ACKNOWLEDGEMENTS

FEWS NET would like to thank
Coordination Nationale de la Sécurité Alimentaire (CNSA),
the United States Agency for International Development (USAID/Haiti),
CARE, Catholic Relief Services (CRS), Save the Children (SC/US),
and World Vision (WVI) for their active participation, their commitment
and their enthusiasm in drafting the
livelihood zone maps and preparing the profiles.

FEWS NET would also like to thank the governments, local organizations and many other
participants who, in one way or another,
gave their time and expertise in conducting research in the field.
# CONTENTS

## INTRODUCTION
- Uses of the Profiles ............................................................... 1
- Key Concepts ........................................................................... 2
- What is in a Livelihood Profile ................................................ 3
- Methodology ............................................................................. 6

## NATIONAL OVERVIEW
- Introduction ............................................................................. 7
- Geography and Climate ........................................................... 9
- Rural Sources of Food and Income:
  - Major Conclusions and Implications .................................... 10
  - Livelihoods in Rural Areas ...................................................... 13
  - Summaries of Rural Livelihood Zones ................................. 14

## LIVELIHOOD ZONE PROFILES
- Zone 1: Dry Agro-Pastoral Zone ........................................... 16
- Zone 2: Plains Under Monoculture Zone ............................. 22
- Zone 3: Humid Mountain Farming Zone ............................... 28
- Zone 4: Agro-Pastoral Plateau Zone ...................................... 37
- Zone 5: Agro-Pastoral Zone ...................................................... 43
- Zone 6: Dry Agriculture and Fishing Zone .......................... 50
- Zone 7: Sea Salt Production Zone ......................................... 58
Introduction

The livelihood profiles that follow document how rural populations throughout Haiti live. A **livelihood** is the sum of ways in which households obtain the bare necessities, how they make ends meet from year to year, and how they survive (or fail to survive) through difficult times.

There is increasing interest in using livelihoods analysis as the “lens” through which to view a number of problems. These problems range from emergency response to disaster mitigation to longer-term development. This interest rests upon two basic observations:

1) **Information** about a given area or community can only be properly interpreted if it is put into the context of how people live.
2) **Interventions** can only be designed in ways appropriate to local circumstances if the planner knows about local livelihoods and whether or not a proposed intervention will build upon or undermine existing strategies.

Two main products are offered here:

<table>
<thead>
<tr>
<th>National Livelihood Zone Map</th>
<th>The map shows the division of the country into homogenous zones defined according to a livelihoods framework.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Livelihood Zone Profiles</td>
<td>The profile describes the major characteristics of each zone, including a brief differentiation of different wealth groups. There is some emphasis on hazards and the relative capacity of different types of households in different places to withstand them.</td>
</tr>
</tbody>
</table>

In compiling these profiles, a balance has been struck between accessibility and level of detail. The aim has been to present sufficient information to allow a rounded and balanced view of livelihoods nationally. The profiles provide a rapid introduction to livelihoods in the country; they do not offer localized detail.

The preparation of these profiles was a joint activity between the USAID FEWS NET project, Coordination Nationale de Sécurité Alimentaire du Gouvernement d’Haïti, USAID, CARE, Catholic Relief Services, Save the Children, and World Vision. The main focus of FEWS NET’s work is early warning. The livelihood profiles have been structured primarily with this type of activity in mind. However, it is hoped that they will also prove useful to the wider development community.

This document is divided into three main sections:

1. **Introduction** — includes four sub-sections:
   - **Uses of the Profiles**—describes three main ways the profiles can be used.
   - **Key Concepts**—defines the key concepts used in livelihoods-based analysis and briefly presents the analytical framework that helped define the key information to be included in these profiles.
   - **What is in a Livelihood Profile**—describes the layout and content of each profile.
   - **Methodology**—describes the methods used to develop the map and profiles.

2. **National Overview**—National livelihood zone map, together with a national overview of livelihoods in Haiti.

3. **Livelihood Zone Profiles**—Profiles for each zone.
Uses of the Profiles

The livelihood zoning and profiles presented here offer an analysis of rural livelihoods and food security based on a geographical basis. The country is divided into homogenous zones according to a livelihoods framework. A brief description of each zone is provided, including an analysis of the position of different wealth groups within the zone. It is envisaged that this product will be useful on three levels, as follows:

1. **An Introductory Guide to Livelihoods and Food Security in the Country**

   The profiles pack considerable information and analysis into a few pages of presentation. They should therefore form a useful briefing for a newcomer who needs to get a quick grasp of the livelihoods and food security conditions around the country. The geographical divisions are relatively large – as far as this is consistent with ground realities – so that the reader can take in the general pattern and the basic differences between areas and populations without being overwhelmed by too much detail.

   Development planners can also benefit from using the livelihood profiles. One objective of development is to reduce people’s vulnerability to hazard and to increase their capacity to cope. An important first step is to understand who is vulnerable, to which hazards, and why. Likewise, efforts to reduce poverty require an understanding of how the poorest households survive in different areas of the country and the reasons for their poverty.

2. **Early Warning and Response Planning**

   Local food security is often incorrectly equated with agricultural production outcomes compared to the food needs of the local population. Hence, a chronic or temporary production deficit against local food requirement is immediately translated as chronic or temporary food insecurity. Consequently, most early warning and food security monitoring systems draw heavily from two information sources: (i) crop and/or livestock production data, and (ii) market price information.

   This is almost never the whole story. A full account of the “food economy” addresses both food availability – that is, what food people produce – and food access – what cash people earn to purchase food. Data on casual employment, wild foods, charity from relatives or the sale of handicrafts may be equally important to the livelihood story as data on crop or livestock production, and knowledge of the relative importance of these can guide the design of more appropriate monitoring systems and better rapid emergency assessments.

   Using a livelihoods framework, we can inquire into household capacity to cope with stress, especially failed crop or livestock production; and we can appreciate household activities at different periods in the yearly cycle. All of which feeds directly into our analysis of need, helping to answer key questions, such as: which areas and what types of household are likely to cope should a hazard strike, and which will need assistance? What types of intervention will be most appropriate, and when and for how long should they be implemented?

   Thus for instance one could point to the position of poor households in a given geographical area who are highly dependent on urban employment. If urban employment declines, their labor will be less in demand; can they find alternative income elsewhere – and will they be competing with people from other zones in these activities?

   National officers working within their national early warning system have an immense knowledge of their countries. The livelihoods approach helps to provide a framework for the full use of that knowledge, as well as adding a new level of information to it.

3. **Policy Development**

   Disaster management has been the main impetus to the spread of early warning systems. The rationale in early warning is to improve the efficiency in the scale and timing of emergency food aid. However, increasingly planners are looking at alternatives to food aid in early emergency intervention – and this often requires changes in policy and practice. A case in point is the stabilization of market prices for basic foods. Livelihoods analysis can expose the likely effects of such interventions on different households’ capacity to survive a crisis. The analysis can also recommend the optimum timing for the intervention.

   Livelihood analysis can also be applied to other policy changes. For example, if the government taxes on kerosene were reduced, or charges made for government veterinary drugs, what would be the impact on households? More generally, a livelihood analysis offers a more secure footing for poverty alleviation measures – and represents a movement from a response to symptoms of food insecurity to a treatment of the causes. It allows one to look at the story which lies behind national statistics.

**Key Concepts**
The terms **risk**, **hazard**, **vulnerability** and **need** are frequently used in ways that can be confusing in the context of food security. Their established meaning for the purposes of disaster management – and the sense in which they are used here – is perhaps best explained with an example (see below).

### Defining Risk, Hazard, Vulnerability and Need

- Drought is a major **hazard** affecting crop and livestock production in many countries.
- Poor households are more **vulnerable** to (less able to cope with) drought than better-off households; they have fewer reserves of food or cash to fall back on and fewer options for generating additional income.
- Poor households living in drought-prone areas of the country are more **at risk** than other households because they are both exposed to and vulnerable to the drought hazard.
- Once a drought strikes, the poor are the most **in need** of assistance.

To be at risk of food insecurity, you must both be exposed to a hazard as well as be vulnerable to that hazard, as in the case of poor households in the drought-prone areas of the country in the above example. Because vulnerability is so closely linked to hazard, it follows that there is no general state of vulnerability. People can only be vulnerable to *something*. For example, farmers cultivating along a river margin may be vulnerable to flood (which is likely to wash away their crops) but may not be vulnerable to drought (since they can irrigate their crops using water from the river).

Once a hazard has struck, it no longer makes sense to talk about vulnerable groups. Put simply, people are **vulnerable before the event**, (since this refers to their ability to cope should a hazard strike). They are **in need after the event** (i.e., once they have been affected by and have been unable to cope with the hazard). Going back to the drought example, the poor are vulnerable to drought before the rains fail, but once they have lost their crops or livestock, they are in need of assistance.

One of the most widely used livelihoods-based approaches for analyzing food security is the **food economy** approach, first developed by Save the Children UK in the 1990s. The basic principle underlying the approach states that:

> an analysis of local livelihoods is essential for a proper understanding of the impact – at household level – of hazards such as drought, conflict or market dislocation.

Total crop failure may, for example, leave one group of households destitute because the failed crop is their only source of staple food. Another group, by contrast, may be able to cope because they have alternative food and income sources. These alternative sources – such as livestock to sell or relatives elsewhere who can assist - can make up the production shortfall. Thus, effective hazard impact assessments must be based upon a livelihood analysis. The food economy analytical framework sets out the type of analysis required to understand the impact of a hazard on food security and local livelihoods, and has been used to help define the key information to be included in the profiles.

The objective of a food economy analysis is to investigate the effects of a hazard on future access to food and income so that decisions can be taken about the most appropriate types of intervention to implement. The rationale behind the approach is that a good understanding of how people have survived in the past provides a sound basis for projecting into the future. Three types of information are combined: (i) information on baseline access to food/cash income, (ii) information on hazard (i.e., events affecting access to food/cash income, such as drought, conflict or market dislocation), and (iii) information on household-level response strategies (i.e., the sources of food and income that people turn to when exposed to a hazard). The approach can be summarized as follows:

### The Livelihood Zone Map

Patterns of livelihood clearly vary from one area to another, which is why the preparation of a **livelihood zone map** is a useful first step for many types of livelihoods-based analysis. Local factors such as climate, soil, access to markets, etc. all influence livelihood patterns. For example, people living in a fertile highland area generally have very different options from those living in a semi-arid lowland area. In highland areas, people can generally pursue an agricultural pattern of livelihood, while in the lowlands, they can grow few crops and will be either pastoralists or agro-pastoralists. Those living in a coastal or lakeside zone will follow a livelihood based upon fishing or combining fishing with other activities, and so on.

Agro-ecology is only one aspect of geography which determines patterns of livelihood, however. Another is market access, since this affects the ability of people to sell their production (crops, livestock, or other items) and the price obtained for it. Since patterns of livelihood depend so much upon geography, it makes sense to divide a country or a region into a number of **livelihood zones**. These we can define as areas within which people share broadly the same pattern of livelihood (i.e., broadly the same production system - agriculture or pastoralism, for example – as well as broadly the same patterns of trade/exchange).

---

Livelihood zone boundaries do not always follow administrative boundaries. It is, for example, quite common to find different patterns of livelihood within a single administrative unit (e.g. pastoralists living alongside agriculturalists, or agro-pastoralists alongside fishing communities). However, because resource allocation and service provision decisions are made on the basis of administrative areas, not livelihood zones, it is important that livelihood zone boundaries should wherever possible follow lower level administrative boundaries.

**The Wealth Breakdown:** Geography is clearly not the only thing that determines the pattern of livelihood. Geography tends to define the different livelihood options, but the extent to which people exploit these options depends upon a number of factors, of which wealth is generally the most important. It is obvious, for example, that better-off households owning larger farms will in general produce more crops and be more food secure than their poorer neighbors. Land is just one aspect of wealth, however, and wealth groups are typically defined in terms of their land holdings, livestock holdings, capital, education, skill, labor availability and/or social capital. Defining the different wealth groups in each zone is the second step in a food economy analysis, the output from which is a wealth breakdown.

**The Food Economy Baseline:** Having grouped households according to where they live and their wealth, the next step is to generate food economy baseline information for typical households in each group for a defined reference or baseline year. This involves investigating the different sources of food and cash income and their relative contribution to the household budget over the year as a whole. It also involves developing a seasonal calendar of activities to see how access to food and cash income varies throughout the year. These types of information are critical in terms of understanding how households living at different levels of wealth and in different zones will be affected by a particular hazard. It follows, for example, that households that depend heavily upon local livestock production will be affected quite differently by drought compared to those that have relatives living and working in the capital city from whom they receive regularly assistance or remittances.

**Hazard:** Food economy data provide a starting point for investigating the effect that a hazard will have on livelihoods and household food security. Hazards may either be natural (e.g. drought or flood) or man-made (e.g. conflict or market dislocation). The consequences of a hazard will vary according to the hazard itself and according to the local pattern of livelihood. A drought may result in a loss of crop and livestock production, loss of crop and livestock sales income, loss of farm-based employment, etc., posing a threat to households that are heavily dependent upon crop or livestock production or upon local agricultural labor. Insecurity, on the other hand, may be associated with the theft of crops or livestock, reduced access to certain areas (markets, wells, grazing areas or fields) and disruptions to trade and transportation, all of which will pose a threat to groups living in, moving through or trading with the insecure area.

**Response:** When exposed to a hazard, most households will do their utmost to try and deal with its effects. If the hazard tends to reduce their access to certain sources of food and/or cash income, they may try and expand other sources, or they may turn to new or little-used sources. Common response strategies in certain settings might include an increase in the collection of wild foods, in increase in the sale of livestock, or temporary out-migrating in search of employment. Where these strategies are effective, they can significantly reduce vulnerability to a range of hazards. It has to be borne in mind, however, that response strategies may have long-term as well as short-term effects, some of which may ultimately undermine local livelihoods, e.g. the sale of productive assets, the unsustainable sale of livestock, in increase in the sale of firewood where this has negative environmental effects, and so on.

**What is in a Livelihood Profile**

The profiles are divided into a number of sections:

**Main Conclusions and Implications** summarizes the main findings from the zone. This section also provides insights that will inform the planning of various types of intervention, including emergency response, disaster mitigation and development programming.

**Zone Description** offers a general description of local livelihood patterns (crop production, livestock rearing, off-farm income generation, etc.).

---

2 Note that the information provided in the profiles does not constitute a full food economy baseline. A full baseline provides quantitative information on the amount of food accessed and the amounts of cash income generated from different sources for at least three main wealth groups within a livelihood zone. The livelihood profiles, in contrast, include information on the proportional contribution of different sources of food and cash income to the whole. Put simply, the unit of measurement for a livelihood profile is percentage of total. The national livelihood zone map and livelihood profiles are designed as a stand-alone product (see section on Uses of the Profiles), but they are also intended as an intermediate step towards the development of a full food economy baseline.

3 The term “response strategy” is preferred to “coping strategy” for two reasons. Firstly, the term “coping strategy” is often used to refer to regular components of everyday livelihood (e.g. firewood sale), which, strictly speaking, are only coping strategies when intensified in response to a hazard. Secondly, “coping” can be taken to imply that the strategy in question is cost-free, which is not always the case.
**Markets** contains basic information on the marketing of local production and on any importation of staple food into the zone.

**Seasonal Calendar** sets out the timing of key activities during the year. This is useful in a variety of ways, e.g. to judge the likely impact of a hazard according to its timing during the year, or to assess whether a particular activity is being undertaken at the normal time in the current year.

This is followed by five sections that provide the core information on the “food economy” of the zone (see preceding section):

- **The Wealth Breakdown** section describes three main wealth groups (“poor,” “middle” and “better-off”), explaining the differences between these groups and how this affects potential access to food and cash income.

- **The Sources of Food** and **Sources of Cash** sections examine patterns of food and cash income at each level of wealth, relating those to the characteristics of each group.

- **Response Strategies** describes the various strategies available to different types of household in the zone, together with a judgment of the likely effectiveness of these.

Early warning involves identifying and interpreting key events that indicate that a severe food shortage or famine may be developing.

The final section, **Indicators of Imminent Crisis**, draws upon the classification of early warning indicators proposed by Fred Cuny. This section provides information on the key indicators and their likely timing by zone, based upon an understanding of local livelihoods and local patterns of response to food shortage.

**Methodology**

As mentioned above, the conceptual framework of the FEWS NET approach to livelihoods, which is the basis for the Haiti Livelihood Profiles, is drawn form household economy analysis. This analysis was originally developed to understand the details of household livelihood (or means of existence) trends, particularly access to food and cash income, as well as spending trends in the different levels of wealth in the population. This understanding helps to identify and plan emergency interventions (food-related and non-food-related) and development. However, in terms of early warning and food insecurity, FEWS NET designed its approach to livelihoods by giving a maximum value to analysis and monitoring of early warning and food security in environments with few resources. The FEWS NET livelihood profiles are not meant to be used in isolation to evaluate population needs or plan programs. They are designed to be one valuable tool in the food security analysis toolbox that should complement (by providing context) other data such as nutrition monitoring, crop production, market prices, etc. When used in this way, the livelihood profiles will allow the food security analyst to better understand current shocks in the context of what is locally normal for a given population, knowing how households will react to a whole series of events. With this foundation, we will be better able to identify a potential food security crisis in a given population at the right time, and by having a solid understanding based on livelihood patterns, we can quickly evaluate the situation and take rapid action – in other words, a more effective early warning. While these livelihood profiles do not provide any degree of statistical reliability or any highly localized data that could play a major role in planning local programs, their value lies in the fact that they can help to rapidly identify a developing crisis, effectively concentrate more in-depth evaluations, and thus provide a faster response to the population’s needs.

The Haiti livelihood zone map was prepared in several steps. First, a review of secondary data allowed for the identification of trends in a whole series of factors directly relating to the definition of these livelihood zones, in particular demographics, climate and ecology (rainfall, agro-ecological zones), crop production (crops, yields, land ownership regime, ownership of land and its use), livestock production, economic activities other than agriculture and finally, markets (the main food and non-food markets, the labor market and migration trends among workers). After this review of secondary data, a national workshop to determine the livelihood zones was organized with the team leaders and members and other key national actors. This workshop resulted in the drafting of a preliminary...

