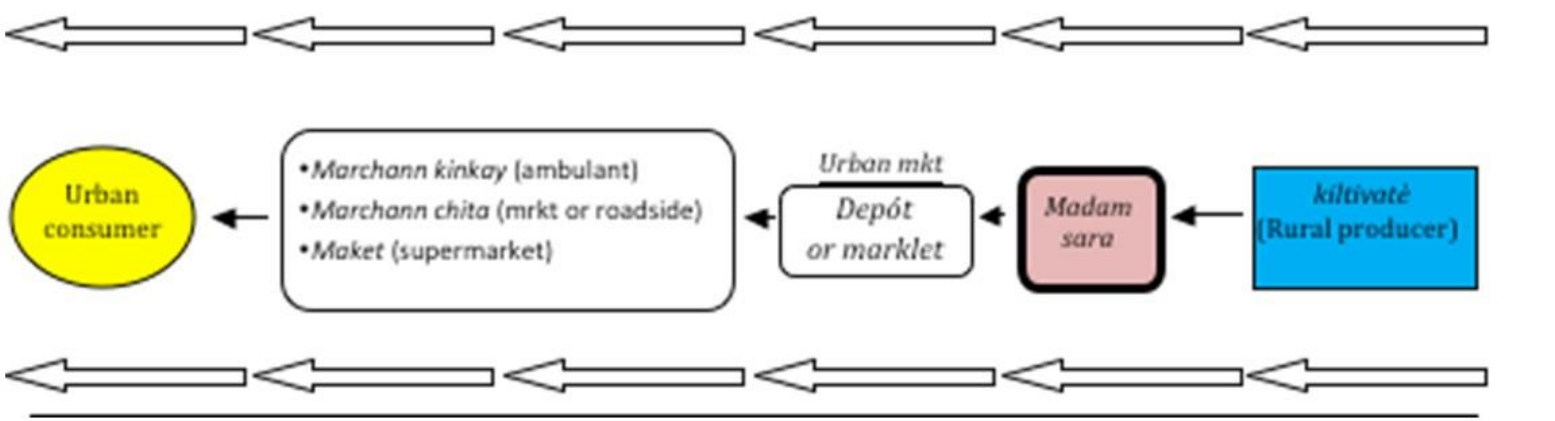

Palm Oil
"monopoly" Importer
Processing
•Company distribution network in provincial cities
•redistributors
•Grocery stores
•redistributors
-Secondary redistributors
-Public
-Restaurants
-boutik
-micro marketers
Micro purchases

