

HAITI



AGRICULTURE AND RURAL DEVELOPMENT

DIAGNOSTIC AND PROPOSALS FOR AGRICULTURE AND RURAL DEVELOPMENT POLICIES AND STRATEGIES

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Abbreviations and Acronyms

FAFO	Independent Research Foundation, Norway
ERF	Environmental Rehabilitation Fund (proposed)
GDP	Gross Domestic Product
GTZ	German External Assistance Agency
HLCS	Household Level Conditions Survey
IADB	Inter-American Development Bank
ICF	Interim Cooperation Framework
IHSI	Haitian Institute of Statistics and Informatics
LAC	Latin America and Caribbean Region
MARNDR	Ministry of Agriculture, Natural Resources and Rural Development (Haiti)
MDG	Millennium Development Goals
NGO	Non Government Organization
PRSP	Poverty Reduction Strategy Paper
TSS	Transitional Support Strategy
UNDP	United Nations Development Program
UNEP	United Nations Environment Program
USAID	US Agency for International Development

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EXECUTIVE SUMMARY

- 1. An Opportunity—the Interim Cooperation Framework (ICF).** The majority of Haiti’s population and a disproportionate number of the poor live in the rural areas. About 58% of rural households live in absolute poverty (based on a US\$1 a day extreme poverty line). Haiti’s achievement of the Millennium Development Goals is unlikely, especially in rural areas. Over the last few years, the situation has been exacerbated by political and security turmoil and by the limited input of external financial and technical assistance. However, a new era of international collaboration was opened in May 2004 with the formulation of the ICF of which the present study is a product.
- 2. Objective:** The present study aims to update existing knowledge of the rural space, its population, its institutions and its potential for growth; as well as identifying selected interventions that could contribute to growth in the rural sector. This would be achieved by building on households’ own poverty reduction strategies and by taking into account Haiti’s diverse conditions across regions.
- 3. Key Findings:** Overall, investments in education, health, infrastructure, rural institutions, agriculture and social protection are key elements of a balanced national rural development strategy. To be effective, the proper mix of policies is important. Haiti’s assistance to rural areas will need to be differentiated to fit the following typology of the rural poor—based on households’ access to land and their present poverty exit strategies:

 - (i) For households without land and very low endowment of other assets (education, tools, social networks) who rely mostly on their unskilled labor for their survival: assistance should be in the form of direct financial help, employment generation and support to improvement of health and education. An estimated 23% of Haitian households (both rural and non-rural) belong to this category;
 - (ii) For households with diminutive land holdings (less than 1 ha) and weak general asset base, who cultivate their land but pursue a variety of additional, off- or non-farm income generating activities: assistance for increased agriculture productivity will be beneficial mostly for subsistence farming in the short-run but will need to be complemented with increased non-farm employment opportunities and education for increased mobility of the labor force. Many of these households cultivate land areas that are too small for sustained and viable production on the long-run. About 40% of Haitian households belong to this category.
 - (iii) For households with an average land holding (approximately 1-4 ha) who live mainly from their land and may use various inputs when available and rent additional tools—they constitute the group most likely to benefit from short- as well as long-term efforts for increased

agriculture productivity. Investments in education, health, public infrastructure will be essential to ensure access to production technologies and to markets. About 30% of Haitian households belong to this category.

- (iv) For households with larger holdings, stronger asset base (tools, fertilizers, etc): assistance will target more specifically the “growth” component of the overall development strategy and will include diversification and increased productivity for higher value crops and more commercial production. Public infrastructure and increased commercial financing are essential. About 6% of total Haitian households are in this group.
- (v) For the small group of households with high formal skills and / or strong asset base who pursue higher pay-off, non-farming activities: no specific assistance is recommended under the present study, except that it is in this group that most of the possible private financing of rural development is present. Means of attracting this funding and partnering with the private sector for rural development are also investigated in the study. Less than 1% of the Haitian households belong to this category.

4. The methods and diagnostics results on which the above policy recommendations were built are presented in the following sections of this executive summary—as well as three specific programs for practical implementation of the policies recommended above.

5. **Methodology:** This study was conducted under the leadership of Haiti’s Ministry of Agriculture, Natural Resources and Rural Development and in partnership with IADB and other members of the ICF’s Rural Development Sector Table—an outfit for Haiti-donor coordination. The study: (i) analyzed the 2001 household living conditions survey to examine the determinants of rural poverty on a departmental basis and provide insight into the productive, social and locational assets that the rural poor have access to; (ii) evaluated the significance of these assets for household livelihoods and strategies in their specific institutional, policy and risk context; (iii) conducted participatory field surveys to “ground-truth” some of the statistical findings as well as conduct an assessment of local institutions and local governance of significance to rural growth at the community level; (iv) collected and analyzed information on emerging possible interventions in support of rural growth; (v) carried out a “spatial overview” that included the collection and analysis of existing spatial data and maps, and the production of new maps, and (vi) conducted consultations with Government/Civil Society to assess the preliminary findings of the study and extract lessons learned from previous experience with rural development interventions.

6. **Study Outputs:** The findings of the study are presented in the current synthesis paper and based on eight background papers on the following topics: overview of the rural economy; poverty and labor; potential for agriculture production intensification;

private/public alliances for rural growth; governance and local institutions; natural resources rehabilitation; evaluation of regional rural services centers; and a spatial overview of Haiti. The study's findings contribute to the knowledge-base of the ICF partners and will help define rural development policies that will take into account Haiti's sectoral and territorial dimensions.

7. **Diagnostic Findings.** The key findings from the rural economy and poverty diagnostics with policy implications include the following:

- (i) Agriculture continues to play a dominant role in the Haitian economy, contributing to almost 30 percent of GDP (2002 figure) and accounting for around 50 percent of overall employment, 2/3 of employment in rural areas, and 3/4 of employment for the poor;
- (ii) But the overall importance of the agriculture sector is declining in great part because of a decline in productivity due to depleted natural resources, poor know-how, and the disruptive effects of political turmoil, poor security, natural disasters, and precipitous trade liberalization without complementary social measures;
- (iii) Haitian farmers, in large part, live in poverty and experience various levels of food insecurity. Hence their livelihood and survival strategies are predicated not only on monetary revenue, but also and preeminently on food subsistence and risk mitigation;
- (iv) There is a high level of inequality in assets and incomes within a basic agrarian structure of small-holdings, owner-operated, and capital-poor production of a mix of subsistence and market crops;
- (v) Eight out of every ten rural households have access to land, and the majority of these own (usually informally) and cultivate their own plots. Land holdings are small and dispersed, with an average of 1.8 hectares per household. However, land could be an "anchor" to poverty status as many landless are less poor than those who "own" land (the cut-off being at around 2.5hectares of land);
- (vi) Location is an important asset. Proximity to markets, schools, hospitals, roads, and other assets matters significantly in the life of the poor. Maps were produced to define priorities for intervention in the rural areas.
- (vii) The main determinants of rural income are: human capital (education), family size, migration, gender, land size, access to public infrastructure, and the use of productivity enhancing agricultural techniques and inputs.

8. The **institutional, policy and risk context** affects how household assets are managed and determines the extent to which successful livelihood strategies can be undertaken.

- (i) Formal rural institutions in Haiti are very weak. The decentralized structures of government have not been fully implemented in practice;
- (ii) However, there is often a dense network of informal institutions that can compensate for the absence of government institutions. Access to

health and education via NGOs and other informal institutions play an important role in rural livelihoods and determine the degree of poverty;

- (iii) Peasants still do not have a political “voice”. Political activism that emerged in the 1980’s has not resulted in a strong voice for rural and peasant-based advocacy. This reinforces the previous development neglect vis-à-vis the rural areas.
- (iv) The private sector’s virtual absence from rural areas is due to a lack of rural infrastructure, access to credit and other factors described above.

9. **Agriculture as an engine of growth.** The study on farming systems shows that areas in different agro-ecological zones have clear potential for development. They encompass the following zones: humid highlands, irrigated and rainfed (humid) lowlands, and dry and semi-arid areas. In each of these agro-ecological zone, there are identified ‘lead’ crops with high value added that can respond to market demand and serve as engines of growth either as sole crops or in crop associations. At least in the short-to-medium term it is important to support the agricultural sector as a key engine of rural growth as it can produce multiplier effects for the rest of the rural economy.

Three Potential Interventions for Making a Difference on the Ground:

10. Finally, the study reviewed recent and proposed efforts in the areas of regional development, natural resources management and agricultural development with respect to consistency with the above policy directions and identified three types of interventions that could be promising with respect to the following criteria:

- (i) they support present sources of agricultural growth with a view for future diversification;
- (ii) they allow for multi-sectoral support to strengthen households in their strategies for growth (social and human capital, infrastructure, etc.);
- (iii) they are consistent with ICF and Transitional Support Strategy priorities for intervention and in particular they complement the on-going Community-Driven Development interventions.

11. The following three areas of intervention are mutually reinforcing and they would need to be complemented with additional multi-sectoral analysis to be effective:

- (i) Support to Regional Rural Services Centers: building on past successes with decentralized agricultural research, regional centers would be quickly re-habilitated and staffed to provide support that could revive agriculture production where feasible and start providing selected “bundles” of additional support (adult literacy, financing etc.);
- (ii) Support to Regional Development Plans and their Implementation: This activity would build on existing experience with participatory development plans at the local level in Haiti. The plans have multiple objectives: economic growth,

education, health, land-use, risk mitigation, etc.) and can offer an ideal engine for the sequencing of multi-sectoral interventions identified in the present study. There are about 10 existing regional studies that are ready for evaluation and increased sector-specific design work;

(iii) Increased Funding in the Rural Space: A key concern in implementing specific intervention is the provision of relatively sustainable sources of funding to the rural sector. Two interventions are suggested: (i) promotion of private investments through public sector support to “partnerships” between small producers and the buyers of their products; and (ii) the establishment of an environmental endowment fund that would provide steady compensation to rural inhabitants for their efforts in implementing regional development plans that promote conservation and sustainable land use.

A. STUDY OBJECTIVES

1. **The circumstances of donor reengagement in Haiti:** A year ago (2004), Haiti's interim government issued an appeal to the international community to substantially increase its development assistance. For the World Bank and other external assistance institutions, this was an opportunity to re-engage in one of the poorest countries in the world after about three years of absence. The joint action that was formally launched with the Interim Cooperation Framework (ICF) in May 2004 recommended two types of activities: actions for immediate relief and employment generation; and assistance to the Interim Government in defining strategies and investment programs for medium- to long-term development and growth. For demographic and economic reasons, development of the rural space is of particular importance to Haiti and the Interim Government requested assistance in defining its strategic directions and priorities in rural and agricultural development for the medium to longer term. The study reported here is in response to this request and was undertaken in partnership between the Interim Government, the World Bank, the IADB and members of the Sectoral Table on rural development of the ICF. Its timeframe extends into the post-ICF phase, including the definition of a comprehensive poverty reduction strategy currently under preparation through a PRSP process.

2. The overall **objective of the present study** was to contribute to the knowledge-base that is urgently required for the implementation of sustainable rural development activities in Haiti. It concentrated on the following two objectives:

- Update knowledge and produce a series of maps of regional physical socio-economic and institutional characteristics of the rural sector at a reasonable level of spatial disaggregation to improve targeting of future interventions;
- Test and build consensus around specific priority recommendations of the ICF with respect to the regional dimension of growth and poverty alleviation.

3. The **method** that was followed in this study to reach the above objectives is described in **Annex 3** and was designed around the following principles: *ownership*: the work was defined and undertaken in close collaboration with a local Steering Committee convened by the Ministry of Agriculture Natural Resources and Rural Development (MARNDR); *partnership*: the Task Team worked in close collaboration with members and leaders of the Sectoral Table on rural development of the ICF mechanism. Two members of IADB –focal point of the Sectoral Table—were members of the Study team; *participation*: the Study included two levels of participation beyond formal institutions. First, a survey of representative communities was organized through trained surveyors and helped “ground truth” some of the emerging hypotheses and ensure that there was a “listening” element to the study. Second, a series of workshops were organized on the various themes of the study. Members of civil society were invited at these workshops and assisted the Team in diagnosing issues, identifying institutional and governance deficiencies, extracting lessons from past experience, and discussing some of the

recommendations; *integrated approach*: the study has a multi-sectoral starting point as it first establishes the determinants of rural poverty before studying the strategies—whether agricultural or not—that households use to come out of poverty and that could be supported by Government policies and external assistance. Although specific interventions are not proposed for each key sector, the approach of the study should allow to integrate the sector-specific recommendations of this study in an overall strategy on rural development that needs to be multi-sectoral by design; *focused on results*: in line with the Government’s directive as well as the Bank’s guidance on the need to ensure a concrete output to the study, results were analyzed at two levels: (i) a geographic level—where diagnosis of rural poverty and potential of rural growth was disaggregated on a spatial level to assist in the specificity of recommendations for rural development that may vary from region to region, and (ii) an operational level—where selected investment opportunities are identified as “models” of possible interventions that would need further preparation and design if the consensus persists around the diagnosis and proposed interventions.

4. **Poverty alleviation and Economic growth:** The study follows a dual path of interest in both poverty alleviation as well as economic growth potential. It is widely recognized that in countries like Haiti with engrained and widespread inequality, it is often impossible to abate poverty through growth strategies exclusively. To be realistic, therefore, policy and investment responses to rural needs have to support households’ intrinsic strategies for getting out of poverty.

5. The study uses a **conceptual framework** related to the *asset-based approach* as a way to simultaneously consider aspects of both poverty and growth. In particular, new household survey data made available by the *Enquête sur les Conditions de Vie en Haiti-2001*) was combined with other collected data to analyze the following aspects of rural society and the economy: *assets* (productive, social, location-specific) at the disposal of rural populations; the *context* (policies, institutions, risks) in which these assets are used; the *livelihoods strategies* adopted to survive and thrive; and the *outcomes* of these strategies with respect to household well-being. Ultimately, recommended policies and investments would at least have to take household assets and livelihood strategies into consideration in order to be relevant to Haiti and have the required impact.

B. DIAGNOSIS

COUNTRY BACKGROUND AND TRENDS:

6. **Physical and Administrative Settings:** Haiti is located in the Caribbean, on the western one-third of the island of Hispanola, which it shares with the Dominican Republic. The total land area is 27,560 square kilometers with mostly rough and mountainous terrain. The climate is mostly tropical with high rainfall, but semi-arid in some coastal areas that experience periodic droughts. Haiti lies in the middle of the hurricane belt of the Caribbean and is subject to severe storms from June to October, with recurrent flooding as a result. There has been extensive deforestation in Haiti, with much of the forested land being cleared for agriculture and for wood to be used as lumber and as fuel. For administrative purposes, Haiti is divided into 9 *départements* and 136 *communes*. Each of the communes is divided into *sections communales*. The smallest administrative entity is the *section rurale*.

7. **Haiti's population:** With 306 inhabitants per sq. km, Haiti is the second most densely populated country in the LAC region and it continues to grow at a rate of 2.2 percent per year (see maps no.1 and no.2). As is clear in these two maps, total population per commune and population density per commune are unevenly distributed throughout Haiti. As expected, total population and population density are lowest in the extreme southwest and southeast communes of the country – where there is a prevalence of high elevation areas and lack of roads and other infrastructure.

8. **Haiti is a predominantly rural country**, with almost 60% of its population living in areas classified as rural. Although the Ouest Department is mostly urbanized, with over 60% of its residents classified as urban, it accounts for over 1 million rural residents, or about 22% of all rural residents in Haiti. Another 17% of Haiti's rural residents live in the Artibonite Department. The departments, with over 80% of their residents being rural (Centre, Grande-Anse, Sud, Sud-Est), each have about 10% of Haiti's total rural residents. Besides being predominantly rural, Haiti lacks major cities spread throughout the country (see table 2). Of the largest 10 cities, with populations over 30,000, Port-au-Prince, Carrefour, Delmas and Petionville are all part of the capital's extended metropolitan area of about 1.6 million persons (about 20% of Haiti's total population). Of the other major cities, three are found in Arbonite (Gonaives, Saint-Marc, Verrettes), and one each in Nord (Cap-Haitien), Sud (Les Cayes) and Nord-Ouest (Port-de-Paix).

Table 1: Population and Poverty by Department

Department	# of Communes	Population	Share of Total Population	Share of Rural Population In Dept	Rural Population	Share of Rural Pop
Artibonite	14	1,070,397	13.4%	74.0%	792,094	16.7%
Centre	12	565,043	7.1%	83.9%	474,071	10.1%
Grande-Anse	20	603,895	7.6%	85.1%	513,915	10.9%
Nord	20	773,546	9.8%	61.8%	478,051	10.1%
Nord-Est	13	300,493	3.8%	62.5%	187,808	4.0%
Nord-Ouest	13	445,080	5.6%	77.0%	342,712	7.2%
Ouest	17	3,093,699	39.0%	33.1%	1,024,014	21.6%
Sud	20	627,311	7.9%	84.3%	528,823	11.1%
Sud-Est	10	449,585	5.7%	85.4%	383,946	8.1%
Total	136	7,929,049	100%	59.6%	4,725,713	100%

Source: Population, 2003 Census.

CHARACTERISTICS OF POVERTY

9. **Haiti has one of the lowest sets of development indicators in the world.** The achievement of the MDGs in Haiti is unlikely by 2015. In 2004, UNDP and the Haitian Government rated five goals as unlikely to be achieved (1. eradicate extreme poverty and hunger; 2. achieve universal primary education; 3. reduce child mortality; 4. improve maternal health; and 5. ensure environmental sustainability) and only two as possible (promote gender equality as well as combat HIV/Aids, malaria and other diseases). Additionally, data of the Haitian Statistical Institute, UNDP and FAFO indicate that for virtually all MDG indicators, rural areas are further than urban areas from achieving the objectives (see *Objectifs du Millénaire pour le Développement en Haiti*).

10. **Rural and urban degrees of extreme poverty:** An in-depth analysis of poverty reveals not only the significance of location for poverty in terms of per capita income but also in terms of access to assets and services. At the regional level poverty is especially prevalent in the northeastern and northwestern regions. Analyses reveal that 49 percent of overall Haitian households live in extreme poverty (based on a US\$1 per capita per a day extreme poverty line), and that can be broken down to 20%, 56%, and 58% of the households in metropolitan, urban, and rural areas, respectively.¹ Most of the approximately 3.9 million indigents live in rural areas (2.7 million), while the remainder live in the metropolitan and other urban areas (1.2 million) (for further details, see also Paper 2).