---

4 It is important to bear in mind for this analysis that we are thinking of wealth in relative (and local) terms. Statistical data may indicate that 80% or even 90% of the population in a particular area lives below the national poverty line, but this is measuring poverty on a national, absolute scale. In a livelihoods analysis, we are interested in understanding some of the differences between different groups within the community and the reasons for these – in which case it is not particularly useful to lump 80% or 90% of the population together into one group.


6 Fred Cuny identified two types of early warning indicators, those that provide advance warning of a famine (indicators of imminent crisis) and those that confirm the existence of famine (indicators of famine). The latter group includes indicators such as distress sales of productive assets (e.g. plough oxen), consumption of seeds, increased malnutrition and increased mortality. Indicators of famine are not generally context-specific (i.e., a single list could be prepared that would apply to all livelihood zones). They are also of little use in predicting or preventing severe food shortage or famine. For these reasons, they have not been included in the livelihood profiles.
map of Haiti’s livelihood zones. At the same time, a brief description of each zone was drafted by participants who possessed valuable information. This livelihood zone map was then refined during periodic sub-national workshops and through interviews in the field.

The team leaders and members received intensive training on the FEWS NET livelihoods-based approach, particularly on the key techniques of field work (for example, key informants, interviews with working groups, and classifications), the use of research tools (i.e., guides for semi-structures interviews and questionnaires, when necessary) and other aspects of the methodology (i.e., the sampling approach, internal and external triangulation mechanisms to maximize data validity). In total, six teams of interviewers, composed primarily of technical staff from USAID/Haiti, CARE, Catholic Relief Services, Save the Children, and World Vision, received training on the FEWS NET livelihoods-based approach.

After the training and the national workshop to define the livelihood zones, a work plan was drafted, important sources of information were determined, and the working groups conducted interviews at field sites in each livelihood zone. The choices of sites and participants were made with great care in order to make the survey as representative as possible and to minimize any distortions in the reports. Primary data was collected in May 2005. Most of the data from the field was collected from key informants in the communities and working groups and through interviews and workshops with informants at the national and sub-national levels. Each interview was analyzed for internal coherence, and, if possible, for coherence with secondary data, and findings were verified with later interviews conducted in the same livelihood zone. After conducting their field work, the team leaders analyzed the data for all of the livelihood zones together to ensure that the results were coherent across the different zones.
Livelihood Profiles in Haiti

National Overview

Introduction

The Republic of Haiti is located in the Caribbean (more specifically in the West Indies). Haiti was the first self-proclaimed black republic, recognized as independent in 1804. It is one of the oldest republics in the western hemisphere, founded just after the United States of America. It is a picturesque and beautiful island, a land of refuge and hospitality. The country faces many socio-economic and environmental challenges linked to its relatively high illiteracy rate, poor management of natural resources (water, soil, forests), urbanization and sanitation problems, a lack of planning to prevent natural disasters, HIV/AIDS, insecurity, etc.

Haiti is led by a President of the Republic elected for a 5-year term. The President may only serve two non-consecutive terms. There is a bicameral parliament, and the government is led by a Prime Minister. Since its independence on January 1, 1804, Haiti has witnessed a number of coups d’État. After the overthrow of the Duvalier dictatorship on February 7, 1986, the Republic was ruled by military men, except for a short 6-month period in 1988 under the presidency of Lesly Manigat. In June 1988, Manigat was deposed by General Henry Namphy, who himself was overthrown by General Prosper Avril in September of the same year. Legislative elections were held in May 2000. In November of the same year, Jean-Bertrand Aristide was pronounced the winner of the presidential elections with 91% of the vote. The official languages of the Republic of Haiti are French and Creole. In business, English and Spanish are as widely used as French.

Since the 2000 elections, there has been a stalemate between the Lafanmi Lavalas, the president’s party, and the Organisation du Peuple en Lutte, which controls the parliament. Since then, conflicts have arisen from all over (the opposition, civil society, students, rebels, demobilized fighters). On February 29, 2004, Jean-Bertrand Aristide stepped down from the presidency with the arrival of the first American soldiers, the avant-garde of an international force (the United Nations Stabilization Mission in Haiti, or MINUSTAH) sent by the UN to bring order to the capital, Port-au-Prince. These forces include American, French, and Canadian troops as well as others from the Caribbean. Today Haiti has an interim government led by Alexandre Boniface, president, and Gérard Latortue, prime minister, whose primary mission is to organize elections at all levels in the country within the next two years.

Haiti’s economy is almost entirely based on agriculture. Affected by both droughts and storms, Haitian agriculture (65% of the labor force) is not as strong as it could be, as overpopulation in the countryside has led to soil degradation and considerable erosion. Arable land is lacking, and a quarter of the rural population does not own land. Rice, corn and sweet potatoes are harvested twice a year. Most of this production is not enough to satisfy domestic demand. According to the 2004 survey of Bulletin No. 8 of the Coordination Nationale de la Sécurité Alimentaire en Haïti (CNSA), food availability in 2004 was divided as follows: 5%: food aid; 43%: local production; 52%: food imports. Fishing has never been a very productive industry, and timber is used to make handicrafts (masks, sculptures) essentially for export. Haiti depends on foreign aid, which finances much of the country’s public spending. The national currency is the Gourde, which is divided into 100 Centimes. It has seriously depreciated. The exchange rate changes nearly every day; from January 2005 to today, it has fallen from 37.25 gourdes to 41.5 gourdes to 1 U.S. dollar.

With little mechanization, the agricultural sector requires a lot of manpower. Although it has been weakened by environmental conditions (accelerated erosion), agriculture is still the primary economic activity in the region. The ownership regime that serves as a background to agricultural production can be put into two main categories: direct farming, which includes most of the land that is owned by farmers, and indirect farming, which includes land that is rented or sharecropped. This system of land tenure is called “two
halves.” In this system, the landowner gives a part of his land to a poorer farmer for a set period of time. In return, the poorer farmer supplies the input necessary to cultivate his parcel of land (seeds and labor). When it is time for the harvest, the crops are divided among the parties in previously agreed-upon proportions.

The marketing of crops essentially relies on the work of intermediaries. The route will be different depending on whether the crops are meant for export or subsistence. One of the principal intermediaries in marketing subsistence crops is “la Madame Sarah.” In "Peasants and Poverty" (1974), Mats Lundhal describes her as the tireless point of contact between urban consumers and rural producers. Alongside Madame Sarah, at a lower economic level, is the retailer, who resells certain crops. Between Madame Sarah and the producer are the merchant and a liaison agent, who sometimes provides the merchant with supplies. This liaison agent, commonly called sekretè (or “right-hand man”) is an important but not indispensable human resource for Madame Sarah, who can also go directly to the farm for supplies. Lastly, the owner of the warehouse in an urban area or the capital city is the last link in this chain. With his gift for doing business, he plays a role that is by no means insignificant in determining the price of different products, profiting from times of scarcity and creating monopolies.

In contrast to subsistence crops, the marketing of export crops (coffee and cocoa) does not lay in the hands of several different agents. It is done by a small number of export companies that, among other things, establish unspoken agreements among themselves for their respective collection zones. (Source: "Manuel d’Agronomie Tropicale Appliquée à l’Agriculture Haïtienne"). These collection zones are often under the grip and management of speculators.

In the case of subsistence crops, prices follow the law of supply and demand. So prices vary depending on the season: prices drop during the harvest season and rise in between harvests. In these circumstances, the “better-off” wealth group, with its high production rate and greater storage capacity, profits from the situation by purchasing the entire harvest of small and medium growers at a low price to then resell it at a higher price in between harvests. Another factor that helps determine the price of subsistence crops is the distance from the production site to the consumption site.

In the case of export crops, prices are determined on the international market, and prices are often imposed on producers without concern for international fluctuations. With their small production and storage capacities, and faced with heavy debts, poor farmers are the group that is the most vulnerable to these fluctuations.

Due to the small amount of income generated by growing coffee (because of its low price on the international market, shrinking yields, and especially low remuneration for the producer), coffee growing has considerably declined in some highland regions and is being replaced by grains and market gardening. Coffee growing does continue in certain regions, however, where donors have acted in time to finance programs to revive coffee production and market gourmet coffee meant for connoisseurs on the international market. Sugar cane production is also disappearing in favor of bananas, tapioca, and corn due to the closing of sugar extraction plants.

---

7 Name given to a small migrating bird that flies from one place to another in search of food. The term also has a negative connotation in the sense that the bird is often known for pillaging farmers’ gardens.
Geography and Climate

Haiti occupies the western third of the island historically known as Santo Domingo or Hispaniola, which it shares with the Dominican Republic. The Atlantic Ocean lies to the north and the Caribbean Sea to the south. To the northwest, the Windward Passage separates Haiti from Cuba, to the southwest the Jamaica Channel separates it from Jamaica. The country’s area is 27,750 km², including 190 km² of water. The north coast, from Môle Saint-Nicolas to Ouanaminthe (175 km) is washed by the Atlantic Ocean and the south coast, from Trois à l’Anse to Pitre (290 km), by the Caribbean Sea.

Three-quarters of this tropical nation is covered by mountains. The terrain is very uneven. More than 60% of the land area is covered by inselbergs with slopes exceeding 20%. Plains and plateaus with slopes from 0 to 10% represent only 29.5% of the country’s total area. Only 30% of the total land area is suitable for agriculture.

According to the latest census by the IHSI (Haitian Institute of Statistics), which dates to 2003, Haiti’s population is 7,929,048 residents, which gives a density of 288 people/km². More than 39.6% of the population falls within the 0 to 14-year age group, 56% in the 15-64 category, and 3.8% are 65 or older, or 64.56 per thousand in 2003. In 1992, one doctor was available per 10,000 people. The mean life expectancy is 54 years for women and 50 years for men. Infant mortality is high. The UN Human Development Index ranks Haiti 150th out of the 173 countries surveyed. In 2002, the illiteracy rate was 55%, according to a dossier on anti-poverty efforts in Haiti published by UNESCO.

Weak purchasing power and insufficient food, medical support and schooling are serious hindrances to the country’s socioeconomic development. Emigration to the United States and France (in particular Guadeloupe and Martinique) is high but provides only modest relief for demographic growth in Port-au-Prince, the capital city, which is growing due to migration from rural areas and which has about 2.4 million residents in its greater metropolitan area. The slums of Port-au-Prince never stop growing. Cap-Haïtien has 72,000 residents, and Gonaïves 63,300.

This sunny country has an average annual rainfall exceeding 1400 mm. The weather is characterized by its rather irregular seasonal changes, attributable to the mountainous nature of the country. Strictly speaking, there are only two seasons in Haiti: winter and summer, usually called the rainy seasons (generally running from April to June and October to November) and the dry season (November to March). The temperature varies depending on the season, region and elevation. The plains are constantly hot, with temperatures ranging between 15 and 25°C in the shade during the winter and 25 and 35°C during the summer. These temperatures decrease considerably with increasing elevation. Haiti lies in the path of the hurricanes that form in the Atlantic Ocean off the African coast or in the Lesser Antilles. These storms frequently move toward the southern peninsula, where they can cause considerable material damage and loss of human life. It should be noted that deforestation has led to desertification in some areas, especially the northwestern part of the country. Only 2% of the original forested area remains, and it continues to disappear at a rapid pace. Reforestation programs are underway, but soil erosion is a concern everywhere.

North of the capital city, Port-au-Prince, are some beautiful beaches, and farther along are points of interest and monuments, including the Laferrière Citadel. Thanks to the terrain, plenty of cool spots on the island—for example, Pétionville, Furcy, and Kenscoff on the heights and Jacmel on the south coast—enjoy a fresh breeze that never reaches some other towns, which instead bake in a stifling heat. The weather is good year-round in Haiti, and all seasons are less humid than in the Lesser Antilles.

---

8 Normally, FEWS NET’s livelihood profiles give the average monthly rainfall in the seasonal calendar section of the individual livelihood zones profiles. However, due to limited rainfall data for Haiti, the graphical summary of rainfall averages has been omitted from these livelihood zones profiles.
Rural Sources of Food and Income: Major Conclusions and Implications

In terms of socioeconomic groups, it is generally true that poor households earn their keep by selling their labor, which is the main economic capital they have on which to survive. They have no large livestock, but often have small animals that represent a source of income for them (rather than a source of milk and meat). Middle-income households tend to own land and livestock and often receive repatriated monies that allow them to invest in their own production. Generally speaking, the picture painted by the livelihood profiles indicates a stratification of wealth that prevents poor people from climbing the ladder of success; without access to liquid funds to invest, or to capital for production, poor households have few opportunities to improve their circumstances. Charcoal production is a good example of this observation. Poor rural households in the world’s agricultural economies tend to use charcoal production as a revenue-generating strategy that can be expanded in bad years, and despite the long-term ecological consequences of deforestation, this income source is there when it is needed. In contrast, in Haiti, the poor (who do not own any wooded land) must make charcoal under a sharecropping system (métayage) in which middle-income or wealthy landowners keep half of the proceeds from the sale of the charcoal. As a result, there is pressure toward lower profitability for this activity, as well as higher frequency, with clear consequences for environmental degradation.

This livelihood analysis calls the concept of subsistence farming (in which one eats what one produces, and produces what one eats) into question. The “subsistence farming” paradigm is not valid even in areas that are very focused on crop and livestock farming, for example the central plateau. The poorest households in all zones purchase between 45% and 85% of their food. Of the 24 socioeconomic groups identified,

- 4 cover at least 75% of their needs by purchasing,
- 12 cover between 50% and 75% of their needs by purchasing, and
- 8 cover between 25% and 50% of their needs by purchasing.

As a matter of fact, the only zone where purchased food is not the largest food source for poor households is Zone 3, where tuber production is sufficient to ensure that household food production represents a higher percentage of total food consumption than purchased food. So poor households (especially the poorest) are vulnerable to price increases for staple foods (sugar, oil, rice). It should be noted that rice is the staple cereal in many zones. Rice is produced only in irrigated areas and is more expensive than imported rice. This reinforces the idea of dependence on the market for food, and especially dependence on imports.

In general, poor households cultivate their land within a sharecropping system, with the harvest often being equally divided between the household providing the labor and the household possessing the land. The absence of a stable land tenure system; the fact that these poor households are incapable of meeting costly requirements in terms of production factors, time, and labor; and the sharecropping system prevent these poor households from growing long-term, more lucrative cash crops such as coffee or cacao. Although the obvious trend seen on the food source graph—whereby wealthy households produce a smaller portion of their own food even while having better access to land—seems counterintuitive, it reflects the tendency of households to switch from producing food crops to cash crops as they acquire more wealth. Wealthy households tend to plant their land with cash crops so as to obtain an income that allows them to have a more varied diet by purchasing food on the market.
**Food Sources**

- Dry agro-pastoral zone
- Plains under monoculture zone
- Humid mountain agriculture zone
- Plateau agro-pastoral zone
- Agro-pastoral zone
- Dry agriculture and fishing zone
- Fishing by the poor in Zone 6
- Sea salt production zone

**Chart: Distribution of Food Sources by Wealth Level**

- **Very Poor**
- **Poor**
- **Medium**
- **Wealthy**

<table>
<thead>
<tr>
<th>Source</th>
<th>Very Poor</th>
<th>Poor</th>
<th>Medium</th>
<th>Wealthy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Own crop production</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Own livestock production</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gift</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Payment in kind</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wild foods/hunting</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchase</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fishing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Legend:
- Own crop production
- Own livestock production
- Gift
- Payment in kind
- Wild foods/hunting
- Purchase
- Fishing

0% 20% 40% 60% 80% 100%
Income Sources

Dry agro-pastoral zone
Plains under monoculture zone
Humid mountain agriculture zone
Plateau agro-pastoral zone
Agro-pastoral zone
Dry agriculture and fishing zone
Fishing by the poor in Zone 6
Sea salt production zone

- Dry agro-pastoral zone
- Plains under monoculture zone
- Humid mountain agriculture zone
- Plateau agro-pastoral zone
- Agro-pastoral zone
- Dry agriculture and fishing zone
- Fishing by the poor in Zone 6
- Sea salt production zone
Livelihood Zone

1. Dry Agro-pastoral Zone
2. Plains under Monoculture Zone
3. Humid Mountain Agriculture Zone
4. Plateau Agro-pastoral Zone
5. Agro-pastoral Zone
6. Dry Agriculture and Fishing Zone
7. Sea Salt Production Zone
8. Urban

Legend

↑ National capital
( ) Main town
! Other town
Road
International boundary
Department boundary
Commune boundary
Water body
### Zone 1: Dry Agro-Pastoral Zone
Livestock is raised for sale during difficult times and constitutes a source of savings. The poor raise mainly goats and sheep, as caretakers. The main income sources are the sale of labor, agricultural products, and charcoal; and trade. Approximately 2/3 of the income of the poor comes from selling labor. While charcoal production contributes about 10% to total income among the poor, middle-income households derive 40% of their income from this activity and 35% from selling crops (millet, maize). Wealthy households bring in a third of their income through trade and about 30% from selling crops (beans). Only the medium and wealthy categories obtain substantial income from selling livestock and receive money transfers. The main food sources are purchase and agricultural production. Agriculture’s contribution as a food source varies by socioeconomic category, because the type of production varies as a function of the ability to take risks. For example, the poor consume most of their production, which covers only a quarter of their needs. Agricultural production covers 2/3 of the needs of a middle-income household. Purchasing covers more than 2/3 of the food needs of wealthy households (by choice) and poor households (through lack of choice).

### Zone 2: Plains Under Monoculture Zone
Zone 2 covers the plains near sea level, which are especially fertile. These regions are found in the départements of Artibonite, South, West, North, and Northeast. They generally have the benefit of irrigation systems and/or substantial rainfall. Average annual rainfall ranges from 600 to 1300 mm. As a result, this zone’s economy is based primarily on crop farming. Yields are generally excellent. Zone 2 provides opportunities to grow crops such as vegetables, bananas, and rice. These days, the area planted in rice is shrinking due to high production and marketing costs, which make local rice unable to compete with imports. Producers therefore tend to favor other crops such as vegetables. The two main food sources over all socioeconomic categories are first, purchase; then own crop production. The sale of crops is the most important income source in the zone. The medium group obtains 60% of its income by selling crops. However, poor households depend heavily on labor, which provides 45% of their income. Identified risks are related to, first, natural catastrophes and livestock predators and diseases. A second tier of risks arises from the conjunction of several events affecting either prices or the productive environment. For example, a reduction in soil fertility or water availability, associated with an unfavorable exchange rate, causes high production and marketing costs.