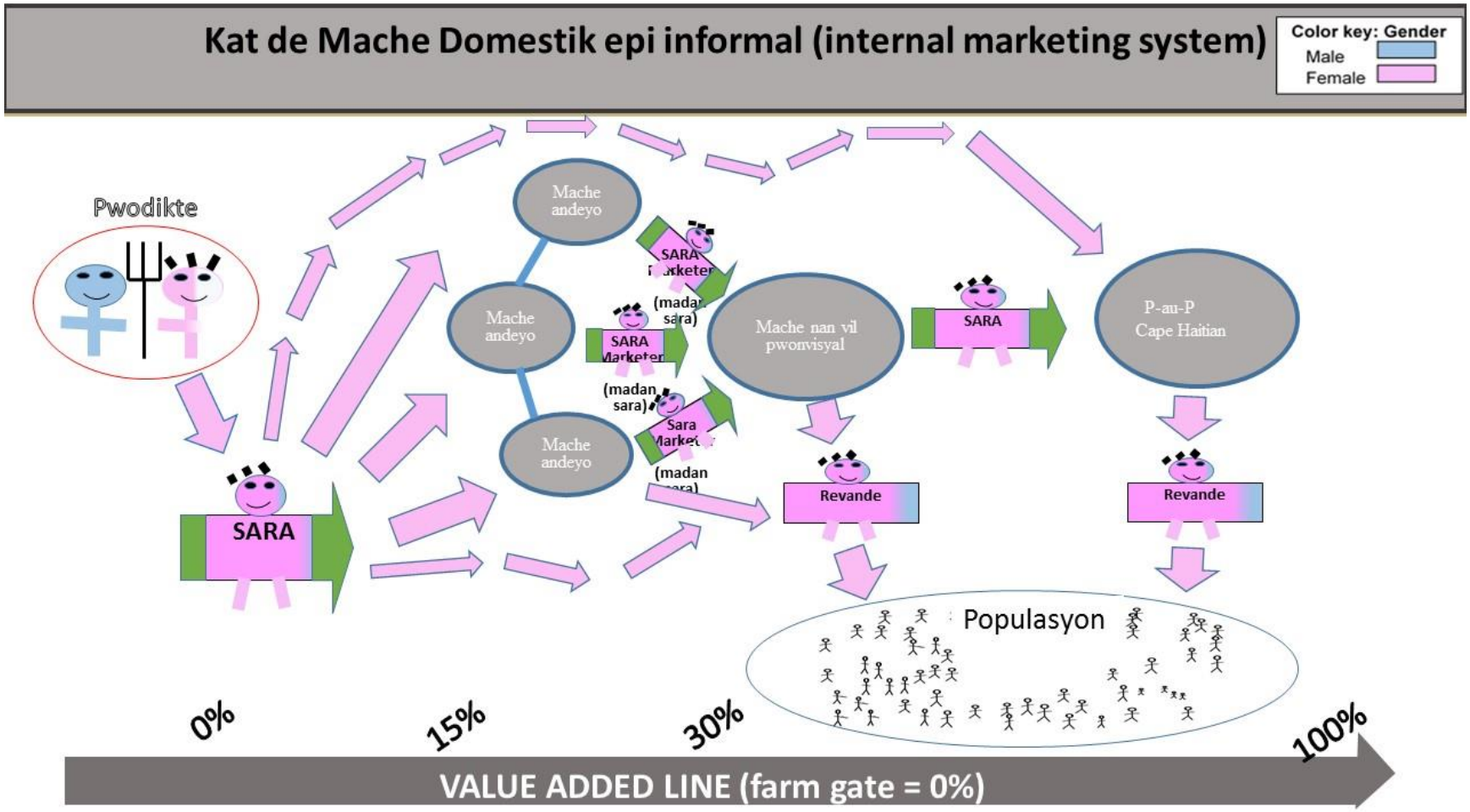

Soy Oil
Importer (US$3.77-4.35)
-Primary redistributors ($US4.18/gallon)
-Grocery stores
-Secondary redistributors (US$4.50/gallon)
-Public (US$5.71/gallon)
-Restaurants
-boutik
-micro marketers
Micro purchases (US$8.57-9.52)/gallon


Kilitvatè lotbo
Argentina
France
Afghanistan
Pakistan
USA
LMH
• Monetize 20%
• Achte 80%
EPIDOR
DEPOT
DEPOT
DEPOT
DEPOT
Komesan
Pop's Grocery
M. Beliard
Populasyon

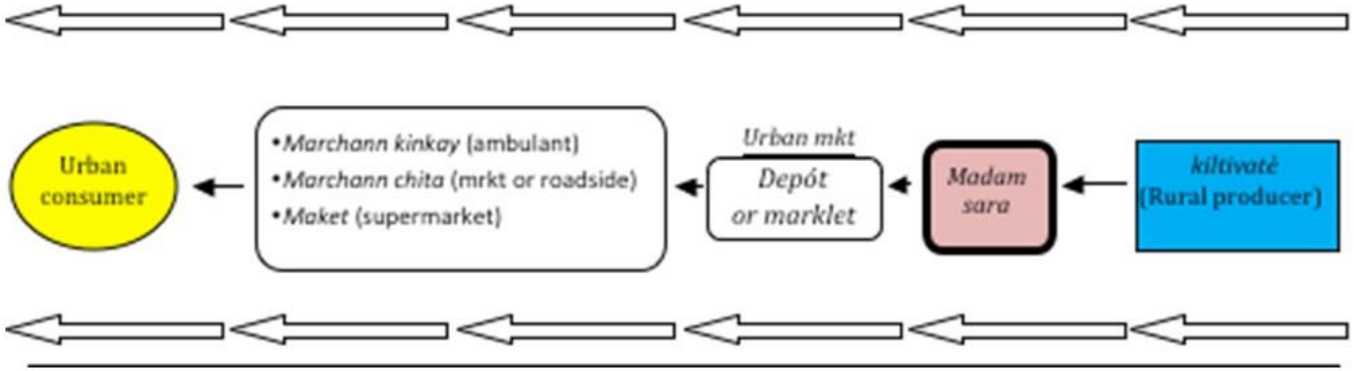

Komèsan and the Global Marketing System (for staples rice, beans, flour, sugar…)
Foreign Agro-industrial producer
Importer
Whole-saler
Komèsan (distributor
Rural mkt
Urban market
Marchan chita
•*boutik* (store)
•*maket* (market)
•*kay* (House)
•*bo lari* (roadside)
Rural Consumer

Madam Sara and the Internal Haitian Marketing System (for most edible beans, fruits and

