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**MINISTRY OF AGRICULTURE, NATURAL RESOURCES, AND
RURAL DEVELOPMENT**

HAITI

NATIONAL AGRICULTURAL INVESTMENT PLAN

MAIN DOCUMENT

[ORIGINAL VERSION AVAILABLE IN FRENCH]

MAY 2010

HAITI
NATIONAL AGRICULTURAL INVESTMENT PLAN

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Exchange Rate

(February 2010)

1 USD = 39.5 Gourde (HTG)

1 HTG = 0.025316456 USD

Measuring Units

1 carreau = 1,29 hectare

1 marmite = 3-6.5 lbs

Fiscal Year

October 1 – September 30

Abbreviations and Acronyms

BAC:	Municipal Agricultural Office
BCA:	Agricultural Credit Bank
BID:	Inter-American Development Bank
BRH:	Bank of the Republic of Haiti
CNSA:	National Food Security Coordination
CRDA:	Center for Research and Agricultural Documentation
CUMA:	Agricultural Material Use Cooperative
DCP:	Fish Concentration Device
DDA:	Board of the Agricultural Department
DSNCRP:	National Strategic Document of Growth Poverty Reduction
FAO:	UN organization for agriculture and Food and Agricultural Organization
FMI:	International Monetary Fund
GSB:	Association of Animal Health
GTA:	Agricultural Working Group
IICA:	Inter-American Institute for Cooperation on Agriculture
INARA:	National Institute for Agriculture Reform
MAE:	Ministry of Foreign Affairs
MARNDR:	Ministry of Agriculture, Natural Resources, and Rural Development
MCI:	Ministry of Commerce and Industry
M &E:	Monitoring and Evaluation
MEF:	Ministry of Economics and Finance
MTPTC:	Ministry of Public Works, Transport, and Communication
ODVA:	Organization for the Development of Artibonite Valley
NGO:	Non-Governmental Organization
OP:	Farmer Organization

OPA: Agricultural Professional Organization
PDNA: Post Disaster Needs Assessment
WFP: United Nations World Food Program
PIB: Gross Domestic Product
PNCS: National Program for School Cafeteria
PPI: Small Irrigated Perimeters
PRIMA: Integrated Reinforcement Program of Businesses in Haiti
SAGE: Food Security and Sustainable Management of the Environment
SI: Irrigated system
SIM: Market Information System
TM: Metric Ton

INTRODUCTION

While it may not be considered one of the most affected sectors by the earthquake of January 12, 2010, the agricultural sector will play a major role not only for food security of the population, but also for the economic recovery and the social stability of Haiti. This implies the urgent need for all the necessary support to the sector, as well in the short term, by urgent interventions that will allow to respond to immediate alimentary needs, as well as in the medium and longer term, in order to revive, modernize, and boost the agricultural sector. For the government the agricultural sector has always been the pillar of development and of poverty reduction in the country, as can be proven by the published official documents, notably the National Strategic Document of Growth and Poverty Reduction (DSNCRP).

The new reality created by the January 12 disaster imposes the creation of a medium-to-long term program, which aims to reach significant and lasting growth of the national agricultural production in compliance with the national policies of agricultural development.

The Investment Plan of the agricultural sector that follows the program is a result of a common effort produced by the principal partner institutions (IICA, FAO through its investment center), and the leaders and technical executives of the Ministry of Agriculture, Natural Resources, and Rural Development (MARNDR). The term agriculture will be understood in a broader sense in this document, including the principal economic activities of the rural environment particularly agriculture, farming, fishing, aquaculture, forestry, and fish farming.

The proposed actions in this recovery plan are based on the orientation document and the plea drafted immediately after the earthquake, and on the action plan prepared in the executive offices of PDNA.

The components of the Investment Plan are based on three points of intervention that have been retained during the assembly in Santo Domingo on March 16 and 17, 2010, alongside the PDNA, on the recovery of the agricultural sector. The total cost of the Investment Plan is approximately USD 772 million and the different components are divided as follow:

(i) Development of Rural Infrastructure

- Development of watersheds and forests
- Irrigation

(ii) Production and Development of Sub-Sectors

- Livestock farming
- Aquaculture and fishing
- Vegetal Sub-Sectors by
 - access to inputs and agricultural tools
 - rural credit
 - post harvest management and commercialization
- Urban and suburban agriculture
- Local production and humanitarian operations (local purchases)

(iii) Agricultural Services and Institutional Support

- Extension through “farm schools”
- Land access and land tenure security
- Institutional support to public agricultural services (research, training, phytosanitary protection, institutional strengthening)

This document was, as discussed and agreed upon during the assembly in Santo Domingo,¹ part of consultations with the civil society and the private sector, and was presented to the international community in order to mobilize the necessary resources for its implementation. As a result, the following activities were organized:

- A presentation and discussion session between the Ministry of Agriculture and the sector group comprised by the principal financial partners.
- A presentation and discussion session between the Ministry of Agriculture and the principal stakeholders of the agricultural sector (agriculture cluster)
- Meetings in Washington between the staff of the Ministry of Agriculture and experts from the World Bank, USDA, and USAID.
- A national workshop of information and debate on agricultural policies and the investment plan, organized for the following actors:
 - Farmer organizations
 - Local authorities
 - Non-Governmental organizations
 - agricultural private sector
 - International institution for financial and technical cooperation
 - Other ministries
 - Oral, written, and televised media
- An open day to the public and the youths, including conferences and debates, information stands, and videos

The suggestions collected during these different activities have allowed the completion and improvement of the first version of the Agricultural Investment Plan.

This current document includes, besides the introduction, seven major points. The first point is about the situation prior to the earthquake retraces the socio-economic context of Haiti and the general rural and agricultural context. The second point underlines the effects of the earthquake on the agricultural sector. The third point recalls a strategic framework for the response, which will be contributed. The fourth point develops the strategies and proprietorship programs. The fifth point gives a preview of the implementation, monitoring, and evaluation of the plan. The sixth point sums up the cost of the investment plan and provides an indicative financial plan, and the seventh point offers a summarized evaluation of the anticipated impacts of the investment.

¹ Aide-mémoire, Santo Domingo. March 17, 2010

1. PRE-EARTHQUAKE SITUATION¹

A. Socio-Economic Context

1.1 The Republic of Haiti has a surface area of 27,750 km² and a population estimated at 9.8 million people (2008) of which 60% live in rural areas. Among the 10 geographic departments of the country, the department of the West absorbs in itself 39% of the total population with a high concentration in the metropolitan area of Port-au-Prince (25% of the population). With a GDP per capita estimated at 648 USD, Haiti is the poorest country of the Americas and the Caribbean. The achievements of the Haitian economy in the last two decades have been particularly affected not only by political crisis that have wounded the people's life but also by a series of devastating natural disasters. In addition, the political and agricultural programs, in the past, have not been able to furnish the necessary basic needs for an increase of productivity in the agricultural sub-sector. It has been observed, however, that the income of the farmers varies a lot among the different products and crops. (See table below)

Table 1. Summary of Estimated Support to Producers² per Product, 2005 (US\$)

	Plantain	Beef	Corn	Coffee	Yam	Manioc	Rice	Haricot	Sorghum	Total
Estimated Support to Producer (PSE) million	20	30	19	5	3	24	44	15	21	243
Market Price Support (MPS)	20	30	16	4	1	23	26	14	20	214
Total Fiscal Transfers	1	0	3	2	2	1	18	1	1	29
Percentage PSE	15%	28%	25%	9%	3%	26%	48%	37%	71%	36.7%
PSE (per hectare/head)	\$ 1,015	\$ 20	\$ 67	\$ 53	\$ 141	\$ 576	\$ 735	\$ 122	\$ 212	\$ 321
PSE (per farmers)	\$ 406	\$ 60	\$ 64	\$ 26	n/a	n/a	\$ 339	\$ 61	\$ 106	\$ 149

Source: Arias and al. (2008) and MARNDR, 2005.

1.2 Poverty is a phenomenon of great concern. It is estimated that over 5 million individuals (55% of the population) live in poverty in Haiti. The impact of poverty and of extreme poverty is far more important in rural areas where 88% of individuals live below the poverty level. There, agriculture represents the principal activity and the basic services are practically nonexistent. For every 100 person affirming to be unable to satisfy their alimentary needs in the country, 77 are located in rural areas, 9 in the metropolitan area and 14 in other cities.

B. Agricultural and Rural Sectors

1.3 The Haitian agriculture contributes to over 25% of the GDP. According to results provided by MARNDR/FAO in February 2010, agriculture is practiced by a little more than 1,000,000 farms having at their disposition on average 1.5 ha of land divided into many parcels³.

¹ Unless indicated, the information included in this chapter are issued from the report « Politic of Recovery of Agricultural Sector 2008 – 2020 », MARNDR /FAO, May 2008.

² The estimation for Support to Producers (PSE) is the percentage of revenue of the producer which corresponds to policy mesures and agricultural programs. The PSE is measured according to the standard methods of the OECD (see: <http://www.oecd.org/dataoecd/33/48/32361345.pdf>).

³ Source : MARNDR/FAO, general recessment of agriculture 2010

This average, however, conceals an imbalance in which some farmers dispose of over 5 hectares and others less than ¼ hectare. The demographic pressure and the continual increase of the demands for goods drive farmers to cultivate marginal lands unfit for agricultural production, especially for yearlong farming. However, cases exist where mountain agriculture, and especially forestry agriculture has been able to slow down the deterioration of the soil, while increasing the revenues of the producers. It is for this reason that the Haitian agriculture is not only a problem of land deterioration, but also a key element towards the solution of environmental problems in the country.

1.4 The existent environmental diversity allows a large range of farming systems. The country is predominantly mountainous with more than half of the lands having slopes superior to 40%. The plains occupy only 20% of the total surface of the country with 550,000 ha. The exploitable potential is of 7,700 km² (29%), but the cultivated surface area is 11,900 km² (44%), this means that 420,000 ha of marginal land is used for farming.

1.5 The environmental situation of the country is characterized by a weak covering of forests and an accelerated deterioration of its surroundings. The forest coverage has been considerably reduced in the past 30 years. Actually less than 2% of the territory can be classified as dense forest. However, there are existing reforestation cases where the mountain farmers have the right incitation. The commercial production of wood charcoal at Fond des Blancs, or the increase of fruit trees (especially mangoes) in the south west, are examples to follow. Approximately 85% of the country's watersheds are either deteriorated or rapidly transformed, causing frequent flooding, and a depletion or the extension of some basic factors in the agricultural production. The availability of irrigation water is not known with accuracy because no trusted hydrologic data exists. According to available statistics, the irrigation potential at the national level is between 135,000 and 150,000 ha; however, only 80,000 ha out of the 90,000 developed hectares are actually irrigated. Throughout time, the irrigation systems have suffered successive deteriorations imputable to the lack of maintenance and seasonal hurricanes. In addition, the service cost of irrigation water has not been established at an adequate level and is not, at the present time, being paid for by the majority of the people who irrigate. Nevertheless, irrigation associations, which were established with the support of some institutions, have begun to play an important role in the operation and the maintenance of irrigation systems.

1.6 The land situation, in Haiti, is characterized by the small farm size (1.5 ha on average). The insecurity of land can be observed everywhere throughout the country. The following causes are applicable: the range of the surface area in joint tenancy and the illegal transactions, the alienation of land tax in tenure and the acquisition of important surfaces by shirkers, and the allocation of these lands in sharecropping. There are two methods of land management in Haiti: the formal management by the government and the informal management by the peasants based on the manners and customs. The lands with informal types of management such as joint ownership, ownership without a legal act, sharecropping and farming represent 75% of exploited parcels. This land insecurity creates a reticence or even the fear of investment and promotes the emergence of conflict and violence. Nevertheless, practical actions by the land registry in rural communities and an improvement in maintaining formal land management (without necessarily producing proprietorship titles) have increased the security in land in some areas of the country, at least temporarily. The revision of the land regulation framework is, nevertheless, the preliminary factor leading to reforestation and the protection of watersheds.

1.7 The road network in the rural area is quite inefficient. Numerous sections throughout the country with a high potential of production are isolated and practically inaccessible during the rainy season. Because of the bad shape of these roads, important volumes of products, in particular fruits and vegetables rot on the spot, discouraging the farming of these crops. In general, it is admissible that the post harvest losses reach for various reasons 35percent depending on the crop. Another notable factor is the lack of an adequate structure of storage and cash management which leads producers to sell their produce immediately after the harvest. This situation explains the high fluctuations in prices throughout the year and the poor quality of the products available in the market, notably meat, fruits and vegetables. Access to electrical power is also another major constraint to the development of certain agricultural sub-sector.

1.8 Livestock farming constitutes an important part of the production activities for the Haitian farmers. Livestock farming has different functions within the agricultural exploitation. It constitutes cash for daily spending and a capital for important investment, in particular poultry and pork. However, livestock farming activities, notably the production of milk, which is part of the rich diversity of the rural exploitation, if well managed can constitute an interesting alternative to the activities that degrades surroundings, such as hoeing certain crops. The Haitian NGO, VETERIMED, as, in fact, developed a milking model using basic infrastructures and simple equipments for the production of bottled sterilized milk and yogurts. A system is actually established at the national level and every year it is extended to other regions of the country. Nevertheless, the lower sectors still suffers from insufficient infrastructure of production, processing, and commercialization.

1.9 Fishing is an important activity for many households, with 50,000 people working either full time or part time. The country disposes of approximately 1,700 km of seacoast and 22,000 ha of inland waters. In this environment, many species of fish exist that are in demand both locally and internationally. The fishing/aquaculture sector possesses susceptible benefits to encourage productive investments from a good organization. However, this sector is not well developed and confronts major constraints such as equipments of low quality, the deficit in the infrastructure of processing, conservation and commercialization, and the rarity of credit sources.

1.10 The agro alimentary sector is in general not well developed. The agro alimentary sector faces many constraints and notably insufficient infrastructures of communication and basic services, a limited access to formal sources of financing and international markets mainly because of the international sanitary and phytosanitary requirements. The field study financed by IDB in 2005 has established a dozen of networks or group of networks for which the public support is supposed to have the greatest effectiveness in terms of rural economic development. Among the prominent produces are rice, plantain/banana, beans, legumes, roots, dairy products, farm chickens, goods for exportation such coffee, cocoa, mangoes, roots, natural oils, produces capable of contributing to the creation of wealth. The following table indicates the contribution of the principal agricultural product in Haiti.

Table 2. Main products and their contribution to the agricultural production in Haiti, 2005

	Volume Produced (MT)	Volume Consumed (MT)	Volume Imported (MT)	Volume Exported (MT)	Value of Production ¹ (USD)	% of total Production
Plantain/Banana	300,000	316,000	20,000	4,000	84,410,738	13.3%
Beef	42,000	40,600	100	1,500	75,031,767	11.8%
Corn	232,000	244,000	18,000	6,000	73,359,630	11.6%
Coffee	24,000	14,400	-	9,600	54,022,872	8.5%
Yam	199,000	198,500	-	500	52,259,626	8.2%
Manioc	340,000	340,700	700	-	32,799,601	5.2%
Rice	76,800	420,800	356,000	12,000	29,841,205	4.7%
Haricot	50,000	57,500	17,500	10,000	26,797,060	4.2%
Sorghum	90,000	90,000	-	-	26,046,742	4.1%
PRODUCTION AGRICOLE TOTALE					634,473,320	100%
OF SELECTED PRODUCT						71.6%

Source: MARNDR, 2006

C. Support Services and Structuring of Environment

1.11 Three great categories of actors and operators are directly involved in the flow of activities or in the definition of policies: (i) the public actors and operators (the different ministries and public institutions, the territorial communities); (ii) the farmers, producers, rural entrepreneurs and their organizations; and (iii) the actors and operators of assistance and services (NGO, universities, consulting firms, agro-enterprises business stores). Among the public institutions are found primarily the government Ministries (MARNDR, MDE, MPCE, MEF, and MICT). The Ministry of Agriculture, Natural Resources, and Rural Development (MARNDR), through its decentralized structures (DDA, SDDA, BAC, and research and training centers), and the independent entities under their supervision (ODVA, CNSA, INARA, INCAH, BCA) is naturally the most involved. An institutional audit will be established to improve the effectiveness and the performance of their interventions. The territorial communities are an important public actor for the development of the rural sector. According to the law of April 4, 1996, the territorial community's mission is to guarantee the socio-economic development of their regions.

1.12 Towards the end of the 1970's through the beginning of the 1990's, agronomical research was an important element of the agricultural sector through twenty research/training/development centers. These structures specialized in different sub-sector in the area of their establishment, have set up and disseminated technical packages adaptable to different environmental conditions of the country. In addition, these centers have participated in the formation and the recycling of many interested actors in the agricultural sector, notably some producers, students, superior and lower technical management staff. The support services that the research center offered are practically inexistent today. The recovery of these supports, on a decentralized basis, is highly desirable.

1.13 A constraint to the improvement of agricultural productivity remains in the low availability and limited access to agricultural inputs such as quality seeds, fertilizers, pesticides,

¹ The value of the production is calculated as the value added through the chain of supply, the margins retained by the producers, the transporters, the marketing, and sale. (It is not the price multiplied by the volume)

veterinary products, livestock feedings, tools, machines, etc. The annual consumption of fertilizers has been estimated to 25 to 30,000 TM. The level of usage of fertilizer in the Haitian agriculture is among the lowest in the world. The lack of agricultural tools is also evident throughout the country. The private sector developed the commercialization of inputs in the 1990's when the public sector decreased the direct interventions in the market. However, after the 2008 storms and the last emergency programs, the role of the private sector in the commercialization of inputs (especially fertilizers, seeds, and agricultural tools) has again diminished.

1.14 Regarding rural credit, there is a high demand in the agricultural and the agro-industrial sector coming mainly from enterprises that are in need of funds for activities related to exports. The Bureau of Agriculture Credit (BCA) is the public institution designated to grant credit in rural regions through the refinancing of micro finance institutions working in rural areas. But these intermediary agents who greatly dominate the rural environment are more interested in urban and suburban area and mainly grant credits to non-agricultural rural activities such as businesses. The choice is very limited. The conditions are predefined, non-negotiable, and not adaptable to the principal activities of the primary producing sector, especially with the rhythm of reimbursement that is most frequently monthly and short term.

1.15 Commercialization support is very often insufficient, which constitute a restraint to the long term increase of production and income of the farmers. The elimination of tariff barriers and non-tariff barriers in the 1990's, without a program of agricultural investment, has lead to an overflow of imported alimentary goods in the market which the Haitian agriculture could not face. This high competition of foreign goods has consequently discouraged the local producers and caused the decline o the national agricultural production, an increase in the commercial deficit, and an increase in the country's dependency on foreign goods. The negative effects of commercial freedom are very important notably in the rice and livestock sectors. Today, Haiti is one of the most open countries in the matter of importation is of agricultural goods. (See table below).