### Zone 3: Humid Mountain Agriculture Zone
The humid mountain agriculture zone, which is shown in green on the livelihoods map, almost completely encompasses Haiti’s inselbergs. Aside from other second-tier activities such as handicrafts and trade, crop and livestock farming are the main sources of income in this zone. However, because the rough terrain (with slopes ranging from 20 to 80%) provides little opportunity for irrigation, the type of farming practiced depends solely on the vagaries of nature. In addition to topographical constraints, the poor condition of roads makes access difficult, affects transportation, increases the cost of marketing agricultural products, and hinders the provision of basic services. Aside from its socioeconomic problems, the humid mountain agriculture zone suffers from different forms of erosion in various places. This nearly ubiquitous physical degradation of the soil further reduces already-insufficient agricultural production. Still, agriculture represents the biggest source of employment for a population estimated at nearly a half-million people. It is the main source of income for families, with slight variations depending on their socioeconomic category. As an example, very poor households earn their entire income from the sale of their labor, with 60% coming from agricultural work during peak periods, whereas those at the top of the scale earn their income from the direct sale of agricultural products (50%) and trade in imported products (30%). In terms of food supply across all categories, agricultural production is the main source for families, supplemented by purchases that come to a 40%, 50% or 60%, share of the total for the very poor, the poor, and middle-income farmers, respectively. Supplementation through purchase predominates among wealthy households, where it varies between 50 and 60%. Faced with such an intensive kind of agriculture, which does not always provide sustainable profits, households find themselves forced to develop survival strategies of types that do not favor environmental protection. These can include either selling livestock, cutting trees to make charcoal, migration within the country, or—when the decision is forced upon them—emigration to the Dominican Republic.
### Zone 4: Plateau Agro-Pastoral Zone

This zone includes all municipalities within the Center département, and a small part of some of the adjacent départements. The zone is characterized by its single predominant agro-ecological system: a semi-humid plateau at an average elevation of between 200 and 500 m. Annual rainfall is between 1000 and 1300 mm. The average temperature hovers around 25°C. The livelihood profiles approach provided an understanding of the strategies used and adaptive abilities present in this zone. First, it was noted that the key elements of the economy in this zone are livestock and crop farming, charcoal production and reciprocal trade with the capital and the Dominican Republic. Household income comes mainly from selling the products raised or made (for example, animals and charcoal) to customers outside the zone, and the Dominican Republic provides labor opportunities. Medium-income and wealthy households depend first and foremost on the sale of animals, which provide 45% of total income for the former and 40% for the latter. Risks affecting this zone fall into two categories: chronic risks, which are related either to the degradation of the productive environment (erosion and deforestation) or to increased difficulty in selling products (due to deterioration of the roads and increased prices for production factors and fuel); and intermittent risks that can be divided into two groups: those affecting commercialization (border closures or insecurity in Port-au-Prince), and those affecting production itself (diseases or natural disasters).

### Zone 5: Agro-Pastoral Zone

Zone 5 is a semi-humid agro-pastoral zone with annual rainfall of between 1000 and 1200 mm. Agriculture predominates. Livestock in this agro-pastoral zone ordinarily consists of goats, swine, horses and cattle. The very poor, who make up 5% of this population, own almost no livestock. Through caretaking, which is one route of access to livestock, the poor (45% of the population) own up to five head of small animals. The medium and wealthy groups own an average of from 10 to more than 25 head. In this agro-pastoral zone, income sources vary from one category to another. The very poor derive their income mainly from labor and gifts; the poor partly from labor and also from the sale of animal products, small business, the sale of charcoal, and transfers. The earnings of medium-income households come from the sale of agricultural and animal products, and trade. The wealthy make their living by trading in large livestock, selling agricultural products, and haulage; they also receive transfers. As to food sources, all of the socioeconomic categories in this agro-pastoral zone depend on purchasing to some extent. For the very poor and the poor, payments in kind and wild foods are the main food sources. Medium and wealthy households live partly on the crops and livestock they raise themselves.

### Zone 6: Dry Agriculture and Fishing Zone

In the dry agriculture and fishing zone, it is typical for wealthy and medium households to own large livestock. Poor households give priority to raising small livestock, for which the risks and maintenance costs are much lower. The small livestock constitutes their savings. The main food sources in this zone are purchase and agricultural production. All socioeconomic groups are vulnerable to an increase in staple food prices, since purchase is their most important food source. In poor households of the coastal regions, products derived from fishing represent a significant part of the food source. Such households are therefore vulnerable to severe weather events such as the nordès (cold winds from the northwest) and hurricanes. In order of importance, the main sources of income for wealthy and medium households are the sale of agricultural products, trade, and the sale of livestock. For poor households in this zone, the sale of labor is the main source of income, followed by the sale of agricultural products and charcoal or fishing products.

### Zone 7: Sea Salt Production Zone

Livestock activity is marginal in this zone. The poor derive slightly over 75% of their income from providing labor for agriculture and especially for the salt works. A wealthy household earns over half of its income from selling salt, with shallot-growing as a secondary source. The poor and medium categories also earn part of their income from selling salt and agricultural products from the neighboring dry inselbergs, but to a lesser degree than the wealthy. Trade contributes 10% to the income of the medium and wealthy categories. It is the poor and medium categories that receive funds transferred from abroad. Most food energy needs (over 3/4 for both groups) are met through purchase. The proportion of food from wealthy households’ own production is smaller than for medium and poor households because they choose to plant shallots. The poor and medium groups, which have less access to water for irrigation, plant more of their land in millet. Very poor households eat and/or sell fish. Consumption of animal products is marginal.
Livelihood Profiles in Haiti

Zone 1: Dry Agro-pastoral Zone

Major conclusions and implications

Livelihood zone 1 includes large portions of the Northwest Department and Gonâve Island, part of the Northeast, and a minuscule part of the Southeast Department. It gets very little rainfall and is considered an extremely drought-prone area. Farming, livestock-raising, and charcoal production are the mainstays of the local economy in this livelihood zone. The combined effects of poor water access, deforestation, and erosion have created a poor production environment.

This livelihood zone has the highest poverty rate of all rural areas. Some 55% or more of all so-called “poor” households farm a mere 1/4 to 1/2 square of land and tend livestock owned by other households. Local households are largely dependent on the market for their food and income, part of which comes from migration. Out-migration to other rural areas with a demand for labor, Haitian cities, or foreign countries is crucial for survival in this livelihood zone.

Trade with urban areas is also important for the marketing of local products (charcoal in particular) and the purchasing of staple foodstuffs. Such trade is hampered by the poor condition of road infrastructure.

Description of the livelihood zone

Livelihood zone 1 encompasses two thirds of Gonâve Island, the far eastern reaches of the Northeastern Plains (Fort Liberté, Ferrier, Terrier Rouge), more than half of the Northwestern Department, a portion of the Upper Artibonite, and a minuscule part of the Southeast.

It is a collection of dry low-mountain, hill, plateau, and plain areas getting no more than 600 mm of rainfall a year. It faces sporadic water shortages, particularly in lower Gonâve. The island also has shallow soils and rocky outcrops. Most of the area has problems with erosion.

The main activities in this livelihood zone are farming, livestock-raising, and charcoal production. The two main crops are corn and pearl millet, followed by beans, peas, cassava, sweet potatoes, and groundnuts in Gonâve. Most stock-raising activities involve goats and sheep, followed by cattle and poultry. Animals are raised for sale during hard times and are considered a form of savings.

As far as land tenure is concerned, all lands are owned either by local households, by the State, or by a handful of private absentee landowners living in the city. These are typically large-scale traders with holdings of over five squares of land. Charcoal production is especially important in the country’s Northwest region, which is commonly referred to as the « Far West ».

<table>
<thead>
<tr>
<th>Total population (2003 Population and Housing Census (RGPH 2003)) By municipality</th>
<th>1 061 169</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anse a Galets*</td>
<td>52 662</td>
</tr>
<tr>
<td>Anse Rouge*</td>
<td>32 104</td>
</tr>
<tr>
<td>Aquin*</td>
<td>95 004</td>
</tr>
<tr>
<td>Baie de Henne</td>
<td>17 277</td>
</tr>
<tr>
<td>Bassin Bleu</td>
<td>33 926</td>
</tr>
<tr>
<td>Bombardopolis</td>
<td>27 360</td>
</tr>
<tr>
<td>Capotille*</td>
<td>15 086</td>
</tr>
<tr>
<td>Fort Liberté*</td>
<td>30 110</td>
</tr>
<tr>
<td>Gonaïves*</td>
<td>206 426</td>
</tr>
<tr>
<td>Gros Morne*</td>
<td>96 083</td>
</tr>
<tr>
<td>Jean Rabel*</td>
<td>102 745</td>
</tr>
<tr>
<td>La Tortue*</td>
<td>25 936</td>
</tr>
<tr>
<td>Môle Saint Nicolas*</td>
<td>21 856</td>
</tr>
<tr>
<td>Ouanaminthe*</td>
<td>77 319</td>
</tr>
<tr>
<td>Perches*</td>
<td>8 344</td>
</tr>
<tr>
<td>Pointe a Raquet*</td>
<td>22 886</td>
</tr>
<tr>
<td>Port de Paix</td>
<td>120 267</td>
</tr>
<tr>
<td>Terre Neauve</td>
<td>17 045</td>
</tr>
<tr>
<td>Terrier Rouge</td>
<td>21 328</td>
</tr>
<tr>
<td>Trou du Nord*</td>
<td>37 405</td>
</tr>
</tbody>
</table>

*The districts in this municipality are divided among more than one livelihood zone.

9The fieldwork for the development of this livelihood profile was performed in May - June 2005. The information presented dates back to the year 2002, a comparatively ‘normal’ year by local standards (in other words, neither a particularly good nor a particularly bad year from a rural food security standpoint, compared with previous years). Barring any rapid, fundamental changes in the economy, the information presented in this livelihood profile should be valid for a period of approximately five years.

10 A square is equivalent to 1.29 hectares.
Boat transport services in areas close to the sea make up for the poor condition of road infrastructure. It is common for local households to have relatives permanently living abroad (in Miami, the Bahamas, and Guadeloupe). As a result, this livelihood zone has an influx of foreign remittances.

Certain households along the coast also engage in fishing. However, this activity engaged in by a minority of households is marginal at best. A handful of communities are being targeted by projects designed to expand ocean fishing or irrigated farming activities. However, such cases are rare and are not covered by the following analysis.

### Markets

The main markets for the Northwest are Bombardopolis, Jean Rabel, Lacoma, and Port de Paix. Gonâve Island has a daily market in Anse à Galets and weekly markets in Palma, Petit Palmiste, Tamarin, Dan Gryen, and Shaba. The charcoal produced in this livelihood zone is shipped mainly to markets in Port au Prince. The main temporary migration hubs for area residents are cities, rural areas in need of outside labor such as irrigated plain areas of the Artibonite (livelihood zone 2, plain areas under monoculture), the salt marshes (livelihood zone 7, sea salt-producing areas), and the Dominican Republic.

### Seasonal calendar

Economic activities follow the rhythm of the rain. There are two growing seasons coinciding with two especially rainy periods. The first runs from April to July, with land preparation activities getting underway as early as March, with the first rains. The second season runs from September to December, with land preparation beginning in August. Thus, corn, pea, groundnut, and sweet potato crops are harvested twice a year. Millet has a somewhat different growing cycle. It is planted in May, during the first growing season, and harvested in November. The maturation period for cassava is 12 months. It can be planted twice a year and harvested the following year. The peak period for out-migration and charcoal production coincides with the driest part of the year and the slack period for farming activities. The main peak period for animal sales runs from August to September, when households are facing large expenditures with the start of the new school year.

<table>
<thead>
<tr>
<th>Season</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>Aug</th>
<th>Sept</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
</tr>
</thead>
</table>
| Dry???
| Rainy???
| Crops       |     |     |     |     |     |      |      |     |      |     |     |     |
| Corn         |     |     |     | 1st plant. | 1st harv. |      |      | 2nd plant. | 2nd harv. |     |     |     |
| Cowpeas      |     |     |     | 1st plant. | 1st harv. |      |      | 2nd plant. | 2nd harv. |     |     |     |
| Pearl millet |     |     |     |        | Planting |      |      |             | Harvest |     |     |     |
| Groundnuts   |     |     |     |        | Planting |      |      |             | Harvest |     |     |     |
| Sweet potatoes|     | 2nd harv. | 1st plant. | 1st harv. |      |      | 2nd plant. | 2nd harv. |     |     |     |     |
| Cassava (annual crop) | 2nd harv. | 1st plant. | 1st harv. | 2nd plant. | 2nd plant. | 2nd plant. | 2nd plant. | 2nd plant. | 2nd plant. | 2nd plant. | 2nd plant. | 2nd plant. |
| Other        |     |     |     |     |     |      |      |     |      |     |     |     |
| Peak charcoal production |     |     |     |     |     |      |      |     |      |     |     |     |
| Peak livestock sales |     |     |     |     |     |      |      |     |      |     |     |     |
| Migration    |     |     |     |     |     |      |      |     |      |     |     |     |
The main wealth criteria in this livelihood zone are land ownership, livestock holdings, and foreign remittances from relatives living abroad. In general, so-called ‘poor’ households are « sharecroppers » and do not own land. They farm land owned by other socioeconomic groups. In general, all operating costs are borne by the sharecropper, and the landowner gets a quarter or a third of all output. These households also sharecrop marginal lands belonging to wealthy households for charcoal production. Poor households do not normally receive any foreign remittances. They tend goats for other population groups. In other words, they care for their animals and, when they give birth, they get to keep one of the offspring, which is promptly sold for cash. They do not have enough land or the financial means to grow enough crops to meet their needs and, thus, are forced to hire themselves out to other social groups as paid laborers.

In contrast, so-called ‘average’ households own the land on which they grow crops, raise animals, and produce charcoal. This group of households grows pearl millet and corn. They raise their own small animals and tend cattle. They receive foreign remittances which, among other things, increase their capacity to invest in productive activities. What distinguishes ‘wealthy’ households from the preceding group is the size of their land holdings, which allows them to raise cattle and lease part of their land to sharecroppers. These households grow beans and corn. Only marginal lands are sharecropped for charcoal production. Since wealthy households have more available land, they have a greater capacity to establish small woodlots. They are also able to hire farm laborers. Another criterion of wealth associated specifically with Gonâve Island is the ownership of a water tank. Only ‘average’ and ‘wealthy’ households have them, and those of average households are comparatively small.

Household size increases with the level of poverty. Thus, ‘wealthy’ households have approximately 5 to 6 members, while ‘poor’ households have an average of 8 members.

<table>
<thead>
<tr>
<th></th>
<th>Land</th>
<th>Animals</th>
<th>Foreign remittances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor</td>
<td>Sharecrop 1/4 to 1/2 square of land</td>
<td>Tend goats</td>
<td>No</td>
</tr>
<tr>
<td>Average</td>
<td>Own 1/4 to 1 square of land</td>
<td>Tend cattle; 4-5 sheep/goats</td>
<td>Yes</td>
</tr>
<tr>
<td>Wealthy</td>
<td>Own 2 to 5 squares of land</td>
<td>3+ head of cattle; 4-6 sheep/goats</td>
<td>Yes</td>
</tr>
</tbody>
</table>

0% 20% 40% 60%
Sources of food

The main sources of food are purchasing and on-farm crop production. The types of crops produced vary according to socioeconomic status and resulting risk-taking capacity. ‘Wealthy’ households prefer to grow beans and corn for sale because they generate more income. This explains why the share of the food intake of this group of households from on-farm crop production is smaller than for ‘average’ households. In contrast, ‘poor’ households generally prefer to grow millet, which is more drought-resistant and, thus, requires less risk-taking.

Since it is the least expensive grain crop, ‘poor’ households consume most of their output of millet, which still meets only a quarter of their needs. ‘Average’ households consume moderate amounts of their crops. Since they are in a better position to take a certain amount of risk, they grow beans and corn in addition to millet. However, they are not inclined to sell their crops to the detriment of their own consumption needs. On-farm production meets approximately two thirds of their needs. Thus, ‘wealthy’ households (by choice) and ‘poor’ households (who have no choice) rely on purchasing to meet more than two thirds of their food needs. Roughly a third of the food consumed by ‘average’ households is purchased on the market. The heading “Other” includes food aid, gifts, and payments in kind. The consumption of animal products is marginal at best (one or two goats a year by ‘wealthy’ households). Livestock is raised for sale and is something to fall back on in the event of a poor harvest.

Sources of income

‘Poor’ households earn over two thirds of their income from employment as (local or migrant) laborers. Sales of charcoal are their second largest source of income. By tending the animals of other households, they are able to sell one or two small stock animals and, in some cases, a few chickens over the course of the year. As mentioned above, sales of crops are a secondary source of income for poor households.

‘Average’ households receive additional income from migrant remittances. Animal production income includes income from sales of their own sheep, goats, and poultry, and of calves obtained under caretaking arrangements.

These latter animals are generally put up for sale, since ‘average’ households are unable to bear the maintenance costs involved in raising cattle. They earn a large share of their income from sales of charcoal and crop sales. ‘Wealthy’ households earn roughly a third of their income from trade and transportation services. Their income from charcoal sales comes from sharecropping arrangements, since this group of households does not generally engage in charcoal production. Likewise, part of the crops sold by these households comes from tenant farming arrangements. A large share of household income from animal products comes from raising cattle.
Hazards

The major hazards in this livelihood zone are drought and poor water access.

Periodic hazards:
- Extended droughts or rainfall deficits during germination periods
- Unfavorable Haitian gourde/U.S. dollar exchange rate
- Hikes in fuel prices, jacking up marketing and transportation costs
- Animal diseases
- Hurricanes
- Volatility on market outlets (in Port au Prince, Gonçalves)
- Faltering demand for local labor or for migrant labor in traditional migration hubs

Chronic hazards:
- Poor water access
- Erosion
- Poor road infrastructure
- Illnesses affecting working household members (HIV)

Response strategies

Local responses to identified hazards fall in one of two categories: (a) hazard impact mitigation strategies for maintaining production despite the risk involved; and (b) strategies for maintaining access to food and income by replacing food and income lost as the result of a given hazard.