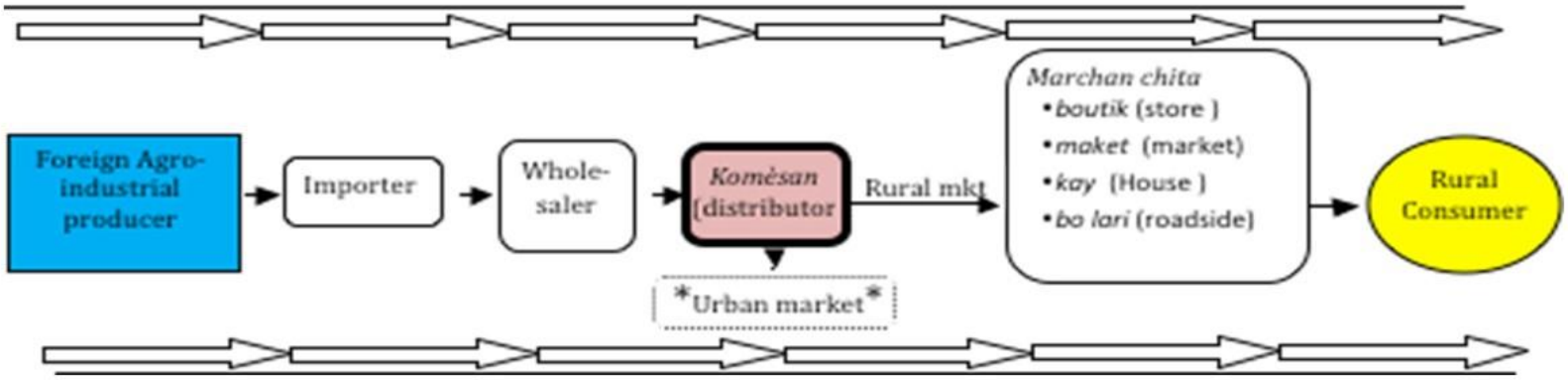


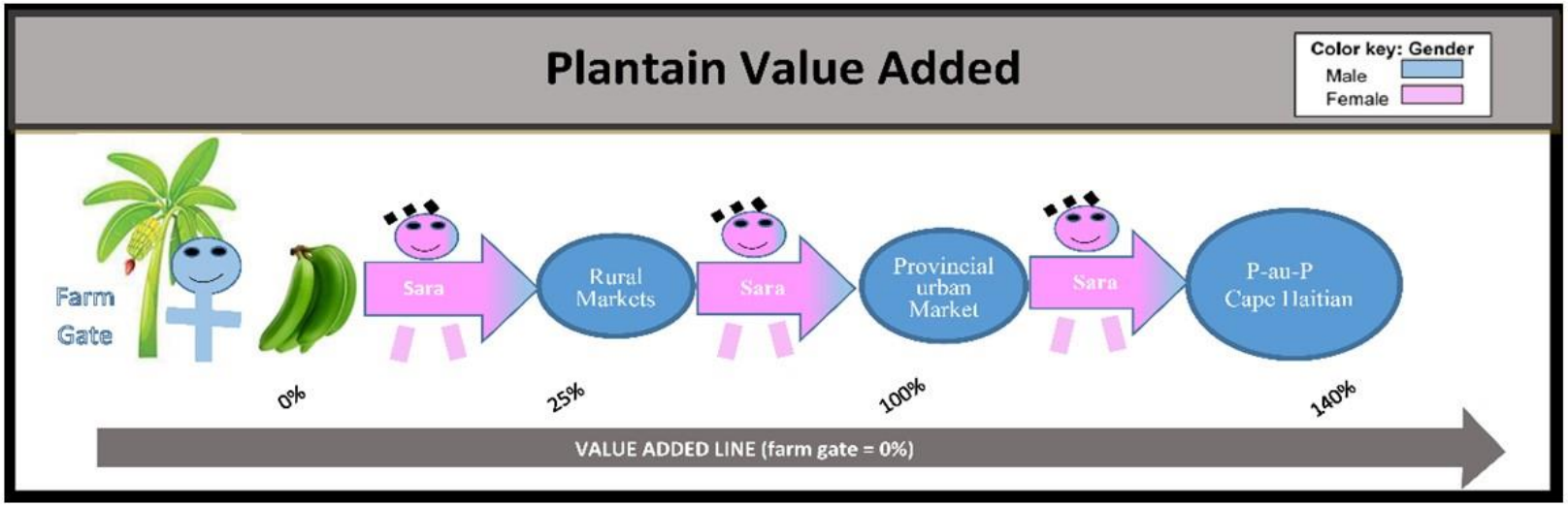

Kat de Mache Domestik epi informal (internal marketing system)
Color key: Gender
Male
Female
Pwodikte
Mache andeyo
Mache andeyo
Mache andeyo
SARA Marketer
(madan sara)
SARA Marketer
(madan sara)
Sara Marketer
(madan
Mache nan vil pwonvisyal
SARA
P-au-P Cape Haitian
SARA
Revande
Revande
Populasyon
0%
15%
30%
100%
VALUE ADDED LINE (farm gate = 0%)

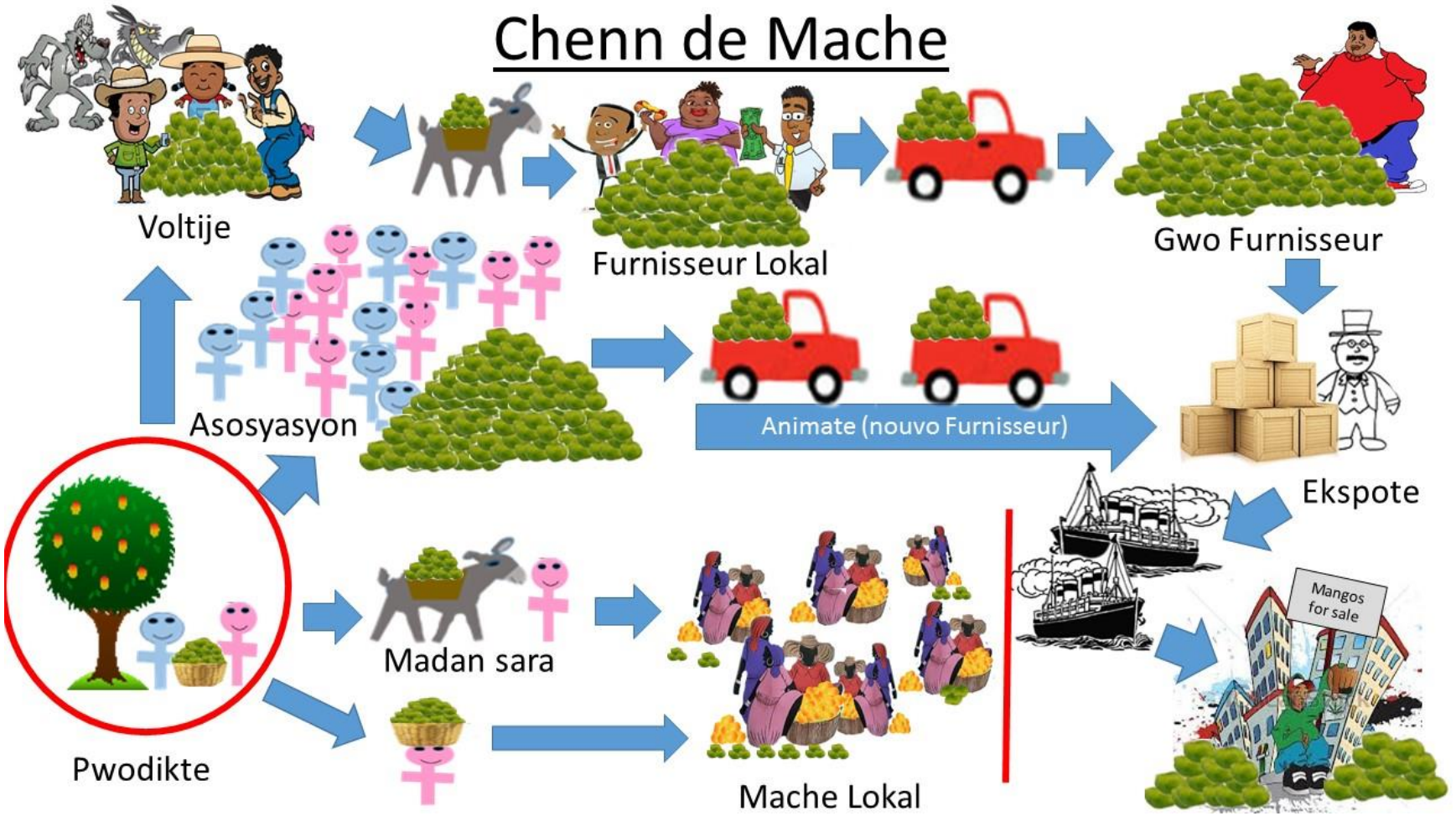
Madam Sara and the Internal Haitian Marketing System (for most edible beans, fruits and