11. **There is significant variation in poverty rates among departments.** Ouest has the lowest poverty rate (less than 30%), but also has about 24% of all Haiti's poor people, because of the large population in the department. Together, the departments of Ouest

¹ In order to comply with the data provided by the Household Survey this report investigates poverty at the household level with the poverty line being extreme, i.e. US\$1 per day (indigents, which we distinguish from poor (less than 2\$ a day)) – considering the individual level poverty is higher as poor families tend to be larger (65% indigents in rural areas on a per capita basis)

and Artibonite have about 40% of the poor. The highest poverty rate (80.3%) is in Nord-Est, but it also has the smallest population, so contains the smallest share (6.5%) of poor persons in Haiti (with similar shares to the Departments of Sud and Sud-Est).

Table 2 Indigent Poverty Rate by Locality and Region, 2001

	South-		North-	Arti-			Grand-	North-
West	east	North	east	bonite	Center	South	Anse	west
28.9	56.6	62.7	80.3	58.6	55.6	63.0	60.8	65.0
Total	Metro-							
Haiti	politan	Urban	Rural					
48.9	19.7	56.3	58.1					

12. Another way to investigate the distribution of poverty is to examine poverty density.² We observe that there is high poverty density in the north of the country stretching from eastern Nord-Ouest through Nord and Nord-Est, and another high poverty density area in the western part of the country in some parts of Grande-Anse and Sud, and in Ouest round the Port-Au-Prince metropolitan area, and parts of Artibonite. Areas with lower poverty density include the western part of Nord-Ouest, western part of Grande-Anse and Sud, and eastern parts of Ouest. Many of these low poverty density areas are characterized by difficult terrain and lack of transport infrastructure, relatively low agricultural potential and high soil erosion risk. The majority of the population and a disproportionate concentration of the poor can be found in rural areas while the population of metropolitan (Port au Prince) and other urban areas is relatively better off.³ However, the poverty density of the Port au Prince metropolitan and Cap Haitien (and some other) urban areas is relatively high.

THE RURAL ECONOMY

13. **The Haitian economy and the rural sector:** Haiti is one of the world's poorest countries and recent trends have been alarming. Between 1980 and 2003, **the economy declined** by a real average annual rate of 0.82 percent (GDP in constant 1995 USD based on WDI 2004). In 2003, Haiti's GDP amounted to US\$2.8 billion (Paper 2). The country's poor economic performance has mainly been due to political instability and a lack of investment across all sectors. In 2001-2002 the agricultural sector accounted for close to 30% of total GDP, down from almost 50% in the 1960's and 34% in the 90's (Paper 1). Nevertheless, agriculture continues to play a dominant role in the Haitian economy and accounts for around 50 percent of overall employment, 2/3 of employment in rural areas, and 3/4 of employment for the poor. Industry, on the other hand, accounts for 16.3 percent of GDP, and only around 10 percent of jobs. With respect to trade, in

² The poverty density rate combines the poverty rate (%) and the population density (persons per square km). Using poverty rates by department and population density by commune we present poverty density per commune (using the departmental-wide poverty rates).

³ An important aspect to keep in mind is that the most reliable data on the situation that Haitian household find themselves in, the first Living Conditions Survey, dates back to 2001. With regard to the continuously decreasing GDP rates per capita over the past years that were also shaped by political instability and a lack of public services/investment, the overall situation has certainly not improved but rather worsened for the Haitian population.

2002 agriculture exports amounted to US\$ 20million and represented 7% of total exports (Paper 1). The main export crops were mangoes, cocoa, essential oils, and coffee. Imports of agriculture products, on the other hand, add up to US\$ 234 million (2002), consisting mainly of rice, dairy products, wheat, sugar and others. This amounts to 85% of total export revenues that are used for the purchase of food products. Food imports account for 25% of total imports.

14. **Underlying factors for the decline of agriculture:** There are a number of interlinked and reinforcing factors that contribute to the decline of the rural sector in Haiti. Agricultural output has suffered from a growing population farming a finite area of land. The result has been the division of cultivated land into smaller and smaller plots, so that by the 1990s, 78 percent of Haiti's farms had an average size of less than two hectares, with significant differences in land pressure by Department (see map 3- Average Farm Size by Department) (Paper 2).

	Arti- bonite	Center	Grand- Anse	North	North- east	North- west	West	South	South- east	Total Haiti
0-0.5 ha	22.5	12.7	14.0	42.0	23.4	16.3	18.5	27.6	19.6	21.5
0.5-1 ha	32.7	25.8	27.5	28.4	33.0	26.5	31.1	28.2	25.4	28.6
1-2 ha	26.6	32.8	28.4	18.0	25.9	31.6	24.7	27.8	30.3	27.6
2-4 ha	11.2	19.7	13.1	7.6	11.7	15.9	15.7	9.8	17.3	13.7
4-7 ha	2.7	5.2	10.2	2.0	3.6	5.9	4.9	4.4	4.7	4.9
7-10 ha	1.7	2.0	3.2	1.0	2.5	2.1	2.4	1.9	1.3	2.0
10-20 ha	1.5	1.7	2.7	0.8	0.0	1.5	1.8	0.2	0.4	1.3
> 20 ha	1.0	0.2	0.9	0.3	0.0	0.2	0.9	0.2	0.9	0.6

Source: Own calculations based on HLCS 2001.

On these tiny farms, the soil has become progressively exhausted and less productive. This problem has been compounded by the extensive deforestation of the country which, in turn, has led to the severe erosion of fertile topsoil, with an annual loss of 3 centimeters of top soil per year. This decline in soil productivity was one of the causes of a gradual decrease of agriculture production estimated at about 0.5 - 1.2% per year over the last ten years.

15. **Factors at the individual household level:** Over the years, Haitian smallholders have found themselves locked into a self-destructive cycle in which the cutting of trees for charcoal production, and the farming of land higher up the mountainsides, can stave off short term financial disaster, but only create greater problems for the sector as a whole in the long term. Moreover, the agricultural sector is characterized by a lack of access to capital needed for physical goods such as tools, machines, fertilizers, transportation, and infrastructure - with some variations by Department (see map 4 and table 2). While there is no public support in providing investment, private investment is also hampered by weak rural institutions and lack of credit. Because of the poor state of the rural transport infrastructure, it is now often cheaper to bring imports to rural towns than to collect and transport local products. Hence new trading patterns have developed in competition with the rural agricultural economy. These new trading patterns might be efficient given

constraints of poor infrastructure, but this situation might change significantly with improved infrastructure and other type of support to local producers.

16. **Factors related to land degradation:** As highlighted above, there are a number of structural impediments to the development of the rural sector and to increasing the productivity of the agricultural sector in particular. However, there is potential to remove many of these constraining factors by addressing them directly through various interventions. Selected proposals for such interventions are presented below. From an agro-ecological stand point, the present status of low land productivity is not irreversible, at least in some areas of the country. While deforestation and soil erosion proceeds, and the condition of the Haitian environment is alarming, pilot projects in agroforestry (such as CIDA project in Nippes), in supporting hillside agriculture (USAID) and in watershed management (FAO in Marmelade, Artibonite) - albeit on a micro level- show that environmental conditions allow the increase of agricultural productivity.

17. The agro-ecological zones that can be found in Haiti provide potential for a variety of cultures that have the potential for triggering productivity and agricultural development through production for the international and domestic market. In the Southern department around the plains of Les Cayes, research and diversification of vegetable and tuber crops, combined with inputs and fertilization techniques have permitted to increase production to three annual cycles with yields of about 3 metric tons/ha/cycle. The increased application of techniques such as grafting for mango trees and the establishment of supply chains for export of products such as essential oils, mangos and coffee show that there is potential for synergies of different actors to increase production in the sector. In hillside areas there have been successful projects by USAID, FAO and others (re)introducing agroforestry and coffee. This aspect will be discussed in more detail below.

18. **Factors on the macroeconomic level** play a key role in the outlook for rural development. One important context-defining element is institutional, including policies and their supporting instruments. In 1986, and then in 1994, Haiti, on the advice of the donor community - including the World Bank - implemented profound trade liberalization reforms but without the implementation of complementary interventions such as the gradual introduction of reforms and the supply of commensurate increases of support to farmers during the transition phase. During the embargo between 1991 and 1994 the Haitian farmers had suffered from decapitalization and were not prepared for the liberalization of their sector. The impact was dramatic and farmers have not yet recovered from this process of rapid liberalization, as production of agricultural goods such as rice and coffee have continuously decreased and were replaced by imports (see table 4). Additionally, a lack of social safety nets contributed to a rural exodus throughout the 1990s.

Table 4. : Agricultural Production (in '000 tons / head)

PRODUIT	1970	1980	1990	2000
Mais	240	180	163	182
Riz	53	80	87	76
Sorgho	210	121	68	91
Légumineuses	83	85	99	75
café	24	43	37	25
Sucre (canne)	4.230	5.642	1 500	800
Coton	4	6	--	--
Racines et tubercules	592	690	770	770
Bananes et plantains	395	500	530	612
Cheptel bovin				800
Cheptel porcin	1.500	0		1.000
Cheptel ovin/caprin				1.500

Sources : FAO ; CNSA (2000)

19. However, the country's agriculture policy framework also provides some incentives and potential as a result of liberalization, as it has few distortions (no input subsidies, no import quotas, low tariffs, etc.). Current market conditions, in fact, are largely favorable for Haitian agriculture since urban domestic demand for non-tradables is strong, there exist growing outlets for niche products on the international market and the substitution of imports from the Dominican Republic offers good prospects. Today informal trade of products such as coffee, avocados and mangoes with the DR accounts for 13 Million US Dollars (See papers 1 and 3).

20. **Producers' Associations:** Strong associations are important for linking production to markets as modern markets are not well equipped to deal with atomized producers. Haiti has very weak farmer associations and associative institutions. This may be related to the weak legal framework but it is also closely associated to the farming system itself: to spread the crop and price risk, farmers diversify their crops and produce "a little of everything." This approach contrasts the requirements of markets that want large and regular quantities. Furthermore, in farming systems where farmers have a substantial stake in one or two crops, it becomes worthwhile for them to have a strong farmer association as too much of their income depends on the good functioning of such associations (Paper 4).

21. **Rural governance:** the democratic 1987 constitution provided for a local governance system (*collectivités territoriales*) with elected deliberative and executive bodies at all levels (*section communale, commune, département, national.*) While operational on the local level, the structure has never been fully implemented in practice. For example, none of the anticipated departmental or national bodies of the *collectivités territoriales* have been operational, creating a significant gap in the anticipated transmission channels between the local and central levels of government. Moreover, peasant political activism since the 1980's has not resulted yet in a strong voice for rural and peasant-based advocacy organizations in national politics today, reinforcing the traditional pattern or rural-urban disconnect that underlies previous development neglect

vis-à-vis the rural areas. The result is a very weak presence of formal institutions in rural areas in support of key services such as water services, irrigation systems and natural resources management. Furthermore, communities and individual are often incapable of enforcing the rule of law in the absence of formal institutions at the local level.

22. But the relative absence of public sector institutions at the local level is compensated somewhat by an institutional environment that is many times informal, diverse, but surprisingly dense in some regions. While the surveyed communities with high agricultural potential (e.g. Laborde, Roche Plate) had several ongoing agricultural support projects, these were practically non-existing in low potential areas in the north and north-west (Port Margot, Baie de Henne). There, development projects instead focus only on safety nets, to the dismay of many respondents. (for further details, see Paper 5)

23. The **institutional environment**, even if informal is decisive for rural livelihoods as social capital has been shown to increase the probability of Haitian households to fall into poverty. In particular, being member of an organization reduces the probability of being poor. (Paper 2, table 8.1) While rural governance reforms have established the formal framework and partly the administrative structures for enhanced local participation, the capacity of the central government to drive rural development is anticipated to be in line with the historical average in the foreseeable future, with significant risks of periodic setbacks.

24. Yet enhanced public sector involvement is likely indispensable to achieve higher levels, stability, and predictability in the provision of services and public goods and should therefore be supported. Such support should be designed in a way that is based on realistic assumptions of state capacity in order to achieve sustainability. Continuing strong social cohesion, high awareness of the need for agricultural inputs, adaptive capacity, and market orientation, are factors on which development interventions can build—even under conditions of precarious security as is presently prevalent in Haiti.

25. However, a further deterioration of the security situation is always possible and could render situations of relative success into complete failures. This report does not have specific recommendations on the overall security situation in Haiti—this is the subject of a dedicated “sectoral table” within the ICF.

RURAL HOUSEHOLDS, THEIR WELL-BEING, ASSETS, AND LIVELIHOOD STRATEGIES:

Measures of Rural Incomes

26. **Rural auto-consumption is important for the very poor.** A detailed analysis of incomes is presented in Paper 2, some of the salient findings are presented here. Excluding the Port-au-Prince metropolitan area, rural households are better off than urban households in the low end of income distribution, indicating a high degree of self-consumption in rural households. With respect to income sources, the rural poor receive the largest share of their total income from agricultural activities such as farming and agricultural labor. Rural dwellers also work as laborers in the off-farm and non-farm

sectors⁴, receiving about 26-34% of their income that way. Remittances from urban areas and abroad account for about 14% of the poor households' income, slightly less than the non-poor's income. Median income greatly varies across regions and locations. In 2001, households with lowest median income per capita were located in the Northeast department. In the West department (excluding the Port au Prince metropolitan area), households experienced a median income 5-6 times higher than in the Northeast department. Access to a large market such as Port au Prince can make a difference in households' income.

Other Measures of Well-being

27. **Social indicators for poverty:** The level of wellbeing in Haiti can also be measured by social indicators such as adult illiteracy, infant mortality and malnutrition; that are all high. One revealing piece of good news is that during 1970-2000 the adult illiteracy rate fell sharply from 78.0% to 39.5% (Paper 5). However, female illiteracy rate is higher than for the males (43.3% vs. 33.4% in 2000). The infant mortality rate has also improved but remains quite high at 79 per 1,000 live births in 2002. Life expectancy has increased during the last three decades in Haiti, but has recently decreased because of AIDS (with the highest incidence outside Africa). Life expectancy was 52 years in 2002 (compared to a high of 54 years in 1997). With respect to malnutrition, there also, the numbers have improved, but Haiti's rate of child malnutrition remains significantly higher than the Caribbean as a whole, (17.3 and 22.7% depending on specific indicator, vs. 9% for the Caribbean.) Child malnutrition is thought to be principally due to income poverty, low access to quality water, micro nutrients deficiency, and absence of general healthcare.

28. **Fecundity:** Measured as the number of children per mother, fecundity dropped fast in recent decades. During the three decades leading to the 1990's the fertility rate fell around one percentage point 6.3 in 1960 to 5.4 in 1990, then the rate decreased faster and reached 4.4 in 2000 (see Paper 5 for more details). However, this rate remains quite high and causes population increases that negate the possible gains from development interventions and improved overall conditions of the rural poor. A typical extremely poor rural family has on average about twice as many children as does a non poor family.

Rural Assets in Haiti:

29. **The rural economy is characterized by inequality of assets.** In this section, we review the various assets that are significant for the rural poor in Haiti. These assets include productive, social and locational assets. The study found a diverse and stratified rural economy, with high inequalities of assets and incomes within a basic agrarian structure of small-holding, owner-operated, and capital-poor production of mixed subsistence and market crops. The productive agricultural asset endowment is tenuous with few signs of improvement in land size or structures, production technologies, production modes or production types, when comparing recent data to previous studies of

⁴ The following typology was used: On-Farm activities are carried out on the person's own farm; Off-farm activities are agricultural activities carried out on someone else's land; Non-farm activities are activities that fit neither of the above.

the past decades. For assets (such as education) that have improved over the years the improvement has been unequal, as will be discussed below. Other assets are also discussed in the following sections.

30. **Education:** Adult literacy rates have shown a significant improvement, from 22% in 1970 to 60% in 2000 (EBCM, 2000.) Also, the increase in the level of elementary education (where the rural young are catching up with their urban counterparts) is principally fueled by NGOs. This is an indication of the relative effectiveness of some forms of informal sector in the absence of government services, fueled by the conviction by parents of the importance of investing in “mobile” assets. NGOs in general are part of a mix of formal and informal institutions that have a presence in rural areas and therefore should be taken into consideration in development interventions.

31. While rural areas are catching up in primary education, the gap between rural and urban in terms of secondary education remains significant. Tables 5 and 6 below show education data for rural areas and country-wide data respectively. These data do not measure quality criteria. In particular, the increase in number of children enrolled in primary education does not reflect an improvement in the quality of that education.

32. Furthermore, there exist large disparities in school attendance of children and youth across age and location. Among 6-11 year olds, 77.6% attend formal education and the attendance rate increases to 82.6% for children between 12 and 14. These are nation-wide figures. As in other aspects, location matters for school attendance in Haiti. For example, for 6-11 year olds, in the P-au-P metropolitan area, 83.2% of children attend school, 85.2% in urban areas, and only 74.2% in rural areas (see map 7).

Table 5: Incidence of Education Level in Rural Haiti (percent), 2001				
Quintile	No education	Primary	Secondary	Tertiary
1 (poorest)	78.8	18.0	3.2	0.0
2	77.0	18.7	4.2	0.1
3	72.1	22.8	5.1	0.0
4	67.2	22.9	9.8	0.1
5 (richest)	56.6	26.6	16.6	1.2

Source: Own calculations based on HLCS 2001.

Table 6: Highest Education Level Completed (percent), 2001					
	Quintile				
	1 (poorest)	2	3	4	5 (richest)
No education	62.3	59.0	56.1	49.3	31.7
Primary	30.5	31.0	31.4	34.0	34.1
Secondary	7.1	9.8	12.2	16.2	31.1
Tertiary	0.0	0.2	0.3	0.5	3.2

Note: Age 15 and above included. No. observations 20074.

Source: Own calculations based on HLCS 2001.