Table 3. Import Taxes for certain alimentary goods

	Taxes
Rice	5%
Sugar	3%
Corn	15%
Plantain	0%
Sorghum	0%
Haricot	5%
Pork	5%
Poultry	5%

Source: Christian Aid, 2006 cited by GTA, 2007

D. Recent Development in the Condition of Food Insecurity ¹

1.16 Haiti's food supply comes from three sources: the national production, private imports, and food aid. Imports are the primary source. Between 2003 and 2005, the national production counted for an average of 43% of available alimentary goods, while imports of food remained at approximately 51%, and the food aid at around 6%. Comparatively, in 1981 food imports did not even reach 19%.

1.17 For a long time, the majority of the population has been facing a fatal and chronic alimentary problem. For over 15 years the situation has been described as critical. The Global Index of Food Security (IGSM)² for the period 1991-93 was 26.5 against 67.5 for 1988-90, which translate a great decline attesting the passage from an intermediate phase to a an extremely critical phase. The principal information based on estimation conducted through three basic research surveys³ reveals that: i) one Haitian out of two live in extreme poverty (with less than 1\$ EU per day); ii) half of the population do not have access to the daily ration established by FAO (225 kg equivalent cereal/one individual); et iii) 80% of households say they cannot adequately satisfy their alimentary needs.

1.18 The population's food insecurity, estimated by CNSA and FEWSNET, according to the variables of the agricultural production, access to revenues, access to basic services, the condition of the road system, the environment and the nutritional situation, has dropped from 3 million inhabitants in April 2008 to 1.9 million in September 2009, following the increase in the national agricultural production registered resulting from consensual investments by the government and financial partners. Nevertheless, the food insecurity remains particularly high in certain areas of the departments of the North West, Artibonite, South East, Grande Anse and Nippes that have difficult access and that were greatly affected by the hurricanes of 2008.

2. EFFECTS OF THE EARTHQUAKE ON THE AGRICULTURAL SECTOR

A. Direct Impacts

2.1 The infrastructure of the urban and suburban area, surrounding the epicenter of the January 12, 2010 earthquake, has suffered important damages. Irrigation canals, storage and processing centers have been greatly damaged in the surrounding plains of Gressier, Léogâne, Petit Goâve and Grand Goâve and on the mountain regions of Baint, Jacmel Valley, Côte-de-Fer, Jacmel, Cayes-Jacmel and Marigot. Because these irrigated plains are characterized by a level of production and revenue superior to pluvial agricultural mountain regions, many farming households owned concrete buildings. In the dry regions, characterized by a high level of poverty,

¹ Source: CNSA

²cf. THOMSON Anne & Mety MANFRED, "Implications of Economic Policy for Food Security", FAO, 1997. *It is a global indication of alimentary security of households, varying between 1 and 100, drawn by FAO including the elements Availability, Stability and Access. An indicative superior to 85 shows a level of alimentary security elevated, while inferior to 65 the situation is critical.*

³ Basic investigation on: budget and consumption of households (I and II), the living conditions of Haitian households produced respectively in 1986-87, 1999-00 and in 2001.

the houses are generally built with a mixture of mud and wood. In numerous cases, even when the wood structures have resisted, the mud bricks were damaged and the buildings will need serious reparations.

2.2 The replacement of lost goods and the reparation of houses will need to be financed by agricultural revenues or the sale of animals. However, the land evaluation done by the responsible Agricultural Departmental Directions handled by the Direction of agricultural infrastructure of the MARNDR have shown that the debris and successive mud slides have obstructed primary, secondary, and third irrigation structures. A dozen irrigation systems serving 3.500 hectares in the departments of West, Southeast and of Nippes have suffered damages in the collection labor and the irrigation canal networks. Damages have also been recorded in the administrative building where the sugar factory of Darbone is located and in the administrative and technical building of the Department of Agriculture. The table below combines the damages and the lost of which the total damages and lost has been evaluated at USD31, 275,750. Of this amount, 26,275,750 USD corresponds to the total value of the physical goods destroyed that will need to be rebuilt 5,000,000 USD represents the lost recovered from the Haitian economy. Nevertheless, the most important impact of the earthquake on the agricultural sector is caused by the indirect effects, notably those created by the massive migration of the urban population towards rural regions.

Table 4: Estimate of the losses in the agricultural sector¹

Description	Public (USD)	Private (USD)	Total (USD)
Irrigation Infrastructures	1,640,000	410,000	2,050,000
Roads	200,000		200,000
Food Processing Infrastructure	375,000		375,000
Administrative Building of the Ministry	23,650,000		23,650,000
Loss and Deficit in Production	2,000,000	3,000,000	5,000,000
Total	27,865,000	3,410,000	31,275,000

1 / Estimation done by MARNDR

B. Indirect Impacts

2.3 The earthquake of January 12, 2010 provoked an exodus of the urban population of Port-au-Prince, estimated at approximately 600,000 people, with many migrating families moving to rural zones to their birth villages (see table 3). As a result many families affected by poverty and the food insecurity have to assume an additional charge by receiving their migrating destitute family members. According to estimates gathered up to February 15, 2010, one month after the disaster, in the departments of the West, the South, and the North the average number of people per households in rural regions increased from 5 to 6 people before the earthquake to 10 people. Knowing that it is rather difficult to bring a direct food aid to a population dispersed in rural regions, the risk created by this situation is the high probability of seeing a rapid exhaustion of alimentary stocks of rural households, while the local production will probably not cover the total local alimentary needs and will not be able to meet these needs between the two harvest campaigns of winter 2009/10 and spring 2010.

Table 5: Displaced population/Total population

Department	Population	Rural Population	Displaced	%
Artibonite	1,571,020	947,646	162,509	10%
Centre	678,626	551,680	90,997	13%
Grand'Anse	425,878	277,075	120,000	28%
Nippes	311,497	259,385	33,950	11%
North	970,495	510,422	13,531	1%
NorthEast	358,277	196,414	8,500	2%
NorthWest	662,777	486,535	48,062	7%
West	3,664,620	824,836	32,253	1%
South	704,760	554,270	88,599	13%
South East	575,293	490,793		0%
TOTAL	9,923,243	5,099,056	598,401	6%

Sources:

MEF-IHSI- Direction of demographic and social statistics (DSDS), March 2009

Department of civil protection, damages. Date 9 February 2010

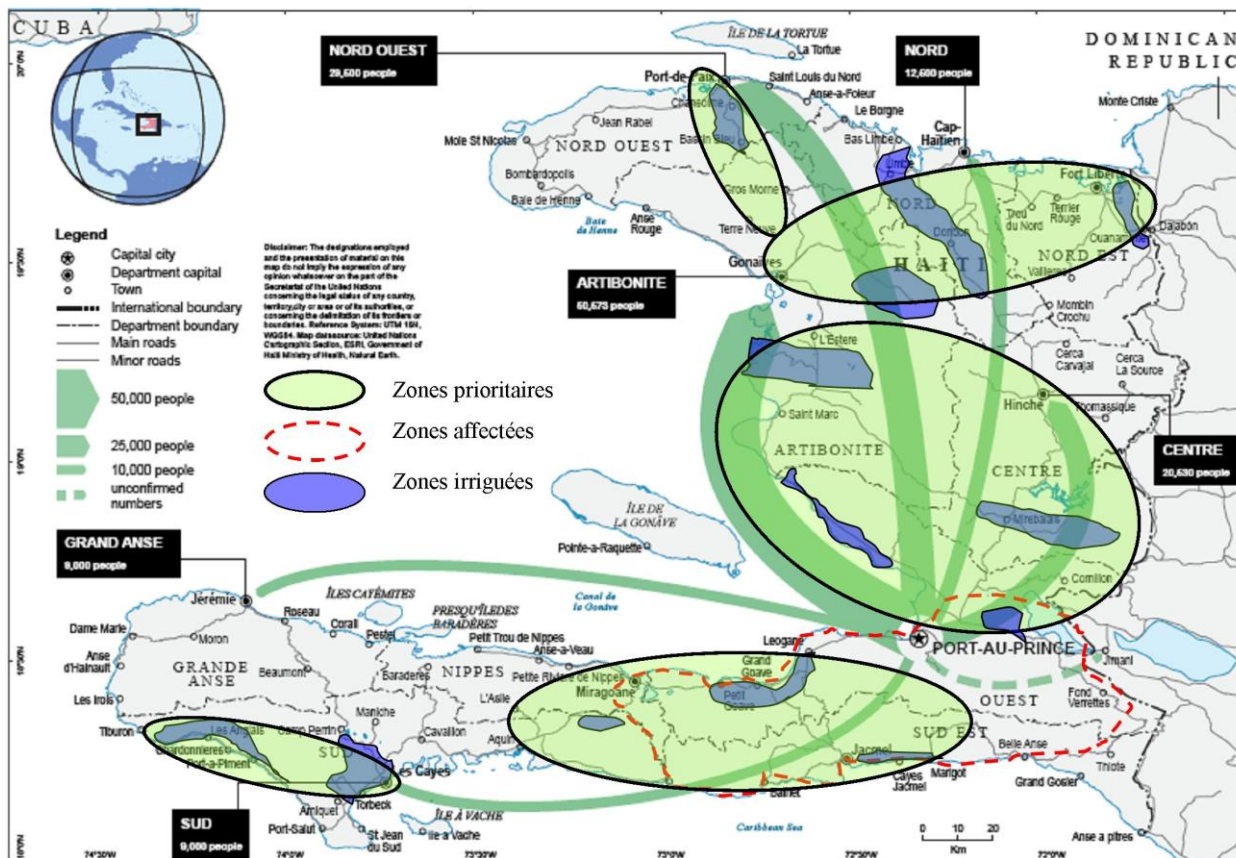
2.4 Concerning most particularly rural families, the earthquake has consequently provoked:

- A sudden and significant increase in the number of people living in the same household in rural areas.
- A deficit of basic alimentary goods in rural areas, and, therefore, a greater risk of a significant increase of the food insecurity.
- A price increase for basic alimentary goods in rural areas.
- The use for human consumption of the stock of seeds.
- A risk of decapitalization for small-scale livestock farmers, leading to the reduction of producing livestock.
- The impoverishment small-scale farmers, due to the fact that they cannot benefit from price increase, because they use their produce for home consumption; therefore,
- The incapacity to purchase inputs (seeds, fertilizers, etc.) and tools necessary in the intensification of the agricultural production.

2.5 Therefore, although it cannot be considered as one of the sectors most directly affected by the January 12 disaster, the agricultural sector will play a key role as much in maintaining the food security as in the economic recovery and the social stability of the country. This, therefore, implies the imperative necessity to bring the agricultural sector all the necessary support, not only on a short term basis by urgent interventions that will allow it to respond to the immediate alimentary needs, but also on a longer term basis in order to relaunch, modernize, and revive and agricultural sector, essential to the economy and the social equilibrium of the country.

Fig.1: Zones of Priority Interventions

Zones d'intervention prioritaires



Sources: Carte de base ochaonline.un.org/haiti (22 janvier 2010) et compilation d'informations MARNDR.

Version avril 2010

3. STRATEGIC ADJUSTMENT OF THE ANSWER TO RAISE

A. Government Response

3.1 The response to raise, in order to face rural aspects of the disaster, was defined by MARNDR in an orientation and plea document composed immediately after the January 12, 2010 earthquake¹. The Special Action Plan includes, in particular, the following objectives:

- Increase the supply of alimentary goods in the country by the creation of a favorable environment which would include the following elements: the availability of agriculture financing (to invest), the availability of agricultural inputs and counseling (to obtain favorable productivity), access to the public agricultural services and opportunities, and relatively prices
- Define programs and integrating strategies for the displaced population
- Increase the accessibility of alimentary goods by the increase of monetary flow (creating job in the rural area)
- Incorporate the national production with the food aid by establishing contracts in which the local alimentary goods will be supplied to humanitarian organization in school lunch programs
- Prepare for the coming hurricane season

3.2 This plan of action anticipates a quick response for an increase in the population's alimentary security as much through the increase of national productions as through the increase of the financial resources of vulnerable households. It proposes an ensemble of priority actions assuring the agricultural production stability and facilitates physical and economic access to household alimentary provisions.

3.3 The new reality created by the disaster of January 12, 2010, certainly imposes short term actions (through September 2011) but also medium-long programs (from October 2011 through September 2016) in which the actions are mostly enrolled with the perspective to significantly increase the national agricultural production in compliance with the current agricultural development policies.

B. Adjustment with the National Strategy of Agricultural Development

3.4 The government regards the rural sector as the primary pillar of growth and poverty reduction in the country, as can be found in official documents, notably the DSNCRP and the agricultural development policies 2010-2025 which refer to DSNCRP. This agricultural policy requires to be translated by a law of agricultural orientation and contains a long term vision of an agriculture that is:

¹ MARNDR: Special support program of alimentary production in Haiti in response to 4 hurricanes in 2008, the earthquake of January 12th, 2010 and the integration of displaced populations. Port-au-Prince, January 2010.

- modern, founded on the effectiveness and efficiency of family farms and the promotion of the agricultural enterprises, thanks to the commitment of the private sector;
- productive and competitive on the local and international markets, assuring the food security of the population;
- producing decent incomes to farmers;
- environmental friendly;
- creating surpluses for the functioning of the agro-alimentary companies.

3.5 The strategic objectives assigned to the sector are the following: (i) increase the local production of basic alimentary goods to assure the food security of the population (in compliance with the National Plan of Nutrition and Food Security); (ii) increase the farmer's income; (iii) increase foreign currency in the country; (iv) improve the health and nutritional condition of the Haitian population, particularly the vulnerable groups; (v) reduce the vulnerability of the population when facing natural disasters.

3.6 The policies of agricultural development privilege:

- A regional approach adapted to the potential and the characteristics of different agro-ecological zones of the country looking for consistency and balance among actions
- An approach to watersheds, going from the mountain's summit to the sea and advocating the interaction between the downstream and the upstream
- A networking approach establishing the cooperation of the actors in the professional sector, gathered around the same table government, private sector and OPA (producer organization), for whatever may be the product under consideration (local market or exportation)

3.7 The agricultural politic leans on the following principal points:

- The investments on the public infrastructure,
- The Support intended to increase selected field competition and correct the imperfections of the market, including grants, while putting in place a mechanism for the progressive decrease of these grants
- The offer of basic public agricultural services the actors involved

3.8 This agricultural investment plan explains the political orientation of the agricultural development and is in accordance with the Action Plan for the Rehabilitation and Development of Haiti. The main issues include: (i) processing of a subsistence agriculture into an entrepreneurship agriculture while taking into account the natural potential of a sustainable development, making the farmer a real entrepreneur; (ii) improvement in the farmers' source of income by the well-organized development of sub-sectors; (iii) creation of added value in agriculture through the

development of agro-industry in a sustainable development; (iv) increase in financial contributions; (v) reversal of land degradation and promoting sustainable management of natural resources.

3.9 The Agricultural Investment plan is expressed around three principal axes that contain the collection of activities likely to recover the agricultural sector after the January 12, 2010 earthquake:

(i) Rural infrastructure development

- Development of watersheds and forests
- Irrigation and other rural infrastructures

(ii) Production and development of agriculture sub-sectors

- Livestock farming, fishing, and aquaculture
- Plant production
- Access to inputs
- Urban and suburban agriculture
- Development of fields and reinforcement of business systems
- Rural credit
- Local productions and humanitarian operations(local purchases)

(iii) Agricultural services and institutional support

- Research, Extension, Training
- Zoological and phytosanitary protection
- Land issues
- Institutional strengthening (after the execution of an institutional audit)

4. INVESTMENT REQUIREMENTS FOR THE GROWTH OF THE HAITIAN AGRICULTURAL SECTOR¹

A. DEVELOPMENT OF RURAL INFRASTRUCTURES

A.1. Development of Watersheds and Forests²

Situation of the sub-sector

4.2 Due to its landscape, its climate, and its insularity, Haiti benefits from a varied ecology and diversified natural resources. However, the country has been entailed, for many decades, in a process of decapitalization of rural households and the desertification of the area. In fact, in view of the increase of the population, of the growing demand of alimentary goods, and of the limited agricultural surface, the areas in cultivation have increased to about 20 to 30% surpassing those suitable for agriculture. The situation is similar in the domain of forest resources which provides the largest section in energy and construction material. The deforestations are three to four times superior to the yield of forest formations; forest areas covering no more than 1 to 2 percent of the country's surface, 25 of the 30 watersheds are bare. The biological diversity of the different ecosystems of the country is quickly dying. The mining of rocks for construction (2.5 million of m³ per year) destabilizes the land and damages the country.

4.3 About 85% of the country's watershed is greatly damaged or is in the process of rapid destruction, causing frequent flooding in the country, exhaustion or the disappearance of the basic factors of agricultural production with harmful effects on the infrastructure of downhill production. The integrated development of the watershed is a major priority for the government. Experience has shown that this sector, in order to be effective, must be directed towards actions that aim the local development in its entirety (social and economic).

Constraint

4.4 The principal factors at the source of the environmental destruction are the following:

¹ For each element of investment plan, the details of strategy, the objectives, the activities and costs, are found in attachments.

² The details of this element are in Attachment 1.

- The large demographic pressure leading to a reduction or a rapid decline in the size of exploitation, the extinction of fallow land in the exploitation system, the excessive exploitation without organic and mineral restitution;
- Eroding farming practices on steep slopes at the expense of cultures protecting the soil ;
- The cultivation of land on excessively high slopes without any measures against erosions
- The weak development of the agro forestry, even though it could be adapted to all areas and slopes;
- The weaknesses of the physical section (high slopes, soils developed on limestone alternating with basaltic intrusions);
- The land insecurity which slows down long term productive investments;
- The free livestock farming practices that exist in certain areas;
- The harsh climatic occurrences (tropical storms, hurricanes)
- The pressure on energy needs and construction based on wood resources

Potentiality

4.5 The potentialities are attached to numerous favorable factors: a large agro-ecologic variability, an abundant pluviometry, and water resources that can be used for hillside irrigation.

Analysis and strategic vision of the sub-sector development

4.6 For the past twenty years an approach to the watershed has evolved towards the active development and has been integrated in a local development system. The relevant aspects in this new approach can be summarized such as: (i) the management of natural resources cannot be done without the participation of the resources' users ; (ii) the interaction between the downstream and upstream watersheds, taking into account the views of the mountain populations; (iii) the participants must have the capacity to decide and take responsibility, and (iv) the participation of different actors (population, associations, public services, NGO, private companies) requires time for an implementation of a comprehension and appropriation process.

4.7 For some years, the decentralization and the reinforcement of territorial communities have been a priority in the Haitian government's agenda. To be accomplished, many local development projects and plans have been drawn; included among others are: the Local Plan of Development of FAES, de USAID/LOKAL, World Bank/PRODEP, etc. Actually, pilot projects, as well as many others intervene in the reinforcement of the capacities and represent models (learn lessons) for other projects in the process of being drafted, such is the case of the following projects GCP/HAI/019/CAN de la FAO at Marmelade – Plaisance, PADELAN of ACDI. However, the experience in Haiti also shows that the decentralization and of local organization must be accompanied by an adequate financial plan related to competitive fields for the investment to be durable.

4.8 This decentralization process has transferred the responsibilities toward local authorities. Thus, local governance got progressively a very important aspect in the development of watersheds. In the case of Haiti, different projects have developed an approach "Watershed Development – Local Development", in a process of cooperation and negotiation.