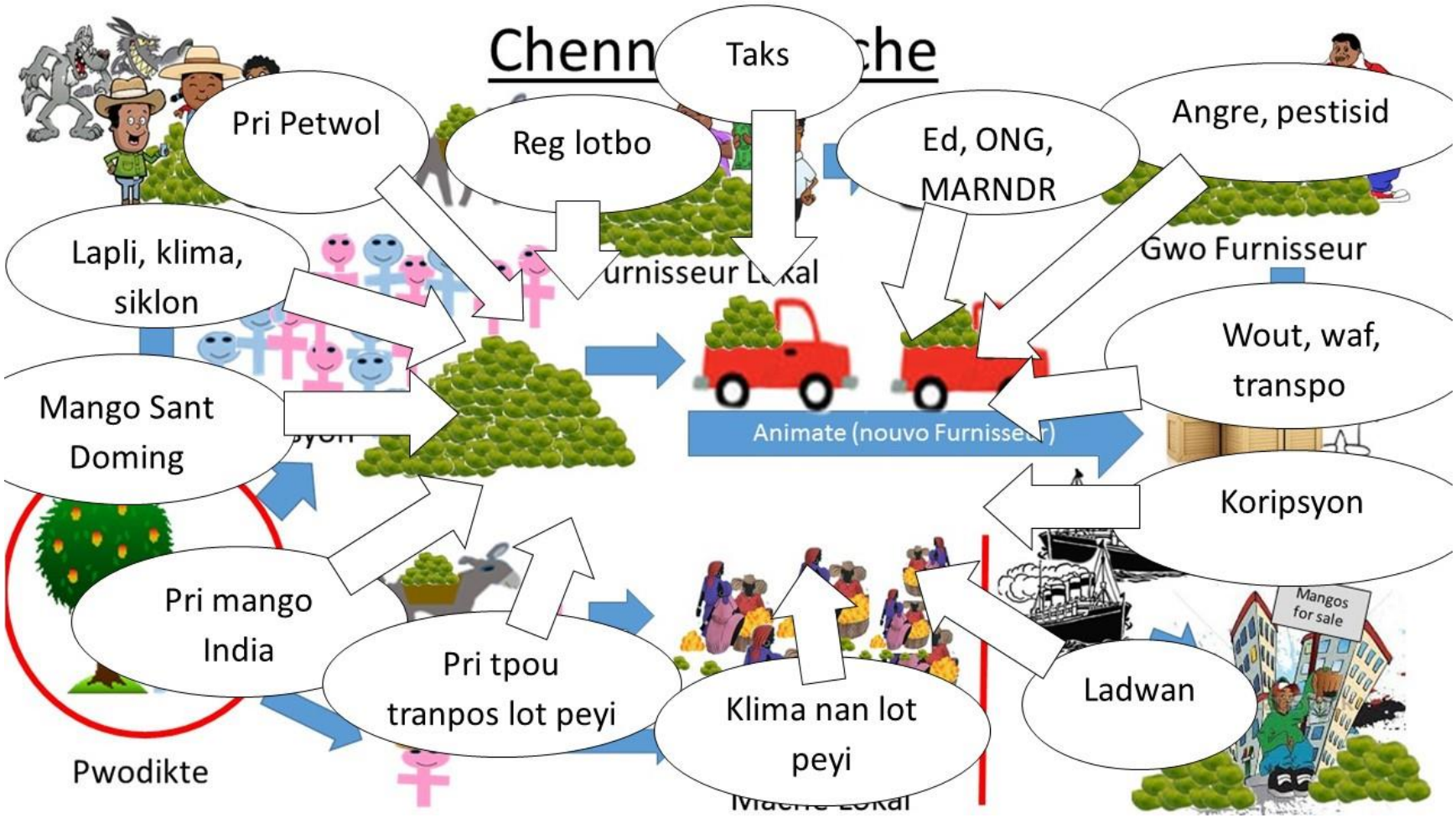


***Komèsan* and the Global Marketing System (for staples rice, beans, flour, sugar…)**

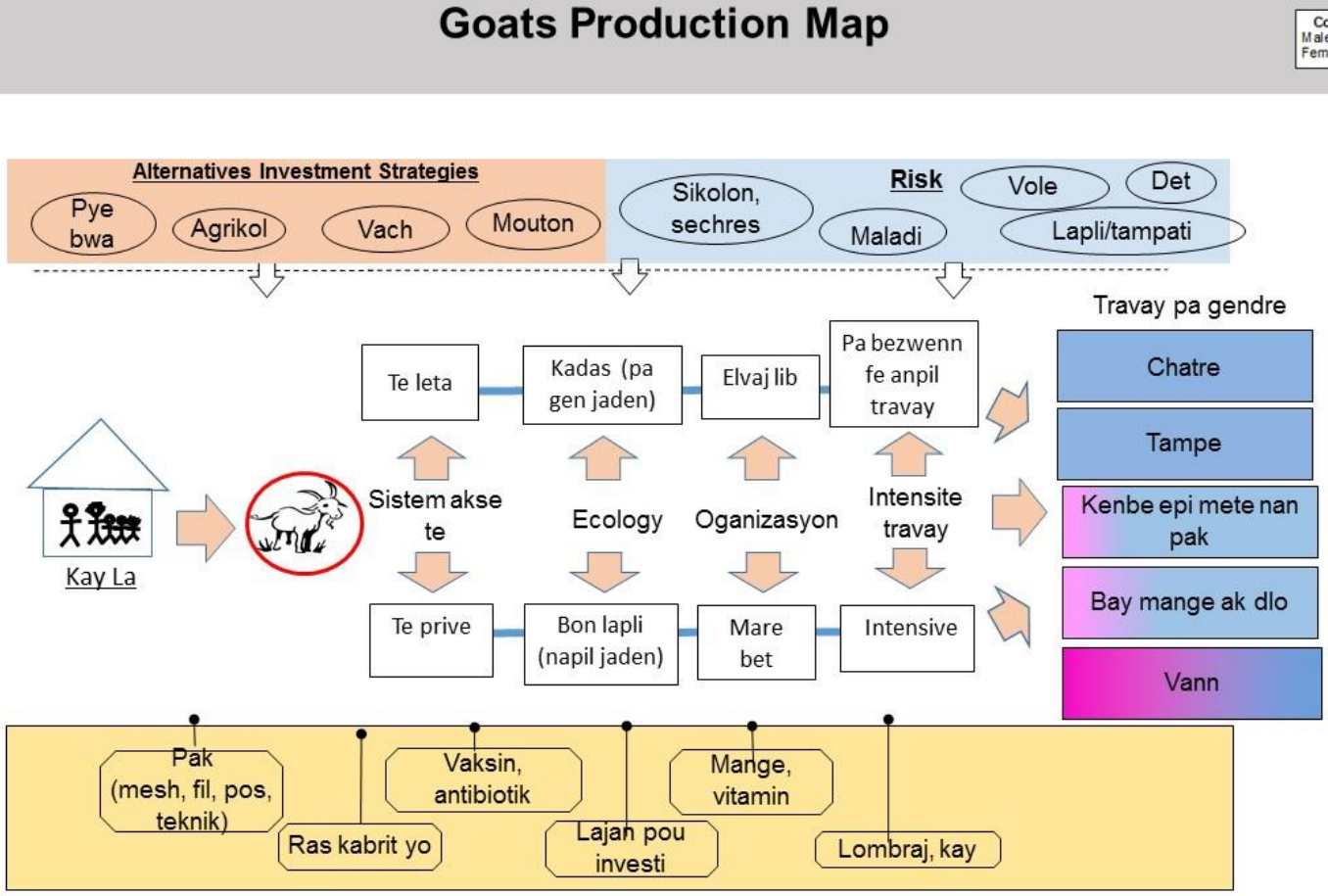


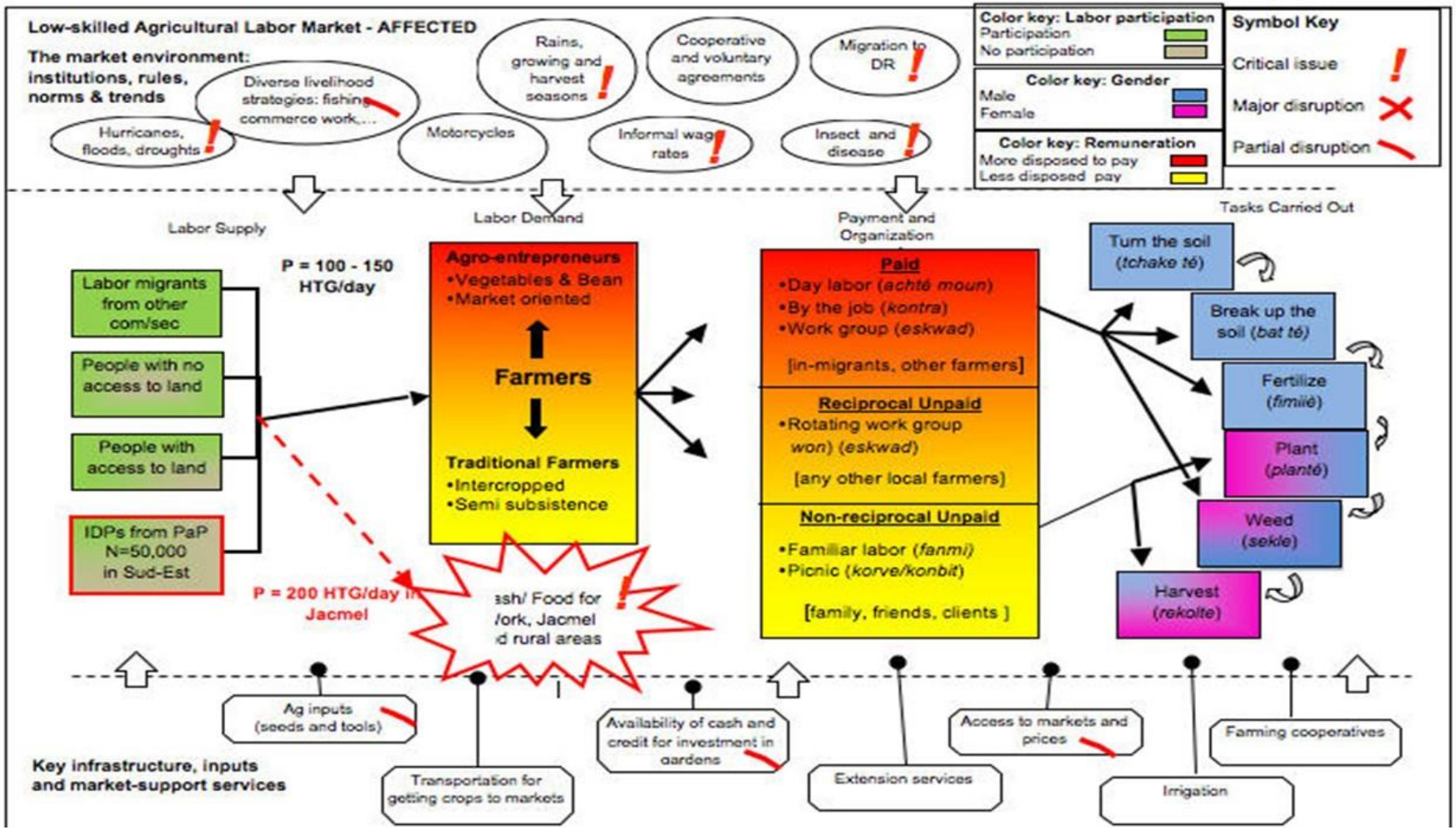

Plantain Value Added
Color key: Gender
Male
Female
Farm Gate
Sara
Rural Markets
Sara
Provincial urban Market
Sara
P-au-P Cape Haitian
0%
25%
100%
140%
VALUE ADDED LINE (farm gate = 0%)


Chenn de Mache
Voltije
Furnisseur Lokal
Gwo Furnisseur
Asosyasyon
Animate (nouvo Furnisseur)
Ekspote
Mangos for sale
Madan sara
Pwodikte
Mache Lokal


Taks
Pri Petwol
Reg lotbo
Ed, ONG, MARNDR
Angre, pestisid
Lapli, klima, siklon
Gwo Furnisseur
Wout, waf, transpo
Mango Sant Doming
Animate (nouvo Furnisseur)
Koripsyon
Pri mango India
Pri tpou tranpos lot peyi
Klima nan lot peyi
Ladwan
Mangos for sale
Pwodikte

Goats Production Map




Low-skilled Agricultural Labor Market - AFFECTED
The market environment: institutions, rules, norms & trends
Diverse livelihood strategies: fishing, commerce work,...
Rains, growing and harvest seasons
Cooperative and voluntary agreements
Migration to DR
Hurricanes, floods, droughts
Motorcycles
Informal wage rates
Insect and disease
Color key: Labor participation
Participation
No participation
Color key: Gender
Male
Female
Color key: Remuneration
More disposed to pay
Less disposed pay
Symbol Key
Critical issue