33. **Social capital** Social capital was recorded in this study through a number of parameters (membership in formal or informal organization, capacity for local conflict resolution, ad-hoc work of a communal nature, etc.). While it is sometimes said that Haiti's rural areas lack "social cohesion", the results of the present study show, on the contrary, significant strength in local—often informal—governance. The three indicators used in the study—bonds between migrants and those who stayed in rural areas; access to traditional reciprocal work groups; and subjective feeling of security at home—showed positive indications of social capital. Of the families that had relatives abroad, 63% had received funds in the last 12 months. Also, 38% of cultivators have used collective working arrangements to collect their latest harvest (Paper 5).

34. On the safety issue, the 2001 household survey results showed that 75% of rural respondents felt safe always or most of the time in their homes. As compared to only 41% of respondents in the Port-au-Prince metropolitan area (Paper 2). This was further confirmed in the qualitative interviews undertaken by the present study in which respondents from rural areas consistently indicated that the high profile urban political conflict did not affect their personal safety. There is, however, a profound impact of the recurrent instability on rural areas. This is mainly manifested in significant feeling of insecurity related to travel between regions and, notably, with respect to entering urban markets. Another important aspect is the lack of capacity for the enforcement of laws and regulations in rural societies, challenging social cohesion as well as making it harder to fulfill the potential of rural economic growth. In addition, paramilitary and other armed groups roaming in rural areas over the past two years are eroding the sense of security in rural populations.

35. **Development activities themselves promote social capital.** One important lesson from recent development work is the positive impact that such work has on promoting social capital. Two examples can be cited: the on-going investments in Community-Driven-Development promote the formation of local groups that use democratic decision-making mechanisms to prioritize and then execute small-scale development projects. Another example is in the design of local development plans through participative, long-term alliances with local communities. As will be discussed below, these plans—and their potential implementation—would offer an interesting opportunity to build on existing social capital.

36. **Access to Land:** In Haiti, eight out of ten rural households have access to land and the majority of those own and cultivate their own plots (Household survey of 2001). Specifically, 82% of land is owned by the operators, while the rest is mostly accessed through mortgage or rental arrangements. Most operators access multiple plots. While land is widely accessed by rural households, land holdings are small and dispersed. On average, households with access to land have access to 1.8 hectares. The median value is just *one* hectare, for the country as a whole (see map 3). The fragmentation of plots is largest in the South East, where the average reaches 2.5 plots per operator and lowest in the North East with an average of 1.5 plots. One important feature of land fragmentation and small land holdings is the fact that, in rural areas, access to land is not necessarily

correlated with lower poverty. Only rural households with more than 2 hectares had a lower poverty incidence than landless households.

37. The notion of **land ownership** is nuanced in Haiti. The class of owned land includes a significant proportion of land (23% of all land) that has been inherited jointly with other inheritors and remains formally undivided. Also, among all owners, 40% do not have a legal title or sales receipt to their land. Among plots that have been inherited, 60% to 65% lack such legal documentation of ownership. Except for some notable but geographically limited exceptions (Artibonite in particular) this prevalence of an informal system of land ownership is generally considered to be a working arrangement for the short- to mid-term in most areas of Haiti. This was further reinforced by the qualitative surveys undertaken by the present study and that showed that the insecurity of land ownership was not identified by respondents as a key obstacle to their well-being.

38. The consensus seems to be that, under the present circumstances, it is better to rely on an imperfect informal land ownership recognition system rather than implement a land titling or other cadastral programs that could be hi-jacked by the powerful under the present situation of lack of governance and security in the country.

39. **Access to irrigation** is hampered by a combination of absence of public sector institutions, inexistence or inefficiency of water works, and lack of local capacity to make the required investments. This is true for the servicing of both areas appropriate to irrigation: Haiti's coastal plains (mainly the Artibonite region) as well as its hillside agriculture. In the coastal plains, of an estimated 150,000 hectares of potentially irrigable land, there are about 60,000 hectares that have irrigation infrastructure, but the present system actually delivers enough water (and drainage) to about 30,000 hectares only (Paper 3). In hillside areas, there is a lack of water storage facilities and people have to rely on rain-fed agriculture or on water streams that are often seasonal and the source of conflicts between up-stream and down-stream users (Paper 5).

40. **Forests assets** that once covered most of the Haitian landscape have all but disappeared. An estimated 50% of deforestation occurred just between 1990 and 2000. Originally 93% of the country was covered by forests, 3% of which remain today (Earthtrends 2003- World Resources Institute), and these last vestiges in Parque la Visite, Forêt des Pins and Parc Macaya are under assault. This is a case of widely open access to natural resources and of "tragedy of the commons" that has led to the degradation of most of Haiti's natural resources.

41. The costs of such degradation goes beyond land productivity and includes loss of income such as tourism, lack of fuel for cooking and increased vulnerability to natural disasters. The causes of natural resource degradation are many, including on-site behavior, planning horizons of rural dwellers, the nature of rural society, government policies and international influences (Paper 6). The present status of degradation has led some voices to recommend the abandonment of land as a significant factor of production in Haiti. Results of the present study offer a more balanced and hopeful view with respect to land productivity.

42. **Access to Physical Inputs:** Agricultural land is currently used in Haiti under conditions of extremely low productivity. About 66% of the extreme poor farmers (as well as 46% of the richest farmers) reported that soil erosion was a severe problem on their land and their surrounding environment (HLCS, 2003) (also, see map 8 on Erosion Risk). However, the fact that agro-climatic conditions are very favorable and lessons learned from pilot-scale interventions would indicate that there is a substantial potential for improvement when access to production inputs as well as institutional support is available to farmers. The most traditional and manual practices are generally found with regard to land inputs. Yield enhancing inputs such as fertilizers or irrigation are used in one out of ten cultivated plots in Haiti (see map 4).

43. In general, physical inputs to agriculture are usually limited to just two primitive manual hand tools: a machete and long, broad-bladed hoe. The access to any type of mechanical tool is extremely limited: animal-pulled carts are the most used, but accessed by only 5% of cultivators (for more details, see paper 5). Table 7 provides an overview of inputs used by farmers:

Table 7: Technology Applied in Farming of Main Plot in Haiti , 2001 (percent)						
		Quintile				
		1 (poorest)	2	3	4	5 (richest)
Irrigation	Yes	4.41	8.39	15.59	18.04	23.45
	Rain only	95.59	92.61	86.41	84.96	80.55
Pesticides or Insecticides	Yes	2.03	4.06	7.53	10.81	12.72
	No	97.97	95.94	92.47	89.19	87.28
Fertilizer	Yes	7.47	14.52	22.05	28.25	35.18
	No	92.53	85.48	77.95	71.75	64.82
Credit	Yes	10.50	11.48	12.44	12.29	11.41
	No	89.50	88.52	87.56	87.71	88.59

Note: All with access to land included. Irrigation: No. observations: 3629; Pesticides: No. observations: 3932, pesticides used within last 12 months. Fertilizer: No. observations: 3611, fertilizer used within last 12 months, chemical, natural by people and animal, compost and other. Credit: No observations: 4473, credit obtained within last 12 months.

44. **Access to basic infrastructure services.** Haiti's rural areas have always lagged behind in the allocation of scarce resources on public infrastructure. A World Bank 1998 estimate put the share of public investments in rural areas at 20% of total investments—when at least 2/3 of the total population lives in these areas. Fifty nine percent of Haiti's rural population has access to safe drinking water, as compared to 91% for the urban population (UNEP, 2002). The 2001 household survey shows dismal numbers for access to other basic infrastructure services in rural areas such as electricity (9.8%), paved road (5.0%), dirt road (32.8%), landline telephone (0.8%), mobile phones (0.3%) and trash collection (2.2%). Large differences exist among regions, with the Northwest again showing the least access to basic services. These geographic differences are reflected in table 8 that shows households' access to basic infrastructure by department as well as table 9 that differentiates between Metropolitan, urban, rural as compared to the overall access in Haiti:

Table 8: Household Access to Basic Infrastructure by Region in Haiti, 2001 (percent)

	Arti- bonite	Center	Grand- Anse	North	North- -east	North- west	West	South	South- east
Electricity	15.1	13.3	11.1	15.9	9.3	2.3	58.2	9.1	8.7
Water	14.8	10.9	5.8	9.2	5.9	9.0	16.5	25.6	3.0
Trash collection	6.3	7.0	1.8	8.8	9.0	2.3	14.5	0.0	1.4
Paved road	14.9	3.4	6.1	9.8	3.2	0.3	12.9	4.4	2.0
Dirt road	41.7	40.4	25.8	47.0	62.9	25.8	34.7	43.0	30.1
Landline	1.4	3.2	0.4	4.4	0.8	0.0	7.7	0.3	0.4
Mobile phone	0.1	0.0	0.0	1.3	0.5	0.0	5.9	0.2	0.0

Note: Water: Supplied from private or public water company. Trash: Collected by private or public company. Paved road: Paved and partly paved road. Dirt road: Dirt and gravel road.

Table 9: Household Access to Basic Infrastructure in Haiti, 2001 (percent)

	Metropolitan	Urban	Rural	Total Haiti
Electricity	91.4	22.5	9.8	23.9
Water	28.3	16.5	7.9	12.6
Trash collection	25.7	9.8	2.2	7.1
Paved road	18.8	10.6	5.0	8.1
Dirt road	41.0	50.4	32.8	37.7
Landline	13.9	3.3	0.8	3.2
Mobile phone	10.4	0.9	0.3	1.8

Note: Water: Supplied from private or public water company. Trash: Collected by private or public company. Paved road: paved and partly paved road. Dirt road: Dirt and gravel road.

45. **Access to transportation:** The network of roads (primary, secondary, tertiary, and tracks) is shown in map 1, as well as the location of airports and ports. The major road network is fairly limited, and large parts of the country do not have either primary or secondary roads. For example, Nord-Ouest lacks primary roads, but has quite an extensive network of tertiary roads. Tracks, that might not be passable throughout the year, are fairly evenly spread throughout the country. The major road network links the major cities, and airports and ports. There seems to be a fairly good distribution of airports and ports, especially in the southern and northern parts of the country. But only a small fraction of the existing road network is of good quality.

46. **Access to financial capital.** With very low cash incomes in the rural sector, formal bank savings are almost nil in rural Haiti, where only 4% of households report access to a savings account (compared to 31% in the Pot au Prince metropolitan area). Informal, reciprocal saving and credit arrangements are significant, though not enough for the demand for credit, due to high interest rates. Only 11% of rural households report raising credit in the past 12 months. Nearly all of these report that credit was obtained outside formal banks. Livestock is in effect the most common form of saving. The 2001 household survey data show that a majority of 78% of rural households do have livestock of some kind. The qualitative survey under the present study confirmed the importance of livestock in times of crisis or extraordinary needs, when sale of livestock is the most typical strategy resorted to by the households interviewed (Paper 5).

47. **Location in itself is an asset.** Proximity to public infrastructure, to areas with high productive potentials and to markets favors development in rural areas. Using some of the data above, 41% of the rural population spend a significant amount of time (or of their income) to fetch clean water every day. This has grave financial consequences especially if one considers not necessarily the present opportunity cost of time, but the potential one--if other inputs for increased agricultural productivity were provided. In the same way, transaction costs—through bad road, insecurity, corruption, etc.—quickly become prohibitive in isolated areas. An additional dimension of location as an asset includes proximity not only to infrastructure but also to markets and services—this includes cities and towns as well as the proximity to the Dominican Republic.

C. POVERTY EXIT STRATEGIES

37. In this section, we first analyze the determinants of income of rural households in order to understand the strategies that rural households in Haiti adopt. These strategies are determined by the set of assets and the institutional context discussed above.

DETERMINANTS OF RURAL INCOME

38. **Overall, farming remains the predominant rural economic activity**--although the role of non-farming activities and income sources are significant. About 37% of rural workers are engaged in non-farm activities and nearly 50 percent of rural household income derives from non-farm sources. As many as 78 percent of households with access to land also have access to some non-farm income. Self-employment income is the most important non-farm income -contributing 22 percent of total household income-, remittances are second in importance, contributing 15 percent of total income, while non-farm wages contribute six percent of rural incomes.

39. The **determinants of income** in rural areas are: human capital (education); gender (with males being paid slightly more than females); economic sector (with wages in agriculture being lower than in industry, services and the public sector); social capital (especially for those at the extreme poverty level); the size of land; title to land; access to public infrastructure such as roads, water and electricity; the use of productivity enhancing agricultural techniques and inputs such as tools, fertilizers, pesticides and irrigation.

40. While other sectors such as education and infrastructure have a significant impact on rural incomes at the household level, the agricultural sector is of crucial significance to rural incomes for at least two reasons: (i) because it remains the main source of income of rural households; and (ii) agricultural growth contains potential for broader rural development through “spillover” effects. Increased profits from agriculture encourage expanded economic activity, causing dynamic effects as farmers are enabled to hire additional labor and finance investments in productive assets, promoting the creation of jobs in non-farm and non-rural sectors as well. Improvement of food security and rural health have an impact on other sectors such as education and rural well being. Finally, farmers consume more with additional income, thus creating more opportunities for local and regional commerce.

41. **Labor** is the poor's most abundant asset and it accounts for a high share of their total income. Nonetheless, the poor are constrained in their labor use in a number of ways: lack of employment opportunities, low wages, and wage discrimination especially for women. The study reveals (background papers 2 and 5) that many workers in Haiti are poor despite full-time work. HLCS data show that, nationally, 43% of heads of poor households have been employed for one year, the figure drops to a still significant level of 25% of poor who have had a job for 5 to 9 years. Unemployment in rural areas reached 35.6% in 2001 (household survey 2001), which is lower than the figures for both the PauP metropolitan areas and urban areas in general. The challenge of creating employment is therefore to increase worker productivity and tighten the labor market for competitive wages to lift the employee's household out of poverty. This includes development of non-farm opportunities for work

42. One important finding is that living in rural areas in Haiti does not by itself affect the probability of being poor. Hence, **individual and household characteristics are more important for poverty than rural vs. urban location**. There were a few interesting findings specific to rural areas. As expected, education is the strongest poverty reduction correlate in Haiti. All levels of education (from primary to tertiary) are strongly statistically significant and negatively associated with the probability of being poor. Family size was found to be positively correlated to poverty in rural as well as urban areas, with large families more prone to being extremely poor. Migration (i.e. having migrated to the present place of residence) was found to be negatively correlated to poverty, with migrants having an 18% lower probability of falling into extreme poverty than their peers who never migrated, ceteris paribus (see table 7 *Probability of Falling into Poverty*). Gender of households affects poverty in rural areas, with households headed by women being more likely to be poor than those headed by men. Moreover, female-headed households in rural areas are 9% more likely to be poor than female heads in the rest of Haiti. Social capital, defined as being member of an organization, was found to be significantly important in rural areas to escape poverty. Rural dwellers belonging to local associations, political parties, etc. are less likely to fall into poverty.

43. Gender, education, migration, and location are significant positive correlates of non-farm employment in rural areas. Here also, spatial heterogeneity is large within the country. Relative to those living in the West department, workers living in the other 8 regions are less likely to be employed in non-farm sectors. The rural people outside the West and Center departments are slightly less likely than those in the rural West and Center to be employed in high-productivity non-farm activities. This is most probably due to the existence—in the West—of infrastructure to facilitate urban-rural interactions.

44. Table 10 shows the major factors – including geographic location by department– and their significance in determining the probability of falling into poverty. Although theory holds that many of the variables included in the analysis do indeed contribute to (cause) poverty (or poverty reduction), the statistical relationships should be interpreted as correlates and not as determinants since causality can run both ways for some variables. Rural living is in many ways very different from urban and metropolitan living in Haiti (Table 8.1). The largest statistical differences in poverty reduction between rural

and other areas are found in the effect of education, region, gender, and social capital. Living in rural areas in Haiti does not by itself affect the probability of being poor. Hence, individual and household characteristics are more important than geographical location (these elements are further discussed in paper 2):

Table 10: Probability of Falling into Poverty in Haiti, 2001

Characteristic of Household Head	dF/dx	t-statistics	Variables in Column 1 interacted with “Rural”	dF/dx	t-statistics
Age	-0.00	-2.34**	Age	0.00	0.57
Female [#]	-0.03	-1.23	Female [#]	0.08	2.22**
Family size	0.12	7.73**	Family size	-0.01	-0.57
Squared family size	-0.01	-6.02**	Squared family size	0.00	1.61
Primary education [#]	-0.20	-6.64**	Primary education [#]	0.06	1.66*
Secondary education [#]	-0.27	-7.85**	Secondary education [#]	-0.02	-0.48
Tertiary education [#]	-0.43	-5.42**	Tertiary education [#]	-0.13	-0.51
Migrated [#]	-0.08	-2.36**	Migrant [#]	0.04	0.88
Work tenure more than 5 years [#]	-0.10	-1.64*	Work tenure more than 5 years [#]	0.04	0.42
No information on work tenure [#]	-0.05	-0.75	No information on work tenure [#]	-0.03	-0.41
Industry [#]	0.18	2.35**	Industry [#]	0.02	0.22
Agriculture [#]	0.16	2.36**	Agriculture [#]	0.08	0.84
Service [#]	0.18	2.82**	Service [#]	0.03	0.31
Inactive [#]	0.24	3.58**	Inactive [#]	0.12	1.27
Catholic [#]	0.03	0.33	Catholic [#]	0.02	0.16
Baptist [#]	0.03	0.29	Baptist [#]	0.09	0.78
Other religion [#]	0.02	0.23	Other religion [#]	0.07	0.59
Social capital [#]	0.03	1.09	Social capital [#]	-0.12	-3.39**
Rural [#]	-0.02	-0.13			
Southeast [#]	0.22	3.56**	Southeast [#]	-0.09	-1.29
North [#]	0.25	6.08**	North [#]	-0.04	-0.67
Northeast [#]	0.47	10.29**	Northeast [#]	-0.18	-2.41**
Artibonite [#]	0.38	9.42**	Artibonite [#]	-0.25	-5.00**
Center [#]	0.28	5.70**	Center [#]	-0.15	-2.55**
South [#]	0.20	3.97**	South [#]	0.03	0.45
Grand-Anse [#]	0.34	7.24**	Grand-Anse [#]	-0.21	-3.57**
Northwest [#]	0.22	4.43**	Northwest [#]	0.00	0.05

Note: Number of observations: 7031. ([#]) dF/dx is for discrete change of dummy variable from 0 to 1; t is the test of the underlying coefficient being equal to 0, * significant at 10% level, ** significant at 5% level. Variables left out: no education, work tenure up to 5 years, public work sector, Voodoo, West, metropolitan and other urban areas.