Hazard impact mitigation strategies:
- Diversification of farming areas to cope with drought conditions: farmers will simultaneously work lands in plain and hill areas to take advantage of differences in corresponding agro-ecological conditions;
- Risk-reducing strategy with the emphasis on growing more drought-resistant millet crops in lieu of greater risk-taking with a view to potentially earning larger profits from beans and corn.

Strategies for maintaining access to food and income:
Household responses (to a poor harvest in particular) include:
- Stepped-up sales of livestock
- Stepped-up charcoal production
- Stepped-up out-migration.
Imminent crisis indicators

- Rainfall
- Stepped-up sales of livestock during normal slack periods
- Price of corn and beans (for wealthy households)
- Price of pearl millet (for poor households)
- Terms of trade for grain/livestock
- Volume and prices of charcoal at points of sale
- Yields from the main growing season

Since households rely on purchasing as a major source of food, it is important to have some idea of household purchasing capacity. In addition to food, households also depend on purchasing to meet other basic needs (health, education, household goods, and inputs). Thus, this requires an indicator of the minimum cost of these basic needs represented by the cost of a minimum consumer basket, including food (enough rice, peas, and oil to meet minimum household energy requirements) and other staple goods.

The informational value of such an indicator is enhanced by a comparison with household purchasing capacity as a reflection of household purchasing power:

- Daily wage income / daily cost of a minimum consumer basket (an indicator of purchasing power from wage income for ‘poor’ households);
- Income (or net income) from animal sales – i.e. the sale of a young goat / cost of a minimum consumer basket (an indicator of purchasing power for ‘average’ and ‘wealthy’ households).

Such indicators should reflect short-term and long-term fluctuations in purchasing power. Hikes in fuel prices and, thus, in marketing costs have been identified as a product marketing hazard. As in the case of purchasing power, the informational value of this data is enhanced by a comparison of production/marketing costs with the income earned from the activity in question, which makes it advisable to monitor returns on investments in charcoal production/marketing activities.
Livelihood Profiles in Haiti

Zone 2: Plains under Monoculture Zone

**Major conclusions and implications**

Livelihood zone 2 is a collection of plain areas, most of which include large irrigation schemes. Thus, crop production is the mainstay of the local economy in this livelihood zone, which has a more conducive environment for farming than many other parts of the country. Local crop yields are generally better than in other areas. Farming options in this livelihood zone include rice-growing and truck-farming activities. There is very little risk of a drought and only a minor risk of crop failure in this area. Moreover, in general, there is good physical access to market outlets for local products (in Port au Prince and the Dominican Republic). However, this livelihood zone is facing problems with environmental degradation threatening productive activities (engendered by a deterioration in soil fertility and the poor condition of irrigation systems, reducing water availability).

This is increasing production costs, which are also at the mercy of an unfavorable Haitian gourde/USD exchange rate (jacking up prices for inputs such as fuel and fertilizer). It is also affecting transportation and, thus, marketing costs. As a result, the size of the area planted in rice is shrinking due to high production and marketing costs making it impossible to compete with imported rice. Thus, farmers are generally more partial to other crops such as truck crops. The main contributing factors to poverty in this livelihood zone are poor access to land (and irrigation systems), combined with a limited investment capacity. The synergies between these two factors leave very little hope for any major improvement in socioeconomic status. Poor households are largely dependent on the market as a source of both food and employment.

**Description of the livelihood zone**

Livelihood zone 2 is a collection of extremely fertile plain areas at altitudes of close to sea level in the Artibonite, Southern, Western, Northern, and Northeastern Departments. These areas generally have irrigation systems and/or get large amounts of rainfall. Irrigation makes up for any differences in rainfall amounts in different parts of this livelihood zone (which range from 600 to 1300 mm per year). As a result, these areas all have a similar economy and, thus, together, form a single livelihood zone of ‘irrigated or humid plain’ areas. The average temperature in Artibonite Department, which has a large concentration of these irrigated plain areas, is approximately 28°C.

<table>
<thead>
<tr>
<th>By municipality</th>
<th>Total population (2003 Population and Housing Census (RGPH 2003))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acul du Nord*</td>
<td>51,337 Léogâne*</td>
</tr>
<tr>
<td>Arcahaie*</td>
<td>102,639 Les Irois*</td>
</tr>
<tr>
<td>Bas Limbé</td>
<td>15,695 Lestère*</td>
</tr>
<tr>
<td>Cabaret*</td>
<td>63,450 Limbic*</td>
</tr>
<tr>
<td>Cap Haitien</td>
<td>186,251 Limonade*</td>
</tr>
<tr>
<td>Caracol</td>
<td>6,236 Milot*</td>
</tr>
<tr>
<td>Cayes*</td>
<td>125,799 Ouanaminthe*</td>
</tr>
<tr>
<td>Croix des Bouquets*</td>
<td>229,127 Petite Rivière de l’Artibonite*</td>
</tr>
<tr>
<td>Delmas</td>
<td>679,650 Plaine du Nord*</td>
</tr>
<tr>
<td>Desdunes*</td>
<td>20,263 Quartier Morin</td>
</tr>
<tr>
<td>Dessalines*</td>
<td>127,529 Saint Marc*</td>
</tr>
<tr>
<td>Ferrier</td>
<td>13,096 Thomazeau*</td>
</tr>
<tr>
<td>Ganthier*</td>
<td>71,261 Torbeck*</td>
</tr>
<tr>
<td>Gonaïves*</td>
<td>206,426 Verettes*</td>
</tr>
<tr>
<td>Grande Saline</td>
<td>14,940</td>
</tr>
</tbody>
</table>

*The districts in this municipality are divided among more than one livelihood zone.

---

**11**The fieldwork for the development of this profile was performed in May - June 2005. The information presented dates back to 2003, a comparatively ‘normal’ year by local standards (in other words, neither a particularly good nor a particularly bad year from a rural food security standpoint, compared with previous years). Barring any rapid, major changes in the economy, the information presented in this profile should be valid for a period of approximately five years.
In general, conditions in this fertile area of large-scale irrigation schemes are conducive to growing rice, plantains, and truck crops. There is a certain tendency on the part of local farmers to replace rice by other crops with lower production costs (fertilizer and labor) and requiring less water. This is especially true in the dry season, when low water levels in rivers and irrigation ditches can cut the size of the area planted in rice nearly in half, particularly in Artibonite Department. For example, under certain circumstances, only 16,000 of the 32,000 hectares of land covered by the large-scale irrigation system (normally planted in rice) are actually planted in rice crops, in which case rice is replaced by truck crops, grain crops (corn) or plantains. In addition to lower production costs and water requirements, these crops appear to have a market which, in contrast to the market for local rice crops, is not in direct competition with imports. In fact, the price of imported, generally poorer quality, rice is significantly lower than that of locally grown rice.

As far as land tenure is concerned, lands in these areas are owned either by the State, by local households (particularly ‘wealthy’ households), or by large absentee landowners.

Though considered a secondary occupation, there are also livestock-raising activities in this livelihood zone. The main types of livestock are cattle, goats, horses, pigs, and poultry. Households in this livelihood zone also engage in different types of fishing, which is considered a minor activity, including ocean fishing, fishing in family ponds, lake fishing, and fishing in irrigation ditches planted in crops (particularly in the Artibonite).

### Markets

The main market outlets for local crops are in Port au Prince, departmental capitals and municipalities within the livelihood zone, the Dominican Republic, etc. There are several large regional market outlets for local crops from the study area, including the Estère market, the Pont-Sondé market, the Poteau des Gonaïves market, the Ducis market, the Chantal market, the Cancé market, the Rendel market, the Arniquet market, the Vallère market, the Cavaillon market, the Camp-Perrin market, the Carrefour Joute market, the Débauché (Les Anglais) market, etc. These large marketplaces bring together vendors from different departments and municipalities in the study area and buyers from all parts of the country, according to their proximity to a given point in this area. Certain crops traded on these markets are even sold in the Dominican Republic. Traders come from far and wide to take advantage of attractive local prices to stock up on the different types of food crops produced in this area, particularly grain crops such as rice, truck crops, and plantains which, for the most part, are the leading crops grown in this area known for its good water availability, which is the main feature distinguishing it from other livelihood zones. An employment hub at certain times of year, this area also exports labor from its poorest households, which need to constantly exploit their labor resources to meet ongoing household needs during slack periods in this area. For example, there is a large local demand for labor during the rainy season, which begins to falter with the end of the rainy season, creating a labor surplus and, thus, conditions promoting out-migration (to other parts of the country and the Dominican Republic) by local households needing to make constant use of their workforce.

### Seasonal calendar

The end of the rainy season means less availability of water in areas both with and without irrigation systems. Even with irrigation, there is less and less water available due to falling water levels on area rivers, what, in many cases, are poor performing piping and pumping systems, and the high cost of water.

This phenomenon is an underlying factor in the choice of growing seasons. For example, in rice-producing areas, rice is grown year-round, with farming activities reaching their peak during the rainy season. The growing cycle for truck crops is completely opposite. Less water availability also weakens demand for local labor and promotes out-migration. In contrast, plantains are grown year-round. Likewise, there are no major fluctuations in animal sales from one season to another.

There is a seasonal risk of ‘Newcastle’ disease and anthrax and a high, year-round risk of classical swine fever. Natural hazards such as hurricanes, high winds, and flooding are more common in and around the rainy season.
### Season

<table>
<thead>
<tr>
<th></th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>Aug</th>
<th>Sept</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rainy season</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Crops

<table>
<thead>
<tr>
<th></th>
<th>Corn</th>
<th>Beans</th>
<th>Rice</th>
<th>Truck crops</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Harvest</strong></td>
<td>1st plant</td>
<td></td>
<td>1st plant</td>
<td>Peak charcoal production</td>
<td></td>
</tr>
</tbody>
</table>

### Migration

- **Peak charcoal production**
- **1st plant**

---

### Socioeconomic breakdown

The main driver of wealth is land, followed by foreign remittances and cattle holdings, which only ‘average’ and ‘wealthy’ households are able to afford. Most households own small animals, but this is not a criterion of wealth per se. ‘Average’ and ‘wealthy’ households also engage in trade and employ paid laborers. With their limited access to land in general and to irrigated land in particular and their limited financing capacity, ‘poor’ households are not in a position to engage in cattle-raising or trade or to expand their crop production. As a result, household members hire themselves out as paid laborers. Household size increases with the level of poverty, from around 4 to 5 members in the case of ‘wealthy’ households to as many as 7 to 9 members in the case of ‘poor’ households.

#### Major characteristics

<table>
<thead>
<tr>
<th></th>
<th>Land</th>
<th>Cattle</th>
<th>Foreign remittances (excluding temporary migration)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor</td>
<td>&lt; 1 ha of land; own a max of 1/2 ha of land with no irrigation and sharecrop the rest under irrigation</td>
<td>Tend 1 head of cattle</td>
<td>No</td>
</tr>
<tr>
<td>Average</td>
<td>1 - 5 ha of land (part owned and part sharecropped)</td>
<td>3 - 5 head of cattle</td>
<td>Yes</td>
</tr>
<tr>
<td>Wealthy</td>
<td>Own 5+ ha of land</td>
<td>5+ head of cattle</td>
<td>Yes</td>
</tr>
</tbody>
</table>

- 0% 20% 40% 60% 80% % of population
Sources of food

The two main sources of food for all socioeconomic groups are purchasing, followed by on-farm crop production. The share of purchased food supplies increases with wealth. Thus, the share of on-farm crop production is larger for ‘average’ households than for ‘wealthy’ households, which prefer to buy larger quantities of food.

Animal production meets a negligible share of the food needs of ‘poor’ households, a larger share of the needs of ‘average’ households, and an even larger share of the needs of ‘wealthy’ households. Nevertheless, it is still only a secondary food source.

The food sources of ‘poor’ households tend to be somewhat more diversified. In addition to payments in kind or food provided as part of employment arrangements, they also include several secondary sources such as fishing and gifts which, for purposes of this study, are combined under the heading ‘Other.’ This is indicative of how much harder it is for these households to meet their needs. There is very little long-term storage of crops in this area. Though its benefits are marginal, this practice does exist (included under the heading ‘Other’), mainly among ‘average’ households, which hold some of their crops in reserve, if only a small part of their harvest.

Sources of income

Sales of crops\(^{12}\) are the leading source of income in this livelihood zone. However, as illustrated in the figure to the left, ‘poor’ households are highly dependent on wage income. The percentage of household income from paid employment is even larger if we include all types of labor. In addition to working as local farmhands, these householders also engage in seasonal migration in search of temporary jobs.

The heading ‘Other’ includes small-scale secondary activities or secondary activities engaged in by only part of this group of households, such as fishing, sales of charcoal, animal production, gifts, etc.

‘Average’ households have other sources of income such as sales of animal products, foreign remittances, and trade, which bring in only negligible amounts of income for ‘poor’ households.

\(^{12}\) In addition to on-farm production, crop production also includes the share of the harvest turned over to landowners by sharecroppers under tenant farming agreements.
Hazards

The main identified hazards involve natural disasters, predators, and animal diseases. Secondary hazards are created by a juxtaposition of different events affecting either prices or the production environment. For example, the combined effects of a decline in soil fertility or water availability and an unfavorable exchange rate create high production and marketing costs, reducing profit margins for farmers and, in some cases, preventing them from competing with imported crops.

Periodic hazards:
- An unfavorable Haitian gourde/USD exchange rate, increasing the price of fuel and fertilizer and, as a result, the cost of transportation, irrigation water, and production and marketing costs
- A faltering demand for labor in the case of ‘poor’ households
- Animal diseases (classical swine fever, anthrax, and Newcastle disease)
- High winds
- Hurricanes
- Flooding

Chronic hazards:
- Silting of irrigation ditches, obstructing the flow of water after years without proper maintenance
- Deforestation of watersheds feeding into streams, which is a contributing factor in reducing water availability
- Growing shortages of water with the drop in the level of the Artibonite River
- Presence of predators (i.e. toads) attacking fish and crops
- Deterioration in soil fertility due to the high cost of fertilizer
- High cost of fertilizer, combined with the low price of imported rice

Response strategies

The main local response strategies in the face of environmental degradation threatening productive activities and an unfavorable price structure are:
- Reductions in the size of areas planted in rice, expanding other crop-farming activities requiring less water to compensate for the decline in water availability;
- Replacement of rice with other crops such as truck crops with lower production costs in the face of competition from rice imports;
- Larger expenditures on farm inputs (fertilizer, irrigation water) in the case of households which can afford to do so, either directly or thanks to foreign remittances;
- Stepped-up employment for members of ‘poor’ households with a limited financial investment capacity and out-migration in search of work in the face of a faltering local demand for labor.
Imminent crisis indicators

- Rainfall and hurricane and high wind advisories
- Flow rates in irrigation ditches

Since households rely on purchasing as a major source of food, it is important to have some idea of household purchasing capacity. In addition to food, households also depend on purchasing to meet other basic needs (health, education, household goods, and inputs). Thus, this requires an indicator of the minimum cost of these basic needs represented by the cost of a minimum consumer basket, including food (enough rice, peas, and oil to meet minimum household energy requirements) and other staple goods.

The informational value of such an indicator is enhanced by a comparison with household purchasing capacity as a reflection of household purchasing power:

- Daily wage income / daily cost of a minimum consumer basket (an indicator of purchasing power from wage income for ‘poor’ households);
- Income (or net income) from the sale of X kg of rice / cost of a minimum consumer basket (an indicator of purchasing power for all socioeconomic groups);
- Income (or net income) from the sale of X kg of truck crops or plantains / cost of a minimum consumer basket (an indicator of purchasing power for all socioeconomic groups).

Such indicators should reflect short-term and long-term fluctuations in purchasing power (even under inflationary conditions). Hikes in prices for inputs and marketing costs have been identified as a hazard, making it necessary to track the cost of fuel and inputs, as well as the price of locally grown rice and price spreads compared with standard prices and prices for imported rice.

As in the case of purchasing power, the informational value of this data is enhanced by a comparison of production/marketing costs with the income earned from these activities, which makes it advisable to monitor returns on investments in production/marketing activities for rice, plantains, and truck crops.
Livelihood Profiles in Haiti

Zone 3: Humid Mountain Farming Zone

Major conclusions and implications

Livelihood zone 3 in general and Grande Anse in particular is physically isolated by its rough terrain and the poor condition of road infrastructure severely damaged by heavy rains leaving roadways unfit for motor vehicle traffic. The effects of the area’s physical isolation are two-fold, translating into high marketing and importing costs (despite some usage of boat transport services) and less deforestation than in any other part of the country (particularly in Grande Anse Department).

Farming and livestock-raising are the mainstays of the local economy in this livelihood zone. This region produces large amounts of roots and tubers compared with other parts of the country. Coffee growing, which is not very lucrative, is on the decline, crowded out by corn and truck crops. While the contribution of crop production as a household food source is generally larger in this area than in many other parts of the country, purchasing is still a major source of food, particularly for imported food crops such as rice. Poverty in this humid mounting farming area is primarily associated with poor access to large enough tracts of land for the expansion of livestock-raising activities and limited investment capacity. Local households are largely dependent on the market for food and as a source of employment.

Description of the livelihood zone

Livelihood zone 3, a collection of humid mountain farming areas criss-crossed by valleys and plains (the Artibonite, the Central Plateau, Cul-de-Sac, etc.), covers nearly a fifth of the country’s total land area, running from Haiti’s Northern region to the tip of its Southern peninsula. Straddling several watersheds, it consists of a string of mountain ranges at altitudes of anywhere from 600 to 2400 meters protected by small amounts of plant cover whose density varies from one part of the area to another. Average annual rainfall in this humid mountain-farming area ranges from 2000 to 2500 mm, with violent tropical storms accelerating soil erosion. Annual rainfall totals in Grande Anse Department (at the tip of the Southern peninsula can reach 3000 mm. The vegetation in this area is of the subtropical variety, consisting mainly of bushes and shrubs (citrus trees, coconut palms, coffee-shrubs, cacao-trees, guava-trees), fruit and forest trees (mango trees, avocado trees, breadfruit trees, trumpet trees, simarouba) in cool lowland areas and valleys, and remnant high-altitude conifer forests.