4.9 The durability of the actions imposes that the local authorities and the population be involved from the start. It will mean to promote, in collaboration with other governmental entities, the creation of community committees of consultation and planning (CCCP) developed by the civil society, the representatives of different decentralized offices (MPCE, MARNDR, MICT, MSPP, etc.), the local authorities, NGO working on the watershed, to develop and manage the watersheds in the local development setting. Noting from an institutional point of view, in December 2000, a project, PRODETER, had developed a national politics of the watershed that MARNDR had approved. However, many planned actions had not been executed.

4.10 The great points of the plan retained, for the development of watersheds, in the Politic of Agricultural development 2010-2025 of MARNDR are as follow:

- The acceleration of watershed management in humid and semi-humid mountains;
- The integration of techniques retained in the system of production;
- Securing economic activities in rural areas facing the risk of natural disasters;
- Devolution and decentralization of watershed management in a perspective of sustainable rural development;
- The reinforcement of the capacities of local authorities and producers and their empowerment in the field of resource management;
- Boosting of the Interdepartmental Committee of Land Development (CIAT);
- Revision of legislative and regulation framework in relation to land issues.

Description of Retained Interventions

4.11 The strategic components retained must allow the rehabilitation of the damaged watersheds, by appropriate interventions, efficient and durable, aiming to improve the socio-economic conditions of the rural communities and leading to a decrease in pressure in the region. Because of the situation created by the January 12 earthquake, the integrated development of watersheds must take place in two sequences: the short term and the medium-long term. For the short term, the following action will be put in place: (i) conservation of water and soil on the mountain (stone cord, infiltration canals, progressive terraces, etc.) and (ii) development of ravines and the reforming of river beds; and (iii) planning of the integrated development of priority watershed (studies and prior work, awareness, mobilization, technical and organizational training); (iv) implementation of a production framework of reforestation material (nurseries), and of seed banks and orchards (v) rehabilitation of rural lands in the mountains, especially humid mountains with high agricultural potential. In the medium and long term, it is planned (i) on one hand, to improve and manage the vegetal covering: launch reforestation campaigns (agro forestry, forestry, energetic forests, etc.) through fields providing revenues such as the wood industry and fruit trees, promote a durable agriculture (systems of viable production), the management of graze land and livestock farming ; and (ii) on the other hand, actions to control water: slope lakes, development and protection of water springs, water storage (individual and collective), mountain and plain irrigation, piscicultural ponds, etc. The collections of these actions will need to be preceded by zoning work, by cartography to orientate the developmental decision related to soil, slopes, and habitats. It should also be based on the sensibilization of communities (for a change in attitude toward the fight against erosion) and the reinforcement of intervention capacities of local

actors, to better hold them accountable in relation to the implementation of infrastructures (roads, anti erosion structures, etc.) and of their maintenance.

4.12 For strategic reasons, it has been decided to give priority to the integrated development of watersheds directly connected to irrigated perimeters, because they can contribute significantly to a better food security of the country. To name a few, they are the watershed of Grande Rivière du Nord, Saint Raphael, Limbé, and the plain of Maribaroux, Quinte, Artibonite, Saint Marc/Cabaret, Rivière Grise, Léogane, Cavaillon, and Cayes.

Table 6: Global presentation of element cost “Watershed and forestry”

Activities	Costs (USD)
Short Term	
- Planning and renovation of slopes (study, awareness, mobilization, training)	15 000 000
- System of production of reforestation material and seed orchards.	5 000 000
- Rectification of ravines	20 000 000
- Rural land in the mountains (especially those with high potential)	10 000 000
- Reformation of river beds	60 000 000
Medium-Long Term	
- Reforestation (agro forestry, forestry, energetic forests)	50 000 000
- Durable agriculture (agro-sylva-rural system)	20 000 000
- Hilly lakes	30 000 000
- Development/protection of water springs	20 000 000
- Water collection and storage (individual and community cistern)	20 000 000
- Training	1 000 000
Total	251 000 000

(Reference: MARNDR/Forest and Soils Resources Bureau; Project SAGE/FAO/MARNDR)

A. 2. Irrigation¹

Situation of the Sub-Sector

4.13 Despite the abundance of rains over the whole area, irrigation is justified because of the irregularities of rainfall due to a mountainous geography and the wide exposition to coastal winds.

4.14 The availability of water in the country is not accurately known because of the absence of dependable hydrologic records. According to certain available statistics, the irrigation potential in Haiti is situated between 135,000 and 150,000 ha, which represents approximately 50% of plain lands, constituting of great potential agricultural areas. The remaining agricultural

¹ The details of this element are in Attachment 2.

surfaces are located in the mountains. The developed surface is estimated at approximately 90,000 ha, and 80,000 ha of the total surface are actually irrigated by approximately 250 irrigation systems.

Constraints

4.15 The irrigation infrastructures serving these areas have undergone, through time, successive damages attributed to a lack of maintenance and seasonal hurricanes. The operation of these systems is also hampered by management problems attributed partly to the low involvement of users and the implementation of a payment system to cover the running cost. The reasons for nonpayment are numerous: poor quality of services (damaged work, water towers not respected), lack of understanding (free water), lack of trust in the management committees etc. Watershed damages which bring about an increase of flooding potential, the lack of investments and the failure to respect norms can be noted as major causes for the deterioration of the irrigation infrastructure. The accelerated urbanization provokes, in addition, a considerable decrease of irrigated space around certain perimeters, notably those close to large cities.

Potentiality

4.16 In regards of irrigation, the potentiality is far from being effectively exploited. Most of the rivers of the country are not used for end product. Ground water is hardly exploited. There still exist plain lands and hill lands that can be irrigated through different techniques (gravitational, drop by drop, and aspersion).

Analysis and Strategic Vision of the Sub-Development

4.17 The strategic plan of irrigation development is also found in the Agricultural Development policies 2010-2025, in the process of finalization and intern validation, The National Plan of Growth and for Poverty Reduction 2008-2010, and The National Policies of Irrigation currently under review by MARNDR.

4.18 Access to irrigation water and the management of Small Irrigated Perimeters (PPI) is one of the priorities of the Agricultural Development Policies 2010-2025. This policy promulgate the necessity to assure a better control of water through the implementation of the development of hydro agriculture by the means of grants to investments and a plan considering altogether the physical infrastructure, the social and institutional aspect, and the enhancement of agriculture.

4.19 The current national irrigation policy was established in 1997. It is supported by three components: hydro agriculture development, the social management of water and the agricultural enhancement of irrigated plains. In the recovery atmosphere of the national agricultural production, following hurricanes that have greatly damaged the irrigation systems in 2008, and considering the weakness of public investments in irrigation, MARNDR hopes to renew its approach by introducing new components:

- The environment, by promoting an integrated approach of the territory, particularly in the management of watersheds to protect the development of plains;
- The economic return of investments, to benefit profitable investment, in view of attracting further financing in the sector.

4.20 The accumulated experiences in the execution of projects related to hydro agriculture investments enables us to learn fundamental lessons : (i) the investment must be designed with the active participation of the farmers and with the planning of the directors of watershed development, which is very important because the economic profitability is becoming worthless in many cases where the damages of watersheds in upstream perimeters is not stopped ; (ii) important efforts over sufficient time (4 to 5 years) must be devoted to the assisting and strengthening irrigation associations, to transfer the management of these perimeters in a durable manner and guarantee the maintenance of infrastructures; (iii) it is important to couple the rehabilitation of irrigation infrastructure with agriculture counseling support activities and with active research action, support to rural financial services, improvement of commercialization of agricultural goods and access to input for the promotion of valuable fields and a diversification of revenues (iv) it important to integrate an approach of gender equality.

Description of retained interventions

4.21 The interventions proposed for the development of the irrigation sector in Haiti are divided as follow: (i) short term interventions, aiming to respond to the emergency through the restitution of damaged infrastructures by the effect of the earthquake in irrigated perimeters. The urgent interventions also aim to generate work in the rural areas with high migratory pressure through fields of high intensity labor (HIMO) and (ii) medium-long term interventions, for which the actions are noted in a structured perspective to increase the national agricultural production in compliance with the Agriculture Development Policies 2010-2025.

The continued objectives are: increase productivity and the production of irrigated areas and management transfer to the users. Thus, the responsibilities are:

- For public entities
 - Respond to rehabilitation
 - Built new perimeters
 - Transfer the management to users by organizing and training the farmers
- For the users
 - Manage perimeter (daily task, budget and maintenance of infrastructures)
 - Pay the irrigation installments
 - Insure an equal distribution of water

Short Term Interventions

4.22 The short term action plan anticipates the following actions: (i) rehabilitation of small irrigated perimeters damaged by the earthquake in the departments of the West, South East and Nippes (silting and cracking of irrigation canals) ; and (ii) rehabilitation of infrastructures necessary for the agricultural production in displaced populations areas through the creation of work in fields of high intensity labor (HIMO) (dredging of primary and secondary canals, rehabilitation of rural lands serving irrigated perimeters). Moreover, it is agreed to finalize and

submit (for voting purposes) the legal project organizing the transfer of management of irrigation systems to constituted irrigation associations.

Medium and Long Term Interventions

4.23 The medium and long term actions range, over the rehabilitation and development of irrigated perimeters, notably in the departments of the North, North East, Artibonite, Centre and South, the following implications : (i) an investment in a physical infrastructure (including the rehabilitation and the construction of irrigated perimeters, the rehabilitation of agricultural lands, and the development of watersheds) ; (ii) the implementation and the reinforcement of irrigation associations, notably in the matter of operations and the maintenance of perimeters, the collection and use of irrigation charges ; (iii) the reinforcement of support to intensify the vegetal production for the increase of agricultural productivity and incomes; (iv) the institutional reinforcement including support meteorological and hydrological services, the adequate training of public and private contractors in water management and hydro-agriculture development; and (v) a program of land security (see point C2).

4.24 The proposed interventions for the recovery of the irrigation sector will be developed following an upstream- downstream integrated approach, through a watershed development plan and taking into account the physical infrastructure, the social and institutional aspect, the land development aspects, and the cost of the infrastructures. In this respect, the synergies will be prioritized with the projects already in place which include in their activities of development a plan of development of watershed or interventions at the upstream of the irrigated perimeters.

Estimation of Cost

Table 7: Global presentation of the cost of the “Irrigation” component

Description	Cost (USD)
1. Short Term Actions	10 138 250
<i>Rehabilitation of damaged perimeters by the earthquake</i>	2 288 250
Dredging of sedimented canals	107 250
Rehabilitation of damaged canals	1 363 500
Rehabilitation of Agricultural lands	200 000
Repair of well stations	10 5000
Others	512 500
<i>Rehabilitation of productive infrastructures</i>	7 850 000
Rehabilitation of agricultural land	3 750 000
Dredging of primary canals	4 100 000
2. Medium-Long-term Actions	99 650 000
<i>Physical Infrastructure Investment</i>	89 911 000
Rehabilitation of irrigated perimeters	41 931 000
Construction of new perimeters	40 480 000
Rehabilitation and construction of agricultural land	7 500 000
Developmental work of watersheds	<i>ref. c. b. versant</i>
<i>Reinforcement and consolidation of AI</i>	4 739 000
<i>Enhancement support</i>	2 000 000
<i>Institutional reinforcement (Meteorological and hydrological services, formation of providers)</i>	3 000 000

	Total	109 788 250

(Reference: Bureau of Agricultural infrastructures, Development Project of Small Irrigation, PPI-2)

B. PRODUCTION AND DEVELOPMENT OF SUB-SECTORS

B.1. Livestock Farming¹

Situation of the Sub-Sector

4.25 There are approximately one million agricultural exploitations in Haiti. One half million people have left Port-au-Prince since the January 12, 2010 earthquake to join, in large numbers, rural regions (primarily Artibonite, Centre, and Grand Anse). Livestock constitute one of the primary clusters of growth of Haiti as identified by the Presidential Commission “Working Group on Competitiveness” GC². In fact, in its final report of November 2009, the GC concluded, in the improvement of food security in Haiti, the program against poverty and the production of revenues for most people, that family activities of livestock farming and of semi intensive type offer real opportunities. Livestock farming is in general an integral part of the activities portfolio of familial agricultural exploitations, generating revenues, notably necessary during lean periods. The role of livestock as a savings system is also essential. 80% of family agricultural exploitations raise a total of 4 million poultry, 65% of the exploitations raise goats (2.5 million young goats), 55% raise cattle (1.5 million of cattle of which approximately a third are adult cows) and 45% keep a total of about 1 million pork. Finally, the farming of donkeys, mules and horses still provides, today, the principal method of transport of agricultural goods in rural areas.

4.26 More than 90% of the production comes from this type of farming. This production satisfies the basic financial demand in country chicken, goat meat, and beef and allows the annual exportation of fifty thousand small goats for approximately 2 million USD towards the Dominican Republic in addition to cattle and country chickens. It cannot, however, satisfy the demand in dairy products, in eggs and in industrial poultry meat cuts. This deficit is compensated by the annual importations of 90,000 TM milk and dairy products for a face value of 50 million USD; of 360 million eggs for a face value of 36 million USD; and of 12.5 million of chicken equivalency 90% of which are cuts.

Constraints

4.27 The development of livestock farming in Haiti is facing many constraints, such as the low availability of feeds, of inputs, and water infrastructures, the limited access of prophylactic and healing veterinarian care, and to credits and knowledge that would lead to improved productivity, a difficult access to markets, all in a context where imported goods on a liberalized market are in strong competition with local products. Inbreeding also constitutes a primary factor limited for certain farms in short of replacement of male breeders. Considering the regressive evolution of the agriculture, there is a low availability of grains and feeds, which makes the cost

¹ The details of this element are in Attachment 3.

² This group of 20 members (drawn from the private sector, the government, and the civil society) put in place the president of the Republic in January 2009 had for mandate to propose a vision and the elements of strategy of competitiveness for Haiti.

of food prohibitive for poultry and pork farming. The price of concentrated imported aliments is extremely high. Those are often bought in the Dominican Republic. The country is also confronted by serious problems of animal care. Annual lost attributable to internal and external parasites have been estimated to tens of millions of American dollars. The organizational deficiency and the lack of human resources, by material and financial means of veterinarian services of the MARNDR have not been able to stop the spread of important animal sickness such as classical swine fever or the Newcastle sickness, or of zoometric character such as rabies and anthrax that bring about, over many years, considerable damages in the Haitian livestock farming and represent, in the case of hooknoses, a risk in human health.

Potentialities

4.28 The assets are as follow: (i) The manifested interest of the producers for these type of activities; (ii) the livestock farming activities, notably the production of milk, that are part of the rich diversity of rural exploitations, if carried out properly, can be an interesting alternative to certain degrading activities of the environment, such as hoeing certain crops; (iii) the diversity of animal and vegetal production; (iv) the potential to promote cultures of all types; (v) the practiced farming is primarily biologic; and (vi) the existence of a potential market to satisfy.

Analysis and Strategic Vision of the Sub-Sector

4.29 An increase in rural revenue in the rural region is desirable. This can be done by the creation of jobs and activities generating revenues in the rural region. An increase in the availability of foods of animal origin respecting the minimal quality standards is also desirable. The objectives of this component “livestock farming” are an answer to these needs. It is necessary to improve the revenues as highly as possible, especially for the social sectors often forgotten and discriminated against such as youths, women, and handicaps. It is also necessary to improve the food ration, by increasing the quantity and the quality of proteins available (milk, meat, eggs) and the animal health by limiting the risks of zoonosis by improving the security of food. The recovery of livestock farming can also help balance the country’s commerce.

4.30 The small family exploitations are, today, the engine of the animal production. They will be sustained in the years to come to benefit the recovery of a large part of the rural population. Over the next three years, a priority will be given to the sub-sectors for which the improvements will allow them to better respond to not only the national demand (eggs in villages, milk and honey) but also the export demands (goats). The semi-intensive livestock farming can also be developed. It is possible, today, to commercialize, in Haiti, eggs from such type of farming at a competitive price once the constraints have been raised. This sub-sector of egg production in an intensive system will be encouraged as well. These support activities to country farming and semi-intensive and intensive farming will be done with the goal to protect the watersheds of the country’s large irrigated areas.

4.31 The content of this component “livestock farming” is aligned, notably with the National Strategy for Growth and Poverty Reduction 2008-2010, and is based on the following five documents of MARNDR, in the process of internal validation: “Agricultural Development Policies 2010-2025”, “Livestock Development for the restoration of the environment”, “National

Development Program of Apiculture”, National Development Program of Milk Production and Processing”, and “Great Lines of Actions for the Development of Animal Health in Haiti”.

4.32 Certain proposed activities involve important natural grants to producers. This approach is supported by the particularly difficult context currently met in Haiti under the combined effects of hurricanes and the January 12th, 2010 earthquake.

Description of Retained Interventions

- (i) The traditional poultry sub-sector will be supported through a large training program for the farmers. The program will be pointed towards the promotion of semi-confined livestock farming, the improvement of aliments through local resources, and the improvement of improved breeds’ poultry farmers. The distribution of rustic and semi-rustic chickens will be conditioned by the availability of vaccines and vaccinating agents and the existence of appropriate networks for the sale of eggs. *Objective: 10 000 beneficiary households over 3 years that will produce 40 million eggs per year, or about 10% of the quantity of eggs currently imported in the country.*
- (ii) The egg sub-sector in semi-intensive production (200 to 500 units of hybrid lays) will be supported. This type of production can be profitable in Haiti in the measure where concentrated aliment of quality is available regularly and at a competitive price (see below). The program plans the training of young entrepreneur farmers in livestock farming as well as in financial management, a financial assistance at the beginning through the supply by a national farmer of hybrid chickens, a contribution to the construction cost of henhouses, and the purchase of concentrated aliments for the period following the lay. This activity will be done after the preparation of business plans of the private sector with the support of the MARNDR. *Objective: 700-1000 units of 200 to 500 lays installed in three yearsthat will allow the production of 90 million eggs per year, or 25% of the current egg quantity imported in the country.*
- (iii) The regular availability of intensive livestock farming inputs, especially in concentrated aliments, is an essential component to the recovery program. A public/private partnership, governed by protocol of agreement will allow, through the creation of revolving funds, the purchase of raw material (soya, corn, and premix) in bulk and made available by the applicable mills in Haiti. This action will also favor the opening of new aliment factories in new areas of the country. *Objectives: opening of 3 new factories by the private sector, progressive production up to 24,000 tons of feed per year by the third year.*
- (iv) The goat sub-sector is actually one of the most dynamic sub-sectors in the country. The program will encourage the farming in controlled and confined space with animal feeding. The actions will be mainly oriented towards the training, the commercialization and a financial support to the construction of enclosures and pens, the supply of goats and the production of animal feeding. In mountainous regions, the program will finance the targeted availability of land for the production of animal feed

in an agro-ecological system. The inbreeding is an acknowledged problem in the farming of goats, which will be relieved by a public program of genetic improvement aiming not only the improvement of local genetics but also the introduction of the Boer scapegoat, such as it is already done in Haiti and in the Dominican Republic. The dominant position of Haiti in this lower sector will be maintained while controlling the impact of the goat on the environment. *Objective: 2000 beneficiary households over 3 years (the financing of activities over the goat sub-sector is covered essentially by the proposed budget for the development of watersheds. Only the genetic improvement section is budgeted for under the “livestock farming component”).*

- (v) The actual national cattle livestock is sufficient to produce enough milk to reclaim an important part of the market currently overtaken by importations if efforts are granted along the milk sub-sector. This is why the program anticipates actions of improvements in the producing sector, processing, distribution, and commercialization. Initially, the improvement in the productivity will be an alimentation and water improvement (production and conservation of feedings). The implementation of new dairy farms and the processing of milk, a functioning sub-sector and the commercialization of milk and its diverse products will be done in partnership associations involving producers, the private sector of distribution, the State and universities of the country. The Haitian NGO, VETERIMED, has developed a milking model using basic infrastructures and simple equipments for the production of bottled sterilized milk, cheese, and yogurts. There is actually a functioning system at the national level and every year it extends to other regions of the country. The Ministry of Agriculture has already established a partnership with the National Federation of Milk Producers of Haiti to assist the principal actors of the sub-sector. This partnership will be reinforced. *Objective: Reinforcement of production and processing of milk in the country through the support to existing sub-sectors and the implementation of 10 new dairy farms.*
- (vi) Planting fruit trees promoted by different programs of reforestation and rehabilitation of the environment, is favorable to the development of apiculture. Apiculture cannot only allow an income equal or superior to those obtained in food cultures; but, it can also guarantee a better protection of the environment, because it necessitates an appropriated vegetal covering. The apiculture branch will involve structuring activities of the producers association and of formation. It will also involve a financial support to business producers for the purchase of beehives, material and products against varroasis and other diseases. The rehabilitation of the beekeeping station of the farm in Damien will be necessary to allow notable training activities benefitting producers and students of the Agriculture and Veterinarian Medicine University and supply producers in apiculture. *Objective: 500 active producers over three years.*
- (vii) A program of reinforced animal health is also essential to the success of the recovery plan in order to assure notably the prevention (epidemic-surveillance, advices, and vaccination) and the healing care that will allow minimizing the producer's lost; to guarantee the security of animal product placed on the market and collaborate with public health services in controlling zoonosis. *Objective: Elimination of classical*

swine fever; control of the Teschen sickness and of the Newcastle sickness; control of zoonosis Influenzas, rabies, charcoal, tuberculosis and brucellosis.