Source: Own calculations based on HLCS 2001.

Column 1: Characteristics of household head;

Column 2: Impact of individual characteristics (x) on likelihood of falling into poverty (f) expressed as the slope of the relationship between x and f. A positive value of dF/dx for a certain variable (e.g. “inactive”) indicates a higher probability of falling into poverty for household heads with that characteristic. A negative dF/dx indicates the reverse relationship. In general, a higher absolute value of dF/dx indicates a greater impact of small changes in x on f (probability of falling into poverty.).

Column 3: the “t-test” is used to determine whether the relationship between a variable and the probability of falling into poverty is statistically significantly different from zero. Significance at the 10 percent level is indicated by a “*” and significance at the 5 percent level is indicated by a “**”.

Column 4: Here, we combine each of the variables in column 1 with the characteristic of living in rural areas.

Columns 5 and 6: See Columns 2 and 3 respectively.

POTENTIAL STRATEGIES AND POLICY RESPONSES:

45. **Typology of rural households:** From the study's findings above, it is clear that, not unique to Haiti, poor households with different asset portfolios are resorting to different livelihood strategies for maintaining and improving their well-being:

- (i) **the extremely poor, with no land and very low endowment of other assets** (education, tools, social networks) and rely mostly on their unskilled labor for their survival—this group represents about 23 % of total Haitian households;
- (ii) **those with diminutive land holdings (less than 1 ha)** and a weak general asset base, who cultivate their land but pursue a variety of additional, off- or non-farm income generating activities (about 40% of households and 50% of farms);
- (iii) **those with an average land holding (approximately 1-4 ha)** live mainly from their land, and who may use various inputs when available and rent additional tools (30% of households and 41% of farms);
- (iv) **those with larger holdings, stronger asset base** (tools, fertilizers, etc), and diversify into higher value crops and more commercial production (6% of households and 8.5% of farms); and
- (v) **a small group of households with high formal skills and / or strong asset base** (e.g. ownership of natural resources, properties rented to others, larger, permanent shops, etc) who can pursue higher pay-off, non-farming activities (1% of households and 0.5% of farms).

The typology presented here should be seen as one relatively “robust” means of categorizing the rural population but with obvious caveats that are typical to such broad classifications. For example, the typology does not claim to encapsulate all the factors that are important for poverty alleviation. Rather, it offers a simple breakdown of the Haitian population that can be used to evaluate the differential impact of some of these characteristics on different types of rural poor. The typology is based on access to land. The impact of assets other than land (including location to roads/markets) and eventual development interventions will be felt differently by the different groups above.

46. **Possible Policy Responses.** Using the above typology, as well as the geographically-disaggregated knowledge collected and analyzed in this study, it should be possible to better design and target policies and programs in support of households' strategies. The types of possible policies follow:

- a. *Social protection / transfer programs:* This is appropriate for the extremely poor (see above groups i and ii mainly) who have no or limited land and will probably not be able to get into competitive, productive agriculture: (1) **cash transfers** to households with very low productive potential, including the poorest landless and "micro-peasants" (elderly and sick); (2) **direct assistance** in education, health and other basic services. For the extremely poor households, increased and better quality **education** is a means for improved income, as well as improved health and for decreased fertility. A woman with less dependency will have less chances of falling into poverty; (3) **land access** support programs to young micro-farmers whose main constraint is miniscule holdings. These programs could alleviate the most extreme poverty, but would probably contribute relatively less to the total volume of poverty.
- b. *Direct support to increased agricultural productivity:* To support rural households with access to land, inputs and market that can support agricultural production and where the returns to higher use of various inputs has been demonstrated (group iii above). This could be done through various types of interventions including: (1) enhance **research and extension** for agricultural productivity increases, to target especially those with a certain productive potential, i.e. the average farmer (group (ii) above mainly). Productivity increase in this segment of the population would be essential to lower the *volume* of poverty; (2) promote **private investment** in rural areas.
- c. *Improve the enabling environment:* Although, as indicated above, education is of special importance to the extremely poor in order to increase and facilitate their mobility, education should be seen as a key priority for all types of rural dwellers identified above. For example, it is known that illiteracy greatly limits the capacity of farmers to receive and use the technical assistance they receive on agricultural production or other productive activities. In addition to education, other areas of disparity between Haitians and that can be addressed at the policy level should be addressed (family planning, access to land, rural finances, etc.).
- d. *Strengthen governance and institutions at the local level:* As targeted by the TSS, an increased presence of the Government in rural people's lives is an important step towards increased development and social peace and stability that are essential for growth. This would include development institutions as well as security and law enforcement and other institutions. All rural groups would benefit from such policies, as well as the natural endowment of Haiti.
- e. *Improve the supply of public goods and services including infrastructure:* Whether it's taking produce to market, shortening the trip to schools and dispensaries, or allowing the installation of an electric engine for small-scale agro-industry, the

impact of increased **infrastructure** and other public services would be generalized in improving rural quality of life for all categories of the population.

f. *Reduce the impact of natural disasters:* Natural disasters are a key source of risk to the livelihoods and to the life of rural and urban households. Many of the most recent disasters in Haiti (floods at Fonds Verrettes, Mapou and Gonaïves) have clearly demonstrated the particular vulnerability of watersheds to erosion and to amplifying the impact of rains on the population, it is clear that the revegetation of watersheds as well as the adoption of sound land use practices are priorities for development interventions that would benefit all categories of the rural and urban populations.

47. **It is the proper mix of policies that is important.** The above list is neither exhaustive nor self-excluding. It is often by adopting a mix of the possible policy and investment interventions that the synergy between sectors can mostly flourish and development interactions produce a tangible impact. This was not attempted systematically in the present study although a few possible interventions were defined and an evaluation was initiated with respect to three types of intervention (see below.)

48. Attempts at the above policy and project interventions have been made in the past and it is important to review some of the lessons learned before focusing on specific recommendations for the future.

LESSONS LEARNED FROM PREVIOUS EXTERNAL SUPPORT

49. In this section, the lessons learned from previous experience in Haiti are analyzed, in order to factor these lessons in the definition of policy/activity directions for the medium- to longer-term. Although mainly based on World Bank evaluations, the relevance of the lessons to overall external assistance in Haiti (e.g. see World Bank, 2002) was verified during consultations with the Haitian counterparts—including during a number of participatory in-country workshop. First, an explanation on the extent of this review of past experience.

50. **Key lessons of external assistance involvement in Haiti can be summarized as follows:** (i) infrastructure investments have to be supplemented with institutional support and to overall poverty reduction and growth strategies; (ii) during the period of economic liberalization, social components were under-represented and failed to address the negative social impact on those affected by liberalization; (iii) participation of local communities in setting development priorities is key and has often been lacking in the past; (iv) addressing poor governance is perhaps the top priority for donor assistance in Haiti; (v) concerning sector-specific lessons: in the social sectors, NGOs were found to be effective in distributing services and funds (despite the short-term solution character) of this approach, infrastructure and environmental projects were faced with a lack of funding for maintenance, and overall, although opportunities exist for public-private partnerships, these are yet to be fully explored.

51. **Results of Recent LAC Research.** The World Bank recently published a heavily researched “flagship report” on the evidence of “rural contribution to development” in LAC countries. Of relevance to the present study on Haiti are the following overall findings: (i) importance of shifting rural development expenditures to the provision of public goods (rural education, health and social protection, rural infrastructure, research and extension, environmental protection and targeted poverty interventions); (ii) liberalization of “sensitive” non-competitive sectors should be (and should have been in the case of Haiti) gradual, with small farmers in these sectors receiving technical assistance and conditional income support to be able to restructure their activities; and (iii) policies should include greater access to “bundles” of assets.

52. The report also stresses the spatial approach as a basis for regional development efforts with the following findings: (i) regional development policies need to be coordinated with national economic development strategy; (ii) analytical research is required ex-ante to support the premises under which regional development interventions are developed; (iii) patience is essential--longer-run objectives should be favored; and (iv) regions may need to “reinvent themselves” periodically to stay competitive.

53. The above findings were consistent with other studies on drivers of rural growth in the Central America region and carried out by the World Bank which stresses (a) the asset base approach as a useful means to help frame issues, guide research, and design projects (quantitative/qualitative methods); (b) the need for a multi-sectoral approach and better coordination within WB and with other development agencies and Governments; and (c) the need for spatially differentiated rural development programs based on area- and the respective country’s specific assets but should equally be coordinated with regional strategies. Development investments can be community driven, but centrally provided guidance, informed analysis and funding are still necessary.

54. **On implementing of external assistance to Haiti:** While the Bank played a major role in donor coordination at a higher level after 1994, overall the coordination of donors’ in-country and sectoral policies and activities proved to be weak. The challenge of reinforcing each other’s efforts and addressing the weaknesses in the institutional environment lies in setting priorities, dividing the responsibilities according to comparative advantages, and defining common approaches on the ground. The ICF and the Bank’s TSS are direct consequences of the lessons learned from past interventions. The ICF with its regular sectoral group meetings offers a chance for reinforcement of cooperation between donors and government as well as among donors.

55. The above lessons learned, as well as emerging data from the study were shared with local partners in Haiti at various times during study implementation and a set of recommendations on overall policy directions and some specific investment priorities were identified. These are summarized in the following sections of the report. Additional lessons learned are indicated for the three specific areas of interventions suggested at the end of this report.

D. POLICIES AND INVESTMENTS

52. The following sections summarize the results of the consultations with respect to going from the analytical and diagnostic results of the study into actual policy and investment recommendations. We first describe the particular setting of Haiti where **medium- to longer-term interventions including increased reliance on public institutions should complement the on-going (and understandable) preponderance of emergency interventions**. For the medium term, it is then proposed that—building on households’ livelihood strategies—**“bundling” of public sector assistance around “growth poles”** of an agricultural nature may be an important step for rural development in Haiti—and until more mobility and diversification of sources of income becomes possible. The basis for that hypothesis is then tested with a discussion of the **potential for agricultural intensification**.

53. The Bank’s TSS defines two strategic thrusts: (i) meeting basic and urgent needs, and (ii) promoting income-generating activities. The data presented in this study can assist in prioritizing interventions of a multi-sectoral basis in order to increase the synergy between interventions and ensure the success of interventions. In the following sections, the report goes into more detail on specific recommendations on the sustainable use of the rural space for agriculture and conservation purposes. This is consistent with the TSS and also with the overall strategy underpinning other Bank-supported interventions in Haiti and especially the CDD interventions. As a complement to CDD activities, the interventions below would strengthen the capacity and means of the central and local governments to provide public goods that would help amplify the benefits that individual communities get from CDD support.

54. **“Poles of Growth”**. There is consensus on the need to ensure the synergy between various interventions (infrastructure, health, education, agriculture production etc.) to assist Haiti’s rural development. As in any other country, Haiti’s rural space presents a wide variety of conditions and one aim of this study was to start tackling this diversity through the diagnostics phase at least. The data collected in this study were disaggregated, to the extent possible, along geographical administrative (e.g., department or commune) or agro-ecological units. Several maps are presented at the end of this study. In addition, a “Spatial Overview” was prepared as a background paper (see paper 8) using a wide variety of spatial data. Combining information on demographics, socio-economic conditions, location of infrastructure and major urban centers, land quality and agro-ecological conditions, land-use patterns, farming systems, erosion risks as well as information on local institutions and land tenure conflicts it was possible to undertake spatially differentiated assessments of the potential for growth and poverty reduction in rural areas of Haiti. In addition, the data collected and the preliminary analysis allow us to better predict the potential impact of policy and investment interventions in specific areas. Although we have not attempted to identify specific areas to indicate high or low economic potential, we have attempted to incorporate aspects of spatially differentiated potential into aspects of our analyses. In the first step, agro-ecological criteria have been

used for the identification of high potential zones. For the definition of growth-poles additional criteria will be included such as access to markets, transport, infrastructure and the logic of land use planning. The following paragraph provides the outlines of such an approach.

55. Since rural Haiti is characterized by diverse agro-ecological conditions, differentiated agricultural potential that includes factors like the existence/absence of infrastructure, and distinct watershed areas that effect environmental quality and agricultural potential, it is suggested that a *micro-region* planning approach be taken with a *development pole* focus. This means that a multi-sectoral strategy should be developed for defined sub-regions with agricultural growth potential in select crop and livestock enterprises with potential for exploiting economies-of-scale to improve competitiveness in production, processing and marketing activities – and support services such as research, training and extension. Micro-regions would be identified that group several communes sharing characteristics such as: a) common agro-ecological conditions and agricultural growth potential, b) common watershed(s) and/or need to sustainably co-manage the natural resource base, c) common market and transport linkages, and towns/cities that serve as centers for economic activities. Some sub-regions have existing (although not always functioning) “regional research centers” that are associated with the Ministry of Agriculture (MARNDR) and were established to provide research and training support services.⁵ In addition, it is important to assess the existence of planning capacity and ability to articulate demands such as: a) commune development plans or an ongoing process to prepare such plans, b) CDD programs that support community-level capacity and social infrastructure, and c) other donor/NGO programs.

56. The following sections further analyze the agricultural production dimension of Haiti’s rural growth. This then serves as a framework for the presentation of four possible public sector interventions that would support this engine of growth.

AGRICULTURAL PRODUCTION SYSTEMS IN HAITI AND POTENTIAL FOR INTENSIFICATION:

57. Due to its diverse agro-climatic conditions, Haiti can produce a wide range of products for both farmers’ subsistence and the market. The prevailing farming systems reflect Haitian farmers’ multiple livelihood objectives and their strategy of adaptation to local circumstances. These systems comprise a wide array of crops typically cultivated over small holdings (1.8 ha average) consisting of tiny and scattered plots.

58. **Many areas in Haiti have potential for agricultural production** (good level of rainfall, adequate soil fertility, irrigation, etc.) (see map 5 - Agro-ecological Zones). In each if these areas there are ‘lead’ crops or crop associations with potentially high value added that can be improved to meet the local and external market demand, as well as farmers’ subsistence requirements. The prospects for rapid increases in production of

⁵ In the 1980s the Ministry of Agriculture was running about 50 regional research and training centers, but only about 20 are currently functioning. Of the remaining centers, there are considerable differences in the quality of services provided and the degree of management from the Ministry of Agriculture.

these crops and cropping systems are strong, all the more because current levels of technology are extremely low, as long as an enabling environment exists and effective technical support for agriculture and related activities is in place. Indeed, as largely demonstrated by Haiti's agrarian history, Haitian farmers are hard working, innovative and responsive to market signals. But most of them live in poverty and experience high levels of food insecurity. Hence their livelihood and survival strategies are predicated not only on monetary revenues, but also and preeminently on food subsistence and risk mitigation. It is critical to account for these behavioral factors when formulating recommendations on productive strategies.

59. The present analysis of farming systems (Paper 3) was prepared for those areas that display potential in **Haiti's differing agro-ecological zones** -- humid highlands, irrigated and rainfed (humid) lowlands, and dry and semi-arid areas. The analysis focused on: (i) the value added of agricultural production to evaluate the profitability per hectare and get a sense of Haiti's comparative advantage; (ii) the labor remuneration to assess farmers' incentives to embark on agricultural vs. non-agricultural tasks both within and outside the country; and (iii) other criteria, such as the physical amount of production to determine how cropping systems can best respond to the farmer's subsistence objective.

60. **The general recommendations for agricultural intensification** that emerge from the above analysis are as follows:

- Give priority to crops that serve both the farmers' strategies of direct subsistence and monetary returns; this is the case of bananas, cassava and yams, and vegetables.
- Focus on improving crop mixtures that are generally more productive than mono-crops at current technology levels prevailing in rural Haiti, both with commercial crops (coffee and cocoa) and dual (subsistence/market) crops (bananas, maize, tubers, etc.) as lead crops.
- Focus on mono-cropping only to the extent that cropping conditions are improved (e.g., rice, maize with new varieties under two production cycles);
- Promote fruit production (mangoes, avocados, citrus, etc.) which is highly attractive from the viewpoint as much of monetary revenue as of subsistence, all the more since it contributes to improving environmental conditions.
- Promote niche-type crops (gourmet, organic, fair trade, environmental label, etc.) whether traditional (coffee, cocoa, aromatics) or new (cashew nuts, certain fruits, ornamental plants, etc.) since good market opportunities exist currently for these crops.

61. **Detailed technical prescriptions can be defined per agro-ecological zones and départements** as shown in Tables 11-14. These prescriptions should form the basis around which applied research and extension, and attendant farmers' training programs, should be organized. Overall, they concern simple technologies like (a) basic chemical fertilization to increase mineral elements and restore fertility of the soil, and basic pesticide application to reduce the risk of losses (including post-harvest losses) due to

adverse climatic conditions; (b) improved varieties to increase plant productivity (drought resistant varieties, non-photo sensitive varieties, grafting for tree-crops, etc.); (c) technologies aimed at increasing labor productivity (e.g., animal traction) with a focus on the critical periods of the cropping cycle where labor availability is binding; and (d) improvement in farm productive capital, particularly in terms of tools for land tillage and water control facilities. Investing in the above fields would potentially provide quick wins and pave the way for long term increase in productivity, only to the extent that concurrently the enabling environment in terms of rural infrastructure (roads, water control, communications, etc.) is improved and market information is made available to farmers.