The farming system in this area is a rain fed farming system with companion cropping of tubers (yams, sweet potatoes, and white potatoes), grain (corn), pulses (peas,) and other food (plantains) and export crops (coffee, cacao). Highland areas are also planted in fruit and vegetable crops typically found in temperate climates. Most farm units consist of scattered plots of land. The so-called "deux moitiés" land tenure system (a sharecropping system under which the sharecropper turns over half his crops to the land owner) is still extremely widespread throughout this area. With the high cost of transportation and the physical isolation of local communities (few roads, hard-to-negotiate river crossings during the rainy season, narrow roadways in poor condition, etc.), it is not always cost effective to sell certain types of crops such as mangos, which is a waste of production surpluses.

The field work for the development of this profile was performed in May - June 2005. The information presented dates back to 2003, a comparatively ‘normal’ year by local standards (in other words, neither a particularly good nor a particularly bad year from a rural food security standpoint, compared with previous years). Barring any rapid, fundamental changes in the economy, the information presented in this profile should be valid for a period of approximately five years.

Most households in mountain areas are engaged in livestock-raising activities, which are an important part of their farming operations, allowing them to take advantage of crop byproducts while, at the same time, providing additional household income, particularly during lean times.

The most common animal species found in this area fall into one of three categories, namely large animals (cattle and horses), small animals (pigs, sheep, and goats) and poultry, which are the most abundant, followed by goats, in second place. Certain localities also show large numbers of sheep raised together with goats on local farm units. The number of head of large stock animals on local farm units is considered an indicator of relative wealth, while the tending of livestock is considered a poverty indicator.

Nearly all farm units in this humid mountain-farming livelihood zone have serious problems with parasites attacking their livestock. Poultry in particular is constantly being infected with the "Newcastle" disease virus, which is fast becoming a chronic hazard in these humid mountain farming areas. The area's entire pig population was wiped out by African Swine Fever back in the 1980s. Now, pig-raising is once again, on the decline due to chronic outbreaks of classical swine fever. The latest reported interventions designed to remedy this problem are being mounted by the Ministry of Agriculture with assistance from the USDA and IICA (the Inter-American Institute for Cooperation on Agriculture).

Trade and craft-making are secondary occupations backstopping farming and livestock-raising activities. Most craft-making involves the use of traditional methods to produce practical household goods or articles for sale to tourists, where they exist. Like food crops, these craft products are sold mostly on regional and local markets. They are fashioned from different parts of plants (plantain stems, latanier (fan palm) leaves, coconut palm leaves), forest products (mahogany, ash, or oak), and animal products (cattle hides or horns). The main types of articles produced are hats, chairs, mats, baskets for carrying fruits and vegetables, etc. In addition to practical household items, markets in the southeastern mountains above the city of Jacmel or in the northern mountains close to the Citadelle Laferrière frequented by a certain number of tourists also sell items of touristic interest, such as brightly-colored tapestries or desktop souvenirs.
Markets

The main types of markets in this livelihood zone of humid mountain farming areas are regional and local markets operating as both production (crop collection) and retail markets. Examples of regional and local markets in Nippes Department include the Miragoane and Fonds de Nègres markets, and the Pémel, Lebrun, Mussotte, and Javel markets, respectively. The Jérémie, Beaumont, Moron, and Marfranc markets are examples of regional markets in Grand’Anse.

The entire livelihood zone and Grande Anse in particular has a serious physical isolation problem. The current system of primary and feeder roads is highly inadequate and those roads that do exist are frequently unfit for travel after heavy rains. With most of the road network consisting of dirt roads (even paved sections are in extremely poor condition in certain areas), vehicles surprised by a heavy downpour will get stuck in the mud and block other vehicles, since area roadways are also quite narrow. Heavy downpours oftentimes leave bridges under water.

The poor condition of local roads significantly affects the cost of shipping crops from farming areas to regional or local markets, which, in turn, helps drive up their price. By the same token, the impenetrability of mountain areas also drives up the cost of transporting charcoal, which helps protect wooded areas and the environment. The city of Jérémie in Grande Anse Department has a port through which crops are shipped to markets in Port-au-Prince. There are price spreads of roughly 80 to 100% in this humid mountain farming area.

With a farming system incapable of ensuring food security and generating very little household income, most low-income households are forced to look for work in more developed areas. These primarily seasonal migratory movements, used as a survival strategy, generally take local residents from mountain areas to large urban population centers (secondary cities and the capital). There is also mass annual migration to the Dominican Republic, as well as a pattern of migration from poorer mountain areas to more prosperous areas. Most seasonal migration between different parts of the country or to the Dominican Republic involves the poorest socioeconomic groups, while emigration to the West Indies, France, Canada, or the United States is reserved mostly for the more well-to-do.
### Seasonal calendar

This livelihood zone gets most of its rainfall in April and May and between August and December. In the North, the rainy season lasts until December in most years. The area’s good climatic conditions allow for the planting of truck crops throughout most of the year. Corn, peas, and beans are planted during the first growing season. Cassava, which has a different growing cycle, is available year-round, as are yams. Potatoes are generally planted in the second growing season.

<table>
<thead>
<tr>
<th>Season</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>Aug</th>
<th>Sept</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Crops</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corn</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peas/beans</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yams</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sweet potatoes</td>
<td></td>
<td></td>
<td>1st plant.</td>
<td></td>
<td>1st harv.</td>
<td></td>
<td>2nd plant.</td>
<td></td>
<td>2nd harv.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potatoes</td>
<td>3rd harv.</td>
<td>1st plant.</td>
<td>1st harvest</td>
<td>2nd plant.</td>
<td>3rd planting</td>
<td>2nd harvest</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Truck crops/plantains</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cacao (varies north/south)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coffee (varies by altitude)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassava</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peak charcoal production</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales of animals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domestic employment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employment abroad</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The survey distinguished four socioeconomic groups of households (very poor, poor, average, and wealthy).

The main differences among the four socioeconomic groups have to do with land ownership, livestock holdings, and foreign remittances from relatives living abroad. There are important interdependent relationships among all four groups under sharecropping arrangements, employment agreements, and caretaking arrangements for the tending of livestock.

‘Very poor’ households with no land of their own grow crops under sharecropping arrangements. Aside from chickens, they have few if any small animals of their own (in some cases they may own a few piglets) and lack the means to tend animals under caretaking arrangements. They rely on the ability of other groups to provide employment and engage in migration in search of work.

The main difference between this group and so-called ‘poor’ households is that the latter households own part of the land on which they grow crops. In addition to their own small animals, they have the means with which to tend cattle. After two calvings, a household tending a cow, for example, will be given its next offspring, which is the most common way for this population group to break into cattle-raising and eventually pull themselves up to the next rung on the socioeconomic ladder.

In comparison, ‘average’ households farm larger tracts of land (as land owners or sharecroppers) and engage in larger-scale livestock-raising activities, including cattle-raising. They also receive foreign remittances which, among other things, increase their investment capacity.

‘Wealthy’ households lease part of their land to sharecroppers and use caretakers to tend their animals.

<table>
<thead>
<tr>
<th>Major characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Land</strong></td>
</tr>
<tr>
<td><strong>Livestock</strong></td>
</tr>
<tr>
<td><strong>Foreign remittances</strong></td>
</tr>
<tr>
<td>Very poor</td>
</tr>
<tr>
<td>Poor</td>
</tr>
<tr>
<td>Average</td>
</tr>
<tr>
<td>Wealthy</td>
</tr>
</tbody>
</table>

Note: 1 square = 1.29 ha
Sources of food

Purchased food supplies and on-farm crop production cover most household energy requirements. The share of household food needs met by on-farm crop production is higher among ‘average households’ compared with ‘very poor’ and ‘poor’ households, but lower among ‘wealthy’ households, which prefer to purchase a larger share of their food supplies, including rice, food pastes, meat, sugar, etc. Rice, which is generally imported from Miami, has become a staple of the Haitian diet. The share of on-farm animal production, which is nil in the case of ‘very poor’ households, increases with wealth.

Humid mountain areas offer very poor households good opportunities for hunting and gathering. Foods obtained in this manner, which are erroneously referred to as "wild foods," include the tender parts of certain plants (olive, pumpkin, chayote, cowpea, and palmetto buds), fruits growing wild along the roadside (guavas, strawberries, etc.), and certain plant species not generally used in western cuisine (garlic vine [cydista aequinoctialis], lalo, ti konkom, purslane, panzou). The heading ‘Other’ includes secondary sources of food such as food aid, gifts to ‘very poor’ households, and carry-over inventories of crops from previous harvests.

Sources of income

Members of ‘very poor’ households earn most of their income by working as paid laborers. Mainly, they hire themselves out as local farmhands. They will also engage in migration in search of employment and take jobs in near-by urban areas in other types of activities such as loading and unloading trucks or clearing sand.

Members of ‘poor’ households also hire themselves out to wealthier households as paid farmhands or seek employment as migrant workers. However, half their income is generated by sales of crops. They also tend the animals of ‘average’ and ‘wealthy’ households as caretakers. These activities and their own livestock-raising activities generate a small share of their household income. The heading ‘Other’ includes secondary activities such as craft-making and charcoal production.

Sales of crops (truck crops, tubers, and corn) and livestock account for over three quarters of earnings by ‘average’ households. This group of households also has additional income from trade and foreign remittances.

‘Wealthy’ households earn roughly two thirds of their income from sales of crops (of which a certain percentage is grown by sharecroppers) and livestock-raising. Trade, investments (rental properties for example), and remittances account for roughly a third of their income.
Crop and animal production, marketing activities, and supplies are all affected by periodic and chronic biological, physical, and economic hazards. The environment, which is beginning to show signs of degradation from the abusive use of woody resources, has become increasingly vulnerable to excessive rainfall causing cave-ins, landslides, soil erosion, etc. Road transportation costs are soaring as a result of the poor condition of roadways and hikes in the price of fuel. Security threats in Port-au-Prince are limiting both marketing opportunities for local crops and employment opportunities in the capital.

**Periodic hazards:**
- Crop pests (coffee borers, nematodes or roundworms, beetles (*maroca*))
- Animal diseases (swine fever, Newcastle disease, anthrax)
- Delay in the onset of the rains or poor distribution of rainfall
- Security threats restricting access to the Port-au-Prince market
- Impassable roads after heavy rains

**Chronic hazards:**
- Excessive rainfall (Too much rain can slow the growth and development of affected plant species, weaken their maturation capacity and, as a result, undermine local crop production. Crops which have already matured can be rotted by certain fungi, while beans, for example, can be prone to pre-harvest pod germination. These damaged crops are hard to sell and, thus, mean losses and less income for farmers.)
- Erosion, landslides, and cave-ins
- Endemic diseases (tuberculosis, internal and external parasites)
- Hikes in the price of inputs
- Hikes in fuel prices

**Response strategies**

Local responses to identified hazards fall in one of two categories: (a) hazard impact mitigation strategies for maintaining production despite the risk involved; and (b) strategies for maintaining access to food and income by replacing food and income lost as the result of a given hazard.

**Hazard impact mitigation strategies:**
- Protection of tree plantations (by the ‘wealthy’)
- Purchasing of pesticides and animal health products by households which can afford to do so
- Intensive farming of companion crops as in the ongoing truck farming activities on the Rochelois plateau

**Strategies for maintaining access to food and income:**
- Stepped-up migration
- Stepped-up sales of animals
- Boat transport (In most cases, boats can carry 10 to 15 time larger loads than trucks. This larger capacity allows the boat owner to take advantage of economies of scale, while reducing corresponding shipping costs. In fact, the larger the boat, the more leeway for the boat owner to make adjustments in shipping costs. Thus, passengers can benefit by traveling by sea rather than overland).
- Cutbacks in pig-raising activities seriously impaired by outbreaks of swine fever and their replacement by sheep/goat-raising activities
- Replacement of coffee crops by grain and truck crops

The data presented in the following table shows how different groups of farmers react to different types of hazards.
## Alternative responses to different hazards by different groups of farmers

<table>
<thead>
<tr>
<th>Type of hazard</th>
<th>Very poor farmers</th>
<th>Poor farmers</th>
<th>Average farmers</th>
<th>Wealthy farmers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landslide</td>
<td>N/A</td>
<td>Look for new land to farm (new sharecropping arrangements)</td>
<td>Relocate their fields and/or rebuild their homes</td>
<td>Rebuild their farms</td>
</tr>
<tr>
<td>Decline in market prices</td>
<td>N/A</td>
<td>Distress selling of harvested crops; thinning of their herds</td>
<td>Distress selling or option of waiting for prices to rebound</td>
<td>Option of storing their crops and waiting for prices to rebound</td>
</tr>
<tr>
<td>Shortage of farm labor</td>
<td>N/A</td>
<td><strong>Koumbite</strong>(^{15}) during peak farming periods</td>
<td>Wait for the return of the local workforce; intensive use of family labor</td>
<td>Agreements to pay wages plus an additional amount in food</td>
</tr>
<tr>
<td>Unemployment</td>
<td>Permanent migration to Port-au-Prince; temporary migration to the Dominican Republic</td>
<td>Work on other farms as paid laborers; temporary migration</td>
<td>No known responses</td>
<td>Emigration by the eldest son</td>
</tr>
<tr>
<td>Excessive rainfall</td>
<td>N/A</td>
<td>Sales of small animals</td>
<td>Diversify their crops (companion cropping)</td>
<td>No known responses</td>
</tr>
<tr>
<td>Animal diseases</td>
<td>Immediate consumption where possible</td>
<td>Wait for help from appropriate agencies</td>
<td>Look for help from appropriate agencies</td>
<td>Purchase animal health products in Port-au-Prince</td>
</tr>
<tr>
<td>Crop pests and diseases</td>
<td>N/A</td>
<td>Limit damage by harvesting crops prematurely</td>
<td>Diversify their crops (companion cropping)</td>
<td>Purchase pesticides in Port-au-Prince</td>
</tr>
</tbody>
</table>

## Imminent crisis indicators

- Rainfall
- Price of yams, corn, and peas
- Price of livestock (cattle and goats)
- Animal diseases

Since households rely on purchasing as a major food source, it is important to have some idea of household purchasing capacity. In addition to food, households also depend on purchasing to meet other basic needs (health, education, household goods, and farm inputs). Thus, this requires an indicator of the minimum cost of these basic needs represented by the cost of a minimum consumer basket, including food and other staple goods.

The informational value of such an indicator is enhanced by a comparison with household purchasing capacity as a reflection of household purchasing power:

- Daily wage income / daily cost of a minimum consumer basket (an indicator of purchasing power from wage income for ‘poor’ households);
- Income (or net income) from animal sales – i.e. the sale of a young goat / cost of a minimum consumer basket.

\(^{15}\) Form of traditional community assistance in which farmers join forces to perform necessary farmwork to make up for shortages of labor during peak farming periods.
Such indicators should reflect short-term and long-term fluctuations in purchasing power (even under inflationary conditions).

Hikes in the price of inputs and in marketing costs have been identified as a hazard, making it necessary to track the cost of fuel and inputs.

As in the case of purchasing power, the informational value of this data is enhanced by a comparison of production/marketing costs with the income earned from these activities, which makes it advisable to monitor returns on investments in goat production/marketing activities.
Livelihood Profiles in Haiti

Zone 4: Agro-pastoral Plateau Zone

Major conclusions and implications

The key economic activities in this livelihood zone are livestock-raising, farming, charcoal production, and trade with the capital and the Dominican Republic, which is a source of both food and income for local households. Though the share of household food consumption from on-farm crop and animal production tends to be larger in this livelihood zone than in other areas, purchasing is still an important source of rice, which is the staple food grain for this area.

A large percentage of household income is generated by sales of products such as charcoal, animals and peas, for example, in other parts of the country, while the Dominican Republic is a good source of employment opportunities for local householders. Residents of livelihood zone 4 make the most of their access to two main product marketing and provisioning centers, namely Port-au-Prince markets and markets in cities on the country’s border with the Dominican Republic. However, poor road infrastructure is jacking up transportation costs, narrowing profit margins, and increasing the price of imports. Deforestation is a major problem in the Central Plateau area.

Description of the livelihood zone

The study area covers municipalities in the Central Department and small areas of several adjacent departments. The predominant agro-ecological system in this livelihood zone is a semi-humid plateau at an average altitude of from 200 to 500 m (with a few high points at altitudes of up to 900 m). Annual rainfall totals range from 1000 to 1300 mm, and the average temperature is somewhere around 25°C.

Another unique feature of this livelihood zone is its proximity to the Dominican Republic. Its poor road infrastructure hampers product marketing activities (due to high transportation costs) in both Port au Prince and in the Dominican Republic, the two main outside trading hubs for local products.

The main economic activities in this area are farming and livestock-raising. Local farmers companion crop under rain fed farming systems. The main crops grown in this area are corn, pigeon peas, pearl millet, cassava, groundnuts, and mangos (except in a sugar-cane plantation area and tobacco plantation area not included in this profile). There are free-range poultry, goat, cattle, and pig-raising activities throughout the area. Poultry production is especially important, as an activity engaged in by all socioeconomic groups. Cattle-raising is limited to households with sufficient means (enough land, for example) to carry it off. There are widespread small stock-raising activities throughout the area, whose contribution to the household economy varies according to whether they involve goats or pigs. Pigs are generally a form of savings for poor households and are sold during hard times or to finance large expenditures (on weddings, funerals, and baptisms for example). However, goat-raising is more widespread.

Total population (2003 Population and Housing Census (RGPH 2003))

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Population 666 290</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belladères*</td>
<td>60 239</td>
</tr>
<tr>
<td>Boucan-Carré</td>
<td>48 700</td>
</tr>
<tr>
<td>Cerca Carvajal</td>
<td>17 571</td>
</tr>
<tr>
<td>Cerca la Source</td>
<td>40 270</td>
</tr>
<tr>
<td>Hinche</td>
<td>87 101</td>
</tr>
<tr>
<td>La Victoire</td>
<td>6 421</td>
</tr>
<tr>
<td>Lascahobas*</td>
<td>46 547</td>
</tr>
<tr>
<td>Maissade</td>
<td>43 138</td>
</tr>
<tr>
<td>Mirebalais</td>
<td>81 325</td>
</tr>
<tr>
<td>Pignon</td>
<td>29 327</td>
</tr>
<tr>
<td>Saint Michel*</td>
<td>95 216</td>
</tr>
<tr>
<td>Saut d’Eau</td>
<td>34 885</td>
</tr>
<tr>
<td>Thomassique</td>
<td>42 557</td>
</tr>
<tr>
<td>Thomonde</td>
<td>32 993</td>
</tr>
</tbody>
</table>

*The districts in this municipality are divided among more than one livelihood zone.