- (viii) The rehabilitation of certain slaughterhouses, *the rehabilitation of certain units of preparation and conditioning of raw products* will allow an improvement to the quality of animal products and their commercialization. *Objective: six slaughterhouses and the preparation and conditioning of raw goods in function in three years*
- (ix) Finally, and because the success of this plan is basically in the hands of the producers, the formation will be an important component at all levels and in all sub-sectors. It is proposed that *secondary school of production and animal health* be assisted in order to reopen its doors and offer short term training and a curriculum over two or three years. This will insure in medium-term the availability in middle branches that will form and assist the producers on the land. *Objective: First promotion of 30 technicians in production and animal health in four years.*
- (x) The pork sub-sector is currently facing important constraints (persistence of the classical swine fever has not yet been eliminated, presence of the Teschen sickness, the risk of unavailability of cereals, the windmill factory of Haiti having been damaged by the earthquake). It's been proposed to resolve these problems initially during the first three years of this program and to launch activities of restructuration of this important lower sector to an ulterior phase. However, the current pork family production will benefit from advances in alimentary production for rustic chickens through local resources as long as the nutritional needs are similar.

Estimation of Cost

Table 8: Global presentation of cost of the “livestock farming” component

Activities	Cost (USD)
1. Short Term Action	10 000 000
<i>Support to family sub-sectors(eggs, goats, apiculture, and milk)</i>	4 370 200
- Rustic and semi-rustic Aviculture	500 000
- Support to goat production	1 500 000
- Apiculture	370 200
- Milk	2 000 000
<i>Support to egg sub-sector (semi-intensive production)</i>	2 000 000
<i>Support to the production and distribution of concentrated aliments</i>	1 000 000
<i>Program of animal health/public health</i>	2 629 800
2. medium-Long term Actions	28 374 200
<i>Strengthening of family sub-sectors(eggs, goats, apiculture and milk)</i>	8 984 000
- Rustic and semi-rustic lays	1 500 000
- Support to goat production	2 500 000
- Apiculture	1 000 000
- Milk	3 984 000
<i>Strengthening of the egg sub-sector (semi-intensive production)</i>	2 000 000

<i>Support to the production and distribution of concentrated aliments</i>	1 000 000
<i>Program of animal health/public health</i>	10 270 200
- National Program against animal sickness with great economic impact	4 450 200
- Improvement of access to decentralized veterinary services (land structure and GSBs)	2 800 000
- National program against zoonosis	3 020 000
<i>Slaughter part, and preparation and meat conditioning</i>	4 896 000
<i>Training part (secondary school of production and animal health)</i>	1 224 000
Total	38 374 200

(Reference: MARNDR, Bureau of Production and Animal Health; VETERIMED, Improvement of life conditions of milk producers' project.)

B.2. Aquaculture and Fishing¹

Situation of Sub-Sector

4.33 According to Damais and al. (2008), the sector counts more than 50 000 small fishermen and piscicultors who produce in all approximately 16 000 tons of fish per year (only 320 kg per fisherman per year), of which 400 t / year through aquaculture, for a population of approximately 10 million people. The country imports annually 10 000 tons of fish per year for a face value of USD 10 million. The exportations are estimated at 500 t/ year for a face value USD 5 million. With 2.5 kg/person/year, the fish consumption remains weak. By comparison, the consumption of fish in Jamaica is approximately 17 kg/person/year. The institutional capacities in the sector are rather weak.

Constraints

4.34 The principal constraint to the development of fishing are the lack of basic records, the weak institutional capacities, the use of rudimentary fishing equipments and weak productivity, small and outdated fishing boats that prevents the exploitation of distant resources of the coast and limits the time and the number of fishing days, the lack of organization of fishermen, the lack of conservation means increasing the risk of lost at all levels of business fields, the lack of regulations which contributes to the exhaustion of the resource (the law of 1978 on fishing is not applied or made current) .

Among the principal constraints, a weak level of production and a lack of a business approach are found (lack of production in alevin, lack of an aliment coming from available agricultural goods, lack of infrastructures processing-packaging-commercialization and lack of support and technical and commercial assistance in the sector).

Potentialities

4.35 With 1700 km of seacoast, there is a considerable potential in marine resources. In addition, there is the possibility to explore deep-sea fishing. It must be noted also that there are

¹ The details for this element are in Attachment 4.

many water plans (notably lakes, rivers, and impoundment), the fishing technologies easily assimilated by people exercising the field of fishing, and an internal demand of fish superior to the local supply.

Analysis and Strategic Vision of development of the Lower Sector

4.36 Like other sectors of the economy, the lower sectors of fishing (marine and mainland) and of aquaculture have been prisoners of poverty, which has prevented the exploitations of marine resources along the coast and also prevented the realization of the aquaculture potential. The development of these activities will contribute to the fight against poverty and to food security. It will lean on the private sector while favoring the integration of the small producers in this sub-sector.

4.37 Although the fishing sector and aquaculture have been indirectly affected the January 12 earthquake, it remains vulnerable to natural disasters. The country is often affected by hurricanes that can cause damages and casualties in the fishing communities while flooding and landslides can provoke the same damages in aquaculture communities. However, the last earthquake affected the business system due not only to a cut in roads and communication, the decrease in demand due to a great decline in the buying power of a large part of the population, but also due to a large number of people who have left the capital to settle in rural areas.

4.38 Direct damages, suffered by the sector after the first earthquake, include ice factories and refrigerated warehouses, and also a production loss because of the lack of electricity. Certain fishermen have lost their DCP (fish concentration device) and certain fish farmers have suffered damages in ponds and fish lost.

Description of retained interventions

4.39 A program has been proposed in support to the 2009 action plan of the government for the fishing industry and aquaculture. The proposed program also supports the approach of the Working Group 2009 on the competitiveness put in place by the Haitian President, notably in the matter of public/private partnership and exportation. The program will lean on the code of conduct for a responsible fishing industry and its directives. It will support the government, particularly the Direction of Fishing and Aquaculture (DPAQ) of the Ministry of Agriculture, Natural resources, and Rural Development, to better understand and manage the natural resources, and to accelerate the sector and contribute to the achievement of the objectives of the millennium's development, including the fight against poverty, the alimentary security and the reduction in the risks of natural disasters in the sector. The program will bring to the small exploiters who produce for the national market as well as to larger operators who produce both for the national market and for exportation. A special attention will be given to marginal groups and women.

4.40 The lines of action in this investment plan have the objective of creating durable sources of income as those proposed in the Development Program of Deep Sea Fishing, Aquaculture, and Mainland Fishing. These programs were prepared in 2009 by a labor group uniting the private sector, functionaries of the MARNDR and the professors of the University of Agronomy, and Veterinarian Medicine.

4.41 The activities to be undertaken will include:

Sea Fishing:

Short Term:

- The organizational strengthening of fishermen and sellers, while focusing on the partnership between these operators and the private sector
- The execution of studies on processing, conservation, and commercialization
- Updating the fishing laws
- Training and continual assistance provided to young fishermen
- Training and continual assistance provided to actors of the field
- The acquisition and the implementation of fishing tools

Medium-Long-term:

- The development of alternative types of fishing, while focusing on DCP and better hand-crafted fishing boats
- The implementation of physical infrastructures facilitating transport, conservation, treatment, and commercialization of sea foods
- The installation of refrigeration chains
- The development of economic reports for investment in the sector

Aquaculture and Mainland Fishing

Short term:

- The creation of fields of study allowing the revision of commercial politics
- The evaluation of resources and potential
- The creation of studies on processing, conservation, and commercialization
- The production of aliments for fish

Medium-Long Term:

- The stocking of fish in ponds
- The establishment of aquaculture farms: controlled production and pond production
- The increase in the current farms production and the creation of new centers of production
- The rehabilitation of farms with an already established potentiality
- The formation and provision for technical assistance to fishermen
- The monitoring and evaluation of actions

4.42 This program will help create the necessary conditions for investment by the private sector¹, by using bank loans or other methods, to reach an additional production of 30 000 t /year, after a period of 10 years, of which 5 000 t /year in fishing and 25 000 t / year in aquaculture. Of this additional production, some 11 000 t/year will be exported. The program should create about 70 000 employment opportunities and its contribution to the gross national product is estimated at approximately USD100 million per year.

Estimation of Costs

¹It is estimated that to implement the presented activities, the private sector will have to invest for an amount estimated at 50 million USD at current prices.

Table 9: Global presentation of cost of the “Fishing and Aquaculture” component

Activities	Costs (USD)
Short Term	5 700 000
- Implementation of organizational and legal bases	300 000
- Analysis on processing, conservation, and commercialization	100 000
- Evaluation of resources and aquaculture potential	1 000 000
- Establishment of exemplary farms	300 000
- Awareness Campaign/Formation/Technical Assistance	1 500 000
- Establishment of farms	500 000
- Acquisition and availability of fishing material	2 000 000
Semi-long Term	26 800 000
- Strengthening of organizational branch	3 000 000
- Institutional reinforcement of DAPQ	500 000
- Rehabilitation of fishing farms	2 000 000
- Extension to the implementation of fishing material and infrastructures	10 000 000
- Fish stocking of water plants and hillside lakes	3 000 000
- Training/Technical assistance	8 000 000
- Follow up and evaluation of actions	300 000
Total	32 500 000

Reference: Development Program of sea Fishing; National Program for the Development of Aquaculture and Mainland Fishing.)

B.3. Plant Production

4.43 The principal plant productions judged to be profitable are regrouped into two large categories: the food cultures: rice, plantains, beans, vegetables, and roots; and the export cultures: coffee, cocoa, mangoes, and natural oils. The food cultures play an extremely important role in the food security of families including the possibilities of imported goods substitution. The exportation cultures are particularly important not only at the national level (volume of exportation, contribution in revenue, creation of employment) but also to the producers (financial revenue). Fruits and roots, especially, constitute, according to the final report of the Working Group on Competition of 2009, one of the grapevines of the Haitian economy. Besides many advantages, the support activities to these different sub-sectors suffer many weaknesses as much upstream (community services such as the supply of inputs, credit, and technical assistance) as downstream (conservation, processing, and commercialization). The promotion and the development of these sub-sectors, as well as their productivity improvement and competition, are necessary to create a favorable environment in which the principal components are added to infrastructures: (i) access to inputs and agricultural tools (to obtain good results); (ii) availability to finances (to invest); and (iii) openings and dependable prices. Research, extension and training also are an important support in terms of agricultural services (see Point C).

B.3.1 Access to Inputs and Agricultural Tools ¹

Situation of the Sub-Sector

¹ The details for the element are in Attachment 5.

4.44 The optimal application of technology packages advocated within farms, to increase the national agricultural production, requires different prerequisites such as regular provision in inputs and agricultural equipments. In fact, the supply of quality inputs, in sufficient quantities, at the proper time and at affordable prices, is an essential condition for the producers to carry out agricultural techniques that will allow them to increase their productivity and their revenues. The major inputs of the agricultural sector of which small cultivators with low incomes should have access to are quality seeds and plant material, fertilizers, phytosanitary goods, tools and agricultural equipment. Before the January 12, 2010 earthquake, the supply of inputs of to the agricultural sector was done in great part through import.

4.45 The cultivator generally uses seed grains collected from his output or bought in rural markets. However, they are purchased at an expensive cost at the beginning of the season, due to shortages. These seeds are often of low quality and cause a decrease in productivity which can also be caused by the degeneration of the genetic material of the various cultures mainly used and for which no breeding work has been done (selection and crossbreeding). Today, the growers have at their disposition a low productivity domestic genetic material.

The use of fertilizers in the current production system is still very weak in comparison to the potential needs; however, it has significantly increased throughout the years 2008 and 2009 following grant policies initiated since 1997 by the Haitian government. Thanks to this grant policy, the productivity of food cultures has overall increased between 1997 and 2009 depending on the cultivated product.

The use of phytosanitary goods can also be considered to be low when compared with neighboring countries of the Caribbean's. Nevertheless, it has been observed that inappropriate use of pesticide on the cultures, especially mountain "creole garden" produce from small cultivators lacking the technical assistance, have a negative impact on the environment, and most likely on the sanitary security of commercialized products.

Basic tools generally used by small cultivators constitute of a machete, a hoe, a small pick, and a shovel. The preparation of the soil is generally done by hand or by animal traction, when it is available. The technical implementation remains very weak, except in certain irrigated perimeters.

Constraints

4.46 The supply of agricultural inputs faces multiple constraints:

- Low availability of quality seeds
- Degeneration of genetic material generally used
- High price and low availability of chemical fertilizers, in the absence of a grant program from the MARNDR
- Lack of financial means of the cultivator caused by low revenues
- Weak diversity of the supply of fertilizers
- Inefficient and unprofitable way of using fertilizers
- High cost and difficulty in supplying certain phytosanitary and veterinary products
- Obsolescence use of agricultural tools

- Relatively high cost of spare parts and their unavailability on the local market
- Lack of training of equipment usage leading to a bad manipulation of these equipments

Assets

4.47 The assets to promote are:

- The experience of the practitioner in seed production for sowing
- The existence of association groups, cooperatives or retailers to assure the commercialization of inputs
- The existence of a network of stores in zones of consumption
- The existence of suppliers of veterinarian products such as COSEVO (in Port-au-Prince) which certain pharmacies in the provinces supply.
- The possibility of technical implementation in the plains through public and private investments

Analysis and Strategic Vision of the Sub Sector Development

4.48 One of the main strategic points of the recovery and the intensification of the agricultural production is to insure that all cultivators have access to inputs and quality agricultural services on a short and long term. This means to explain the scope of the farmer, both in terms of physical proximity, in cost and inputs (seeds, fertilizers, pesticide, small tools), and the necessary equipment to agricultural activity. This implies an additional framework of rural sub-sectors available year long, a sub-sector of decentralized distribution, managed by private operators, or cooperatives, supplied by wholesalers and importations under the laws of a loyal competition and controls of statutory quality executed by accepted organization. To happen, the proposed recovery plan of the agricultural sector will include activities of urgent response, rehabilitation and reinforcement of production sub-sectors, and the commercialization of agricultural inputs such as seeds, fertilizers, and phytosanitary products, basic tools and equipment according to technical specifications and terms of commercialization that guarantees the durability and probability of activities, in terms of the actors of each sub-sectors. It is considered to request a withdrawal of the government in the commercialization of inputs and to support the operations of the private sector.

Description of retained Interventions

4.49 In the short term, it is intended to conduct a detailed evaluation independent of the policies of the Ministry in regards to seeds and learn from the previous interventions. Meanwhile, in order to respond to the urgent necessity to increase the level of alimentary production in the rural region, assistance will be available to producers to allow covering of at least 30% of theoretical needs in seeds for the next three agricultural campaigns.

4.50 To increase, medium and long term, in a durable manner the productivities of the land and the peasants revenues, the specific measures (for reference) to undertake are:

Seeds:

The implementation of a field of production and commercialization of seeds of controlled quality (Quality Declared Seeds - QDS) by:

- The emergence of seed producers by urging the urban and rural private sector to produce seeds and facilitating their access to commercial credit (working capital) or of investment credit
- The support of enterprises that specialize in the production and the commercialization of seeds
- Reinforcement and reorientation of the National Seed Service (SNS), especially in its capacity to insure a control independent to the quality of imported seeds, produced and commercialized at the national level.
- The formulation and implementation of legislation on imports, the production and marketing of seeds.
- The implementation of a Commission of Mixed Economy (Public/Private), self-managed and profitable, that will be responsible to coordinate the planning, implementation and monitoring of: (i) imports; (ii) production of quality commercial seeds QDS with a support to the development of Rural Seed Producers Assembly (GPAS); (iii) management of reserves; and (iv) the conditioning and commercialization of quality controlled seeds.

- The rehabilitation of specialized farms is intended: (i) for experimenting with varieties in the main agro-ecological regions; (ii) for the genetic conservations of varieties; and (iii) for the multiplication of pre-basic and basic seeds.

Fertilizers

- To maintain on a short term basis a policy of fertilizer grants knowing that the earthquake has consequently place a demand of rapid intensification of the agricultural production in order to respond to the sudden growth of the food demand in the rural area;

Although this grant policy has allowed the agricultural sector to accomplish considerable progress in term of productivity, it will be necessary to improve its strategies and its implementation in order to optimize the effects and impacts of investments agreed by the government, the grantors and the cultivators, to promote and developed the moderate use of fertilizers. A strategy will, therefore, be drawn and implemented to come out of the grant aid allowing the total implication of the private sector in the fertilizer market. The strategy needed to be implemented for the progressive reduction of grants and the withdrawal of the public sector of distribution, while insuring the growth and technical and economic optimization of the use of fertilizers by producers. Therefore, the MARNDR, with the support of the World Bank and the Interamerican Development Bank, is testing, this year, in many regions of the country, a recovery strategy based on the promotion of technical packets through grants in demands (not in supply) aiming priority areas and producers in need. The approach presents more advantages in terms of aiming the poorest, partly by decreasing disruptions of a non-speculative private market and by allowing the private sector to grow while benefiting from future grants when it is , today, penalized by the terms of these grants.