**TABLES 11 TO 13 : HIGH-POTENTIAL AREAS FOR AGRICULTURAL PRODUCTION (%)
TYPE OF CROPS AND TECHNICAL RECOMMENDATIONS—BY REGION.**

Table 11: Humid Mountains

Department	%	Lead Crop(s)	Technical recommendations
North-East	38	Coffee	Improvement of transformation procedures
North	58	Coffee Igne, Fruits	Improvement of transformation procedures, Multiplication techniques, Techniques against rottenness, Grafting
North-West	14	Igne	Multiplication-techniques
Center	43	Coffee Legumes	Improvement of transformation procedures, Improved varieties of beans and peas
West	43	Vegetables, Fruits	Fertilization for beans, potatoes, and corn, Improved bean varieties, Phytosanitary techniques, improvement of irrigation systems, Grafting for avocados, fruits, in particular citrus-fruits
South-East	44	Coffee Legumes Fruits Food crops	Improvement of transformation procedures Variety improvements, irrigation systems; Avocado and temperate fruits in off-season Short corn cycle, Variety improvement for beans, Accessibility of fertilizers, Multiplication-techniques for igne
South	26	Food crops Fruits Coffee	Variety improvements and fertilization of beans and potatoes, Multiplication-techniques for igne Avocado in off season, Improvement of transformation procedures
Grande-Anse	56	Food crops Coffee	Improvement of bean varieties, Multiplication-techniques for igne, extension of spices and condiments Improvement of transformation procedures

Table 12: Irrigated and Humid Plains

Department	%	Lead Crop	Intervention
North	22	Cane Food crops All crops	Disease-resistant plants (to <i>charbon</i>), Transformation material, Research and extension, fertilization of sweet potatoes and bananas, Draft animals/motorization: credit for equipment, technical training
Artibonite (irrigated)	9	Rice Potato, Beans	Seed production, fertilization, phytosanitary care, Mechanization Variety improvements, fertilization
South-East	17	Food crops Vegetables	Fertilization and phytosanitary care for bananas, Variety improvement and fertilization for potatoes
South (humid)	30	Food crops	Fertilization for corn, sorghum, peanuts, Improved varieties of rice and potatoes
South (irrigated)	3	Food crops	Fertilization, Variety improvement and phytosanitary care for rice, beans and corn
Grande-Anse	28	Food crops	Improved varieties of manioc and beans , Multiplication-techniques for igname

Table 13: Plains, Plateaus and Semi-arid/Semi-humid Mountains

Department	%	Lead Crop	Intervention
North-East	46	Food crops Fruits All crops	Variety improvement of manioc, peanuts, peas (<i>pois inconnu, pois congo</i>) Cajou nuts resistant to disease (<i>anthracnose</i>), Tamarinds for exportation, Draft animals: credit for equipment, technical training
North-West	79	Food crops	Variety improvement of manioc, peanuts, peas (<i>pois inconnu, pois souche</i>)
Artibonite	46	Mangoes Vegetables	Grafting varieties for exportation Variety improvement
Center	23	Food crops Cane Mangoes All crops	Fertilization of peanuts, bananas, Varieties resistant to drought and suitable for small-scale irrigation, Improved varieties of cassava and legumes; Varieties resistant to disease (<i>charbon</i>), Transformation materiel, Grafting ; Draft animals: credit for equipment, technical training

**Table 14: Surface of high potential agro-ecological zones:
(% of the total surface of each department)**

Department	Agro-ecological Zone			Total
	Humid mountains	Humid and irrigated plain	Plain, plateau or semi-arid and semi-humid mountain	
	----- % total surface -----			
North-East	38	-	46	84
North	58	22	-	80
North-West	14	-	79	93
Artibonite	-	9	46	55
Center	43	-	23	66

West	43	-	-	43
South-East	44	17	-	61
South	26	33	-	59
Grande Anse	56	28	-	84
Average of national territory	36	12	22	70

62. **Two Caveats on the Pursuit of Agricultural Growth.** First, as indicated above, some of the small landowners or inhabitants of remote, marginal areas will most likely never get out of poverty through increased agriculture productivity. What they require is likely to be a mix of direct assistance combined with the development of human and social capital (education, health, local institutions, etc.) Second, even where there is potential for increased productivity and its translation into growth and increased wellbeing to the rural Haitians this improved wellbeing will largely depend on the confluence of complementary assets and support from non-agricultural sectors. Further expanding on each key sector (education, health, infrastructure etc.) is beyond the scope of the study. However, the experience reviewed during the study allowed the identification of a handful of policies and interventions that—although in the agricultural/natural resources sector—offer promising opportunities for linking to multi-sectoral interventions. These are presented in the following and final section of the present report.

THREE POTENTIAL INTERVENTIONS FOR MAKING A DIFFERENCE ON THE GROUND:

63. The preliminary diagnostic results of the study were reviewed with various internal and external stakeholders in Haiti's rural development (see annex 4) as well as recent and proposed efforts in the areas of regional development, natural resources management and agricultural development. The aim was to extract some direction for concrete implementation of the findings into concrete policy and on-the-ground interventions.

64. First, a set of broad criteria emerges from these discussions with respect to concrete next steps: (i) **where feasible, they should support present sources of agricultural growth with a view for future diversification;** (ii) **they should allow for multi-sectoral support to strengthen households in their strategies for growth** (social and human capital, infrastructure, etc.); (iii) **they should be consistent with ICF and TSS priorities for intervention** and in particular they should complement the on-going Community-Driven Development interventions.

65. The following three areas of intervention are mutually reinforcing and offer various degrees of linkages with complementary multi-sectoral interventions. They are cited here as concrete suggestions for implementing some of the results of the present study. Additional consensus building and sectoral analysis—as well as identification of

priority areas of intervention—would be required to complete the identification of these activities.

66. The three potential interventions are summarized here, their rationale is presented in more detail in the following section, and their concept is elaborated in papers 4, 6 and 7:

(i) **Support to Regional Rural Services Centers:** Building on past successes with decentralized agricultural research, regional centers would be quickly re-habilitated and staffed to provide support that could revive agriculture production where feasible and start providing selected “bundles” of additional support beyond agricultural technology (adult literacy, financing etc.) While the recommendations included here have definite institutional implications --such as decentralization—this Study did not aim the overall institutional reform of the rural sector nor of the Ministry of Agriculture as this is being conducted separately by GOH and its external partners within the CCI;

(ii) **Support to Regional Development Plans and their Implementation:** This activity would build on existing experience with participatory development plans at the local level in Haiti. The plans have multiple objectives: economic growth, education, health, land use, risk mitigation, etc.) and can offer an ideal engine for the sequencing of multi-sectoral interventions identified in the present study. There are about 10 existing regional studies that are ready for evaluation and increased sector-specific design work;

(iii) **Increased Funding of the Rural Space:** A key concern in implementing specific intervention is the provision of relatively sustainable sources of funding to the rural sector. Two interventions are suggested: (i) promotion of private investments through public sector support to “alliances” between small producers and the buyers of their products; and (ii) the establishment of an environmental endowment fund that would provide steady compensation to rural inhabitants for their efforts in implementing regional development plans that promote conservation and sustainable land use.

67. The activities presented in the next section (and other possible areas of intervention) still need to be further defined within a multi-sectoral and spatial framework before they can be ready for actual implementation. The data generated and analyzed in this study should help in the required steps to complete the design of strategies and specific interventions. It is important to recall that these activities will not by themselves “solve” the problem of rural development in Haiti. Rather, in the spirit of the above sections of the report, they should be seen as either a vehicle for, or a contribution to, “bundles” of multi-sectoral interventions in support of households’ strategies for getting out of poverty.

ACTIVITY 1: Support to Regional Rural Service Centers

68. Justification. Many areas in Haiti have good agro-ecological potential for agricultural production. In these areas there are crops with high value added that can meet local and external market demand, as well as farmers' subsistence requirements, and serve as engines of growth for the local economy. This is consistent with the priority elements of the poor's livelihood strategy presented above. What is required for farmers to increase the production of these 'lead crops' is an enabling environment and effective technical support (see tables 8 to 11). In many cases, the enabling environment is to be created in the sense that rural infrastructure, roads and irrigation in particular, has been allowed to deteriorate; but it is being upgraded as externally-funded projects are being started as part of the overall ICF program. As to technical support, the MARNDR's national system of agricultural research and extension has long lost its required degree of effectiveness. Of the fifty or so relatively functional centers that comprised this system at the end of the 80s, eleven only are currently operational. What is proposed as part of the recommendations of this study is to revamp these centers so that they serve as regional centers of excellence providing broad-ranging services to farmers.

69. Lessons learned from LAC and other regions (see e.g. Acquaye et al. 2004) show that: (i) decentralized agricultural research and extension improves accessibility of extension agents to local farmers; (ii) strong central level is crucial to quality, as it can provide and enforce suitable norms regarding staff recruitment, management and training, facilitate linkages with research and the free flow of knowledge among regions and outside, and develop effective quality control and monitoring systems; (iii) decentralized extension requires decentralized and participatory research. Just re-arranging disrupted research-extension linkages will not provide decentralized staff with the support they need for solving farmers problems. Research must focus on farmer needs, farmers need to be involved in planning implementing and evaluating research activities; and (iv) farmers are not a homogenous lot; decentralized, public extension cannot address the needs of all groups. The role of the public sector must be redefined to permit multiple approaches which account for user diversity, and to develop partnerships with farmer organizations, NGOs and the private sector for service.

70. The historical development of the centers in Haiti confirms these lessons. When the first centers were introduced they lacked an approach that considered the strategies of the farmers and were entirely run by MARNDR. Gradually, there has been a shift toward the need for involving local communities and empowering them in the all stages of definition and implementation of interventions in technical assistance, research, training and extension. At various Study workshops, Haitian stakeholders were vocal in requesting that future assistance to regional centers taken into consideration these lessons learned through the Haitian experience.

71. Research and extension programs: Although the centers are to be multi-faceted, agricultural research and extension will need to be given priority, given the historic vocation of these centers and the importance of agriculture in the rural household

economy. They must be developed in a participatory way based on the needs of farmers against market opportunities and subsistence. They should focus on priority actions concerning 'lead crops' that can result in rapid increases of producers' incomes, as part of a long term commitment to support sustainable farming systems. These programs should be implemented in close partnerships with all actors involved, e.g., NGOs, private sector, universities, etc.

72. Beyond agricultural research and extension, the regional centers must integrate a multisectoral approach and go beyond their traditional focus on agricultural research and extension without overloading its mandate. They have to address the broader spectrum of Haiti's rural development issues, including training in management of natural resources but also support to farmers' organizations through counseling and information on markets and prices. Concerning productive alliances the centers can contribute to the setting of rules without being directly involved as an actor in the alliances. In broad terms they have to respond to farmers' demand for public services in the areas of training, market information, applied research and a broad range of technical topics to name a few. .

73. Institutional arrangements. The centers would remain under MARNDR's purview but they would have autonomous administrative and financial status, with the DDA as the head of the administrative council, but allowing for the participation of a broad range of stakeholders from civil society, local government institutions and the private sector. The director of the center would be directly responsible to the Ministry of Agriculture or the Department of Research within the Ministry. The actual rehabilitation and strengthening of the centers would take the shape of a "project" with topical support that should then be "absorbed" by sustainable sources of funds.

ACTIVITY 2: Support to Regional Development Plans and Their Implementation

74. Justification: Environmental degradation increasingly shapes the agricultural landscape. The rural population often lives in a vicious circle as farmers' extreme poverty leads to over-exploitation of natural resources and soil beyond the capacity of resources to recover which in turn is a key factor in the perpetuation of poverty. The vulnerability of the soil combined with a lack of technical and financial means lead to the use of unsustainable practices by producers and increasing erosion. Demographic pressure causes farmers to expand land cultivation into areas which are not suitable for agriculture. These zones represent 20-30% of all cultivated land and 44% of the territory.

75. Haiti is especially exposed to erosion as almost two-thirds of the rural areas is at a slope of more than 20%, and 40% of the land is above 400 meters in elevation. The major consequence lies in soil erosion (36,6 million tones or 12.000 ha per year) and therefore an annual productivity loss between 0.5 and 1.2%.⁶ 75% of the cultivated areas, which are mainly located in the hillsides, have no tree/forested cover and 25 of the 30 watersheds are heavily, if not completely, deforested. It is natural to aim at a watershed approach as one of the principal approaches for rural development. In addition, a

⁶ The accuracy of numbers regarding soil degradation is not always given due to a lack of updated data. They can nevertheless serve as an approximation of the dimension of the problem.

watershed approach facilitates the integration of multisectoral causes of degradation of natural resources but also a wide range of actors profiting from a sustainable watershed management strategy. This includes the towns and villages that rely on natural resources for water supply, fuel wood and other energy needs. This activity would fit in the strategies for addressing major areas of risk (including natural disasters) as well as increasing opportunities for income using a “territorial” development approach. There is experience in Haiti in the preparation of these plans and, even if at first they were mainly a land-use planning or natural resource management tool—they have quickly evolved in global, multi-sectoral development instruments that can address any of the development priorities of local communities.

76. Experiences with regional development planning are too recent to draw final conclusions.
- The local level is not homogeneous, and as a result, it is necessary to take into consideration multiple actors who are directly involved at the local level, or who take decisions having repercussions on local realities.
 - It is possible to identify possibilities for action by rural municipalities. In particular, it is the identification of the real potential of rural municipalities in terms of support services for the small farmer, and social services for the indigent, but also the question of the necessary conditions for municipalities to carry out these tasks. Thus municipalities could become the geographic level to articulate and carry out public and private initiatives associated with rural development, opening the way for the municipalization of rural development. In order to effect municipalization, it is necessary, as do some FAO teams, to identify the most dynamic intermediate regions and municipalities, and on the basis of this identification, analyze the factors which could enable these municipalities to become poles of rural development.
 - Experiences of GTZ in Madagascar and FAO in Burkina Faso show that integrated and participatory regional development planning has great potential to spreading awareness of NRM necessities in rural development and strengthen social cohesion as a sense of peasant empowerment in terms of managing development increases.
 - Instruments for decentralized financing need to be developed to enable an economically solid approach of local development planning and NRM.
 - With respect to the rural sector, in particular, the major challenge posed by decentralization is how to manage the tension between recognition for community, local initiatives and the need to integrate these initiatives to form a whole. Differentiation, regionalization and the strengthening of intermediate associations can help to resolve this tension. These three instruments create conditions for dialog among the rural development partners.
 - Problems concern knowing how to reconcile short-term programming based on needs expressed by populations and long-term planning of actions to restore and develop renewable natural resources.

77. **Objectives and Activities:** The integrated approach of communal development planning based on the establishment of decentralized and participatory institutional mechanisms for the elaboration and coordination of local development plans constitutes such a multisectoral strategy. Regional planning and watershed management allow for a type of approach that integrates soil conservation and sustainable land use while paying attention to the population's needs and priorities beyond the agricultural and natural environment and into education, health, infrastructure and others. Therefore not only the Ministry of Agriculture is addressed in this program, but leadership should be shared with the Ministry of Planning and others. Plans are defined in coordination with the commune and through the aggregation of local development plans to the watershed level in order to ensure coordination and consensus by participatory development planning. As a sustainable strategy of soil conservation watershed management and agroforestry target the peasant practices while taking into account the economic impact for the producer.

78. Activities in regional planning that are specific to sustainable natural resources management include (i) plantations in agroforestry which aim at increasing income, increasing the value of the land and introducing modified production systems, (ii) conservation of water and irrigation, (iii) treatment of ravines and watersides to reduce negative downstream effects of erosion, (iv) training of farmers in the treatment of their land and (v) training and capacity building at different levels of decision makers, including local communities. Once the link between local and national sector strategies is established—one can add to these activities others that specifically target non-agricultural sectors such as education, health and infrastructure. Finally, it is worth highlighting the promising possibility of implementing the Haiti-Dominican Republic policy of joint watershed development in the frontier area.

ACTIVITY 3: Increased Funding of the Rural Space

79. **Background:** To support activities such as the ones identified above will require significant investment funds that are being estimated and projected within the implementation of the ICF. But the review of lessons learned in Haiti as well as the situation of household and the expected policy responses show that the *instrument* of increased capitalization of the rural space is as important as the volume of investments. In particular, the present section presents two potential programs that –while discussed on and off in the past—would need to be seriously considered for support.

80. The first program involves the **promotion of private sector investments** in rural areas through “alliances” for increased agricultural productivity. In the second case, longer-term objectives of sustainable land use and rehabilitation of natural resources are targeted through the establishment of an **endowment fund to compensate rural dwellers for “environmental services” they provide**. These two proposed programs or financial instruments provide partial responses to the findings of the study with respect to strengthening their strategies for optimal assets use to increase their wellbeing. They are briefly presented in the following sections.

Support to Rural Productive Partnerships

81. **Justification:** Analysis of the rural economy presented in this report indicates a clear need for increased investments in rural productive activities. While some of this investment should arguably be of a predominantly public sector nature (research, public infrastructure, etc.) there is a key role for private investments as well. The rural business sector (commerce, processing and exports) is made of a few small and undercapitalized entrepreneurs, many rural traders (Madame Sarah) and some farmer associations. It wasn't always this way. The US embargo and stronger international competition after the lifting of the embargo in 1994 have effectively ruined a large part of the agricultural trading and processing middle-class.

82. For the rural areas to become competitive it will be necessary to improve the links between producers and markets and to address a number of key structural elements in Haiti, as described above and in detail in paper 4. Within the study, cross-country exchanges were organized with Colombia, where successful Bank-supported productive partnerships are under implementation. Lessons learned from that project are being applied in Haiti in the finalization of the design of this proposed activity. The present activity would be in line with the findings of the diagnostics part of the study on the relative insecurity (including financial) of small farmers in going to the market. This, in addition to the generalized lack of sources of funding from any sources for poor areas.

83. **Objectives and Activities.** This activity aims at promoting partnerships between organized small farmers and the private sector--with the support of different facilitators (public entities, NGOs, other members of production chain). Partnerships aim to develop business activities in which all partners invest, assume risk and gain. These schemes seek to generate income, create employment, and promote social cohesion of poor rural communities in an economic and environmentally sustainable manner. While the centers can play a role in mitigating security risks that alliances confront by setting rules, it is clear that other constraints such as physical insecurity of goods and persons and a certain degree of asymmetry between producers and agro-industrial-entrepreneurs persist and need to be taken into account in the design of alliances.

84. As discussed earlier in this report, there are some important opportunities that can help linking producers to markets.

- i. There are several crops or activities that could benefit from closer links between producers and markets: coffee, cocoa, mangoes, essential oils, sisal, vegetables for supermarkets and exports, poultry for eggs and meat, dairy products, tomatoes for industrial processing, and other food products. Some partnerships already exist in the marketing chain of some crops such as coffee (Haitian Blue) and to some extent informal partnerships in the mangoes export sector;
- ii. Those crops are often produced by a wide range of farmers and subsistence peasants. Medium-sized farmers are interested in specializing in certain crops only if the land tenure system will allow it;

- iii. There is also interest from the agro-business sector to obtain a regular and timely supply of good-quality products. Their problem lies with the poor state of infrastructure that prohibits links between supply and demand sources, a lack of capital to purchase, transport, process, store and sell and the weak organization of farmers;
- iv. There is some interest from the banking sector to lend to agro-business if that sector can come up with better forms of guarantees and reliable payment schemes. IFC would be very interested in investing in Haitian rural enterprises, if the risks could be reduced.
- v. Beyond the support of market chains in a growth pole region, necessary interventions under the responsibility of the Ministry of Agriculture at the central level include the definition of policies and the establishment of a quality control system, reinforcement of quarantine services and zoo-phytosanitary protection.