16The field work for the development of this profile was performed in May - June 2005. The information presented dates back to 2003, a comparatively ‘normal’ year by local standards (in other words, neither a particularly good nor a particularly bad year from a rural food security standpoint, compared with previous years). Barring any rapid, fundamental changes in the economy, the information presented in this profile should be valid for a period of approximately five years.
Charcoal production is another major economic activity in livelihood zone 4. Compared with other areas, residents of this livelihood zone receive few foreign remittances, but supplement their income through temporary migration to the Dominican Republic.

### Markets

Trade with the Dominican Republic is important to this livelihood zone, which exports poultry, goats, cattle, and pigeon peas and imports draft animals such as donkeys, horses, and mules, so-called « cabecit » rice (rejects from Dominican rice mills), food pastes, etc. Poultry and charcoal are shipped to markets in Port au Prince. The area brings in basic consumer goods and food products such as rice, food pastes, beans, oil, and sugar from the capital. It is not always cost effective to sell certain types of crops such as mangos due to the high transportation costs involved, which is a waste of production surpluses.

In addition to the two main trading hubs referred to above, there are also large markets within the livelihood zone bringing together farmers and traders from different departments around the country and the Dominican Republic, as in the case of the Belladère, Maïssade, Casse, Mirebalais, Cerca Carvajal, and Cerca la Source markets.

The Dominican Republic is the main temporary migration hub for residents of livelihood zone 4. Though temporary, such migratory movements are mostly long-term (for about a year). There is also a pattern of seasonal migration to the Dominican Republic during hard times. The wages paid to laborers in the Dominican Republic (in the construction industry and on coffee and sugar cane plantations) are 3 to 5 times higher than in this livelihood zone.

### Seasonal calendar

The main land preparation period for the planting of corn, pearl millet, groundnut, and pigeon pea crops runs from the end of March through the beginning of April. The harvest season runs from November to January. Corn, which has two growing seasons, is harvested in late July/early August and again in November. Diminishing rainfall activity in July heralds the beginning of land preparation work and the start of the second growing season for corn. The cropping calendar is somewhat different in the case of cassava, which has a longer maturation cycle.

The demand for labor picks up during land preparation and planting periods. Some of the hazards affecting this area are seasonal in nature, such as brush fires and lightning strikes. Likewise, certain mitigation strategies implemented in response to these hazards are also seasonal, such as out-migration to the Dominican Republic.

<table>
<thead>
<tr>
<th>Season</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>Aug</th>
<th>Sept</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rainy season</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Rainy season</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crops</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corn</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1st plant.</td>
<td>1st harv.</td>
<td>2nd plant.</td>
<td>2nd harv.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pigeon peas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Harvest</td>
<td>Planting</td>
<td></td>
<td>Harvest</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Groundnuts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Harvest</td>
<td>Planting</td>
<td></td>
<td>Harvest</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearl millet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Planting</td>
<td></td>
<td>Harvest</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassava</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Harvest</td>
<td>Planting</td>
<td>Harvest</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peak charcoal production</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lightning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brush fires</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Out-migration to the D.R.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Socioeconomic breakdown

The main wealth criteria in this livelihood zone are associated with the area’s two main economic activities (livestock-raising and farming), namely livestock holdings and farm size. In addition to poultry, ‘poor’ households own a few small animals (mainly goats and perhaps a pig). These households tend animals (primarily goats) for other population groups. They do not own any land per se, but farm anywhere from $\frac{1}{2}$ to 1.5 squares of land\(^{17}\) under tenant farming/sharecropping arrangements. They hire themselves out as local laborers to other socioeconomic groups. The typical ‘poor’ household has an average of approximately 8 members.

The main factor distinguishing ‘average’ households from ‘poor’ households is land ownership and holdings of large animals. ‘Average’ households also engage in trade and employ local labor and are most likely to engage in temporary migration to the Dominican Republic. Unlike ‘poor’ households, ‘average’ households can bear corresponding travel costs and stay away for long periods. The typical household has approximately six members.

‘Wealthy’ households own large enough tracts of land to enable them to raise more animals than either of the other two groups (more than 10 small animals and 4 to 10 head of cattle and, in some cases, even more). They trade mainly in large animals, hire paid laborers, and have no need to migrate to the Dominican Republic to supplement their income. A typical ‘wealthy’ household consists of 5 members.

---

**Major characteristics**

<table>
<thead>
<tr>
<th></th>
<th>Animals</th>
<th>Land</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor</td>
<td>Tend 1 to 5 small animals</td>
<td>Work $\frac{1}{2}$ to 1.5 squares of land as sharecroppers/tenant farmers</td>
</tr>
<tr>
<td>Average</td>
<td>1-3 full-grown head of cattle; 5-10 small animals</td>
<td>Own $\frac{1}{4}$ to 1 square of land; work $\frac{1}{2}$ to 1 square of land as sharecroppers/tenant farmers</td>
</tr>
<tr>
<td>Wealthy</td>
<td>4-10+ full-grown head of cattle; 10-15 small animals</td>
<td>Own 1+ square of land</td>
</tr>
</tbody>
</table>

\(^{17}\) 1 square is equivalent to 1.29 ha.
Sources of food

The two main sources of food are on-farm crop production and purchasing.

Among other things, local households purchase imported rice (the mainstay of the local diet). The poorer the household, the greater its dependence on the market for its food supply and, thus, its vulnerability to hikes in food prices.

The share of household food intake from on-farm crop production increases with wealth. The same is true of animal production, which meets a negligible percentage of the food needs of ‘poor’ households, a larger percentage of the needs of ‘average’ households, and an even larger percentage of the needs of ‘wealthy’ households.

Food aid, which was stepped up significantly in 2002 in the wake of the drought, continued into 2003 and is counted among the food sources for ‘poor’ and ‘average’ households.

Sources of income

The three main sources of income in this livelihood zone are sales of on-farm crop and animal production and charcoal. The relative importance of crop sales increases with wealth. In contrast, the relative share of income from charcoal sales is inversely proportional to the level of wealth. In other words, in absolute terms, the poor earn much less from charcoal production since they do not own any of the trees on the land they work.

The main source of income for ‘poor’ households is paid labor, followed by sales of charcoal. Livestock (mainly poultry) is raised virtually exclusively for sale and is the third largest source of income for this group of households. Unlike ‘average’ and ‘wealthy’ households, poor households do not have the means to engage in trade, which is the second leading source of income for ‘wealthy’ households, particularly trade in large animals.
Chronic hazards have to do with environmental degradation threatening productive activities (erosion and deforestation) or growing marketing constraints (deteriorating road conditions and hikes in prices for fuel and inputs). Periodic hazards fall in one of two categories: marketing-related hazards (the shutting of the border or security threats in Port au Prince); and production-related hazards (animal and plant diseases or natural disasters).

**Periodic hazards:**
- Extended droughts
- Brush fires
- Earthquakes
- Storms/lightning strikes
- Epidemic outbreaks of animal diseases
- Shutting of the border with the Dominican Republic
- Security threats restricting access to the Port au Prince market

**Chronic hazards:**
- Erosion caused by deforestation
- Hikes in the price of fuel and inputs
- Deforestation
- Deterioration in the condition of road infrastructure

**Response strategies**

Local responses to identified hazards fall in one of two categories: (a) hazard impact mitigation strategies for maintaining production despite the risk involved; and (b) strategies for maintaining access to food and income by replacing food and income lost as the result of a given hazard. Though the former strategies are rare, they do exist. Examples include companion cropping systems designed to maintain crop production, crop rotation schemes, etc.

Strategies designed to offset losses in one or more areas by stepping up an existing or new activity are more common.

The most common strategies employed by poor households, in order of importance, are:
- Cutbacks in the number and frequency of meals
- Stepped-up employment as farmhands or laborers in other local activities
- Stepped-up charcoal production
- Stepped-up sales of poultry and goats

Average households:
- Cutbacks in the number and frequency of meals
- Temporary migration to the Dominican Republic to look for work, primarily in agriculture or construction
- Stepped-up charcoal production
- Stepped-up sales of small animals
- Depletion of monies set aside for trade
- Selling off plots of land

Wealthy households:
- Substitutions of certain foods
- Stepped-up sales of small animals
- Leasing of more land to tenant farmers
- Selling off part of their land holdings
**Imminent crisis indicators**

- Rainfall: amount of precipitation and distribution of rainfall
- Price of corn and pigeon peas
- Price of rice (rice imported from the United States and "cabecit" rice imported from the Dominican Republic)
- Price of livestock: cattle and goats
- Stepped-up charcoal production
- Animal diseases in general and diseases affecting poultry in particular

Since households rely on purchasing as a major food source, it is important to have some idea of household purchasing capacity. In addition to food, households also depend on purchasing to meet other basic needs (health, education, household goods, and inputs). This requires an indicator of the minimum cost of these basic needs represented by the cost of a minimum consumer basket, including food (enough rice, peas, and oil to meet minimum household energy requirements) and other staple goods.

The informational value of such an indicator is enhanced by a comparison with household purchasing capacity as a reflection of household purchasing power:

- Daily wage income / daily cost of a minimum consumer basket (an indicator of purchasing power from wage income for ‘poor’ households);
- Income (or net income) from animal sales – i.e. the sale of a young goat / cost of a minimum consumer basket (an indicator of purchasing power for all socioeconomic groups).

Such indicators should reflect short-term and long-term fluctuations in purchasing power (even under inflationary conditions).

Hikes in the price of inputs and marketing costs have been identified as a hazard, making it necessary to track the cost of fuel and inputs.

As in the case of purchasing power, the informational value of this data is enhanced by a comparison of production/marketing costs with the income earned from these activities, which makes it advisable to monitor returns on investments in charcoal and poultry production/marketing activities.
Livelihood Profiles in Haiti

Livelihood Zone 5: Agro-pastoral Zone

Major conclusions and implications

Agriculture, livestock farming, and secondarily wood/charcoal production and fishing, contribute to the economy of Zone 5 households. This zone, and in particular Grande Anse and Gônave, has a deteriorated and underdeveloped road structure. It is also characterized by its distance from the large markets (Port-au-Prince and the Dominican Republic). These two points lead to a lesser degree of deforestation (especially in Grande Anse department) compared with the rest of the country, and high road transportation costs are compensated for in part by maritime transportation.

Poverty in the zone is principally linked to reduced access to land, which is insufficient to raising livestock, and low investment capacity. These households depend on the market both for employment contracts and food.

Description of the livelihood zone

This agro-pastoral zone occupies areas in four of the country’s departments: Grande Anse, Sud, Sud Est and Ouest. Some village sections of this zone are on the seashore where fishing is practiced and the remainder of the sections is dominated by hillocks.

In terms of water availability, the zone is rather well supplied and receives rainfall ranging from 1,000-1,200 mm per year. This semi-dry agro-pastoral zone boasts diverse economic activities such as agriculture, livestock farming, fishing, trade and cottage industries. Food crops such as beans, yams, corn, rice, bananas, cassava, sugarcane, sweet potatoes, vegetables, coconuts, breadfruit and fruit are important in these regions. In the regions of Grande Anse, coffee and cocoa beans are cash and export crops. All these products are sold at either the various local or urban markets or in Port-au-Prince. Wood harvesting for consumption and charcoal production as a major additional option for a means of subsistence are in wide practice, especially in Grande Anse and Gônave and erosive phenomena is beginning to be felt to a large degree.

Livestock farming is very important to the means of subsistence of these semi-dry regions of Grand Anse and is practiced as an open or retention area activity. The livestock in this zone consists of cattle, goats, pigs, horses, sheep and chickens. Animal-keeping is one of the means of access to the livestock requiring no outlay of money. The keeper takes care of the animal, gives it food, and in exchange receives half the takings or offspring.

The socio-economic groups acquire land either through inheritance, purchase, leasing or tenant farming. The land is worked using natural rainfall and extensive crops are planted. The principal tools used are rather archaic and consist of machetes, claws and mattocks. The rich, average and vast majority of the poor own them. Some of the rich can obtain for

---

18Work in the field for this profile was performed May – June 2005. The information presented relates to 2003, a relatively “normal” year according to local standards (i.e. a year that was neither especially good nor especially bad in terms of rural food security, judged in the context of the preceding years). Provided there are no fundamental and rapid changes in the economy, it can be expected that the information from this profile will remain valid for about five years.
their personal needs a garden trowel, spade, hoe and pitchfork. Corn mills are not abundant in the zone; there is only one, in Abricot.

In the coastal regions, fishing is carried out mainly on a small scale. It is basically an activity of the poor socio-economic group. “Average” and “wealthy” groups make small investments in it by buying fishing equipment in order to rent it to “poor” households. The equipment used consists of “coralins,” row and motor boats and “bois fouillés” [dugout canoes]. The equipment is keepnets, nets, line, bait and hoists. Fishing products consist of fish, conch and lobster.

### Markets

Markets play a key role in the dynamic of the means of subsistence. The principal markets of the different regions of Zone 5 are classified below in order of importance:

- In Grande Anse, the best-stocked markets are Dame-Marie, in Vaudry (Aricot) and others smaller ones such as the one in Abricot borough and Hermite in Abricot.
- In the semi-dry regions of Sud, the major markets are Chantal, Camp Perrin, Ducis, Cance and Les Anglais.
- The Découzé, Carrefour Joute and Oriane markets occupy commercial activity centers in Zone 5 of Sud Est.
- In Gônave, the Shada and Ti Palmist markets are distribution and supply centers of the semi-dry regions.

All these markets are open-air infrastructures equipped with arbors for the minimum comfort of the merchants. Some are urban markets or local markets with a minimum operation schedule every day. Other regional markets only operate on established days of the week.

Major markets are always equipped with space for the sale of livestock. The principal local agricultural products, imported food products and non-food products produced locally and elsewhere (for example, charcoal, outfits, used shoes and linens) are also found there.

Due to the poor condition of the dirt roads linking the different regions of Grande Anse to the capital and Gônave, as an island, maritime transportation is the most important means of trade for these two regions. The most regular traffic coming from these regions reaches Port-au-Prince via Jérémie Wharf near the Croix des Bossales market. At this time, due to the lack of security rife in these activity zones, this unloading point has been abandoned.

A major channel for the sale of cocoa beans is Dame-Marie in Port-au-Prince through speculators. The price of basic products like beans and corn are generally on the rise at planting time. When the supply of basic products is thereby reduced, the demand for consumer and planting needs is high. At this level, loans in kind are made with poor households because seeds are hard to keep in a semi-dry environment and storage facilities are quasi nonexistent.

Basic products for the “poor” group are sold primarily on the local markets, while the “average” and “wealthy” categories who are able to pay the higher transportation costs sell their basic products in Port-au-Prince or elsewhere.

The principal activities that provide employment in the zone are agriculture, fishing, trade and cottage industries (such as masonry, cabinetmaking, tailors). Seasonal employees are not frequent for certain activities. Agricultural labor is seasonal and the demand is considerable at the beginning of the season, average during the growth of the crops and low during the harvest.

Seasonal migration to Dame-Marie and Les Irois takes place in January for coffee picking. However, people migrate less in a seasonal manner. Migration is permanent and by stages. People go to Port-au-Prince, obtain what they need for a trip abroad and leave either for Jamaica, the Dominican Republic or the United States. These activities are undertaken to a lesser extent by the “average” and “wealthy” groups. Once established, migrants send money to their relatives in Haiti. The group members who leave are most often the active fathers and young people of working age. Among the rich classes, trips are principally made for studies, business and pleasure.
Rain is particularly abundant between April and June and October to December. Other climate factors, which influence this zone, are the Nordé winds from January to April and hurricanes, the risk of which is greater between June and December. Soil preparation and planting times are the periods of highest demand for labor in the agriculture sector. Bananas and yams are available throughout the year. Corn is planted and harvested twice a year. Cassava and sugarcane have one-year crop cycles. Coffee and cocoa beans are shrub crops that lend themselves to added-value processing for exportation. Coffee, and to a lesser extent cocoa beans, are often called the farmer’s savings plan because it gives them a reliable source of cash every year with no investment in seeds and supplies. The biggest fishing period is between the months of March and September.

<table>
<thead>
<tr>
<th>Season</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rain</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Crops</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Corn</strong></td>
<td></td>
<td></td>
<td>Planting 1</td>
<td></td>
<td>Harvest 1</td>
<td></td>
<td>Planting 2</td>
<td></td>
<td>Harvest 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Beans</strong></td>
<td></td>
<td></td>
<td>Harvest 3</td>
<td></td>
<td>Planting 1</td>
<td></td>
<td>Harvest 1</td>
<td></td>
<td>Planting 2</td>
<td></td>
<td>Harvest 2</td>
<td>Planting 3</td>
</tr>
<tr>
<td><strong>Pois congo</strong></td>
<td></td>
<td></td>
<td>Harvest</td>
<td></td>
<td>Planting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Yams</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Harvest</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sweet potatoes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Banana</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Planting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cassava</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Planting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cocoa</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Planting</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Coffee</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Planting</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sugarcane</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Planting</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fishing</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Four socio-economic groups were identified in this semi-dry zone: “very poor,” “poor,” “average” and “wealthy” households. The majority of households belong to either the “average” or “poor” group. The criteria distinguishing this category are: land area owned and farmed, amount of livestock and presence of people abroad, and while less significant, the size of the households. The amount of land farmed and ownership of livestock are the most important factors in determining a group’s socio-economic level.

“Very poor” households do not have land and have little or no livestock. The land they farm originates from tenant-farming agreements. These households are composed of 3 to 4 members. “Poor” households own a part of the land that they farm. They raise livestock and keep cattle, which belongs to other groups. These households have 8 to 10 members. By comparison, “average” and “wealthy” households own larger areas of land and cattle. The receive money transfers from abroad. The size of these households is 5 to 7 and 4 to 5 members respectively.