Major disruption
Partial disruption
Labor Supply
Labor Demand
Payment and Organization
Tasks Carried Out
Labor migrants from other com/sec
People with no access to land
People with access to land
IDPs from PaP N=50,000 in Sud-Est
P = 100 - 150 HTG/day
P = 200 HTG/day in Jacmel
Agro-entrepreneurs
•Vegetables & Bean
•Market oriented
Farmers
Traditional Farmers
•Intercropped
•Semi subsistence
Paid
•Day labor (achté moun)
•By the job (kontra)
•Work group (eskwad)
[in-migrants, other farmers]
Reciprocal Unpaid
•Rotating work group won) (eskwad)
[any other local farmers]
Non-reciprocal Unpaid
•Familiar labor (fanmi)
•Picnic (korve/konbit)
[family, friends, clients]
Turn the soil (tchake té)
Break up the soil (bat té)
Fertilize (fimilé)
Plant (planté)
Weed (sekle)
Harvest (rekolte)
Ag inputs (seeds and tools)
Transportation for getting crops to markets
Availability of cash and credit for investment in gardens
Extension services
Access to markets and prices
Irrigation
Farming cooperatives
Key infrastructure, inputs and market-support services

Annex 2: Focus Group Guide

KAT KRIS
FOKUS GWOUP GID

JADEN (Agriculture)

Kilitive ki pi impotan nan zon nan (Most important crops in area)

Pou ki nou jwenn pi interesan… epi pou ki sa (What are these crops important)

Kob/risk/fasil/disponib (Money, risk, ease of production, availability)