85. Potential partnerships, crops and areas are identified in Table 15:

Table 15: Identification of possible private/producer/public partnerships

Area	Partners	Priority geographical areas
Coffee	Selected producers linked to one export company	North, Center, South-east and Grand'Anse
Cocoa	Selected producers linked to one export company	North and Grand'Anse
Organic Bananas	Partnership between a land concessionaire, small banana producers and export company	Port-au-Prince
Citrus fruit	Selected producers and traders	South-east, Artibonite, North, South
Mangoes for export	Selected producers linked to an export company	Artibonite, South, Center
Poultry -eggs -meat	Partnership between producer of one-day chicks, small poultry producers (eggs or meat), feed importers and market	Urban and periurban areas
Dairy products	Extension of existing milk and yoghurt processing ventures linking producers to supermarkets	North, West, South, South-east
Plantain bananas	Selected producers and traders	West, North-west
Crafts (<i>artisanat</i>)	Selected artisans with exporters	No selected areas

An Environmental Rehabilitation Fund for Haiti

86. **Justification:** One of the key indirect causes of natural resources degradation in Haiti is the lack of sustainable financial resources to support both public and private interventions (see paper 6). Sustainable—even if moderate—financial resources are crucial to achieve the following objectives:

- Ensure the sustainability of positive results attained by short-term, one-shot, project financing;
- Ensure a relatively constant minimum level of funding for environmental expenditures that are often the first to be cut in times of budget constraints;
- Diversify and amplify the sources of funding for environmental protection in order to complement scarce budgetary resources with funds from other sources.

By supplying a steady source of funding for sustainable land use and natural resource use in general this activity would support the livelihood strategies of the poor by increasing their incomes and encouraging the maintenance and rehabilitation of one of their unique assets — land.

87. **Objectives and Activities:** The present proposed initiative aims at supporting Haiti in the establishment of an Environmental Rehabilitation Fund (ERF) as a key element in the implementation of Haiti’s Environmental Action Plan. The main objective of the ERF is the provision of a sustainable level of financing for the decrease and ultimately reversal of natural resource degradation in Haiti—in order to advance sustainable economic development.

88. There are a number of activities that would need to be implemented in order to create a full-fledged and broad ERF, such as (i) supporting governmental and non-governmental institutions through the drafting of statutes and regulations establishing the ERF; (ii) the establishment of a Board of Directors with appropriate balance between government and non-government representation, including academics, civil society and NGOs; (iii) the preparation of a Strategic Plan for the ERF including an action plan both progressive and realistic; (iv) preparation of an operational manual for the implementation of a first tranche of priority financing and actions (5-10 years); (v) implementation of fund-raising campaigns to capitalize the ERF—this will include the application for local and international funds, including: earmarking of public revenues, contributions from beneficiaries of environmental services, local and external donations, global environmental funds (GEF, Carbon Fund, etc.) and training and supporting the management team of the ERF and some of its key partners in government and civil society.

E. CONCLUSIONS AND THE WAY AHEAD

89. **Diagnostic:** Haiti and its partners in development have committed to a significant increase in development investment and its equitable distribution. This requires an updated knowledge of the rural sector that is spatially differentiated—because Haiti’s regions vary in their socio-economic characteristics as well as their natural endowment. This is perhaps a key contribution of the present study. The data presented here and in the accompanying eight background papers sheds light on some of the key characteristics (and their spatial variation) with respect to rural households and their poverty coping strategies and should be of use in deepening the emerging consensus around areas for the medium- to long-term support to Haiti.

90. **Institutions:** Consistent with the dual approach of strategies such as the TSS, the present phase of development assistance to Haiti should highlight and promote a more visible role for Government (central, local and regional) in support of household and community demands. In this respect, the next phase would be supportive of on-going efforts in community-driven development that promote social capital and aim for quick-win activities that are community-specific in nature. As was made clear in the local governance part of the present study, rural households tend to feel secure within their own communities but insecure when it comes to linking with other communities or with the market.

91. The present report identifies potential programs and institutions that could promote the constructive and supportive role of Government in overcoming key obstacles to development in rural areas. The three activities presented in this synthesis report are offered as examples of such interventions. But a minimum level of peace has to be restored and maintained in the country for the institutions to be able to play a credible role and the development interventions to succeed.

92. **Sectors for Intervention:** It is worth repeating that although agriculture remains the key economic activity for the rural population of Haiti, in many areas it is not through purely agricultural interventions that a significant dent will be made on poverty—or an increase in rural growth produced. Also, about 50% of area under cultivation is in size of plots that are for now considered too small to be viable. Education and health are perhaps the ubiquitous necessities for all the rural population. The definition of specific strategies in these and other important sectoral interventions (infrastructure, finances etc.) was beyond the scope of this study. The results presented here, however, do identify significant non-agricultural determinants of rural incomes. Education, in particular, is singled out as an absolute priority for improved coverage but also quality. Non-agricultural sectors that are confirmed as significant include then: education, health and rural infrastructure. As highlighted in the study, it will be important to use the diagnosis that is now available to prioritize areas as well as sectors of interventions and their sequence to increase the synergy among sectors.

93. **Typology of the Rural Inhabitants:** In addition to furthering the understanding of spatial and sectoral variables that should be taken into consideration, the study also proposed a simple typology of the rural dwellers of Haiti that should help at two levels.

First, and while avoiding the tendency for “central planning” it should be possible to prioritize and better plan the type of development instruments (e.g. mix of sectoral support) when it is known, for example, how many people are above a certain threshold of land ownership that permit significant improvements to productivity. Second, the typology proposed here can also be used for the monitoring of the impact of interventions once they are implemented; as the determination of winners and losers is a key element of such monitoring and can help improve the equity of interventions and ensure early corrections to the composition of the “bundle” of multi-sectoral interventions during implementation of the interventions.

94. **Questions for the Immediate Next Steps:** The data and results generated by the present study identify a number of interesting possibilities and directions for continuing the implementation of Haiti’s ICF and beyond. They also raise some immediate questions—of substance, process or implementation—such as the following questions that are offered to elicit guidance from the Bank and the Client counterparts. Here are some of the questions:

On Substance:

- (i) Is the linkage between various sectors sufficiently explicit in the synthesis report and is there a need/benefit of further prioritizing their respective importance?
- (ii) It is assumed that “regional” or “territorial” interventions require strong linkages to national strategies in order to be successful—are we satisfied that the various key sectors identified in this study have adequate levels of strategic direction (in the ICF, etc.) to support the regional interventions?

On Process:

- (iii) What are possible additional steps of dissemination that could be made to support an adequate impact of the diagnostics and analytical conclusions on decision-making within the ICF?

On Implementation:

- (iv) Building on the diagnostics presented here, the design of development interventions will have to be: (i) regionally defined and implemented with an optimum level of decentralization and autonomy; (ii) multi-sectoral; (iii) adapted to the characteristics and composition of the rural dwellers in specific regions; and (iv) with a visible and strong role for government. In Haiti, each of these characteristics is also a source of difficulty—what are international examples of “good-practice” that we could benefit from as we discuss possible areas of intervention?

REFERENCES

Annex 1: List of Study Background Papers and References

Annex 2: Maps

Annex 3: Study Design and Execution

Annex 4: Selected Donor Activities in Rural Areas

ANNEX 1: LIST OF STUDY BACKGROUND PAPERS AND OTHER REFERENCES

- Paper 1: Cadrage de l'Economie Rurale, by Gilles Damais/Pierre Werbrouck (2005), World Bank, ESW RD Haiti
- Paper 2: Making Poor Haitians Count. Labor Markets and Poverty in Rural and Urban Haiti, Dorte Verner/ Michael Justesen (2005), World Bank, ESW Rural Development
- Paper 3: Systèmes d'Exploitation et Potentialités pour l'Intensification de l'Agriculture en Haïti, by Jean-Claude Balcet (2005), World Bank, ESW RD Haiti
- Paper 4: Links between Producers and Markets, by Pierre Werbrouck (2005), World Bank, ESW RD Haiti
- Paper 5: Gouvernance rurale et institutions locales en Haïti : Contraintes et opportunités pour le développement, by Willy Egset (2005), World Bank, ESW RD Haïti
- Paper 6: Réhabilitation des Ressources Naturelles en Haïti. Elément essentiel de l'économie rurale, by Nadim Khouri/ Sophie Herrmann (2005), World Bank, ESW RD Haïti
- Paper 7: Les Centres de Services Regionaux : Etat des lieux, perspectives, by Gilles Damais (2005), World Bank, ESW RD Haiti
- Paper 8: Haiti – Spatial Overview, by Paul Bennett Siegel, Sophie Herrmann, David Woddall-Gainey (2005), World Bank, ESW RD Haiti

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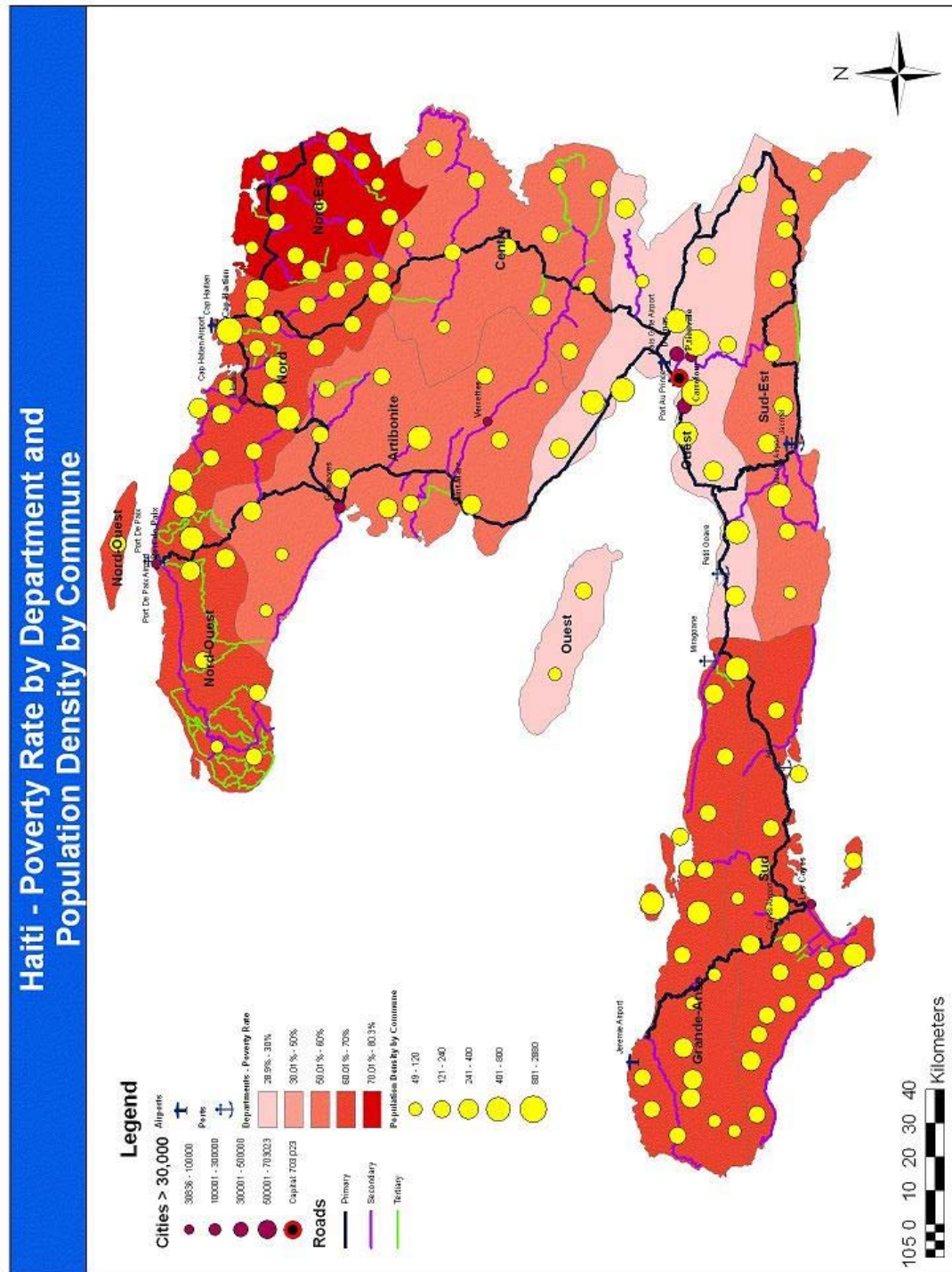
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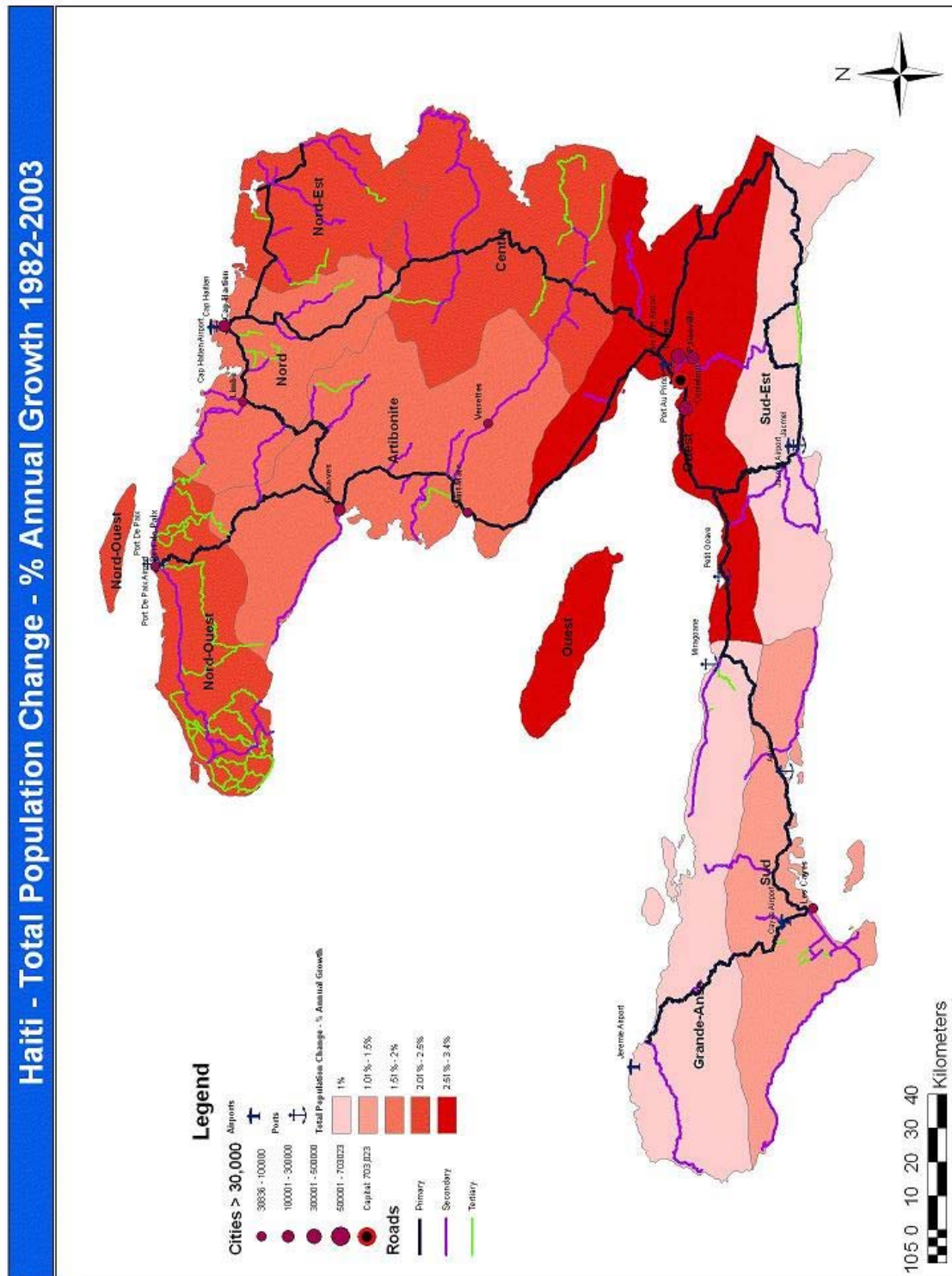
ANNEX 2: MAPS

Map 1:	Population Density per Commune or Poverty Rate per Department and Population Density per Commune
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Map 4:	Farming Inputs by Department
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Map 8:	Erosion Risk
Map 9:	Agro-ecological Zones and Regional Centers
Map 10:	Centres and Population density per commune
Map 11:	Rivers and Watersheds