<table>
<thead>
<tr>
<th>Principal Characteristics</th>
<th>Animals</th>
<th>Land</th>
<th>Transfer of money from abroad</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Very poor</strong></td>
<td>0-2 small livestock</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>Poor</strong></td>
<td>Cattle keeping, about 5 small animals</td>
<td>1/4 to 1/2 patch in tenant farming/leasing</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Middle class</strong></td>
<td>On average, 5 heads of cattle, 10-25 animals</td>
<td>1/4 to 1 patch owned, +1 leased/tenant farm patch</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Better off</strong></td>
<td>+10 heads of cattle, +25 small animals</td>
<td>+5 patches owned</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Note: 1 patch = 1.29 ha

<table>
<thead>
<tr>
<th>% of population</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
</tr>
<tr>
<td>20%</td>
</tr>
<tr>
<td>40%</td>
</tr>
<tr>
<td>60%</td>
</tr>
</tbody>
</table>
The graph shows the estimated relative contribution of the different sources food to the annual consumption of the households.

**Sources of Food**

The sources of food of the “poor” group are more varied compared with the other socio-economic groups.

The “very poor” category, which has a low level of agricultural production, depends principally on purchasing, payments in kind and food available in the wild. It is the group most vulnerable to food security, which must seek its food on a daily basis.

Fishing is an activity carried out by “poor” households exclusively. Average and wealthy groups provide, in the form of leasing, the fishing equipment necessary to the poor, and in return, the latter pays them by sharing the catch.

Average and wealthy categories choose to sell more of their agricultural production and buy a large part of their food. Their purchasing power affords them this strategy.

**Sources of Income**

Income of the “very poor” class basically comes from labor. Therefore, they are particularly vulnerable during periods of low labor demand. The “Other” section contains donations received by these socio-economic groups.

“Poor” households present the greatest diversity in sources of income. This enables them to increase one or more activities if one source of income is less or not profitable at all. With the poor group, income comes from the sale of animal production, trade, the sale of wood/charcoal and money transfers from abroad.

Average and “wealthy” households also have relatives abroad and receive transfers.
Hazards

The risks to which the semi-dry zone is subject fall under two categories: chronic and occasional or period risks. The chronic risks category includes ocean currents, the Nordé [wind] and the presence of predator birds, which eat coconuts (Caw). Periodic crises include floods, water deficits, the maroca which eats yams, the Newcastle, which affects chickens, caterpillars on cassava, snails on beans, internal and external parasites on the livestock (ticks, flukes and carapate on cattle) and rodents.

Periodic Risks:
- Water deficits
- Maroca/caterpillars/snails and rodents
- Floods
- Parasites and Newcastle
- Lack of security at Port-au-Prince, which prevents them from going to the main markets in Cite Soleil.

Chronic Risks:
- Ocean currents, which affect fishing considerably in the coastal regions.
- The Nordé, a strong wind, which causes major damage to agriculture and is also harmful to fishing.
- Predator birds, which affect the harvests.
- Unfavorable gourde/USD exchange rate and/or increase in the price of fuel and transportation.

Response Strategies

To reduce the impact of the risks and maintain their access to food and income, responses to risks are separated according to the groups. The strategies they turn to follow:

For the average and wealthy
- Increase the sale of livestock
- Disinfestation
- Increase in the trade and the sale of charcoal

For the poor
- Increase fishing in coastal regions
- Increase the sale of charcoal
- Migration

Imminent Crisis Indicators

- Rainfall, notice of strong winds and hurricanes
- Quantity and price of the livestock on the market
- Price of beans, corn (during harvest period)
- Disease and mortality rate of animals

Since households rely on purchasing as a major source of food, it is important to have some idea of household purchasing capacity. In addition to food, households also depend on purchasing to meet other basic needs (health, education, household goods, and inputs). Thus, this requires an indicator of the minimum cost of these basic needs represented by the cost of a minimum consumer basket, including food (enough rice, peas, and oil to meet minimum household energy requirements) and other staple goods.

The informational value of such an indicator is enhanced by a comparison with household purchasing capacity as a reflection of household purchasing power:
- Daily compensation of labor/daily cost of a minimum consumer basket (purchasing power indicator emerging from the labor for the poorest households)
- Income (or net income) from the sale of animals – for example one kid/Cost of the minimum consumer basket (purchasing power indicator for all socio-economic groups)
- Income (or net income) from the sale of X kg of corn or beans/ Cost of the minimum consumer basket (purchasing power indicator for all socio-economic groups)

Such indicators should reflect short-term and long-term fluctuations in purchasing power (even under inflationary conditions).

The increase in the prices of production supplies and marketing costs were identified as a risk, making it necessary to monitor fuel costs.

As in the case of purchasing power, the informational value of this data is enhanced by a comparison of production/marketing costs with the income earned from these activities, which makes it advisable to monitor the returns on investment of corn or beans, and kid production/marketing activities.
Livelihood Profiles in Haiti

Zone 6: Agriculture and Fishing Dry Zone

Major conclusions and implications

Agriculture, livestock farming and charcoal/wood production are the base of the agriculture and fishing dry zone economy. Despite the type of production carried out, the zone does not meet the criteria of a subsistence economy or agriculture. It is dependent on trades abroad for its consumption, labor demand and the sale of its production. Therefore, it is vulnerable to increases in the price of imported goods and transportation. In addition, it is a fragile production environment (deforestation, erosion, poor distribution of rainfall) and is particularly vulnerable to natural disasters and vagaries of the climate.

Reduced access to land (agriculture, pasture and afforestation) combined with a limited investment capacity are the major causes of poverty in this zone. To compensate, “poor” households have diversified their activities. This enables them to minimize risks and gives them a certain degree of flexibility when an activity becomes less lucrative or not lucrative at all. However, they remain vulnerable to multiple crises or those which affect several of their activities simultaneously. Their dependence on the market is great, both for buying food (like other groups) and for employment.

Description of the livelihood zone

Zone 6 covers regions with 800 to 1,100 mm in annual rainfall. The zone encompasses regions of various altitudes: plains, hills, hillocks and low mountains. The geological substrate is often limestone, with quartz at the highest altitudes. There is major risk of erosion. Temperatures vary very little from one season to another with an annual average of 28 to 31°C.

The principal regions, which compose this zone are: lower Artibonite up to the Cul de Sac plain (St Marc, Croix-des Bouquets, Fonds Parisien), the dry low mountains of Centre department (town of Matelgate), the Sud coastal strip (Port-Salut/Aquin-Côte de Fer), the dry plains of Grand’Anse (Gomiers) and the dry low mountains of Nippes department (Anse-à-Veau, Miragôane).

As in many other zones, the network of roads is generally not very developed or in poor condition. This item merits qualification, however. The Jacmel region enjoys easy access to Port-au-Prince while the regions of Grande Anse that tend to be dry have a road infrastructure in very poor condition. This is compensated for in part by maritime transportation. The economic activities of the zone are relatively diversified with, however, a predominance of agriculture.

The principal crops found are corn, pear millet, peanuts and pois congo/beans as well as cassava and sweet potato to a lesser extent with intra-zone variations.

As a general rule, households own the livestock that they raise, free-range or with retention areas, in the framework of systems of pastureland or detritus-eating animals (those feeding on the detritus that they find in yards behind dwellings). There is more livestock in the Sud, Artibonite and Ouest departments. In addition to cattle, hog, sheep and goat farming, horses are important in terms of transportation. The households also have fowl. Charcoal operations and the sale of wood are also common.

1 Work in the field for this profile was performed during the first two weeks of June 2005. The information presented relates to 2003, a reference year according to local standards (i.e. a year that was neither especially good nor especially bad in terms of rural food security, judged in the context of the preceding years). If there is no fundamental and rapid change in the economy, it is expected that the information in this profile will remain valid for approximately five years (i.e. until 2009).
Secondary activities are multiple and variable from one region to another. We will note, for example, the craft industry (especially toward the border with the Dominican Republic), operation of sandpits and fishing. The latter is artisanal and basically practiced by “poor” households living near the sea. While it is secondary, it was given special attention in this profile to establish its importance in the economy of “poor” households of the coastal regions.

For farmers in this zone, access to land is a considerable issue. In view of the population pressure, competition for access to real estate is very keen and the cost paid for having land to farm is very great. As a general rule, the land cultivated belongs to either the state, households in the zone or large-scale owners living outside the zone.

### Markets

Markets of the major cities of the different departments such as Port-au-Prince, Les Cayes, Jacmel, Jérémie, Miragoâne supply the zone with a tendency to be dry with staple foods and manufactured products. The products are generally sold in local markets by women or children. Trade in the zone is carried out at nearby markets such as:

- Kay Mayard, Mapou (Sud-Est), Chantall, Camp-Perrin (Sud) and Ducis (large animal market).
- Markets in secondary cities like Les Anglais, Cance (Sud), Côtes-de-Fer, Cayes-Jacmel, Pérédo, La Vallée de Jacmel (Sud-Est). In these types of markets, “Madam Saras” control the sale of agricultural products.
- The principal local markets are Carrefour Joute, Condé, Rendel (Sud), Découzé, Orianie, Thiottte (Sud’Est), Roseaux, Saint Martin, Abricot, Calem, Vaudry, Hermibe (Grand’Anse) and Sainte Thérèse (Nippes).

Port-au-Prince and the Dominican Republic (for craft industries) are of major interest for the distribution and sale of products.

The level of enclosure/access to the zone’s market varies. The distribution and sale of products is easier is zones with easy access to the capital or the Dominican Republic. The enclosure of Grande Anse and difficulties of road access are bypassed in part by maritime transportation.

The Dominican Republic and Port-au-Prince, in addition to the frequent trade carried out, also serve as a land of refuge and place of reliable work for the poor and landless of the dry zones, in particular during the “zafra” (sugar cane harvest in the Dominican Republic).
## Seasonal Calendar

Rains are particularly heavy from March to May and August to October. These rainy periods correspond to the cultivation of agricultural land and an increase in the labor demand in agricultural areas (especially during soil preparation and sowing). While they are good seasons for agricultural production and employment, the cooler period is generally accompanied by an increase in livestock diseases (for example, anthrax, pneumonia and Newcastle) and a decrease in grazing (because the land is used for agriculture).

Corn, sweet potato and peanuts are planted and harvested twice a year while pearl millet and pois congo are only planted and harvested once. Cassava stakes are generally planted in March and harvested 1 or 2 years later according to the specific case. The harvest is carried out gradually, based on the availability of the other crops.

There is a traditional and well-established model of movements in search of labor in and outside the zones that tend to be dry. [Employment] contract opportunities are first in humid, irrigated and high-production zones inside the country (February to April during the cultivation and from August to October) and around urban centers. Also, the sugar cane harvest period in November-December attracts seasonal migrants (from Sud-Est in particular) to the Dominican Republic. The construction sector of this country also provides contract opportunities.

One will also note that the traditional major sale periods of charcoal and livestock correspond to the reopening of classes (September-October) and to the year-end holidays.

<table>
<thead>
<tr>
<th>Season</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Crops</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corn</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pois congo</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearl millet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peanuts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yam</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassava</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normal sale of charcoal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sale of livestock</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal migration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External migration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Socioeconomic breakdown**

Three principal socio-economic categories were identified by the key informants. They also reported a fourth group, which could be described as “very poor” or indigent and dependent on donations and support from the other groups. They represent less than 5% of the households and are not really economically productive. The analysis presented here concerns the principal categories on which these households depend for their survival. If a more in-depth study of the economy of households was planned in the future, it should also include this group.

Access to land is the principal factor determining the socio-economic status of this zone. Receiving money transfers from abroad and livestock ownership are also major criteria. Cattle, pigs, goats and sheep are savings funds and are sold in the event of an emergency or to cover major expenses (back to school, for example).

“ Wealthy” households have at least 5 patches\(^\text{21}\) of land, in part cultivated, used for grazing or wooded. This latter aspect adds to the value of their property in an environment where deforestation is problematic. They receive money transfers from abroad, which increase, among other things, their investment capacity.

The description of the typical “average” household contains the same elements as the category described above. However, they farm smaller areas, which originate in part from tenant-farming or leasing agreements. Their land is generally lower in value and they have less livestock.

The average area of the plots cultivated by the “poor” households is less than 1 patch a part of which comes from tenant-farming or leasing agreements. They have small livestock and keep one or two heads of cattle, which belong to wealthier households. A portion of the small cattle held is rightfully theirs. However, they do not generally have the sufficient area or financial means necessary to raise cattle and the level of risk that it represents in the event of loss/disease of the animals. While some households keep a calf, they have the tendency rather to sell them and concentrate on raising small livestock. The latter is more consistent with their means and enables them to minimize the level of risk. They do not generally receive money transfers from abroad. In order to compensate and balance the constraints they face, they sell their labor and diversify their activities. For example, “poor” households near the coast have developed fishing activities. Their sources of food and income (presented below) were analyzed independently. The size of the households increases with the degree of poverty: on the order of 4 to 5 people for the “wealthy” category, 6 to 7 for the “average” group and 8-10 members in a “poor” household.

---

<table>
<thead>
<tr>
<th>Principal Characteristics</th>
<th>Land</th>
<th>Animals</th>
<th>Money transfers from abroad</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor</td>
<td>&lt; 1 patch, 1/2 to 1/4 of which tenant farmed/leased</td>
<td>0 - 1 head of cattle + keeping 4 - 9 small livestock 0 - 1 horse</td>
<td>No</td>
</tr>
<tr>
<td>Middle class</td>
<td>1 - 4 patches, part of which tenant farmed/leased</td>
<td>2 - 6 bovins 10 - 15 petit bétail 2 - 3 équins</td>
<td>Yes</td>
</tr>
<tr>
<td>Better off</td>
<td>5+ patches</td>
<td>7+ heads of cattle 15+ small livestock</td>
<td>Yes</td>
</tr>
</tbody>
</table>

% of population

---

\(^{21}\) 1 patch is equal to 1.29 ha.
Sources of Food

Purchases are the biggest source of food for all groups followed by agricultural production.

The contribution of animal production to food increases with the level of wealth, but remains secondary.

Other minor sources of food are observed in all the groups.

They are grouped under the “other” category and include the consumption of food found in the wild (Nippes and Grand’Anse), payment in kind (Sud and Sud-Est), school cafeterias, when they exist, and transfers and donations of food. Only “poor” households by the sea derive a considerable proportion of their food from fishing.

Sources of Income

Sale of the agricultural production appears to be the first source of income of the “average” and “wealthy” households.

Labor is the first source of income of the “poor” households. The latter show greater diversification of income sources than the other groups. Only the “poor” households of the coastal regions derive a significant proportion of their income from fishing.

The proportion of income from animal production increases with the level of wealth. All socio­economic categories derive income from the sale of charcoal and wood. The “average” and “wealthy” groups, which own wooded lots, grant them through tenant farming to the “poor” households, which in turn share their production with the owners. “Wealthy” households tend to protect their trees because of the value they give their land. They are therefore lower quality afforestation, which is used for charcoal production.

As indicated previously, only the “average” and “wealthy” groups receive money transfers from abroad. Income (as an absolute value) from trade increases with the level of wealth. There are also minor sources of income found more specifically in the group of poor households. They are grouped into the “other” category and include usury, cottage industries and loans (especially from micro finance institutions).
Hazards

There are primarily two types of risks in the zone: those that directly affect production and those that have an impact on trade (sale of the production and purchase of consumer goods).

A- Risks Affecting Production:

a- Periodic Risks:

• **Deficit and poor distribution of rainfall** – It affects agricultural production in the first place. Insufficient rainfall during the cultivation period also causes a reduced labor demand. This will affect the “poor” households in particular for which the sale of labor is a major source of food and income. The risks of localized “water conflicts” increase from June to August and December to March. A rainfall deficit also affects the availability of fodder for animals.

• **Hurricanes, floods** – Heavy showers or hurricanes can lead to crop and livestock losses.

b- Chronic Risks:

• **Ravagers and crop diseases** – The most significant are snails on leguminous plants, potato bugs and caterpillars on cassava and corn as well as ravager birds and rodents.

• **Animal diseases and predators** – The principal diseases are pneumonia for goats and sheep, classical swine fever for pigs, anthrax for cattle and Newcastle for fowl. The principal predators are dogs.

• **Increase in the price of agricultural supplies (fertilizer, pesticides, seeds)** affects the production of the “wealthy” households in particular. An increase in the cost of the product can lead the producer to reduce his investment, which will have an impact on the labor demand. This can also cause an increase in the price of the product, which is unfavorable to the consumer.

Such price increase could be caused by an unfavorable gourde/USD exchange rate, an increase in the price of fuel or an embargo in Haiti. It is, moreover, a risk for trade.

Risks Affecting Trade:

a- Periodic Risks:

• **Hurricanes, floods, landslides and rock falls (caused by earthquakes)** – These natural disasters can damage the network of roads.

b- Chronic Risks:

• **Increase in transportation costs or gourde/USD exchange rate** – This causes higher product marketing expenses and an increase in the price of imported staple foods. With purchases being the principal source of food, all the groups, and in particular the poor, are vulnerable to an increase in the price of imported foods such as rice, sugar, etc.

• **Price of imported poultry and pork lower than local production.**

• **Lack of security in Port-au-Prince** – Because it is the principal market for the distribution and sale/circulation of products, problems with insecurity in the capital have an impact on marketing the productions and supplying rural areas. Insecurity limits access to the port by boats from Grand’Anse and the travel of “Madam Saras” to regional markets.
Response Strategies

Local responses to the risk can be divided into two categories: a) strategies that reduce the impact of the risk, maintaining production despite the risk and b) strategies that maintain access to food and income, replacing the food and income lost due to the risk.

**Strategies that Reduce the Impact of the Risk:**
- Diversification and combination of crops.
- Distribution of the production in different agro-ecological areas.

**Strategies that Maintain Access to Food and Income:**
- Intensified sale of charcoal/wood (from fallen trees in the case of hurricanes).
- Increase in the sale of livestock.
- Intensified fishing and sale of labor.
- Migration to irrigated zones in search of labor.
- Migration to Port-au-Prince, secondary urban centers and the Dominican Republic (in particular for households from the Sud-Est).
- Mutual aid among socio-economic groups: donations of food, money, housing and loans in kind.
- Increase in shop keeping.
- Reduction of family consumption and modification of eating habits (increased consumption of tubers, fruits/breadfruit and foods found in the wild in Grande Anse and reduced consumption of grains).
- Increase in the price of agricultural products.
- Credit purchases.
- Sale of means of production and goods from services (agricultural tools, fishing equipment, radios, etc.).