Avek kyes yo plis vann oswa yo menm menm ki vann (Do they most often sell with machann or sell themselves…)

PW ki pi important (Most important beans to plant vs to sell)

Kote pwa ak mayi ale? (Where do beans and corn go for ultimate sales)

Kote l soti? (Where do they come from/importations)

Kote yo jwen semans? (Where do the get seeds?)

Ki jan yo konnen ke l bon? (How do they know the seeds are good?)

Tip de pwa (Types of beans?)

Tep de mayi (Types of Corn)

Sa yo plis reme epi poukisa? (What do they lie most and why?)

KRIS (Crisis

Ki mwa ki gen plis grangou (Month with the greatest hunger)

Le gen grangou ki sa ou plis (What economic activity is most important when there is hunger?)

Ki pwoblem vini (What problems)

Denye kris (last crisis?)

Ki sak ki pase? (what happened?)

Repons Kris (Crisis Response)

Van minit… (Selling telephone minutes)

Bay manje (vs. Giving Food)

Kob (vs. Giving money)

PWA ak MAYI (Beans and Corn)

Chak ki le yo manje pwa (How ofen do they eat beans)

Chak ki le yo manje mayi (How ofen do they eat Corn)

Le pa gen pwa ki sa ou ka manje nan plas li (Where there are no beans, what do they eat?)

Le pa gen mayi, ki sa ou ka mete nan plas li (When there is no corn what substitutes?)

Nan ki mwa yo pwa konn pi che (ki pri) (In what months are beans most expensive?)

Nan ki mwa pwa pi ba pri (ki pri) (In what months are beans cheapest?)