- The implementation of storage stamps for fertilizers in order to: (i) stabilize the cost of fertilizers to an affordable price to cultivators and (ii) the ability to respond to emergency situations related to natural disasters.
- The implementation of a National Service of Fertilizers (SNE) aimed at controlling the quality of imported and commercialized fertilizers and bring a technical support according to the norms of campaigning of DDAs and BACs and of cultivators, in order to promote and optimized the use and also to facilitate the establishment of production factories of fertilizers in the country.

Phytosanitary products

- Establishment/Updating of the official list of authorized phytosanitary products in Haiti.
- Reinforcement of the standard capacities of plant protection services by the MARNDR and the capacities of technical support of departmental and local services to cultivators for the promotion and technical development of protection that is economically efficient and abiding of the biodiversity and the environment.
- To plan specific interventions in regards to plagues attacking cultures, such as Scolyte coffee tree, sweet potato cyas, ants etc.

Tools and equipments

- Improvement in small cultivators' access to basic tools and equipments through the development of a support service to production, the repair and commercialization of agricultural tools through the establishment of a national network of community blacksmiths.
- Promote the introduction and the use of new, more efficient tools (for example: small hoes for hoeing, manual seed drills, etc.)
- Promote and improve coupled animal traction;
- Create conditions susceptible in encouraging the private sector to invest more in this sub-sector;
- Facilitate financing in view of acquisition of these equipments (tractors, tillers), notably to associations that could become a service enterprise;
- Promote, in the large agricultural zones, the establishment of mechanical shops for the manufacturing and the reparation of small agricultural material

- Reinforce the national sub-sector of Community Centers of Business of Agricultural Inputs in partnership with DDA, BAC and the private sector, these centers being self-managed and designed to offer a service at proximity to small cultivators
- Establish a program of campaign and formation of operators and cattlemen, will having specialized providers who have accumulated experience in certain plains of the country

Estimation of Costs

Table 10: Global presentation of cost of the “inputs and services” component

Activities	Costs (USD)
<i>Emergency/Short term</i>	
Purchases/Distribution of seeds	13 580 000
Acquisition/distribution of 60,000 TM of fertilizers	36 000 000
Emergency support of control of main destructors of cultures	2 500 000
Purchase/Distribution of 100,000 tool kits	4 000 000
Ploughing/Preparation of 12,000 ha	1 500 000
Sub-Total Emergency	57 580 000
<i>Rehabilitation/Medium-Term</i>	
Reinforcement of a National Seed Service (SNS)	2 400 000
Legalization of the seed sub-sector	250 000
Establishment of a inter-professional commission of seed/Training professionals in seed production	7 500 000
Rehabilitation of centers of conservation/multiplication of basic seeds	2 800 000
Support to program of grant for fertilizers (PSF)	94 000 000
Implementation of storage stamps for the regulation of fertilizer market	10 000 000
Implementation of a National Service of fertilizers (SNF)	2 400 000
List of authorized pesticide and legalization	250 000
Reinforcement of support services directed to the protection of plants	2 400 000
Training and installation of 80 blacksmiths – rural tinsmith	1 500 000
Reinforcement of DDA and BAC and promotion of active campaigns	4 500 000
Acquisition of tractors – Mechanical service to cultivators	12 000 000
Sub-total – Medium-term	140 000 000
Grand Total	197 580 000

(Reference: MARNDR, National service of Seeds; Program of Fertilizer Grants.)

B. 3.2. Rural Credit¹

Situation of the Rural Credit Offer

4.51 The financial sector in Haiti is composed of 10 commercial banks² and about 70 micro finance institutions (IMF)¹. The sector of micro finance is subdivided into two large

¹ The details for this component are in Annex 8

² There are seven institutions of deposits and bank saving and Housing (BEL). Among the deposit banks, there are two State Commercial banks (BNC et BPH), five private Haitien commercial banks (Sogebank,

branches: the cooperative financial institutions and the non-cooperative financial institutions. The main economic activity is financed by the financial system with predominance for the banking system: on a credit volume of 40 billion gourdes granted to 500,000 borrowers, the banks have approved 25 billion (62.5 % of credits) for 38,800 clients (or 8% of the market). The IMF count for only 3.88 billion gourdes (9.5%) and serve more than half of the sector's clientele. Despite the development of the financial system, less than 1% of the credits allocated to the economy by the Haitian private banking system have been granted to agricultural activities, silviculture and fishing for the fiscal year 2006-2007, or 5.8 million Gourdes. This amount was only 1.8 million Gourdes in 2005.

4.52 The supply of credit in the rural area by the non-cooperative IMF is estimated to 90 million Gourdes per year which represents about 20% of the portfolio of these institutions. In 2008, the financial institutions that agreed to the agricultural sector loans have suffered considerable losses following the 4 hurricanes that have devastated Haiti. These institutions have indicated that they do not wish to go back to the market of agricultural loans unless mechanisms of insurance and of guarantee are put in place in order to lessen the risk taken.

4.53 The supply of rural finance is also provided by the Credit Bureau of Agriculture (BCA) created in 1959 which represent the principal tool of finance in the sector. The minimum annual total of loans to agricultural production is distributed by BCA is estimated at 15 million Gourdes, which is largely inferior to the demand.

Constraints

4.54 The major constraints to the supply of rural credit can summarized as follow: (i) inability of rural households to deal with constraints and agriculture risks , (ii) absence of insurance systems and covering of risks and disasters; (iii) lack of collaterals; (iv) vulnerability and the precariousness of agricultural exploits: absence of land security, climatic risks, absence of social protection, low access of basic social services and (v) weakness of the legal branch governing the financial institutions and the guaranties of credit in the sector.

Assets

4.55 The principal assets are: (i) the community bank and credit unions show their capacity in penetrating the rural regions and offer imminent financial services; and (ii) the existence of associations regrouping financial institutions.

Political and Strategic Orientation of the Sub-Sector

4.56 The new orientation of the sector aims to restore a State leadership through the creation of a national institution capable of guiding the intervention in the credit sector. This strategic vision promotes partnership with private financial institutions and supports the extension

Unibank, Capital Bank, BUH et BICH) and two branches of international banks (Citibank N.A et Scotiabank).

¹ This figure accounts for members of three MFI micro finance associations identified in the country: The National Haitien Association of Credit Unions (ANACAPH) regrouping 42 tellers, The national council of popular finance (KNFP) regrouping 9 non-cooperative institutions and the national association of Haitien micro finance institutions (ANIMH) regrouping 17 non cooperative IMFs.

of credit to rural agriculture. It also aims the restitution of the Credit Bureau of Agriculture (BCA) to one bank, the Haitian bank of Rural Credit (BHCR). Thus, it is important to make a preliminary evaluation to determine the best structure to put in place and elaborate a business plan of the institution. This new orientation will integrate the reflection on the integration of agriculture insurance in the national strategy of development of rural credit.

4.57 Implemented, the new instrument issued will allow particularly the financing of a range of activities in the rural world including primary agricultural activities (agriculture, fishing, aquaculture, and livestock farming), agro-processing, agricultural commercialization and productive non-agricultural activities of the rural world. The credit will be combined to other interventions that will contribute to risks reduction.

Basic Components to the Conception of Financing Mechanism

4.58 In the post earthquake context, the goal aimed by the MARNDR is to implement a system of agricultural loan guaranties coupled with a system of credit insurance likely to encourage financial institutions to increase the percentage of their portfolio dedicated to agricultural production credit and the processing of this production.

4.59 The objective is to facilitate credit access to populations living in rural areas, in order to elicit the development of agricultural activities and the creation of employments. To accomplish this objective, a series of activities that will be put in place will be structured around four functional parts: (i) the reinforcement of agricultural technical capacities; (ii) the professionalization of the financial sector; (iii) the alleviation of risks by the implementation of agricultural insurance mechanism; (iv) support to the improvement and reinforcement of the legislative and statutory branch.

4.60 The means to facilitate credit access to the targeted groups to agricultural finance will be implemented as trust funds for agricultural production loans, a system of credit insurance for the agricultural and rural sector, and a field of national agricultural credit and insurance agents. These instruments will be used to not only develop, within financial intermediaries, financial services to facilitate access to agricultural inputs, credit for the development of livestock farming, but also access to equipment of production and processing. In the anticipation to promote this approach, this branch will bring its support to the identification of agricultural and agro-alimentary sub-sectors having a proven potential for food security, the improvement of the farmer's income, and agricultural growth.

4.61 The support in improving and strengthening the legislative and statutory branch will be put in place through review activities of the judicial branch governing the financial sector and its implication on new orientations as well as on financial mechanisms planned to facilitate access to targeted groups to financial services. This branch will support the national efforts in view of the review of this branch and its implementation. The institutional support will be mainly oriented on: (i) strengthening activities of technical capacities of the MARNDR and its decentralized structures through technical assistance and training; (ii) the supply of diverse logistics to improve their operational activities.

4.62 A project document "System of Agricultural Finance and Insurance in Haiti was prepared in 2009 in collaboration with the MARNDR, IICA, DID Agricultural Bank of Quebec. The intervention will last five years and will cover all the country following a progression in two

phases. The first phase of two years, dedicated to financial activities for the reconstruction after the January 12 earthquake followed by three years during which the intervention will be concentrated on certain departments. The area of concentration will be determined at the time of the detailed formulation of the intervention, as well as the strategies of extension. The estimated cost for this project is USD20 million.

B.3.3. Post Harvest Management and Commercialization¹

Situation of the Sub-Sector

4.63 The structure of the Haitian agricultural commerce has been completely modified since 1998. Today, the two major sub-sectors left are designated to exports (natural oils and cocoa). The principal agricultural product of export (mango) is mainly consumed on the internal market. The export of coffee has been considerably diminished and is directed mainly towards niche markets. The internal market has progressed with the growth of urban population. Imports have increased for certain foods such as rice as well eggs and chicken meat.

4.64 The commercialization of foods, in Haiti, rests mainly on private intercessors. The commerce of foods is assured by a multitude of agents called “sara”. The difference in foods, the commercialization of export goods (coffee and cocoa) depends on the decreased number of export offices which, in addition, establish among themselves implicit agreements for their relative areas of collection.

4.65 Because the private agro-industrial sector of this type has invested in the processing, the conditioning and commercialization of agricultural goods, it has known a gross decline since the 1990’s. Aside from the mango sub-sector for export (one dozen exporter in 2005), the natural oil sub-sector (four exporters) and food product sub-sector for the local market (coffee, preserves, peanut butter) with five or six manufacturers, the other sub-sectors have been practically abandoned by the private traditional sector. In total, at the national level, the total formal private sector to agree to invest in agriculture and agro-industry, today, are less than 50 people, located in majority in the metropolitan area of Port-au-Prince.

4.66 Concurrently to the decline in the traditional formal sector, since the 1990’s, we have assisted to the emergence of new actors intervening in support of the agricultural production with a business approach, even in the absence of the formal corresponding status. This includes: the cooperatives and associations of coffee producers (selling mainly quality coffee on gourmet markets and on the equitable market); processing factories of fruits into jams or juice, encouraged in the beginning by NGOs but trying now to professionalize; conditioning factories of sterilized milk or yogurts; and small and medium egg and poultry industrial producers picking up from the initiative of the traditional private sector.

4.67 For a short time, the earthquake had an impact on the agricultural market and prices, resulting mainly from the difficulties of imports of foods following the damages suffered by the seaport infrastructure, the temporary disorganization of internal commercialization circuits toward

¹ The details for this element are in Annex 7

Port-au-Prince, and, especially, a reduction in the solvent internal demand due to unemployment and other concurrent needs (water, shelter). However, the supply of the capital's markets in fresh local foods has recovered rapidly after the earthquake, with stability or a decrease in the prices of most of the basic foods (with the exception of imported rice). The massive distribution of food provided by international aid has a very important influence on the price of local agricultural goods.

Constraints

4.68 Access to markets plays an important role in allowing the growth of the production and development of the agricultural sector. In addition, the processing of agricultural goods is an important factor for competition in order to improve the intrinsic quality of goods, allowing their diversity and their presentation. The principal constraints that prevailed even prior to the earthquake include: (i) the deficit in infrastructure (very poor state of roads, lands to sideboard agriculture) and the insecurity explained by an increase of price and business and processing margins; (ii) the difficulty in assuring regular and homogenous supplies, as much as supplying local supermarkets as for exportation; (iii) the absence of norms and quality control systems, creating a difficult access to niche markets such as the ones of organic goods or quality products; (iv) the absence dependable information access on prices and markets, facilitating producers decision making; (v) the lack or absence of the product in controlling prices of harvested goods and (vi) the often weak competitiveness of local products resulting notably because of the lack of genetic material (seeds and plants) used by producers, the absence of efficient sanitary protection and other techniques of productions and inefficient processing.

Opportunities

4.69 In spite of the difficult context confronted by the actors of the agro-industrial private, formal and informal sector, there are initiatives that can be an encouraging sign for the implementation of a public action allowing to alleviate the constraints to which these operators are submitted and to create conditions so that they can be profitable on a long term. Encouraged in this sense by the MARNDR, NGOs and certain international organizations, many associations of producers have engaged in a movement of professionalization, meaning the acquisition of specific expertise in the branch of the given sub-sector. Thus, we have been able to see in the past 10 or 15 years the emergence of cooperatives and networks of cooperatives of producers of coffee (FACN, RECOCARNO...) capable of preparing a coffee of quality and exporting it on the international market of gourmet coffee or equitable coffee; associations of livestock farmers who participate in the management of dairy industries of which they are partially proprietors (Let Agog); or even diverse associations that engage with more or less success in the processing of fresh fruits for the national market and exports. The structures are also put in place by the private sector to assist the efforts of investors in the sector or in support of the production. The National Association of Mango Exporters (ANEM) is the oldest among them and regroups about ten exporters for whom it manages the program of pre-clearance required by the administration of the USA for the imports of fresh mangos on American territory. The Haitian Association for the Promotion of livestock Farming (AHPEL) was created at the end of the 1990's to organize recovery efforts of intensive bird production in Haiti, while the Association of Natural Oil Producers of the South (APHES) have created more recently in 2004 and regrouped six distillers for approximately 45% of the total production of vetiver oil. This type of organization represents to each of the concerned sub-sectors

a considerable potential for the canalization of the aimed support. Among other opportunities is included an awareness of increasingly importance in seeking traditional and non-traditional crops of quality and agro ecological conditions conducive to the diversification of agricultural products.

Analysis and Strategic Vision of the Development of the Sector

4.70 Right before the January 12, 2010 earthquake, the MARNDR was tackling the final phase of formulation and validation of a document of Agricultural Development Policies 2010-2025. The agricultural development policy is in perfect coherence with DSNCRP. It predicts notably a support to the processing and commercialization including:

- The promotion of agro-alimentary sub-sectors' development of decentralized rural credit for agro-processing; promotion of small enterprises of collection, conditioning of agricultural goods and of conservation services;
- A new strategy of commercialization including: the promotion of a mechanism indicative of the consummation of domestic goods; the integration of Haitian and Dominican agricultural and food markets; the promotion of export sub-sectors aiming particularly tropical fruits (mango, avocado, papaya, etc.), coffee and cocoa in an approach to bio labels and of quality research; and the development and maintenance of land sub-sectors, roads and strategic infrastructures in the flow of agricultural goods.

4.71 The agricultural development policy favors a field approach and the inter-professional cooperation with the disposition of regrouping around the same table, State, private sector and OP (professional organization and/or producers); whatever may be the considered product (internal market or exportation). This includes the implementation of partnerships or "productive associations" within groups of producers, private sector, and other stakeholders.

It means to develop the agri-business by the competitiveness of Haitian agricultural products and the creation of an environment favorable to agricultural investments. It is important for the State to invest in certain indispensable infrastructures with the possibility to transfer the management to the private sector (processing units, refrigerated units, markets...). With the agro industry and the market there will be a possibility of closing the production cycle and contribute to improving the added value that is by far insignificant. This will inevitably involve the implementation of important human resources means (aware and competent) and material, as well as the development of regulations associated to this type of interventions.

Description of Retained Interventions

4.72 Besides the improvement of basic infrastructures, (roads and lands, seaport infrastructures, and energy) for competitiveness growth, the agricultural investment plan consists of the rehabilitation and strengthening activities to priority agricultural sub-sectors through the support of production systems, commercialization, and processing. Priority sub-sectors have been identified by prospects offered through markets and potential outlets, gains of feasible

productivity, the number of beneficiary producers, and the need of support from the public sector. These sub-sectors include products designated for the local market (mainly rice, corn, beans, sorghum, plantain, roots, garden market cultures, potato, and milk) and for exports (fruits, roots, coffee, and cocoa) the specific actions designated to facilitate the commercialization and processing of these goods will include:

- The implementation of prior actions of training (including professionals in the food technology) to bring on the market quality products.
- Support for processing units of agricultural products in modernizing their processing, infrastructure, packaging and storage development.
- A support to storekeepers (madam sara) aiming to improve their professionalism through training actions, availability of material and working capital, improvements of conservation/storage/packaging techniques, and promotion of new operators (USD 1 million);
- Actions aiming to promote the regrouping of support within the producer organizations likely to conclude contracts or “production alliances” with supportive economic agents (USD 2 million);
- The development of a system of communication and commercial information, aiming to facilitate the taken decision of the producers, entrepreneurs, or even potential investors (USD 1 million);
- The modernization of marketing urban infrastructures, in particular the construction, following an analysis of technical and economic feasibility, of two wholesale markets and business platforms (bus station, markets, refrigerated and unrefrigerated warehouses), with the possibility to transfer management to private entrepreneurs, one at the north entrance and the other at the south of Port-au-Prince (USD 12 millions); The principal wholesale market of the capital, Croix Bossales, already largely needed to be decentralized before the recent earthquake that has also affected other food markets and commercial activities of downtown Port-au-Prince. An involvement from the city will be necessary for the realization these investments, that will need to be including in the urbanization plan and the renovation of the capital highly affected by the earthquake.
- The construction of min-industrial parks (that can be dispersed) for agricultural products processing (and the storage) and the availability of these infrastructures to producer organizations through contracts of management, rent or lease. This action will be useful tool for the integration of young people in certain segments of different sub-sectors. (USD 10 million);

4.73 Renovated regional service centers (see component “Institutional support to public agricultural services”) will contribute also, in a more general manner, to the implementation and the distribution of improved techniques of production, processing and commercialization. Accordingly, the general reinforcement of public agricultural services will need to provide the

placement of an efficient national system of zoological and phytosanitary protection, including the diverse activities necessary for epidemic surveillance , quarantine structures and control measures of sickness and devastators.

4.74 The setting up of finance systems to rural activities (production, processing, and commercialization) planned as above will also be essential to support private investments and the development of agricultural sub-sectors, just as the improvement of basic infrastructures and the reinforcement of access to the producer in agricultural inputs and services.

4.75 The research and penetration on new markets are of great importance for agricultural business and competitiveness. Thus, actions of commercial promotion, of developmental study of markets of principal zones of intervention are planned.