Multiple crises, or those affecting several principal activities simultaneously, can lead “poor” households in particular to carry out distress strategies.

<table>
<thead>
<tr>
<th>Nature of the Risk</th>
<th>Poor</th>
<th>Average</th>
<th>Wealthy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rainfall deficit and/or drought</td>
<td>Intensification of fishing, production and sale of charcoal. Sale of livestock.</td>
<td>Production and sale of charcoal. Sale of livestock.</td>
<td>Intensification of cash crops such as peanuts and pois congo.</td>
</tr>
<tr>
<td>Hurricanes and floods</td>
<td>Charcoal produced from fallen trees and mutual aid between households. Wait for assistance.</td>
<td>Mutual aid and request for transfers from abroad.</td>
<td>No responses identified.</td>
</tr>
<tr>
<td>Crop diseases</td>
<td>Early harvest, when possible.</td>
<td>Diversification of crops.</td>
<td>Purchase of pesticides in large cities.</td>
</tr>
<tr>
<td>Animal diseases</td>
<td>Wait for assistance; sale of livestock.</td>
<td>Seek assistance from the institutions involved or purchase veterinary products.</td>
<td>Seek assistance from the institutions involved and/or purchase veterinary products.</td>
</tr>
<tr>
<td>Agricultural labor shortage</td>
<td>Koumbite 22 during peak agricultural periods.</td>
<td>Intensive use of family labor.</td>
<td>Acceptance of high cost of labor.</td>
</tr>
<tr>
<td>Increase in the price of transportation and food products</td>
<td>Substitute and consume lower-priced products. Reduce the number of meals.</td>
<td>Substitute and consume lower-priced products.</td>
<td>Increase the sale price of products sold.</td>
</tr>
<tr>
<td>Lack of jobs</td>
<td>Seasonal migration and sale of agricultural labor in other production zones.</td>
<td>No responses identified.</td>
<td>Migration of eldest sons to large cities or abroad.</td>
</tr>
<tr>
<td>Landslides and rock falls</td>
<td>Permanent migration of the household. Jobs sought in the restoration of damaged roads.</td>
<td>Reconstruction of the house.</td>
<td>Request transfers from abroad and reconstruction of the farm business.</td>
</tr>
</tbody>
</table>

---

22 Mutual aid in terms of agricultural work.
Imminent Crisis Indicators

- Rainfall, warning of strong winds and hurricanes.
- Amount and price of livestock on the market.
- Low availability of fodder in overlapping period.
- Increase in the price of beans and corn (in harvest period).
- Local labor demand in March-April.
- Increase in migration (outside usual periods).
- Increase in the sale of charcoal.
- Animal diseases and mortality rate of the livestock.

Since households rely on purchasing as a major source of food, it is important to have some idea of household purchasing capacity. In addition to food, households also depend on purchasing to meet other basic needs (health, education, household goods, and inputs). Thus, this requires an indicator of the minimum cost of these basic needs represented by the cost of a minimum consumer basket, including food (enough rice, peas, and oil to meet minimum household energy requirements) and other staple goods.

The informational value of such an indicator is enhanced by a comparison with household purchasing capacity as a reflection of household purchasing power:

- **Daily compensation of labor/daily cost of a minimum consumer basket** (purchasing power indicator emerging from the labor for “poor” households)
- **Income (or net income) from the sale of animals – for example one kid/Cost of the minimum consumer basket** (purchasing power indicator for all socio-economic groups)
- **Income (or net income) from the sale of X kg of corn or beans/ Cost of the minimum consumer basket** (purchasing power indicator for all socio-economic groups)
- **Income (or net income) from the sale of X kg of charcoal/ Cost of the minimum consumer basket** (purchasing power indicator for the poor, in particular)
- **Daily income from fishing/Daily cost of a minimum consumer basket** (purchasing power indicator for poor fishing households).

Such indicators should reflect short-term and long-term fluctuations in purchasing power (even under inflationary conditions).

The increase in the price of production supplies and marketing costs was identified as a risk, making it necessary to monitor the **costs of supplies/fuel**.

As in the case of purchasing power, the informational value of this data is enhanced by a comparison of production/marketing costs with the income earned from these activities, which makes it advisable to monitor **returns on investment of the production activities/marketing of corn, kid and charcoal**.
Livelihood Profiles in Haiti

Zone 7: Sea Salt Production Zone

Major conclusions and implications

This zone has a lower level of poverty and vulnerability to vagaries of the climate compared with the other zones in the country. This is the result of diversification of activities (salt production, agriculture, trade and fishing) and in particular salt marsh production. The latter generates, in addition, a major call for labor to the zone.

However, difficulty accessing water is a major problem for both production and household consumption.

Agricultural products (principally shallots and pearl millet) and salt are exported outside the zone while the majority of the consumer goods (including rice, a staple) are imported. This zone is therefore dependent on trade with other zones, urban centers and Port-au-Prince, in particular. This high level of trade is reflected in particular in the sources of food: purchases covers the majority of the needs, all socio-economic categories combined.

Purchasing power is therefore a determining factor of the ability of all households to cover their minimum requirements. It is an important monitoring indicator. In addition, the “very poor” category is very dependent on the demand and level of compensation of labor, which is their principal source of income.

Description of the livelihood zone

This zone extends over the very dry coastal plain. Rainfall is very low. Vegetation is poor in the salt zone and becomes progressively richer toward the dry hillocks where there are xerophytic plants (drought-resistant) such as baya rond.

Salt production is the principal activity. Zone 7 is composed of three sub-regions: Coridon, Pointe des Mangles and Anse Rouge. Salt is a major source of employment and attracts migrants seeking work. Fishing, trade and agriculture are also practiced there. Inhabitants of the zone farm in the dry hillocks region north of the salt marshes (Source Chaude, Figuier). The principal crops are shallots, pearl millet, pois de souche and onion. Shallots are farmed on irrigated plots. The cost of the water/irrigation time is a limiting factor of production. Access to water in general is a major problem in this zone and creates high expenses for the households.

Livestock farming is a marginal activity in the salt zone, however, the following types are found, in order of importance: sheep, goats and donkeys (for transportation). The scarcity of water, remote nature of the land farmed and greater profitability of the salt marshes do not encourage development of this activity.

Fishing is a cottage industry, practiced with lines, bait, keepnets and nets. There are generally two types of boats: boifouillés (dugout canoes) and sailboats. Transportation and travel outside the zone are carried out by maritime or

---

23 Work in the field for this profile was performed May – June 2005. The information presented relates to 2002, a relatively “normal” year according to local standards (i.e. a year that was neither especially good nor especially bad in terms of rural food security, judged in the context of the preceding years). Provided there are no fundamental and rapid changes in the economy, it can be expected that the information from this profile will remain valid for about five years.
terrestrial means despite a poor road infrastructure. With regard to the land ownership system: salt purs and agricultural land belong either to the state or a minority of private property owners.

**Markets**

In Coridon and Pointe des Mangle, there are small local markets, but the large markets are in Anse Rouge and Source Chaude. Food consumption products (corn, rice) in particular are found there, which merchants buy in Gonaïves. Salt is usually transported by boat to Port-au-Prince (Cité Soleil). In the event of problems in Port-au-Prince, the boats go to Petit Goâve. Shallots are not really sold on the local markets. Intermediaries (the Madam Saras) come to buy them directly at the production sites in order to resell them in Gonaïves, Cap Haitien or Port-au-Prince. Parties able to store fish (especially the “wealthy” households) export it to Port-au-Prince and Gonaïves, but this market is not very widespread.

Work in the salt marshes calls for labor for the preparation, maintenance of basins and extraction of the salt. These are people without basins who sell their labor power at the salt marshes. People also come from other regions of the country to work there because there is a labor deficit in periods of high demand for the maintenance and extraction of the salt. There is a labor demand in particular for shallot planting. However, this labor demand is low compared with what is required in the salt marshes. Fishing activities do not as such call for paid labor. “Poor” households fish on boats that belong to other groups and give them part of their catch in exchange.

**Seasonal Calendar**

The principal climate factors that influence this zone are rainfall, winds (Nordé) and hurricanes. Rains generally begin in April. The low rainfall in July is followed by the start of the second growing season in August/September. This way, shallots and pearl millet are each grown twice a year.

Salt is extracted in all seasons with two peaks in March-April and November-December. The extraction is also greatly influenced by operator’s ability to cover the production costs such as the labor specifically. The Nordé winds have particular influence on salt production and because they drive water out of the basins. If the rain is insufficient for this period to compensate for these water losses, salt production will be affected by it. This effect is reduced for operators with access to a system of pumping water into the basins.

The labor demand (for agriculture and salt production) is relatively high throughout the year. However, it increases during the salt extraction, preparation/crop planting and harvest periods.

<table>
<thead>
<tr>
<th>Season</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crops</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shallot/onion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Harvest 1</td>
<td>Harvest 1</td>
<td>Harvest 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearl millet</td>
<td>Harvest 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salt extraction peak</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labor peak</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Socioeconomic breakdown**
The principal criteria for wealth in the zone are the mining of salt basins, the area of land farmed, which is directly linked to the capacity of households to purchase irrigation water, and the presence of relatives abroad who send money transfers. The latter are often invested in the salt or agricultural production. The majority of households mine salt basins and agricultural land under a leasing system because they rarely own it themselves. In neighboring dry hillocks, shallots are grown with irrigation and the water must be purchased and sold in the form of number of hours per week/two weeks. Therefore the households’ capacity to buy irrigation water determines the socio-economic characteristics. Thus, only the “average” and “wealthy” categories are able to purchase more than two hours of water per week/two weeks and this explains why they are able to cultivate shallots. The poor, who are unable to purchase a large amount of water, will tend to grow pearl millet.

The typical “very poor” household does not have salt basins or irrigated land. They are unable to cover expenses related to irrigation. These households perform labor for the other socio-economic groups. They have little equipment for the fishing they practice, despite everything, on boats owned by other groups. The product of the fishing is then shared with the owner. Since they do not receive transfers from abroad, their ability to invest in salt marshes, agricultural production or fishing is very limited. Therefore, they are economically dependent on the capacity of other groups to employ it. The typical size of these households is estimated at eight people. What differentiates the households described above from the typical “poor” households is their access to capital goods and greater capacity for investment, which is linked in part to the transfers that they receive from abroad. The latter households mine 1 to 3 salt basins, which they rent. They cultivate rented land or through tenant farming with an irrigation system. The also have some small livestock and fishing equipment such as lines and a dugout canoe. During periods of high demand, they are able to employ additional labor. Trade is sometimes conducted on a small scale, but it is a marginal activity. These households include about 6 people.

The typical “average” household mines around 4 to 10 salt basins. They farm a larger area of land than the “poor” households because they are able to purchase more irrigation water. They receive money transfers from abroad. They employ labor for both the salt marshes and agricultural production. In addition, they carry out trading. Fishing, which is generally practiced with keepnets, nets and a small sailboat, is a secondary activity. Similarly, small animal farming is secondary. These households are composed of about 4 to 6 people.

The description of the typical “wealthy” household contains the same elements as the “average” households. However, they perform the same principal activities on a larger scale. They have more salt basins, a larger area of land and greater irrigation capacity. The latter enables them to plant a larger proportion of their area with shallots. This cash crop is more profitable than millet, but requires more water. They generally have a means of transportation (boat or truck) because of which they trade on a larger scale. Their labor demand is high. They have fishing equipment, although they do not generally perform this activity themselves. These households include 4 to 8 people. It is important to note the presence in the zone of a minority of households, which can be described as “rich” in relation to the groups described previously. They own over 20 salt basins, and while less numerous, they have a considerable influence on the zone’s economy.

<table>
<thead>
<tr>
<th>Principal Characteristics</th>
<th>Number of salt basin</th>
<th>Land/capacity to buy irrigation water</th>
<th>Number of people sending transfers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very poor</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Poor</td>
<td>1 - 3 (leased)</td>
<td>Purchase of 1/2 to 2 hrs. of water per week/two weeks</td>
<td>1</td>
</tr>
<tr>
<td>Average</td>
<td>4 - 10 (leased or owned)</td>
<td>Purchase of 2 - 4 hrs. of water per week/two weeks</td>
<td>2</td>
</tr>
<tr>
<td>Wealthy</td>
<td>10+ (leased or owned)</td>
<td>Purchase of at least 4 hrs. of water per week/two weeks</td>
<td>0</td>
</tr>
<tr>
<td>% of population</td>
<td>0%</td>
<td>20%</td>
<td>40%</td>
</tr>
</tbody>
</table>
The sources of food in this zone were classified into three groups: purchased, self-produced (agriculture and fishing) and others (donations, payments in kind). Consumption of one’s own animal products is marginal. Animals tend to be kept and sold in the case of crisis. For all the categories, the majority of the energy requirements are met by purchases. The grain consumed most is rice, which is purchased because it is not produced locally. Households in this zone are therefore vulnerable to an increase in the price of foodstuffs on the market. The proportion of food originating from self-production in “wealthy” households is lower than that of the “average” and “poor” households because they choose to plant shallots first and foremost and reduce their millet and pois [de congo, souche] production. “Poor” and “average” households, which have less access to means of irrigation, sow a larger proportion of their area with millet and pois [de congo, souche]. For the “very poor” households, fishing is their principal self-produced product.

The principal source of income comes from salt marshes, whether from the sale of labor for the “very poor” households or the sale of one’s own salt production for the other groups. Over half of the income of the “wealthy” households comes from the sale of salt. The second source of income of the latter is the sale of shallots. Because of their greater capacity to purchase irrigation water, they have higher income and more areas planted with shallots compared with the other groups. Trade also contributes to the income of “wealthy” households. This activity is also important for “average” households, which derive, in proportion, a larger portion of their income from it. Trade, which remains marginal for “poor” households, is included in the “other” category with various secondary activities performed on a small scale by this group. The “poor” and “average” socio-economic categories receive money transfers from abroad, in particular from Florida. This money is generally invested in salt production, especially for “pour” households. These transfers give “poor” households opportunities to invest in their production and play a key role in improving their economic status. The “wealthy” households also have family abroad, but they do not need to receive money transfers. “Very poor” households derive about ¼ of their income from the sale of labor at salt marshes and in shallot planting specifically. While they own virtually no equipment, they fish on boats owned by other groups to which they give a portion of their catch and the other part is sold and consumed. “Wealthy” households do not fish directly and do not grant importance to this activity, but the fish products are sold above all. However, fishing is not a priority activity in the zone. Its relative importance to the economy of the households is inversely proportional to the level of wealth.
Hazards

Inhabitants of the salt zone are exposed to a group of risks, which affects salt production, agriculture or trade.

Salt production depends on the quality of the salt mine, maintenance of the salt marsh, the size of the basin (surface and depth) and the presence of an adequate level of water. The formation of crystals, which requires very specific conditions, is the most vulnerable phase of the production. For example, too much or too little rainfall when the crystals are forming is harmful.

Chronic:

- The lack of labor is a concern for salt marsh operators.
- The principal risks incurred in terms of agriculture are acute droughts in the dry hillocks, an increase in the price of fertilizer and irrigation water directly linked to the increase in the price of fuel (especially in the case of shallot crops).

Periodic:

- Hurricanes and storms cause flooding and carry heaps of mud to the salt basins (Tropical Storm Jeanne caused major damage in 2004). This type of phenomena occurs about every 5 to 10 years. The inability to cover the cleanup expenses is often a concern for the owners of salt marshes because during this period, the price of labor has increased. Therefore, flood situations are profitable to the very poor group because it derives the majority of its income from the sale of labor in salt marshes.
- During rainy periods, the clearing of the dry hillocks causes flooding, which affects the salt basins.
- The lack of rain following the Nordé winds has the effect of reducing the water levels of the basins by driving water to the sea. Rains following these winds are therefore crucial to reestablishing an adequate water level in the salt marshes. Households with access to pumps (ability to rent) are less vulnerable to this phenomenon.
- Lack of security in unloading zones (Cité Soleil Port in particular) in Port-au-Prince is a specific major risk.

Severe difficulties encountered in salt or shallot production or in the sale of these products could create a drop in the labor demand and above all a drop in pay from the contracts. This is a risk for the “very poor” households. However, the labor demand and level of pay tend to increase following periodic floods in the salt marshes. The latter affect more specifically the “poor to wealthy” groups, which own salt marshes.

Response Strategies

The responses implemented by the households faced with these risks follow:

- Use of other ports to deliver salt to the Port-au-Prince market (Petit Goâve for example).
- Increase in irrigation during drought periods by households that have the means for it.
- Increase in fishing in the case of problems with agricultural or salt marsh production.
- Sale of small livestock
Imminent Crisis Indicators

Since households rely on purchasing as a major source of food, it is important to have some idea of household purchasing capacity. In addition to food, households also depend on purchasing to meet other basic needs (health, education, household goods, and inputs). Thus, this requires an indicator of the minimum cost of these basic needs represented by the cost of a minimum consumer basket, including food (enough rice, peas, and oil to meet minimum household energy requirements) and other staple goods.

The informational value of such an indicator is enhanced by a comparison with household purchasing capacity as a reflection of household purchasing power:

- Price of the pearl millet stockpot (for the poor category) and of shallot “macone” (for average and wealthy categories)
- Daily compensation of labor/daily price of the minimum consumer basket (purchasing power indicator for “very poor” households). This indicator should receive special monitoring beyond peak labor periods presented on the seasonal calendar.
- Income (or net income) from the sale of X kg of salt/Cost of the minimum consumer basket (purchasing power indicator for salt marsh operators)

Such indicators should reflect short-term and long-term fluctuations in purchasing power (even under inflationary conditions).

The increase in the prices of production supplies and marketing costs was identified as a risk, making it necessary to monitor the prices per hour of irrigation water, fertilizer, labor, transportation and fuel.

As in the case of purchasing power, the informational value of this data is enhanced by a comparison of production/marketing costs with the income earned from these activities, which makes it advisable to monitor the returns on investment of salt and shallot production/marketing activities.