Eske you pwa se menm (Are all bans the same?)

Gendre (Gender)

Kiyes ki plis (Who does the task most, Women vs. Men)

Prepare te ?	Fi	Gason	Soil prep?	Women	vs. Men
Plante?	Fi	Gason	Planting?	Women	vs. Men
Sakle?	Fi	Gason	Weeding?	Women	vs. Men
Rekolte?	Fi	Gason	Harvesting?	Women	vs. Men
Vann?	Fi	Gason	Selling?	Women	vs. Men

Annex 3: Survey Questionnaire

ODK Questionnaire in Kreyol

Questionnaire Pwa ak Mayi

Bonjou/Bonswa Mwen se _ Nap fe yon anket pou Goal sou afe jaden ak kris ki kon tonbe

Non ankete a*

Nan ki seksyon ou ye*

Lokalite*

Non* Nimewo telefon* Seks moun nan?*

Estime laj repondan an,*

Ki premye sous de revni kay la genyen?*

Epi apre , ki sa ou ta di se 2eme pi impotan sous lajan pou kay la?*

Epi apre , ki sa ou ta di se 3eme pi impotan sous lajan pou kay la?*

Nan lis sa ki sa ou pi pe*

Epi nan lis sa ka sa ou pi pe*

Epi eske ou pi pe A) oswa B)*

Epi ki denye pi gwo kriz ki travese nou?*

Epi le kris la frape, sou ki sa nou te depann pou kenbe kay la?*

Si gon yon siklon oswa sechres, ki aktivite ki pi impotan pou kenbe kay la?*

Konbyen jaden moun nan kay la gen antou?* Eske ou gen,*
jaden selman nan plenjaden selman nan monjaden ni nan plen ni nan mon

Nan douz mwa sot pase ki 5 danre ou te plante nan jaden an?*

Epi ki 2 ou ta di ki pi impotan pou nou?
Nan lis mwen pral li, ki manje ki pi impotan pou kay la ke tout lot manje*

Epi apre , ki manje ki pi impotan pou kay la ke tout lot manje*

Epi apre , ki manje ki pi impotan pou kay la ke tout lot manje*

Ki manje nou manje pi plis nan kay la*

Epi apre , ki manje nou manje pi plis*

Epi apre , ki manje nou manje pi plis*

Epi le nou pa gen kob ditou, ki manje ou manje pi plis nan kay la*

Epi apre , le nou pa gen kob ditou, ki manje ou manje pi plis nan kay la*

Epi apre , le nou pa gen kob ditou, ki manje ou manje pi plis nan kay la*

Le nou gen kob, ki manje nou plis reme manje*

Pou ki ou plis reme manje*

Eske ou manje pwa chak jou*

Eske ou manje mayi chak jou?*

Ki mwa yo ki pi di pou kay la?*

Pou ki sa mwa sa yo pi di?*

Dapre ou menm, pou fe yon bon manje midi byen fortifyan, di m sak yon pla nomal gen ladan?*

Dlo nou itilize poun bwe a*

Nou achtel tou treteSe nou ki tretelNou bwel konsaLot
Kote nou jwenn lot dlo pou kay la?*

siten o tiyo lakay lasiten o tiyo lot koteriviesousLot

Ki distans nan minit li ye? (ale retou)*Eske dlo sa konn sech*
Kounyea mwen pral poze kek kesyon sou afe prete kob*

Nan denye ane, eske ou te prete oubyen sevi avek kob ki sot nan men yon zanmi, fanmi, patwon oubyen vwazen?*

Ane sa a, eske'w te resevwa yon kredi nan yon enstitisyon ki konn bay kredi?*

M ka pran foto de ou?*

Pran koodone GPS*GPS coordinates can only be collected when outside.*
latitude (x.y °)longitude (x.y °)altitude (m)accuracy (m)

ODK Questionnaire in English

Questionnaire_Beans and Maize

Hi My name is_ We are conducting a survey for ACF and Oxfam. We would to ask some questions about agriculture, livestock, and credit. The information you share with us is confidential We will not share your name with anyone Do you consent to respond to the questions?*

Name of surveyor*

BerthonyStanleyLesleyHilaireMatelotJimmyYvesPatrickMerleneEdnaSilvesOther

Nan ki seksyon*

Neighborhood*

Reserve_CollineBord_MerCollineMergerGrande_SalineMariani_8Haut_FontamaraBas_FontamaraOther

-*[ ]-*Sex*

Age*

Most important source of household income*

What is the 2nd most important source of money for the household?*

What is the 3rd most important source of money for the household?*

Which in this list are you most afraid of*

Which in this list are you most afraid of*

Are you more afraid of A) or B)*

How many gardens does everyone in the house have altogether?*-*

In the last twelve months what plants did you cultivate/platn in the garden?*

Which three would you say are the most importan to the household?

In what months?*

Why*

According to you, to eat a meal that is good and fortifying, what should be included?*

Primary drinking water?*

Buy treated waterWe treat the waterWe do not treat the waterOther

Cistern or spigot at houseCistern or spigot elsewhereRiverSpringOther

Now I am going to pose a few questions about borrowing and credit*

In the past year have you borrowed money from a friend, family, patrone or neighbor?*

In the past year have you borrowed money from an institution?*

May I take a picture of you?*

Pran koodone GPS*GPS coordinates can only be collected when outside.*

latitude (x.y °)longitude (x.y °)altitude (m)accuracy (m)

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Endnotes

[i] Both of the given census figures for household size are suspect. The average rural Haitian household found in the vast majority of surveys conducted by the consultant is 5.2 members and urban households tend to have 4.8 members, which might put into question the accuracy of the census data (see Schwartz 2000; 2009; 2011; 2013).