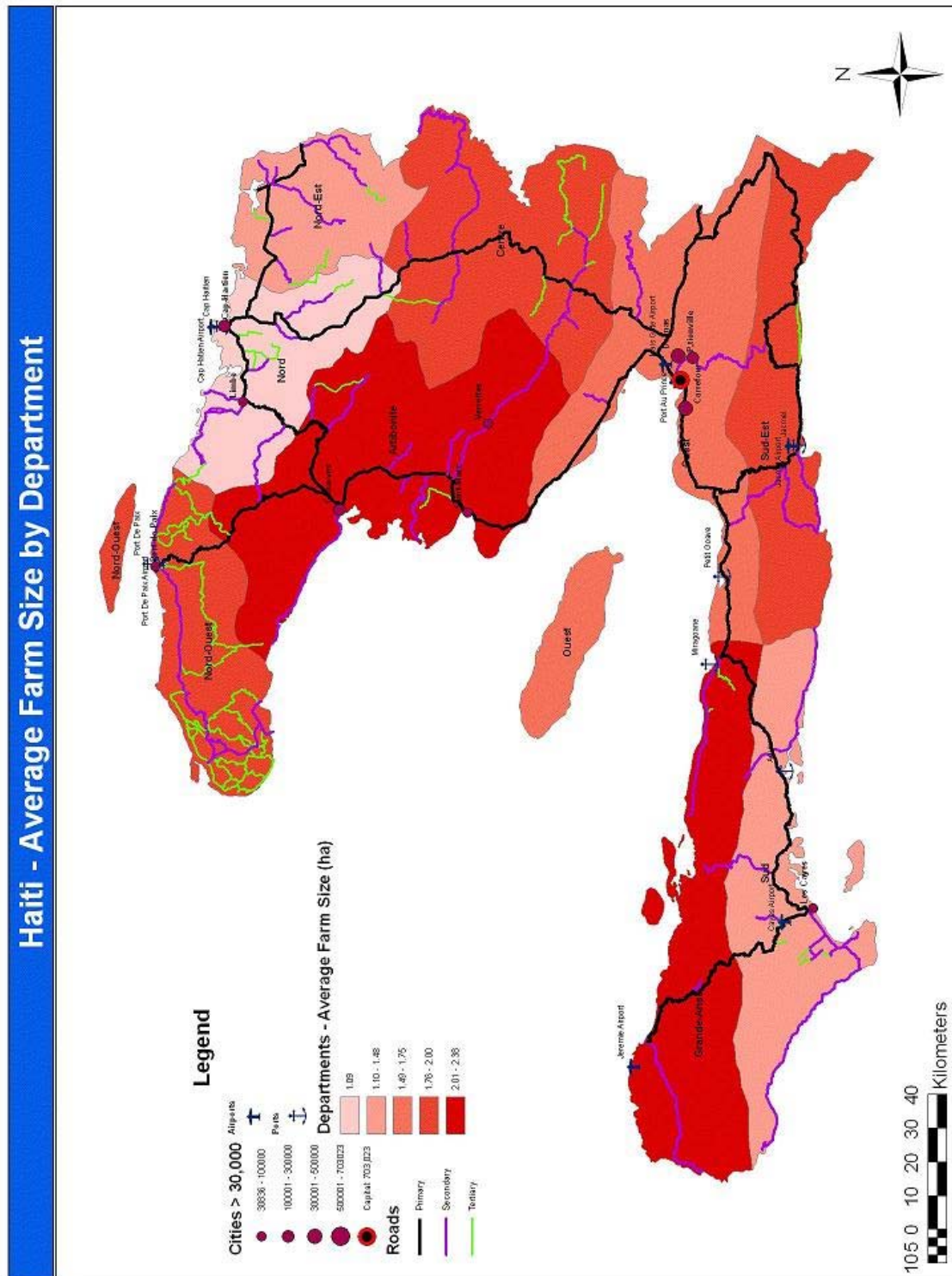
Map 1



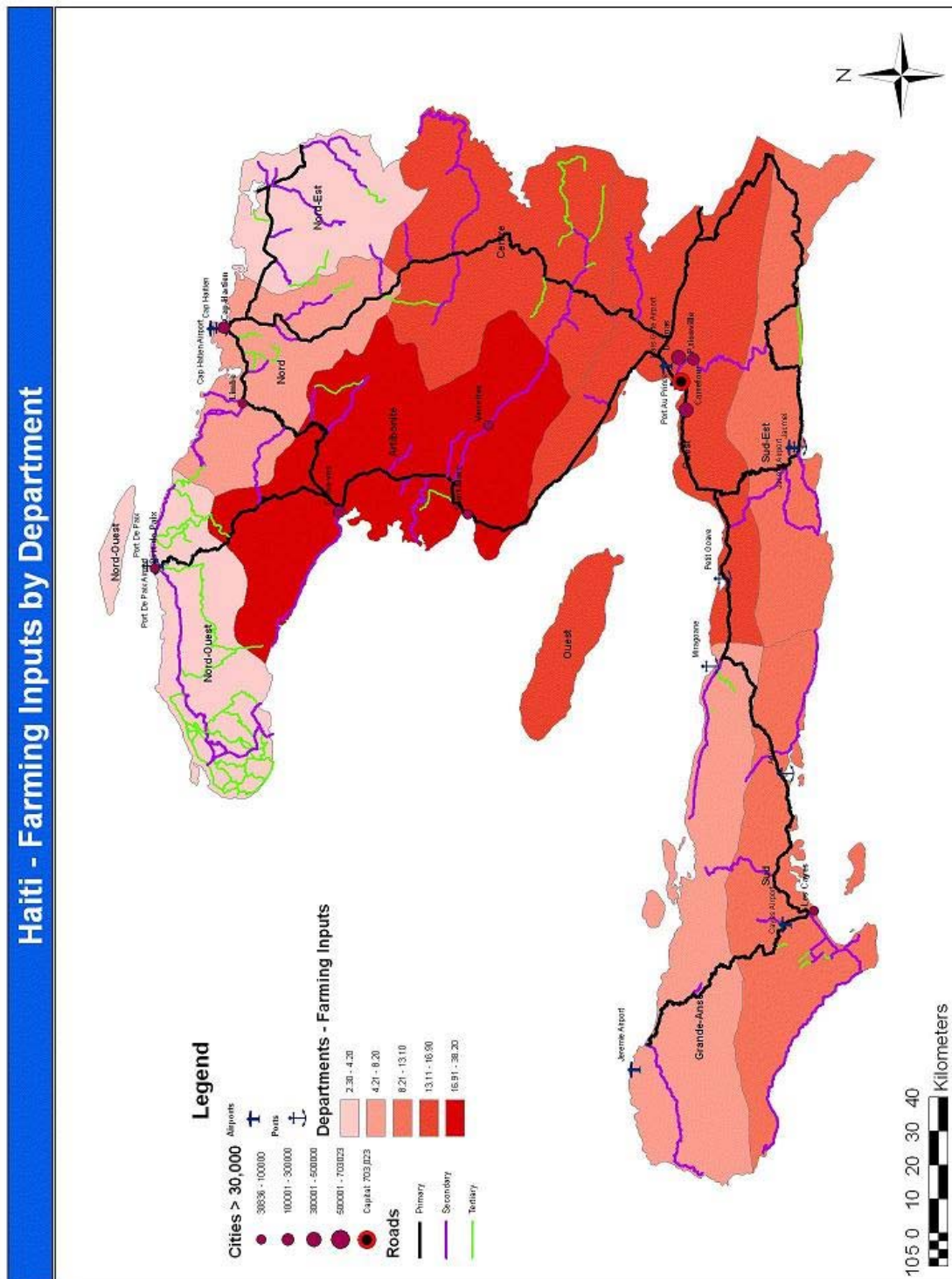
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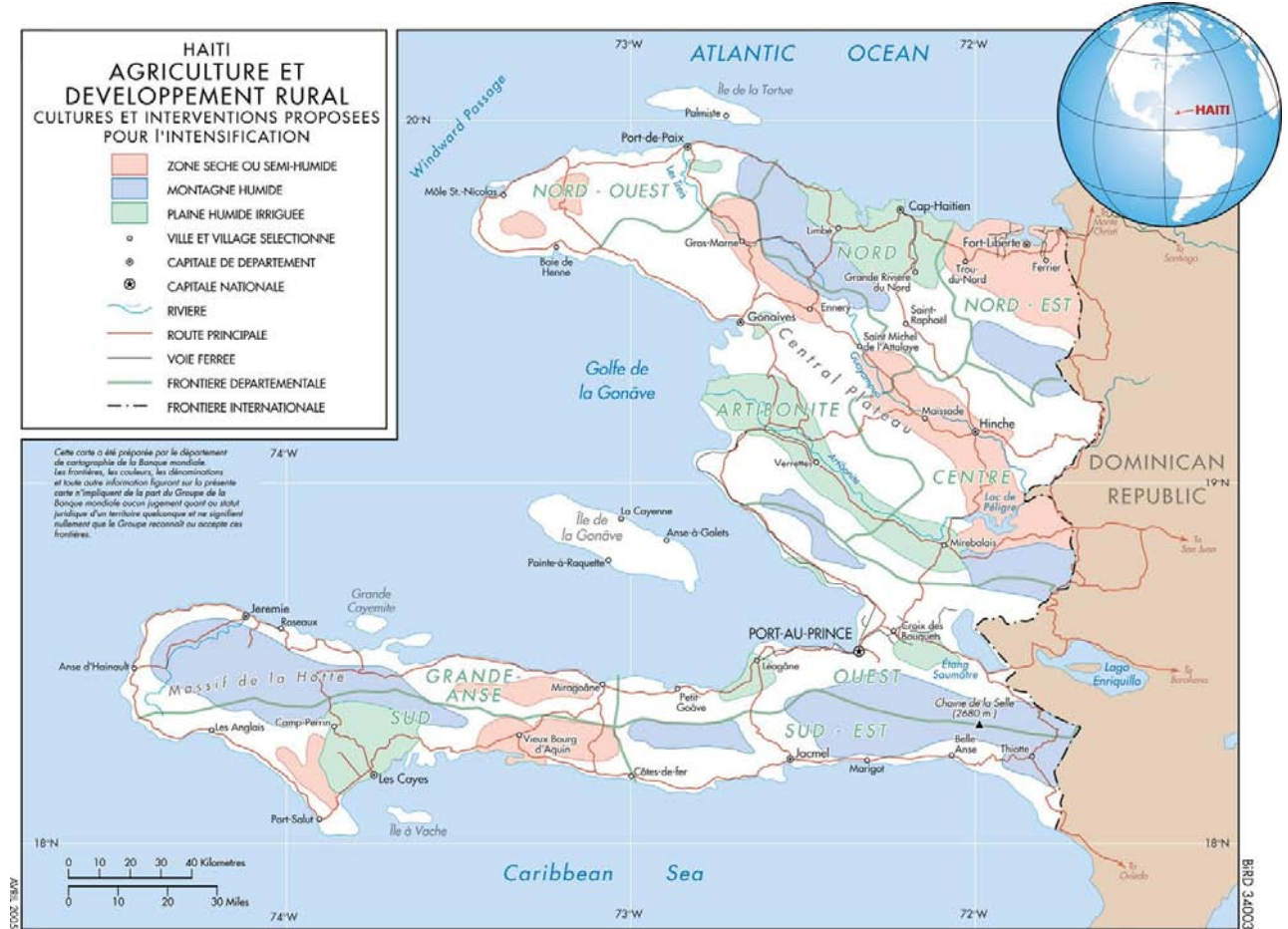
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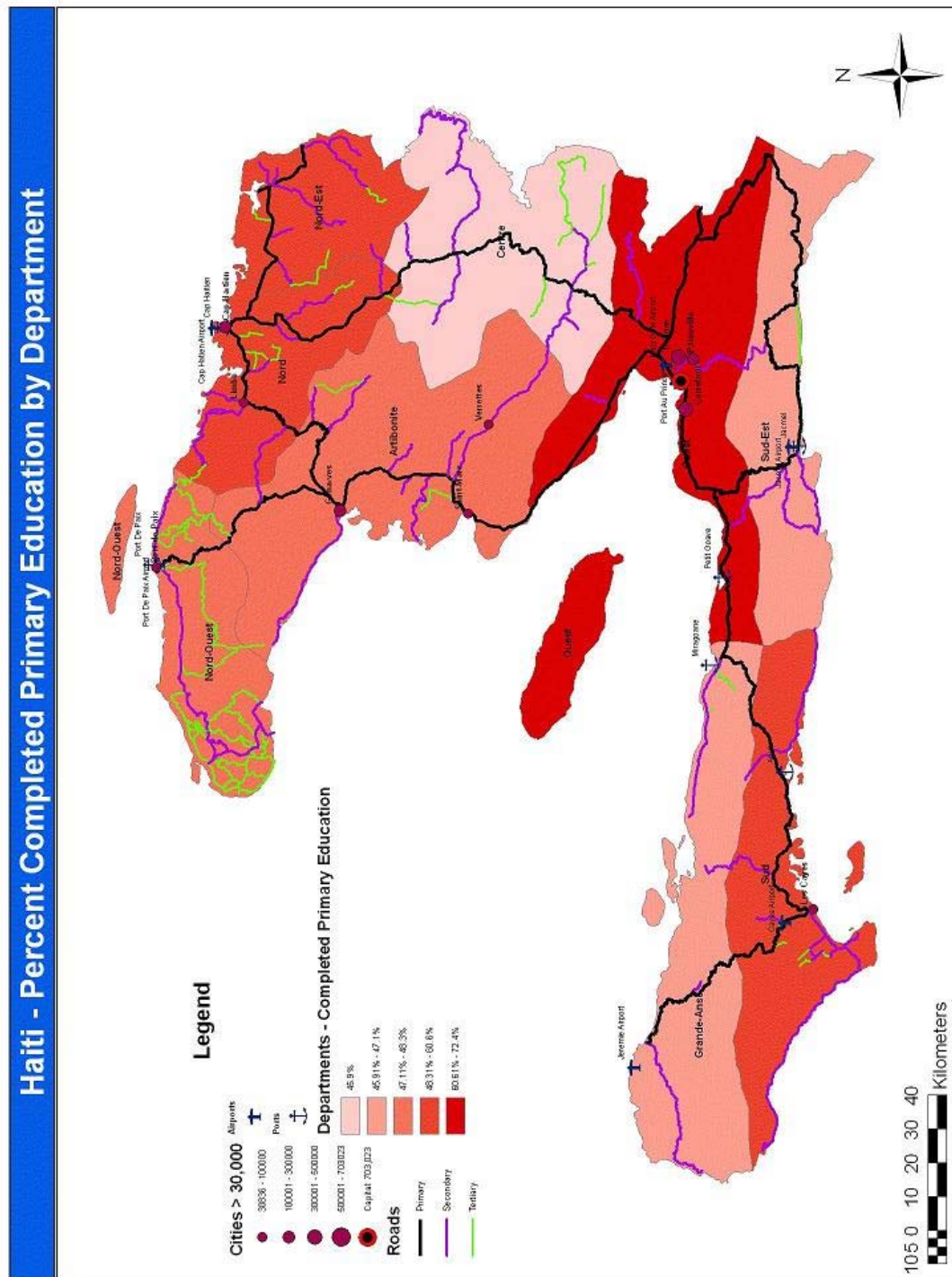
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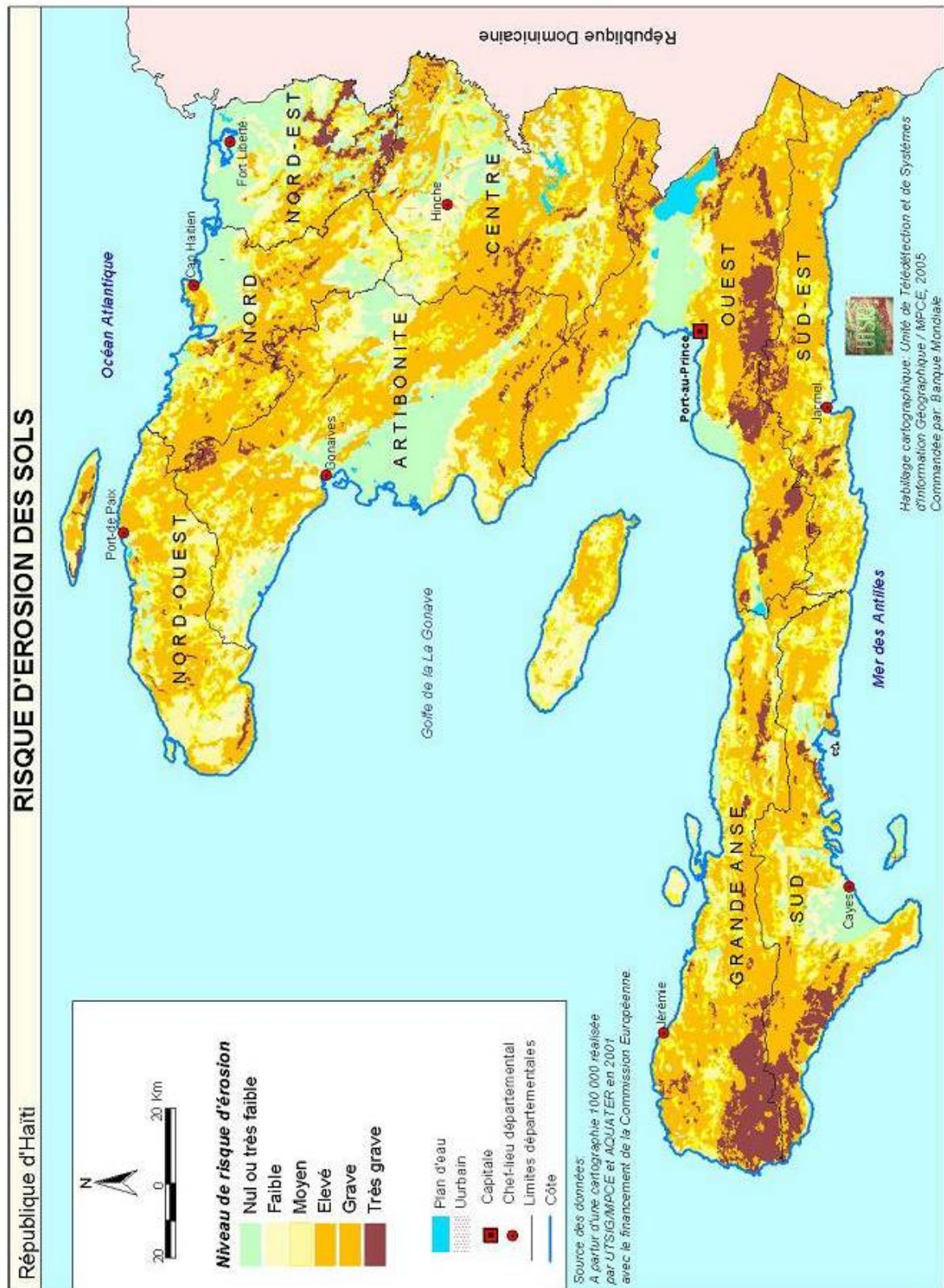
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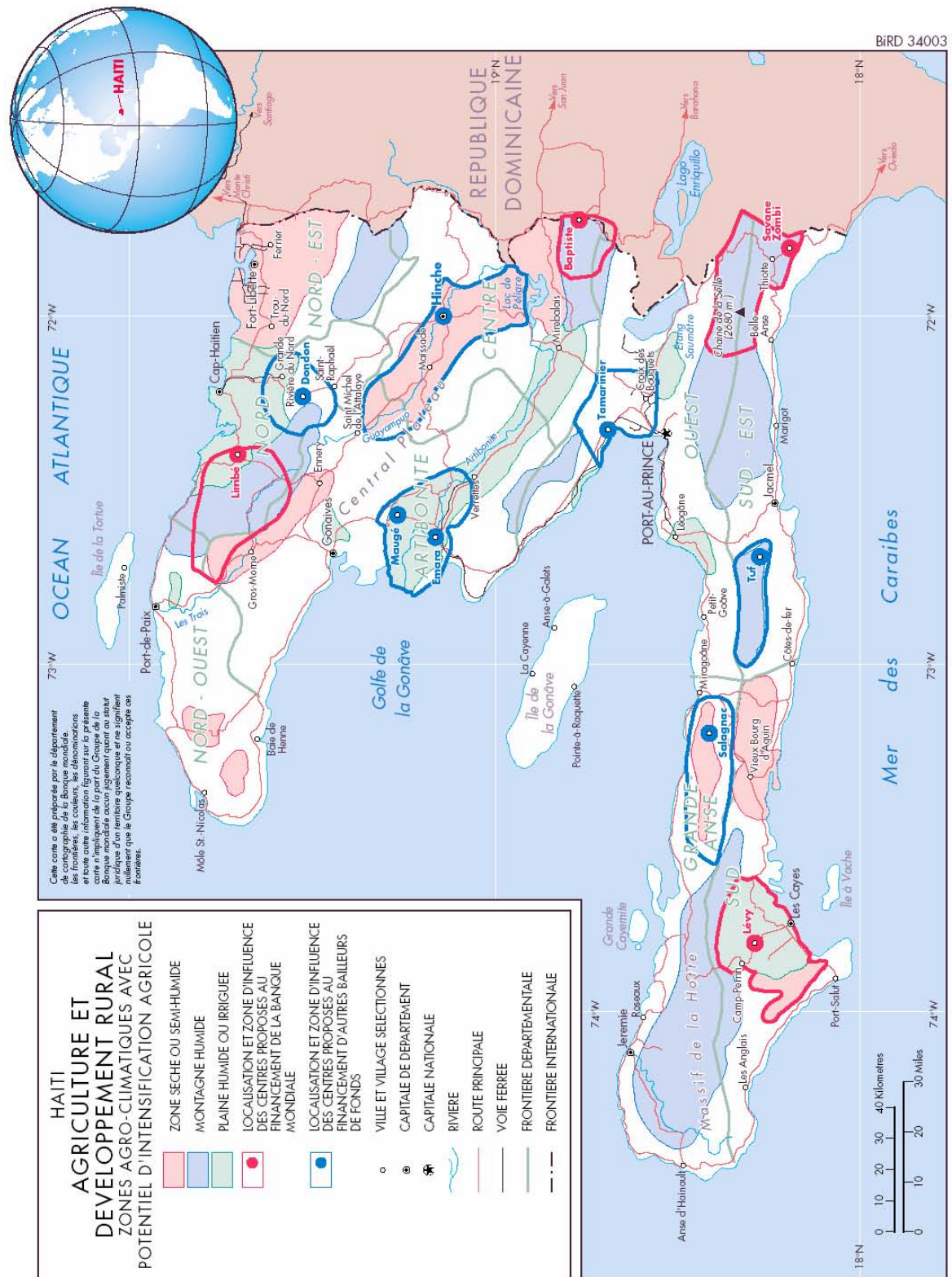
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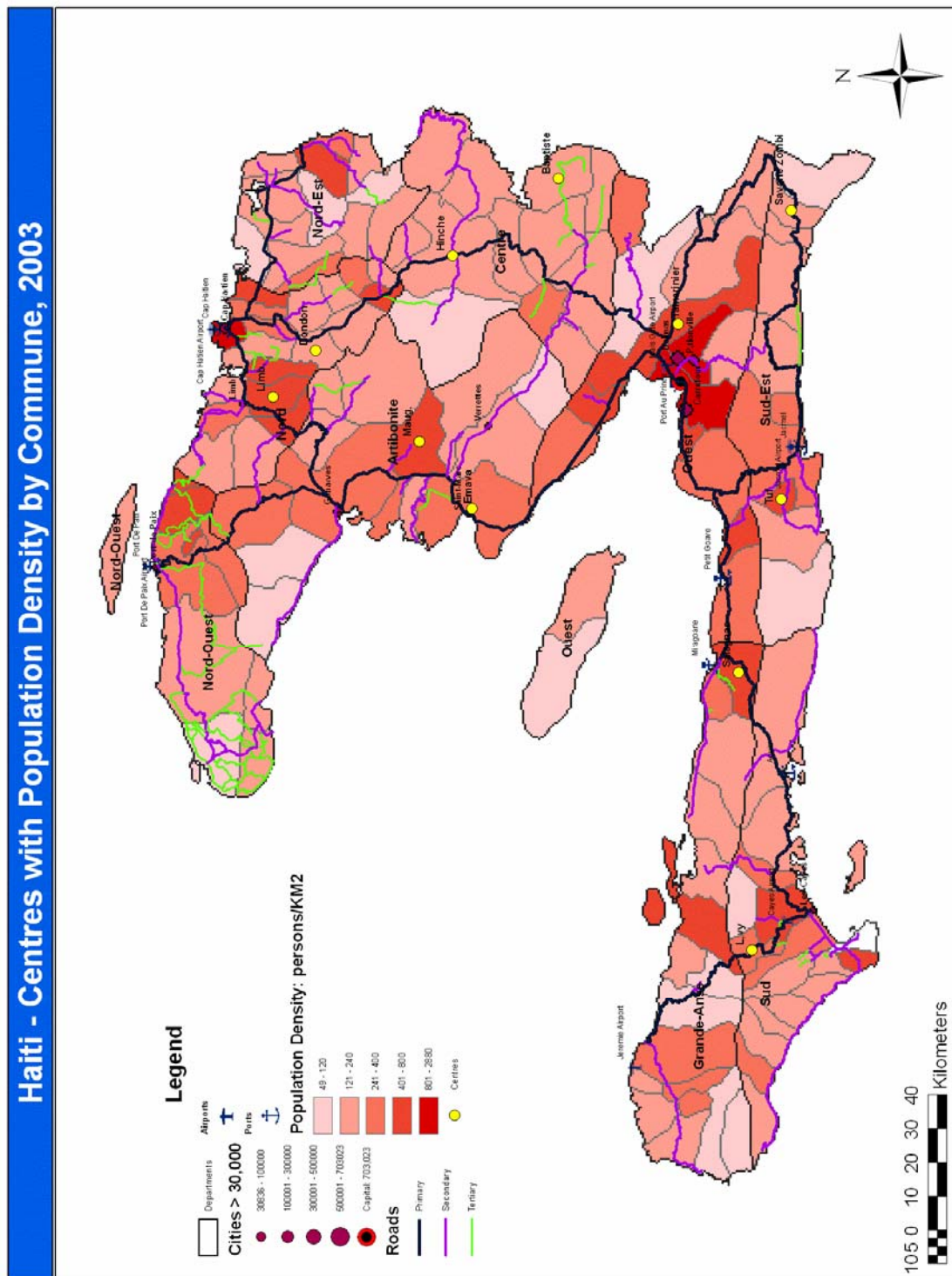
Map 8