Estimation of Costs

Table 11: Global presentation of “Post Harvest Management and Commercialization” component

Activities	Cost (million USD)
Training	3.0
Support to processing units	16.0
Support to storekeepers (madam sara)	1.0
Promotion of associations of producers	2.0
Information system of markets	1.0
Infrastructure of commercialization (wholesale market)	12.0
Construction of mini-agro industrial parks	10.0
Total	45.0

(Reference: VETERIMED/PRIMA)

B.4. Urban and Suburban Agriculture¹

Situation of the Sub-Sector

4.76 The life condition in the rural area is difficult and the lack of employment opportunities explains the high inclination toward exodus to secondary cities and to the capital of the country. This population that comes mainly to the capital, Port-au-Prince, settles generally in marginal zones and thus forms shanty towns. The capital consists of many shanty towns characterized by poverty, mediocre life conditions, wretchedness and violence. An investigation in three shanty towns (Tokyo, La Saline, and St Martin) shows that two thirds of households that reside there live on less than USD 25.² In secondary cities (Cap-Haitian, Gonaives, and Cayes), the growth is slower than in Port-au-Prince, however the formation of shanty towns also exists. The food supply constitutes a major worry for households, since very few people have access to food aid. Domestic waste accumulates around the houses, in the ravines, and any free space. The expansion of shanty towns creates, in addition, a reduction in the city's green space. Finally, the small revenues of the families limit access to education for children.

Analysis and Strategic Vision of Development of Sub-Sector

4.77 Considering the new situation created by the earthquake, the proposed intervention in of the current "Recovery Plan of the Agricultural Sector of Haiti" will have to aim at primarily vulnerable urban populations having retained their homes and having been identified by the proposed preceding elements, and secondly vulnerable populations having lost their homes and being displaced in principal temporary situated in urban and suburban regions.

4.78 The families welcomed in temporary housing camps have, for the most part, lost everything following the disaster, and many of them surviving only on food aid are finding themselves in a situation of dependence and absolute idleness. It is therefore necessary to offer them the possibility of engaging in activities that will allow them to improve their nutrition and life condition, which will have, in addition a positive therapeutic impact in regards to psychological trauma caused by the disaster. For these families in temporary housing camps, the production of "creole garden" produce on units of micro-gardens and containers (*'earth-boxes'*) will be one of the most reliable methods to reinforce their alimentary security on short and medium-term, because this technique offers the advantages of having a simple and rapid implementation, the units of micro-gardens able to be easily installed and moved according to need, and using very little space, minimum of inputs, and low consummation of water and fertilizers, and not requiring developed technical knowledge.

4.79 The principal initiative implemented in the past few years in support to urban and suburban agriculture have been a project executed with the support of CARE-Haiti at the end of the 1990's. Other initiative have then been planned throughout 2003 to draw a "National Program of Food Security and Durable Management of Natural Resources in Haiti" that consisted of the component "Urban and Suburban Horticulture", but this plan has not been able to materialized because of unfavorable political context and limited resources for its implementation. The FAO has nonetheless executed between 2007 and 2009 an emergency project directed at the

¹ The details of this element are in Annex 6.

² PNUD. 1997, Environmental profil of the metropolitan region of Port-au-Prince

social and financial appeasement by Canada called “Urban Agriculture of unfavorable neighborhoods of Port-au-Prince and Jeremie”.

Description of Retained Interventions

4.80 Over a short term, it will mean to bring solutions to an emergency situation, the contribution to food security to disaster victims, and increase the diversity and availability of quality goods by creating additional revenue sources. Over a medium-term, the objective is to develop strategies allowing a durable urban and suburban agricultural production and, contributing to the nutritional and food security of populations and the improvement of their living conditions while taking into account a well considered management of natural resources.

4.81 The general objective of this component is to contribute to the nutritional and food security of urban populations vulnerable to malnutrition, as well as the displaced disaster victims following the January 12, 2010 earthquake. This objective will be attained through the improvement of availability and accessibility of fresh agricultural/horticultural products throughout the year, in order to diversify the alimentation, which will allow, in addition, the creation of employments and generating complements to agricultural revenues.

4.82 The immediate objectives (short term) are to bring an emergency response to the worsening of food insecurity and malnutrition of vulnerable urban and suburban populations, including especially the directly victimized and displaced populations following the January 12, 2010 earthquake by providing the ability to cultivate and consume fresh “creole garden” produce through: (i) the security of access to basic resources necessary for the production of micro-gardens (land, quality water, inputs, and tools); (ii) a technical intensive and specialized support that will allow to secure an agriculture/horticulture production of quality.

4.83 The medium/long term objectives are to develop interventions allowing the urban and suburban agricultural production that can contribute to a durable nutritional and food security to urban and suburban populations, and improve their living conditions, while taking into account the management of natural resources through: (i)The reinforcement of initiated interventions through emergency interventions on a short term in order to insure durability; (ii)The reinforcement of institutional capacities for the urban and suburban agricultural support; and (iii) The elaboration and implementation of a politic and development strategy of urban and suburban horticulture (HUP) through individual family gardens established over public and private perimeters.

4.84 The expected products are the following: (i) 30,000 displaced families in temporary housing camps will cultivate a micro-garden on container, each with a potential capacity to produce 6 to 12 kg of fresh “creole garden” produce according to the cultivated kinds and by culture cycle of 6 to 8 weeks; (ii) at least 3,000 family gardens will be established over 150 collective sites in suburban zones of the country’s principal cities for families having no access to land; (iii) at least 500 community gardens to supply school cafeterias will be established, these gardens located in urban and suburban areas will also be extended to rural areas that have received an important influx of displaced urban families following the January 12, 2010 earthquake. These gardens will supply school cafeterias with fresh “creole garden” produce and will be jointly managed by schools in association with students’ parents with the support of local institutions and will also serve as pedagogic support for students.

4.85 This will also implies that the following results will have been accomplished: (i) targeted groups which are organized in associations will have been registered and an active diagnostic of each group will have been conducted; (ii) access to family groups without land at collective perimeters designed for the implementation of individual family gardens in suburban areas and their access to water would be secured; (iii) the authorities, technical service support will have been trained by methods of active campaign founded on the approach “farm schools”; (iv) the technical gains will have been consigned under the technical guide on the promotion and development methods of HUP that will have been made available to the authorities, campaign agents and each group of producers; (v) the institutional capacities will have been reinforced for support to the development of HUP; and (vi) the Ministry of Agriculture, Natural resources, and Rural Development will have drawn a political development strategy for urban and suburban horticulture consulting and collaborating with the concerned institutions.

The expansion of the programs such as PROHUERTA in 5 departments of the country is conceivable to help achieve these objectives. This project of fresh goods is implemented by IICA to improve the alimentary diet and the revenue of households.

Estimation of Costs

Table 12: Global presentation of costs of the element “Urban and Suburban Agriculture”

Interventions	Costs (USD)
Short Term Actions	
Emergency support to the implementation of 30,000 micro-gardens	4,000,000
Subtotal Short Term	4,000,000
Medium Term Actions	
Support to the implementation of 3,000 familial gardens over 150 collective sites	4,500,000
Support to the implementation of 500 gardens for school cafeteria supply	7,500,000
Subtotal –Mid Term	12,000,000
Grand Total	16,000,000

(Reference: FAO/Emergency Urban Agriculture Project)

B.5. Local Production and Humanitarian Operations (Local Purchases) ¹

Situation of the Sub-Sector

4.86 The food supply of the country is insured by three sources: national production, imports, and food aid. Concerning food aid, if given in great numbers over the country, will allow the prevention of famine and the insurance of the survival of the country's most affected part. It is important, however, to mold this aid and to link it the national agricultural production, in order that the latter may not be penalized. It is highly desirable to encourage the purchase of local products by favoring inter zones exchange, because the food security remains especially high in certain areas while in others there is a surplus of production during certain periods of the year. The formations of security storage and post harvest management are two important components during the post disaster period. The vast availability of food aid represent a helping hand for the populations of areas affected by the earthquake, but the strengthening of commercialization structures can constitute an opportunity for areas not touched by the tremors.

Strategy

4.87 A committee of reflection (MARNDR, WFP, CNSA, French Cooperation, and Brazilian Cooperation) has been regrouped to implement the mechanism of a program for local purchases in Haiti². The retained actions for the implementation of the component "local purchases" are drawn from the work of this committee pertaining to the local agricultural organization production, land, technical and financial support to associations of producers.

4.88 The domestic purchases program will pertain to the whole country. Nevertheless, considering the difficulties created by the earthquake and the complexity of the implementation of the program, it is proposed to begin the program as an experimental project for one year. The targeted markets are: World Food Program (WFP), National Program of School Cafeterias (PNCS), transfer institutions, international NGOs, and importers of alimentary goods.

4.89 In addition, the experience has shown that a program at the national level requires a legislative support, a training process of associations, and a strong political will. The retained products in domestic purchases are: corn, rice, sorghum, beans, and milk.

Identification

4.90 It is necessary, primarily, to identify the characteristics of the actual demand of humanitarian programs especially those induced in the response to the earthquake and those where domestic purchases can satisfy, in part or totally, the demand by pointing to the type of products, the quality, the price, and the localization of the demand

4.91 It will be necessary, then, to identify the areas where there is a surplus of production in comparison to the demand. The diagnostic will be done by considering the limitations of the small producers and commercial intermediaries to satisfy in quality and quantity the needs of the

¹ The details of this element are in Annex 9

² The content of this element is inspired by the conclusion of this committee.

programs of food assistance and the capability to surpass the existing constraints on a relatively short term.

Application

4.92 It will be necessary to conceive and implement the purchasing mechanism, the implementation of a support structure to operators (working capital, material and equipment financing such as incubators, moisture meters, scales, ect., formation, rehabilitation, and/or warehouse construction) working in the sub-sector of commercialization, the establishment of domestic purchasing structures, as well as the drawing of contracts with the concerned operators.

4.93 Based on this, we will proceed to the implementation of a complete program of assistance to reinforce the producers' capacities to satisfy the demand in quantity and in quality (especially in nutrition) of programs of identified food assistance and overcome the limitations of the identified market. The possible components of such a program will aim to increase the capacity of production, promote local organizations, improve techniques of conservation and the fight against loss after the harvest, and improve access to credit. (The investment requested is estimated based on the data provided by CNSA at USD 1.5 million for the short term and USD 10 million for the medium-long term)

C. Agricultural Services and Institutional Support

C.1. Extension through "Farm Schools"¹

Situation of the Sub-Sector

4.94 In the past twenty years, the Haitian agriculture has been marked by a considerable decline especially by the decline of exports and the incapacity to cover the alimentary needs of the population. This situation of food insecurity has open the way to massive importations of agricultural product and food aid. The agriculture is also penalized by an unattractive image of young generations, which has consequently, during these last years, accelerated the rural exodus toward large urban centers to perform non agricultural jobs of low income and insecurity. After the earthquake of January 12, 2010, more than 1.3 million people of urban areas are without shelter, of which 600,000 have been displaced toward other departments. The government hopes that some of these people will settle definitively in rural areas in order to limit the flooding of Port-au-Prince. This installation will necessitate the ability to transfer to these urban populations the agricultural talent necessary to optimize agricultural lands and reinforce the necessity of implementing efficient programs of agricultural formation.

Strategic Development

4.95 It is of vital importance (i) to reinforce the production and agricultural productivity and preserve natural resources, and (ii) to promote necessary means to insure the subsistence of

¹ The details of this element are in Annex 10

young generations and most vulnerable producers as well as employment generating incomes through the agricultural sector. To finish, the implementation of a reinforcement program is proposed for the training of the producer and the young generation by putting into effect the approach Country Farm Schools (CEP) and practical agricultural schools and life for the young. (JFFLS)

4.96 The approach the CEP uses for the farmer and trainer are non-formal techniques or hands on learning; it consist of groups of approximately 25-30 farmers that meet regularly (generally ½ day per week) on the field through a whole culture season. The session focus on the development of the expertise of the producer in order to improve the agricultural management, particularly the knowledge of intensive and durable methods such as agriculture of conservation, managing the fertility of the soils, the non-toxic control of devastators, and the collection and conservation of water. The approach takes account of the “whole” system, especially to the subjects linked to economic management such accounting, access to rural credit and analysis of local/regional market, and the management of natural resources linked to those of water and soils. The groups of the CEP often evolve toward rural organizations having activities of production and economy. This approach, in addition, has the advantage to request limited investments from the State and to expand largely thanks to the training of trainers.

Retained Interventions

4.97 **The General Objective** is to reinforce the capacities of the young men and women, women and vulnerable cultivators in the domain of agriculture, allowing a rapid economic reintegration in the rural communities. To take place, it is expected:

- *In the Short Term:* (i) Season one: 90 facilitators of CEP/JFFLS are trained in 30 CEP/JFFLS associate to the formation of facilitators, thus, allowing 750 vulnerable cultivators to engage in activities generating revenues to insure a durable rural economy; (ii) season two: 90 facilitators formed and 30 CEP/JFFLS implemented; more than 45 additional CEP/JFFLS implemented by facilitators of the season one; a total of 1875 vulnerable individual formed in season two; (iii) total: 180 facilitators and 2,625 young men and women, vulnerable and displaced laborers, trained in three agro-ecological zones in one year.
- *On Medium-Term:* (i) establishment of 400 CEP/JFFLS and training of 800 facilitators and of 10 000 vulnerable cultivators/youths; (ii) establishment of 100 associations of cultivators/youths.

4.98 The identified partners are as follow: Ministry of Agriculture, Natural Resources, and Rural Development (MARNDR), Department of Youth, Ministry of Feminine Condition, NGOs and Competent Organism in the agricultural formation, UN agencies such as UNICEF, WFP, UNFPA and UNAIDS.

Estimation of Costs

Table 13: Global presentation of cost of the “Farm Schools” component

Activities	Cost(USD)
Rehabilitation of youth training centers	600 000
Acquisition of agricultural tools and training	450 000
Evaluation and monitoring	600 000
Capacity strengthening (including cooperation South-South)	2 000 000
Rehabilitation of communication and rural extension	1 000 000
GOE	350 000
Total	5 000 000

(Reference: FAO)

C.2. Access to Land and Tenure Security ¹

Situation of the Sub-Sector

4.99 In Haiti, a great majority – not to say all – of agricultural exploitations are family-run: the labor force used is mainly one of household and a non-negotiable part of the production is sold on the market. According to records of general census of agriculture 2010, the number of agricultural exploitations is approximately 1,000,000. In 1971, date of the last agricultural census, it was estimated at 651,000. These exploitations have expanded over the whole national territory and its ecosystems. The medium size of exploitation is situated to approximately 1.5 hectare, the median being of 1 hectare: Half of the Haitian agricultural exploitations exploit less than 1 hectare of land. It is probable that the pressure on agricultural land will increase with the migration of urban centers toward the countryside, due to the recent earthquake.

4.100 The land situation in Haiti is characterized by access difficulties becoming more and more important, the dominance of informal management of the land insecurity. This is due to many factors: The expansion of surfaces in joint-ownership, the illegal land transactions, the alienation of land tax in tenure, acquisition of important surfaces by shirkers, and the allocation of these lands in sharecropping. The land tenure insecurity generates a reticence or even the fear to invest and favors the emergence of violent conflicts disturbing social peace and that can be the origin of lost of human life and important damages to material. In all cases a situation exists where the environment is not favorable to producing investors in the concerned area and to the development of agriculture. The land insecurity limits the possibilities of investment as much on the watersheds as irrigated perimeters. Although the civil code stipulates that land transaction must be recorded and land title must be administered, neither acquisition of land transaction nor the change of proprietors following inheritance is respected. One third of rural parcels in Haiti are recorded and 19% have just received the acquisition of the land as proof of ownership. About 75% of land contracts of the country follow the traditional norms and accord.

¹ The details of this element are in Annex 11

4.101 In the context on informal tenure, most peasants in Haiti are proprietors of their parcel of land. Usually, they possess their piece of land either by inheritance or by purchase. Because of rules of succession of the family extended on tenure in rural areas, the division of family land complicates the situation already uneasy because of the size of the land. In addition, the complexity of inheritance regulations in matter of land tenure in the family expands the possibility of conflict between family members as much in access of the land as in tenure.

The renting of land and sharecropping are two ways for the Haitian peasant to obtain additional land.

Constraints Linked to land Tax

4.102 The weak size of agricultural exploitation is not, in the short and medium-term, a major constraint to agricultural development in Haiti, where the available means for the development of lands are also extremely limited. The major constraints of agricultural exploitations in respect to land are:

- The land insecurity that could result in the predominance of informal management of the land
- Difficulties could arise for the informal rural management of land due to interventions more and more common of actors from the city and migrants, who lean toward other methods of management that are more formal;
- The increase in cost of access to lands in certain areas, restraining an access of agricultural producers to this resource.
- Land conflicts that often restrain the valorization of the lands. They are due to the methods of attaining the land, the low performance of recording the cadastral system, and the large liberty of land transactions, and the weakness of land reform. (Binette 1992).

Retained Strategy

4.103 Generally speaking, the current institutional context, political and social, of the country does not part in structural interventions on land, a strategic and symbolic domain for the nation. However, Access to land security becomes more and more an incontrovertible dimension of all processes aiming the improvement of land productivity, the preservation of natural resources and agricultural development, especially since it will encourage investment in the sector. Supported efforts will be displayed to treat, in an efficient manner, questions related to land in the rural area, particularly in agricultural areas of high potential (irrigated plains, mountains, humid plains and plateaus) in view of offering security of exploitation to cultivators on parcels that they cultivate to favor development, the implementation of system of intensive but not degrading cultures, and promote investments.

Besides the Financial Department (Direction of land conservation, direction of homes) and the National Office of Land Registry (ONACA), the Institution of Land Reform (INARA) is the official organization to question in the matter of land tenure in the country. However, because of the difficulties of coordination of the many government institutions concerned by the question of land tax in the country, noting the technical difficulties for the adaptation of land registry to the current systems of land tenure in Haiti, and due to the lack of financial and human possibilities,

the Institute has not been in the measure to fill its role concerning land and the needs of the country in regards to access to land.

To face to principal obstacle of land tenure in the rural areas in Haiti, it is necessary to support INARA in the implementation, short and medium-term, of operations providing land security which include the following elements:

- Identification of property, result of polygon by GPS and mapping
- Identification of tenant
- Identification of the person's right on the property: property title, lease contract ...
- Establishment of civil law

It is also important to take measures aiming to correct the injustice, especially in the matter of production relationships, assuming control of indirect appraisals passing through: the definition of new conditions of sharecropping that are favorable to farmers and allow a true sharing of risks between farmers and land owners, the drawing of legal provisions to fix the length of rent of land taken and underline the price of the rent to avoid abusive increases.

Points considered:

- The establishment of cooperation and of arbitrage procedure where the land situation is potentially conflicting;
- Research of ways and means to reduce the cost to legal access to property (appraisals, lawyer's fee) for small farmers disposing of parcels in joint tenancy;
- The amendment of the right of succession law, especially in its favorable provision of allotment of excessive lands.
- The application of legislative provisions in relation to lawless urbanization of lands with high agricultural potential;
- The availability of means (human and material) consequently so that INARA, ONACA, city council and different other partners can play their role effectively¹.