[ii] To negotiate survival in this peasant economy Haiti's small farmers save, but not in banks or even under the mattress. They invest profits in social capital, i.e. spouses, children, and extended kinship relations. They invest it in micro agricultural production and livestock rearing seen above and, very importantly, they roll their capital over in intensive female trading activities in the markets. When drought or storm does strike, most of these small producers, or "peasants," turn to production of charcoal for the urban market as a source of emergency income. Indeed, while a vector of ecological disaster, charcoal production has unquestionably done more to keep rural Haitians alive during crises than all the state and NGO interventions in its history.

[iii] Haiti's "peasant" farmers in Gressier also engage in an "occupational multiplicity" of artisanal crafts and labor specialties such as porter, butcher, baker, tailor, basket maker, rope weaver, carpenter, mason, roof crafter, iron smith. There are craftspeople who make tin can lamps, bees wax candles, graters, bridles, nets, weirs, boats, beds, latrines. There are specialists who specialize in finding specific vines useful in other specialties and a host of traditional healing specialists that include leaf doctors, masseuses, midwifes, and various spiritual specialists from shaman to prayer reader.

[iv] Food Security Import Data is probably wrong. When I went to the source of IFAD data it cited the World Bank data which I could not find online. IFPRI (2013) cites WFP (2012) which itself collects little data and what it does collect is typically based on poorly and even fraudulently collected data (personal experience working for organizations contracted to conduct the surveys—specifically here University of Michigan--and having analyzed data from some of their most import surveys—specifically 2013 CNSA survey). Notwithstanding, WFP probably depends on World Bank Data, which for Haiti is also based on notoriously bad survey data. What we do know is that food imports have skyrocketed over the past 50 years. And since we all like to see data references I have followed IFPRI and WFP and cited bogus statistics.

[v] Men work in the gardens, care for livestock, make charcoal for sale to villages, towns, and cities, and gather firewood for their own households. The heaviest tasks, like hoeing (*voye wou*) and digging holes for plantain trees (*voye pikwa/fouye twou*) are considered to be men's work while light garden work, such as covering holes and collecting the debris from a weeded garden, are thought of as women's work. Men help process the food, such as flaying millet, beans, and maize or pulverizing the seeds with bat and bucket-size mortar and pestle. Men build houses, and all jobs involved in the building of a house, such as carpentry and masonry, are male jobs. The only task related to household construction that women do is plaster houses with white mud or lime—if the mud is not white then plastering house walls is men's work (most houses in the region are wood planks produced from local trees). Men, and to a far lesser extent women, migrate to the city in pursuit of temporary wage opportunities.

Perhaps the most significant and telling feature of the gender division of labor, is that men rarely engage in female chores while women can and sometimes do perform the full range of male activities. Men do not generally wash clothes, make meals, clean the house, or go to the market. Men seldom carry water. Women on the other hand can and often do tend livestock, weed gardens, and search for firewood. Some women, particularly older, economically independent women, hoe the soil and, in a few rare instances, dig holes for plantain trees. This versatility in job performance reflects the fact that women are more important than men in the day-to-day functioning of homesteads. Indeed, households are thought of as belonging to women and, Haitians are fond of saying, "men don't have houses" (*gason pa gen kay*), and people will typically refer to the homestead, even when a productive male is present, as belonging to the woman, as in "Ma Benita's place" or "Lili's house."

A point that deserves special mention is the role of children in Household livelihoods (see Schwartz 2009)

As discussed previously, all people in the region, regardless of their poverty, have access to garden plots and animals through sharecropping and other tenure arrangements, something that makes the capacity to tend animals and gardens a significant factor in determining the actual number of each managed by a household. Capacity is determined by the availability of domestic labor. That means children (see Schwartz 2009).

[vi] It is important to highlight that the greatest threat to individual household livelihood security is not droughts or other ecological disasters. The greatest perceived threats are internal household crises. In the 2007 CNSA/CFSVA survey three of the five most common shocks respondents reported suffering from in the previous year were accident/illness, death, and animal disease (Table N1). The highest percentage of people that reported having been impacted by a particular shock was 70.7%; that was for "Increases in Food Prices." But by far the *most severe shock* the household had suffered in the preceding year was from disease or accident suffered by a family member. Thus, in attempting to explain and anticipate the impact of regional ecological crisis, such as drought, internal crisis should be understood. Drought certainly increases the occurrence of such crisis. But the immediate shock felt by the household is not the drought, but rather the effect of the drought vectored through events internal to the household.

Table N1: Frequency and Severity of Shocks to Household Livelihood Security

Shocks	Most Common Shock	Worst shock
Increase in food prices	70.7	10.1
Cyclone Flood	63.9	11.4
Drought	54.6	4.8
Irregular rainfall	49.6	1.7
Disease/Accident of household member	47.6	30.8
Animal diseases	47.1	9.5
Crop diseases	37.6	4.5
Rarity of basic food stuffs on the market	29.1	2.1
Increase in seed prices	27.7	1.0
Drop in relative agricultural prices	25.3	1.1
Drop in wages	22.6	1.6

Human epidemia	22.1	2.2
Death of a household member	21.9	11.7
Increase in fertilizer prices	12.9	0.9
Drop in demand	12.7	0.3
Insecurity(theft kidnapping)	11.1	2.1
New household member	10.0	0.5

Source: World Bank 2011 Vulnerability before and after the Earthquake. Policy Research Working Paper 5850. By Damien Echevin. P 20. Date is drawn from CNSA/CFSVA 2007.

[vii] Increasing prices that come with higher exchanges rates are softest for those who are fortunate enough to have family in North America who send remittances. Those living exclusively off the local economy are not so fortunate. Eventually most other prices catchup for everyone, but there is definitive lag at the very end of which are those Haitians who are the poorest, the most rural and the most entrenched in the local economy, such as Gressier bean and maize producers.