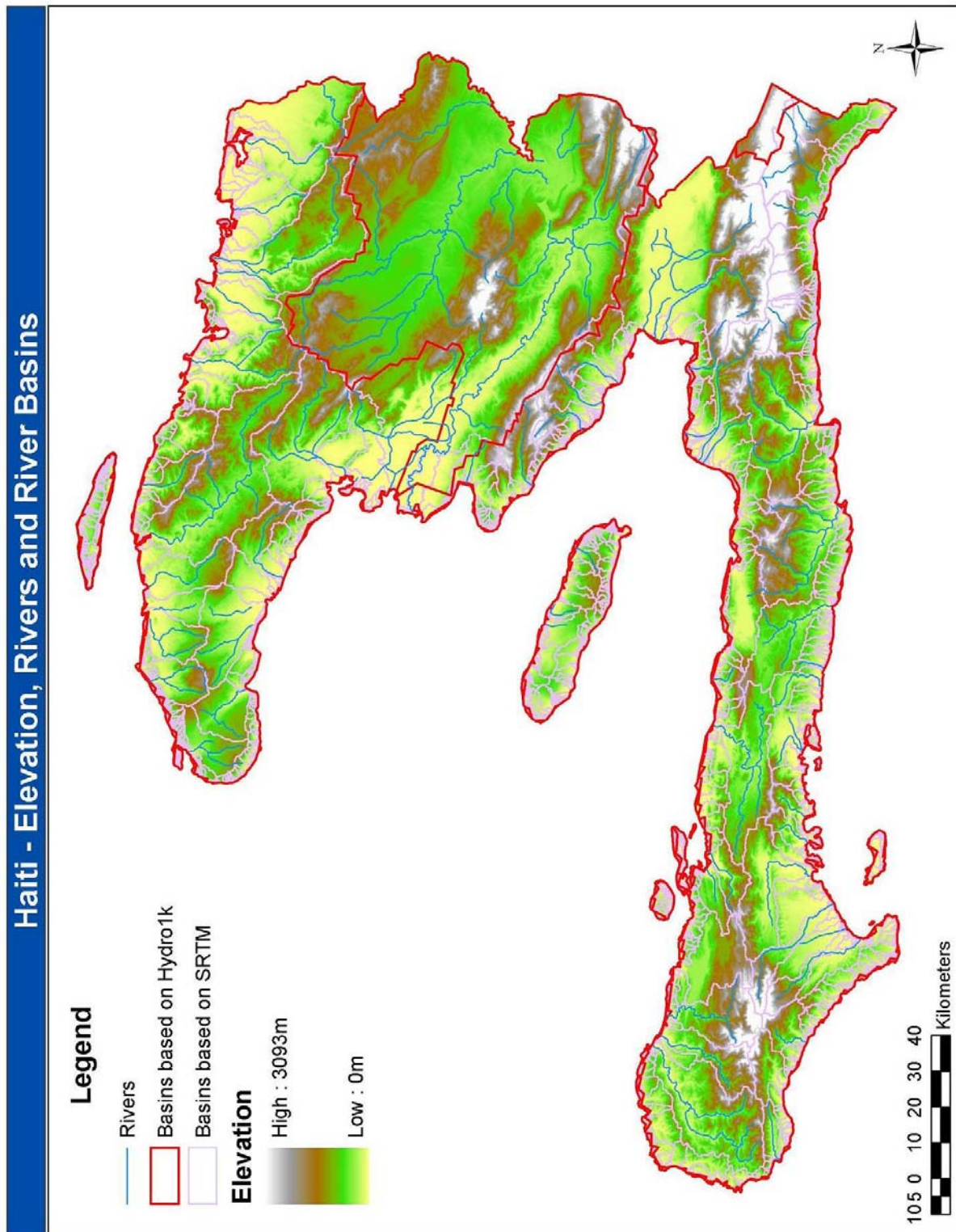
Map 9



Map 10



Map 11



ANNEX 3 STUDY DESIGN AND EXECUTION

1. Consistent with the Concept Note prepared for this Study, the method that was followed aimed at the following step-wise objectives: (i) updating the data available on the assets, the context, and other characteristics of rural households; (ii) analyzing the household data to deduce the households' poverty exit strategies; (iii) undertaking selective field-level surveys to check some of the key findings from the household data as well as study more in detail the issues surrounding local governance for rural development; (iv) sharing preliminary results with Haiti internal and external stakeholders and partners in view of attaining a certain degree of consensus on the principles to be followed in policy and operational interventions; and (v) identify selected activities that can respond to some of this emerging consensus.
2. The above operational objectives were attained through the following set of activities:
 - **Desk-top Review:** Key among the data that was reviewed is the newly generated Household survey data (2001) for Haiti. This information was analyzed in detail and appears in Paper 2.
 - **Missions to Haiti for Collection of Data and Consultation:** A number of missions were undertaken to Haiti, first for overall agreement with Government⁷ on the objectives and scope of the study and then to reach agreement within the rural development sector table and other external donors. Following the general launching missions, thematic missions were organized including for the following themes: the agriculture sector and linkages to the macro-economy (paper 1), agricultural research (paper 7), agricultural production systems (paper 3), potential for productive alliances (paper 4), natural resources management and regional planning (paper 6), and field-level surveys of conditions and institutional evaluation at the very local level (paper 5).
 - **Field level surveys:** As part of the latter exercise, qualitative data were collected systematically by a group of investigators who were trained by members of the Task Team and visited 6 selected rural areas to enquire about conditions and needs in general but also on the delivery mechanisms for rural development services. The results are presented in background paper 5.
 - **Participatory workshops:** During the thematic missions listed above one workshop per theme was organized with representatives of Government,

⁷ The Government nominated the following team as part of the Steering Committee for this study (their respective thematic responsibilities are indicated between parentheses): Ing-Agr. Ernst Benjamin (Planning), Ing-Agr. Eunide Alphonse (Agriculture research), Ing-Agr. Jean-Claude Janvier (Agriculture training), Ing-Agr. Serge Antoine (Land-use planning and watershed management), Ing-Agr. Wilson Durand (Rural development), Ing-Agr. Gary Augustin (Food security), Jean-Marie Binette (Leader of the Committee and institutional framework)

non-government and external assistance institutions to discuss preliminary findings, lessons learned from previous interventions and the way ahead. The minutes of the workshop discussions are included in the respective background papers listed in Annex 1.

- **Sector Tables:** Missions were the opportunity to meet and discuss overall strategies for the rural space with representatives of institutions on the rural “sector tables” that coordinate and monitor the implementation of the ICF for rural development. Additional coordination was provided by the acceptance by two IADB colleagues (IADB co-leads the sector table and leads donors in the volume of assistance to rural areas in Haiti.)
- **In Headquarters:** Occasional meetings were organized to share preliminary results amongst team members, with Haiti country members for various sectors, and with external partners. This strengthened the multi-sectoral character of the work and ensured early identification of lessons learned from previous interventions, not only by the Bank but also by other donors.
- **Presentation of Data:** Because of the spatial approach adopted in this Study, the data were presented in maps wherever possible. Three mapping sources were used: UTSIG in Haiti; Virginia Polytechnic Institute and State University; and at the World Bank.

3. **Next Steps:** Following the review meeting/decision meeting, a mission will be organized to discuss and finalize the study’s major findings. Because of the nature of this study (diagnosis as well as identification of specific interventions) the data will be made available “as is” in order to contribute to multi-sectoral discussions that should help arrive to priorities with respect to the timing and sequencing of assistance to the rural poor. The data will therefore be put at the disposal of the Government, donors and civil society.

ANNEX 4 SELECTED DONOR ACTIVITIES IN RURAL AREAS

1) agriculture/regional centers:

Donor agency	Center	Objective	Region
French Development Agency / European Union	EMDH (Ecole Moyenne de Hinche)	Physical rehabilitation, institutional strengthening for support to artisans (metal construction, mechanics)	Hinche /Plateau central
French Development Agency	Centre Salagnac	Physical rehabilitation and institutional strengthening (open)	Plateau Rochelois/ Nippes
French Development Agency / European Union	EMD	Physical rehabilitation and institutional strengthening for applied research and training in fruit production	Dondon/Nord
French Development Agency	Centre du Tuf	Physical rehabilitation and institutional strengthening for applied research and training in fruit processing	La Vallee de Jacmel /Sud-est
IADB/PIA	EMAVA	Physical rehabilitation and institutional strengthening for training	Pont Sonde/Artibonite
IADB/Taiwan	Ferme Mauge	Restoring agricultural research and seed production capacity	Deseaux/Artibonite
FAO/USAID	Tamarinier	Enhancing quality control capacity (laboratory equipments, professional training)	Plaine du cul-de-sac/ Ouest
European Union	Ferme Baptiste	Support to the Coffee germoplasm collection (for 2 years)	Baptiste/ Bas plateau central

2) Agriculture/ natural resource management/ integrated development planning

Donor agency	Project	Objective	Region/Location
FAO	Sustainable Agricultural and Local Development in the Commune of Marmelade	Increase soil productivity, intensification and diversification of agriculture Strengthen capacity of individual farmers and associations in personnel and collective development planning	Marmelade/ Artibonite
Canadian International Development Agency (CIDA)	Nippes Agroforestry Project	Enhance Agricultural Production Institutional strengthening in developing and managing local development programs	Nippes/ Petite Riviere de Nippes
USAID	Hillside Agricultural Program (HAP)	Strengthening Community based organizations	Different areas across the country in high

		Establish supply chains for coffee, cacao and mangoes	potential areas including : Gros Morne, Leogane, Saut d'Eau, Mirebalais, Foret des Pins, Jeremie, Salagnac, Les Cayes and others
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Interventions in preparation

Donor	Project	Objective	Location/Region
IADB	Ennery-Quinte Agricultural Intensification Project	- Agricultural Intensification and Market Linkage - Watershed Management and Flood Protection - Rehabilitation of Small-Scale Irrigation Systems The project was originally conceived as part of a broader Agricultural Intensification Program (PIA), to support the MARNDR to identify and intensify agricultural development in areas of the country which demonstrated good sustainable agricultural potential.	Ennery-Quinte/Artibonite
UNDP/IADB	Institutional Strengthening of the Ministry of Environment	Elaborate National Plan against land degradation and to implement Convention against Desertification Strengthen local capacities in natural resources management Systematic documentation of data in the area of the environment	
GTZ	Sustainable resources management in the trans-border watershed of the River Artibonite	Strengthen the trans-border coordination and capacities of the local authorities and collectivites territoriales Support of participatory forest, agroforestry and soil conservation strategies	Upper part of the Artibonite River
CIDA	Binational Project	Strengthening of local authorities Elaboration of a local development plan Watershed management	Centre Department
FAO/ others	Partnership for food security, natural resources management and sustainable local development	Following the approach in Marmelade, FAO and MARNDR have identified 5 communes to adopt integrated development planning, agricultural intensification and natural resources management	Plaisance, Limbé, Verrettes, Torbeck and Belle Anse