4.104 The investment required is estimated at USD 4,000,000.

¹ MARNDR. Politic of Agricultural Development 2010-2025. September 2009. Haïti (pp 15) .

C.3. Institutional Support to Public Agricultural Services ¹

Situation of Sub-Sector

4.105 The Ministry of Agriculture, Natural Resources, and Rural Development (MARNDR) is the public entity in charge of fixing orientations for the agricultural sector, direct public investments in favor of the sector, coordinate the interventions of the different intervening groups (including NGOs), and insure a minimum of basic services especially in the matter of research, sanitary protection, formation, and information in the sector.

4.106 The Department is structured into one general administration, 18 technical administrations and/or central units, 10 departmental administrations (DDA), 2 independent organisms (with an administrative council and legal aid) placed as trustees (ODVA, BCA), two organism created by presidential decree (INCAH, INARA), and an organism created at a Department council (CNSA). The Departmental Administrations of Agriculture (DDA) crest the Communal Offices of Agriculture (BAC) expected to furnish services to their surroundings to cultivators. There are a total of 140 villages in Haiti, but only about forty BAC are practical and their geographic distribution do not reflect the dispersion of cultivators in the country. The research and agricultural extensions have not made available to producers the appropriate technical frame of reference to resolve the specific problems of its environment. The technical innovation is to this fact limited and does not contribute to improving the competitiveness of national agriculture. The agricultural extension and training take place in the work frame of projects without much intervention from the State. Many of these projects can develop interesting and useful programs for cultivators, but the lack of strategies on a long term basis limits their effectiveness.

4.107 Currently (in 2009), the MARNDR have a total of approximately 1500 employees of which two thirds work in land structures (DDA and trustees).

Constraints

4.108 The principal constraints can be summarized as such:

- The lack of epidemic control, regular campaign for disease prevention, and sanitary monitoring that provoke important economic loss
- The weakness of financial resources allocated by the State to agricultural research; Research/training/development centers are currently not insuring the missions for which they have been created because of the lack of labor programs, working budget, and human and material resources.
- The assistance to the agriculture and the training brought to farmers and to associations are insufficient

¹ The details of this element are in Attachment 12

- A staff not very well adapted to needs (excess of unqualified staff, lack of middle management staff, superior executives in retirement age);
- A gap between the mission and the resources: since the 1990's, the MARNDR is placed as the authority figure on regulation and direction of the agricultural sector, the basic urgency of services and investment needed to be carried out by NGOs, organization of producers, or private structures; this modification of roles have proved to be difficult to the implementation of the practice;
- A system of planning and direction particularly deficient: the duties of coordination and monitoring are feebly filled by the MARNDR (lack of specialized staff in the conception and evaluation of the sector's politics, data analysis, field study and computer skills);
- The limited budget resources, underequipped in means of travelling and offices and a deficit in the working budget especially in decentralized structures (DDA/ BAC) to bring field actions, counseling support, etc. in an independent manner by NGOs working in the field.

Assets

4.109 The assets affect the availability of a certain number of infrastructures to most research and training centers of the country able to rapidly be put back into service, the possibility of cooperation between national and international research centers, the high demand of the beneficiary population of extension services, the existence of NGOs and rural associations capable of getting involved in the campaign.

Analysis and Strategic Vision of the Lower Sector

4.110 Right before the January 12, 2010, the MARNDR was tackling the final phase of formulation and validation of a political document of agricultural development 2010-2025. The agricultural development policies are in perfect coherence with DSN CPR. One of the strategic points is the reinforcement of agricultural services.

4.111 The policies of the MARNDR leans on the urgencies of contractual services (PME, NGO, consultants, other projects) to execute activities on the sub-sector as well as the decentralized services of the MARNDR (DDA and BAC) especially for actions of planning, monitoring, and supervision.

4.112 The public sector has an important role to play in the implementation and the maintenance of an efficient national system of zoological and phytosanitary protection, especially for activities related to epidemic surveillance and quarantine structures. The control of plagues and devastators comes mainly from the private sector (veterinarian agents, producers), but can also be the object of support by the public sector (information, formation, coordination). In addition, the public sector has an important role to play in the domain of research/training/extension. This necessitates an adequate recruitment policy, training and retention of the staff necessary in the heart of the corresponding public structures.

Description of Retained Interventions

4.113 The implementation of an agricultural investment plan necessitates an increase of follow-up and execution capacities of the Ministry of Agriculture (MARNDR). It is also necessary to conduct an institutional audit of the implicated entities needed to relieve the forces and weaknesses and propose reforms to be implemented. These audits will also help to identify the needs in modernization and information for leveling of staff.

4.114 The principal recommendation obtained from data collected in 2007 by PEMFAR (review of management of public spending and financial responsibility)¹ concerning three principal domain of reform and institutional reinforcement: (i) drawing of a complete institutional diagnostic of the Ministry of Agriculture, to implement a global plan of the capacities strengthening and the effectiveness of human resources; (ii) improving the administrative capacities of the Ministry of Agriculture and Planning for managing funds allocated to the Public Investment Program (national resources and external resources); and (iii) reinforcing the capacities of an operational system of program and projects reflecting the priorities of the sectors' policies.

4.115 The projects have been initiated before the earthquake aiming at (i) strengthening the capacity of formulation of agricultural policies and of direction, promotion, coordination and follow-up of sectors' investments by the central structure of the MARNDR; and, in the least measure, (ii) reinforce the field services of the MARNDR including the Ministry of Agriculture Administrations (DDA) and Communal Office of Agriculture (BAC) as well as regional service centers.

4.116 The functions and public services essential to reinforce the implementation of a recovery plan of the agricultural sector includes especially zoological and phytosanitary services. The synchronization and the conforming norms and zoological and phytosanitary standards as well as epidemic surveillance for the food security and access to markets are necessary to the rehabilitation and strengthening of:

- Animal and plant quarantine services;
- Epidemic surveillance and sanitary services;
- Services of fight against zoonosis and phytosanitary problems.

Also planned:

Short term:

- The elaboration of plague screening studies,
- The execution of programs of disease prevention and fight against plagues,
- A reinforced program of animal health allowing limiting losses linked to sickness and to control zoonosis.

¹ It is a joint initiative of Haitian Government, the World Bank and the Interamerican Bank of development aiming to establish structural reform.

Long Term:

- A program to strengthen the sanitary protection of agricultural production, especially mango “Francisque” (control of fruit flies)
- The training of farmers and executives and the implementation of national programs of animal and vegetal quarantine
- Other actions (grafting and expansion of mango orchards, coffee regeneration, control of coffee parasites) aiming to the development and the improvement of products competitiveness designated for exports.

The investment is estimated to USD 13 million.

The Direction of Animal Health (DAS) of the MARNDR is putting at work with DELR of MSPP the project of control for Bird Flu financed by the World Bank for up to USD 1.5 million over a period of 3 years. The expansion of the project to other countries is planned at medium-term in order to guarantee a better covering of sanitary watch.

Another service to be provided on a medium-long term involves the improvement of legal support and the traceability of products, the promotion of quality products for the niche markets, especially exportation. (USD 1 million)

Certain equivalent direct costs are noted in the budgets of programs from the section “Production and Development of sub-sectors”

4.117 The revitalization of the research engine and of the technical council is necessary to continue delivering appropriate services to the rural world. According to the amounts and activities noted in the different intervention domains described below, a specific support is necessary on medium-long term to strengthen the sub-sectors’ structures of the MARNDR including especially:

4.118 A support to the Regional Research/Development Center, complementary to interventions planned for or already in process: four of these projects are currently supported as projects already in process (DEFI/IDB and RESEPAG/WB) and a fifth through the Brazilian cooperation. To obtain a minimum of ten operating centers (one per department), five other centers should be put back in place on short term and reinforced (semi-long term) for a cost estimated at USD 3 million per centers. These should allow a level of decentralization of research effort taking into account the variability of agricultural conditions and the distribution of cultures. Therefore, each center will have a specific domain of excellence for which it will become a pole of reference at the national level.

- Baptiste (Lower Central Plateau, very humid mountain): coffee, yam
- Savane Zombi (South East, very humid mountain): livestock farming and market gardening of high altitude
- Lévy (South, irrigated plain): harnessed cereal culture and market gardening of plain
- Dondon (North, humid plateau): fruit culture and livestock farming
- Fond des Nègres (Nippes, humid plain): cereal

- Mougé (Artibonite, irrigated and humid plain): rice
- Bourdon/Dame Marie (Grande Anse, humid plain): roots, cocoa
- Aubert (North West, irrigated plain): plantain, legumes
- Tamarinier (West, irrigated plain): plantain, cereal
- Declay (North East: dry plain): cereal and legumes

4.119 These centers will be called to become regional poles for applicable research activities, dispersion of techniques (extensions) and initial training and ongoing of the middle management of the MARNDR as well as farmers and other agents operating in rural areas (ex. artisans, association managers). Departmental links with DDA/BAC and local groups and domestic stakeholders will be systematically implemented, and central entities of the centers trustees will be reinforced. The centers will benefit from the assistance of the Mixed Support Committee (CAM) to accomplish their tasks. The role of this committee will be to define the priorities of the center in research, to ratify proposed research programs and fulfill the monitoring of their implementation through the examination of reports of technical and administrative advancement prepared by the direction of the center. The mixed support committee will include representatives of the MARNDR, of MPCE, of MEF, of universities operating in the intervention centers of the center, organizations of the most popular producers of the region, NGOs or international organization involved in activities of rural development in the intervention area of the center.

4.120 It is also necessary to promote the research on agricultural biotechnologies in order to better exploit the opportunities offered by these innovations to bring out the best in them, considering the bio-security. In fact, the biotechnologies currently offer ways of durable development to increase agricultural production and constitute a tool of research encouraging the acceleration of development of new plant material by genetic improvements of main food cultures and the massive propagation of genetic and plant seeds. Therefore, on a medium-term, it is anticipated to put in place a National Laboratory of Bio-Technologies and the genetic improvement in Haiti that will come in support to other programs aiming at the recovery of the national agricultural production. This laboratory will be considered as a center of research and will be established in a network with other centers of the MARNDR.

4.121 Professional agricultural training is planned by supporting the implementation of three large systems of training: basic training (through regional centers), training of new medium level management (by the rehabilitation on short term and the reopening (mid-term) of agricultural schools: Agricultural College of Artibonite Valley (EMAVA), College of Development of Hinche (EMDH), College of Agro forestry(EMAF), University of Agriculture of Damien, University of Production and Animal Health, and the continuation of formation of superior executives (license, master, and doctorate programs).

4.122 A support to DDA, especially to improve their equipments and communication with the MARNDR, is necessary in the short term. This support should be accompanied by a restructure and consolidation of the network of BAC, for which the current distribution does not reflect the needs corresponding to the dispersion of the cultivators in different areas of the country.

4.123 Finally, it is indispensable to reinforce the system of monitoring/evaluation to insure a continual delivery of information to decision makers at all levels for a dynamic implementation of this plan.

4.124 The required investment is estimated at USD 42.2 million of which 0.2 million for the execution of the institutional audit, 16 million for the support of 5 research/development regional centers and the bio-technology laboratory, USD 6 million for support to DDA and 20 million for the operation of colleges and the improvement of executives, or a total of USD 40.2 million for the total component “Institutional support to public agricultural services”. (References: MARNDR, Bureau of Training and Perfection of Staff; MARNDR, Bureau of Agricultural Research; MARNDR/IDB/Project DEFI)

5. IMPLEMENTATION MONITORING AND EVALUATION OF THE PLAN

A. Principal Partners

5.1 Many actors will intervene in the implementation of the agricultural investment plan. As should be mentioned:

- **Ministry of Agriculture, Natural Resources, and Rural Development (MARNDR)**

The MARNDR will insure the coordination of the implementation of agricultural policies and planning. It will additionally be responsible for (i) updating and/or developing the programs and projects with specific objectives; (ii) facilitating the mobilization of resources for identified programs; (iii) coordinating technical and financial support and bring together stakeholders in the agricultural sector; (iv) increasing basic infrastructures support and agricultural services, stimulating the active participation of the private sector; (v) insuring the monitoring and evaluation of the agricultural sector.

Various institutions are under the umbrella of the MARNDR for which the National Institute to Agricultural Reform (INARA), the Development Organization the Artibonite Valley (ODVA), and the National Institute Haitian Coffee (INCAH), Agricultural Credit Bureau (BCA), and the National Coordination of Food Security (CNSA).

- **Private Sector and Associations**

The members of this sector will be the principal actors in the implementation of the agricultural investment plan. A private/public partnership will be established to better insure the link between production and the market and enable the exchange of information on their development. Among others, the private sectors and association are:

Producers and farmer organizations: farmers organized into associations or cooperatives operate as true partners in development programs and projects which can build, as it has been witnessed in the last few years, the beginning of professionalization in sub-sectors that respond to real concerns of farmers. These organization structures will always be implicated in the planning, financing, execution, and evaluation of activities of those programs and projects.

Non Governmental Organizations (ONG): ONGs play a central role in the world of farming (service funds, supply of essential basic services, reinforcement of rural communities, etc.). They dispose of human resources and relatively important material guaranteeing the execution of their program and project plans. A firm partnership will allow them to converge together toward the durable development of the sector.

Research department and specialized companies: They are private operators supplying services in various areas of expertise.

Financial Institutions: the MARNDR will establish and/or strengthen its partnership with financial institutions to better support the agricultural finance by expanding the financial service sub-sector to a large range of financial agents.

- **Local Communities**

They operate according to their legislative powers to be the bodies of local governance providing support to local development initiatives and insure the monitoring and evaluation of projects.

B. Contribution of Support Sectors and Socio-environmental Safeguards to the Agricultural and Rural Development

5.2 The development of the agricultural sector and its modernization requires, among, other things, the improvement in the living conditions of rural populations through the integration of gender in all agricultural activities, the decentralization and the local governance which constitutes a tool allowing to better reach producers, the upgrading of human resources capacities, basic infrastructures and the promotion of new employment opportunities and income. Thus, to insure a better impact, the Ministry of Agriculture will collaborate more with the Ministries in charge of public works, health, and education in order to achieve, in the rural areas, investments in the road sector, infrastructures, as well as in education and health, an integrated approach to development. However, the collaboration will be reinforced with the Ministry of the Environment which is responsible for the policies, the legislative aspects, and the monitoring and evaluation of actions compliance with the policies for durable management of natural resources. The Ministry of Commerce and Industry plays a key role in the food processing and product commercialization. Financial authorities must lead special efforts to reinforce the financial sector in order to respond to the potential demand of agricultural and rural credit.

C. Gender Approach

5.3 The implementation of the plan's various components will integrate the accountability of gender equity. The adopted strategy will have to: (i) strengthen woman capacities so they can actively participate in the diagnostic process and the decision making, and equally benefit from the resources implemented by the interventions; (ii) reduce the work responsibility of women to allow them to allow them more time for participation in training and diversify their economic activities (for example by supporting the adapted technologies of primary processing, the access of women groups to irrigated parcels, ect.); (iii) support income generating activities practiced by women; (iv) facilitate their access to financial institutions and develop financial products responding to their specific needs; (v) promotion activities of family planning, hygiene, use of aliments to improve nutrition, schooling of young women, the strengthening of women status in the rural sector, ect.

D. Monitoring/Evaluation (M&E)

5.4 A successful implementation of the agricultural plan of investment requires regular monitoring and periodic evaluations to insure the continual delivery of information to authorities and proceed with necessary adjustments.

In this perspective, the system of M&E of the MARNDR will be revised, reinforced, and implemented by associating all concerned actors (central administration and decentralized structures, public local groups, private sector, professional organizations, NGOs, technical and financial partners), and representing beneficiary populations. The M&E will be based on relevant indicators which are listed in Appendix 2. In fact, the indicators will be specified during outline

preparations of financial programs and projects. The periodic reports of M&E will be prepared by the Direction of M&E of the MARNDR based on reports prepared by the authorities of different programs and projects.

E. Communication Strategy

5.5 A strategy will be implemented to facilitate effective and regular communication of relevant information on the programs' objectives, on the state of progress of activities, and of obtained results of the different actors. This strategy will be based on transparency and will aim to create a work environment where all the actors involved in the development of the agricultural sector will feel trustworthiness and will collaborate to accomplish results. The foreseen strategy must also allow that the aimed populations are informed about the state of advancement of activities to the measure that programs and projects will be elaborated and executed. The communication strategy will aim, finally, to increase the visibility of the MARNDR and of the partner institutions.

6. COST AND FINANCE PLAN

A. Used Methodology

For the establishment of cost

6.1 Calculating the cost of the investment plan is based on the main level of assistance provided under each component. The interventions are proposed in the main text, even though some details are supplied in the annexes. They will be, before their implementation, the most elaborated document including the detailed budget with the quantity and unit costs.

6.2 For each of the investments, most of the financial needs are estimated based on the unit cost of development and acquisition of goods or other interventions services generally practiced in Haiti. The nature of the results used for the computation is provided for each of the considered components. The computations are often done in Gourdes, and then converted in USD at the indicative rate of USD 1 = 42 Gourdes. The study fees, the supervision, technical assistance, institutional and management support are estimated on generally attributed percentages, depending on the type of interventions. Examples of practiced unit cost are given in Appendix 5.

For the preparation of the financing plan

6.3 Participation efforts have been allocated to finance the investment plan. In fact, the different interventions have been divided into two main groups: short term measures and medium long term one. Then, the short and medium long term budget's sum has been divided between the government, the private sector, and the donors.

6.4 The group of activities realized by governmental institutions is financed by the Haitian government, in part by the budget and in nature, and secondly by international donors. In the proposed activities of the investment plan an effort was made to distinguish between the activities financed in part by the government's contributions or current donors and the activities that will be financed by new contributions.

6.5 The budget's sums currently allocated throughout the 2010 budget year by the government have been supplied by the authorities Study and Planning Unit who are very involved in the preparation and management of the MARNDR budgets. For activities concerning the following budget years the management budget authorities have indicated that a primary estimate of the government contribution could be evaluated at 10% of the total investment plan activity.

6.6 The efforts distribution of financial results of each of the investment plan intervention is located in the table in Appendix 3. The figures in this table are from a wide recompilation on the part of professionals from the MARNDR from a long experience of fieldwork in collaboration with the sector's partners. It was also evaluated for the recurring costs of the Ministry of Agriculture following new investment that will be made (see appendix 4).

B. Synopsis of Cost of Investment Plan

6.7 The total amount of required resources to finance the different programs and sub-programs of the investment plan is estimated at approximately USD 772 million (see table below).

Interventions	Required Financing (in '000 USD)		
	Short Term	Semi- Long Term	Total
Development of rural infrastructures			
- Development of watershed and forestry	110,000	141,000	251,000
- Irrigation	10,140	99,650	109,790
Production and Development of Sub-Sectors			
- Livestock farming	10,000	28,400	38,400
- Aquaculture and Fishing	5,700	26,800	32,500
- Vegetal production			
Access to inputs and agricultural tools	57,580	140,000	197,580
Rural financing	5,000	19,000	24,000
Post harvest management and commercialization	6,000	39,000	45,000
- Urban and suburban agriculture	4,000	12,000	16,000
- Local production and humanitarian operations (local purchases)	1,500	10,000	11,500
Agricultural Services and Institutional Support			
- Extension through "Farm Schools"	2,000	3,000	5,000
- Access to land and tenure security	1,000	3,000	4,000
- Sanitary Protection	3,000	10,000	13,000
- Quality control and traceability	-	1,000	1,000
- Institutional support to agricultural public services	8,200	34,000	42,200
TOTAL	224,120	566,850	790,970

C. Indicative Financing Plan

Generality

6.8 The indicative financing plan aims to show how the different components of the investment plan will be financed. Many partners must directly or indirectly agree on the method of financing the investment plan prepared by the MARNDR. The project is challenging and assumes the collaboration, in part, of the State and contributors, in another part, of the State and the Haitian private sector including NGOs, groups of farmers, and local communities. The MARNDR plays an essential role of leadership that cannot be met by other people. In the course of the past few years, the Ministry of Agriculture has assumed within the government, the rural community, and the international community this role and hopes to assume it more in the future.

6.9 The government has taken into consideration, in this plan, that all Haitian partners must share the financial weight of the program, the government institutions, as the producers and the private enterprises, as well as local ONG's, whether it be through financial contributions from budget, financial contribution from privates in form of equity and loans, or through contributions in the nature of governmental institutions, of producers, groups of producers, private enterprises, or ONG's. These monetary efforts, and in nature, should engage the Haitian institutions to do all the efforts to reach the objectives of the investment plan, should compromise the institutions of the rural sector to pursue on a long term the achievement of activities and finally, will demonstrate that the investment efforts are shared among all the members of the Haitian agro alimentary sector.

Contribution of Collecting Parties

6.10 In perspective of the contributions planned by each partner, over an initial total of **US\$790 million, the government would supply of its budget US\$110.5 million, the donors would furnish of their budget US\$578.5 million, and the private farming sector US\$105 million.** It must be noted that of this total approximately US\$28 million have been budgeted for the year 2010 and originate from the State, contributors, and the private sector. To this we must add the contributions in nature that have been estimated to US\$3,200,000 for the government and to US\$42,373,500 for the population of ONGs and the private sector. The private sector would supply its contribution under the form of provisions in equity or loans that will be accorded by the private or cooperative financial sector. This financial sector must be able to bring US\$85 million over this period to satisfy the needs of the sector to achieve the necessary investments.

6.11 According to estimations done in the spreadsheet of the financing plan and for each of the interventions, out of the whole, the State would bring a percentage equivalent 14%, the privates 13% and the contributors 73%.

Moreover, it is certain that these percentages could vary for each of these projects that will be prepared over the coming months. But in the case of public/private projects it is important to note that the State will only come in support of investment projects executed by the private sector. The decision to invest must always come from farmers and entrepreneurs of the private sector. According to the lines of activities of each of the components of the investment plan the total

percentage of contribution varies largely and this reflects, in great part, a type of activity more or less associated with a service or public good and those associated more directly to the private sector. In this last scenario, the State will assist the recovery of the private sector but does not look to replace it. It goes to propose gradual withdrawal policy of grants associated to private sector activities, and will propose the implementation of services that will support the projects.

Recurrent Costs

6.12 The extension of the intervention implementations will necessitate the granting of supplementary budgets for the MARNDR to finance recurrent costs. These recurrent costs estimated, according to an evaluation for each of the activities with the authorities of these activities within the Department, adds up to a total of **US\$15,706,000 per year** (see table in Appendix 4). Since the total budget (including the contributions of the Haitian Treasury, the loans and grants of international organizations) of the Ministry of Agriculture, Natural Resources, and Rural Development is situated at US\$150,000,000 for the year 2010 these recurrent costs represent approximately 10% of the total budget. However, these recurrent costs represent approximately 63% of the operation budget of the Ministry.

7. ANTICIPATED IMPACTS OF THE INVESTMENTS

A. Main Beneficiaries

7.1 The planned interventions in the agricultural investment plan will address both men and women. The aimed groups will be the involved actors in the different selected sub-sectors, especially agricultural exploitations and the direct intermediaries (transformers, dealers).

7.2 The plan will also aim the rural organizations, the professional organizations, contract service providers (business, consultant, farmers), NGOs, central and decentralized structures (DDA, BAC) of the MARNDR, as well as the territorial collectivities. These entities will have the best technical capacities and the management to accomplish their work.

7.3 The direct beneficiaries are estimated at approximately 530,000 families that will invest in the production and development of the sub-sectors (livestock farming: 30,000; fishing and aquaculture: 20,000; plant production: 450,000; urban and suburban agriculture: 30,000). This equals to approximately 3,000,000 people who will be affected by these main interventions. The training would be added to this list which would affect many groups, especially youths. Thousands of people will also benefit of created employments by the investments.

B. Technical Impact

7.4 The rehabilitation and the construction of irrigation networks will allow the increase of irrigated surfaces; 14,000 additional hectares will, thus, be irrigated throughout the country. To this will result in a better distribution of water making possible the diversification of species and a variety of cultures higher yield and higher value. The construction of new irrigated perimeters will clearly allow an increase to the number of culture cycles per year (the majority of cultivators will go from one or two seasons to three systematic seasons)

7.5 Additional productions will certainly be obtained considering the evolution of the surfaces, the evolution of the output of cultures, the irrigation factor and the improvement of agricultural techniques, and the evolution of the agricultural intensity over parcels dedicated to year round cultures. In similar situation, the rate of increase of agricultural output varies generally between 40 to 100%.

7.6 The cultivators who exploit these irrigated perimeters will receive the training, the inputs, the credits for the investments, and the technical support to achieve the level of productivity comparable to neighboring countries. The cultivators will also have better harvests not only insuring their own food security, but also giving a marketable surplus. The health of the population in the rural area should be improved by better alimentation coming from their farms or the exchange of products over the local market.

7.7 The regrouped users in association of irrigators respect the laws of water distribution, pay the charges on water, and are actively engaged in the systems' management.

7.8 The rural market should not only allow to facilitate the flow of agricultural products toward consumption centers but also allow a better supply in inputs such as improved seeds, fertilizers, and tools. The post harvest lost should know a net reduction.

7.9 Throughout the whole territory, and particularly over the watersheds, the development activities and protection of natural resources will allow an important increase to the reforestation of the country to grow from 1.5% to 3.0% of the territory with trees for the production of fruits, renewable energy, or wood. These developments should begin to have an influence on the soil protection and on the management of disasters due of climatic events.

7.10 An important number of compensated jobs will be created in the rural area. These jobs will allow the intensification of the agricultural production on farms and also generate a rural economy more dynamic and less likely to suffer from poverty. The level of poverty in the rural area will begin to decrease and the improvements observable in health, education of children, the supply in drinking water, and housing.

7.11 In the sub-sector of livestock farming, there should be a number of entrepreneur farmers who produce on a regular basis, through adapted technologies, eggs, poultry, goats, honey, and others. These entrepreneurs will be able to supply their local markets, then the regional market, and finally, part of the national market. The dairy producers will be able to keep better performing cows in order to insure a regular production for new exploited dairy industries.

7.12 Concerning the fishing industry, the fishermen will benefit from an adequate training allowing them to set up enterprises to not only make a living from more productive activities but also holds into account the necessity for resource protection. Fishermen of the sea or aquaculture will benefit from a new capitalization based on equipments or based on finances in order to increase their productivity and also insure a better supply in protein to local, regional, and national markets.

7.13 In normal periods, Haitians will be able to obtain at least 70% of their supply from the local production. In the event of calamity, the community structures will be able to insure a higher level of food security due to the local reserves, a better information system, and a better system of exchange between affected and non affected zones.

7.14 The staff of the Ministry should be more motivated to do its work and it should have a better definition of the responsibilities between the private sector and the public sector. The Ministry should have better means to transmit the knowledge and requested information to the private sector and all the institutions that support the rural and agro-alimentary sector.

7.15 With an increase and a greater regularity of the production it will be possible to build facilities for processing and storage of products. The new situation will allow the creation of a sufficient group of entrepreneurs who will have the dynamism to prepare development projects of their enterprise, and create exchange networks in each of the sub-sector promoted financed projects of the government.

C. Impact on the Environment

7.16 The actions linked to the development of irrigated perimeters and to production should be the object of study of their impact on the environment at the time of implementation, especially those concerning the development of humid lands and lands opening up. The conception of infrastructures and training activities, and monitoring should integrate the concerns of well thought-out management and the preservation of natural resources.

7.17 In the development of agricultural production, actions are planned with operators whose multiplier effect should lead to new water saving technologies on significant scale. The activities in the agro pastoral development should not have a negative impact on the natural resources because the improvement in productivity is linked to maintaining a productive potential. Actions are planned for natural resource conservation as shown in the results from the perimeter management plans drawn up by farmers. Outlines on soil conservation and associated actions will be implemented in areas contiguous to perimeters. The investment plan will finance limited work in opening up that could have a negative impact on the environment partly by the deforestation which could result in the sale of wood, and partly by its direct action on erosion.

7.18 The action planned could contribute to a pressure decrease on the surrounding mountainous areas in favor of the intensification of cultures in the plains. By setting up technical itineraries through which the use of irrigated water is optimized, the project will allow a considerable reduction of flooding risks of parcels.

By making possible the exploitation by fishermen the embankment of the continental shelf and high seas there will be significant reduction of pressure on the coastal ecosystem (Mangrove, coral reef, environment) and on the overexploited continental shelf.

D. Financial and Economic Impact

7.19 It not necessary in this section to conduct a detailed financial and economic analysis of the proposed interventions. The former evaluation (taking into account the situation with and without projects) will be done evidently for each of these programs and projects to be implemented, and will pertain to the principal economic agents. For the moment, we will settle to give a preliminary indication of the financial and economic viability of the proposed principal investments.

7.20 The consolidation of the hydro agricultural structures will decrease the risks that surround agricultural activities. The aimed groups will develop, thanks to the action, a better control of their production activities. By attending to key factors, such as the improvement of agricultural techniques, the input supply organizations, the development of agricultural technical implementation services, the harnessed cultures, which generally constitute the obstacles to the operation of the rural production engine, the action will be essential to the limitations and profitability of agriculture. Thus, it will allow, at the same time, an increase in production and in targeted groups' income. We should, therefore, expect a direct injection in the economy of the area by generating income in rural families through the development of rural infrastructures and an increase of agricultural revenues by better output. On the financial plan, the principal beneficiaries will release supplementary incomes to support all the exploitation charges. For example, in the project PPI-2 drawn in 2006 and currently implemented by the MARNDR and financed by FIDA in the North East and North West of the country, increases in revenue, possibly linked to encouraged actions (availability of water, improvement of seeds, and large use of fertilizers) have been estimated between 300 and 500%. The results of the financial analysis of this project have shown a rate of internal financial profitability (TRIF) between 30 to 60%. As of the rate of internal economic profitability (TRIE), it has been estimated at 23%.

7.21 Nevertheless, the implementation of storage activities of agricultural products as well as actions in favor to the processing and commercialization will allow better developing the current production and reducing losses after harvest, with a direct impact on the food security.

7.22 The planned actions will lean on the structures put in place and /or reinforced, and will have a high place in the participation and the undertaking of entry-level organizations structured in management committees insuring the viability of irrigated perimeters. In all cases, the exploiters will release supplementary incomes sufficient to insure the maintenance of productive infrastructures implemented in this plan (irrigation system, agricultural roads, hillside lakes...).

7.23 Thus, the activities linked to the supply of inputs, the agricultural technical implementation, and processing should generate gross benefits sufficient to increase working capital, monitoring, see the expanding of services, and implement other action of development.

7.24 In the export of cultures, by improving the effectiveness of post harvest infrastructures and operations, the export volumes will grow drastically (more than 3 times). A better commercialization and an accelerated processing will increase productivity. Mango grafting activities and maintenance of the plantations will allow an increase and regularity. This should bring an increase in the income of the producers.

7.25 The improvements of the quality of the product will be undertaken with the programs' and projects' efforts and will result in purchasing prices superior to the benefit of producers linked to the process. The interventions will, thus, insure to the aimed groups a considerable financial contribution.

7.26 The implementation of dairy industries should increase the milk producers' revenues to at least 30%, through the increase of the average productivity of cows (the amount of liters of milk per year per cows) and the selling price of milk.

8. RISKS ANALYSIS

8.1 The principal risks that can be anticipated in the proposed investment plan result from many factors, but measures can, very often, be put in place to mitigate and/or control the risks.

8.2 This plan assumes the coordination of the Ministry of Agriculture, Rural Development, and Natural Resources as well as an engagement from the Haitian Government, contributors, and also all the institutions that have to do with the development of the agricultural and rural sector. The risks can be political, social, economic, and physical.

8.3 Against natural disasters (storms, hurricanes, and drought) like in 2008 a large number of climatic events that occurred in one year, it will be required to take supplementary financial provisions in other to refinance reseeding activities of fields. As far as social and political risks are concerned, they will not be higher than those inherent to all activities developed in Haiti. The economic risks will depend on factors such as prices of agricultural and food products as well as inputs in agriculture that will be influenced by the domestic and international markets, and will also depend on interest rates and exchange rates of the national currency. In the table that follows are presented the main risks that could influence this plan as well as the way to manage them when they can be managed.

RISK MANAGEMENT STRATEGY

Risks/Risk Hypothesis	Level of Risk	Probability	Level of Impact	Mitigation Element	Responsibility
Risks of Investment Plan					
Increase of social insecurity and political instability	medium	medium	medium	Evaluate regularly the social and political climate to insure that the MARNDR can play its role of leader and accept by the majority contributors to this plan.	MARNDR
The Haitian beneficiaries could feel excluded from the process of planning and execution of the plan.	low	medium	medium	The MARNDR must have a regular information and consultation program of various contributors and insure that the plan is well understood in the government, by the ministry's staff, producers, and the general society.	MARNDR
The lack of collaboration between lessors and the duplication of efforts will risk to minimize the impact	medium	medium	medium	Before beginning the project defines the roles and responsibility of each partner and establishes the way in which each lessor's contributions will be applied to the project.	Haitian Government Contributors MARNDR

Risks/Risk Hypothesis	Level of Risk	Probability	Level of Impact	Mitigation Element	Responsibility
Changing orientations in the priorities of the government	low	low	high	If a new elected government should change the priorities. However, the agricultural problem will remain and the government would not be able to ignore it since it is the food security of the country. It will have to re-explain to the new staff of the Ministry the importance of this policy.	Haitian Government Contributors MARNDR
Insufficient budgets will be implemented by the partners	medium	low	high	Reprogram activities of the plan and try to find new sources of financing.	Haitian Government Contributors MARNDR
Change of orientation in the Ministry's priorities	low	low	high	Will remain in the priorities of Haiti because it is food security of the country	Contributors MARNDR
Lack of real capacity of partners	medium	medium	high	From the start of the implementation of the plan, put in place training programs	MARNDR CIVIL SOCIETY
Risks of natural disasters such as hurricanes, flooding, ect.	medium	medium	high	Put in operation the support mechanism to people and enterprises that will have losses	MARNDR CIVIL SOCIETY
Bad management	medium	medium	medium	Pre- and post-monitoring and control systems implemented and if necessary employing external experts to investigate if problems arise.	MARNDR CIVIL SOCIETY CONTRIBUTORS
Rotation and important changes in the group of technicians and experts.	low	low	medium	Form new comers and evaluate the reasons for the rotations, implement systems of loyalty of staff.	MARNDR CIVIL SOCIETY
Difficulty in recruiting staff members to carry out the projects included in the plan	low	low	high	It will be required to revise the working conditions for these people and also analyze the causes for this lack of staff and of projects	MARNDR CIVIL SOCIETY
Weak level of joining of the aimed population to the plan	low	low	medium	There are important needs for a greater food security in the country as well as a greater protection and development of natural resources in country activities planned to create employment it will be necessary to analyze causes	MARNDR CIVIL SOCIETY

Risks/Risk Hypothesis	Level of Risk	Probability	Level of Impact	Mitigation Element	Responsibility
The private partners of the plan in important numbers do not invest in the production of productive projects	medium	medium	high	It will be necessary to study with the private sector the causes of the absence of investments and find the mechanism to embark them in the plan	MARNDR Civil Society Private Sector
Insufficient coordination and collaboration between partners	low	low	medium	The Ministry of Agriculture as the leader of the plan will have to propose solutions and then see the application of the solutions with lessors and Haitian authorities	MARNDR CIVIL SOCIETY CONTRIBUTORS
Low level of appropriation of the plan by the responsible of the Ministry of Agriculture	Low	Low	medium	Establish better information mechanism and consultation between the included projects in plan and the Ministry's staff	
An important number of financial institutions, banks and credit unions do not lend for the financing of productive projects	Low	Low	medium	Reanalyze with the institutions the mechanisms of the plan and the various projects approved and try to find solutions to favor their integration. Favor the greatest participation of financial institutions ready to collaborate.	MARNDR CIVIL SOCIETY CONTRIBUTORS
The national currency appraises or depreciates significantly	Low	Low	high	The government will put in place measures of adaptation to these changes for the most vulnerable sectors such as agriculture.	Government

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APPENDIX

1. CALENDAR FOR THE IMPLEMENTATION OF THE INVESTMENT PLAN
2. RESULT MATRIX
3. FINANCING PLAN
4. RECURRING COSTS

APPENDIX 1. CALENDAR FOR THE IMPLEMENTATION OF THE NATIONAL AGRICULTURAL INVESTMENT PLAN

Points of Intervention	Element	Main Activities	Short Term	Semi-Long Term				
			2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016
A- Development of rural infrastructures	A.1 Development of watersheds and forestry	Plan of development on watersheds						
		Work of correction of ravines						
		Rehabilitation of agricultural lands						
		Reforming of rivers						
		Reforestation						
		Establishment of agro/sylvo/pastoral system						
		Construction of cisterns and hillside lakes						
		Development/protection of water sources						
	A.2 Irrigation	Rehabilitation of infrastructures						
		Construction of new perimeters						
		Reinforcement of AI						

Intervention Points	Elements	Main Activities	Short Term	Semi-Long Term				
			2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016
B- Production and Development of Fields	B.1 Livestock Farming	Production of alimentary goods						
		Reinforcement of capacities						
		Implementation of dairy industries						
		Construction/rehabilitation of slaughterhouses and places for the preparation and conditioning of meat products						
		Putting back in operation of schools of production and animal health						
	B.2 Aquaculture and Fishing	Organizational strengthening of fishermen						
		Updating of the fishing law						
		Putting place of hatching pens						
		Technical Training/Assistance						
		Support to fishing material acquisition						
		Fish stocking of water plans						

		Establishment of aquaculture farms						
		Putting in place refrigeration chains						
	B3. Plant Production							
	B3. 1 Access to inputs and agricultural tools	Political evaluation of seed distribution						
		Acquisition and distribution of inputs						
		Acquisition of agricultural equipments						
		Reinforcement SNS						
		Durable strategic development of input distribution						
	B3.2. Rural Credit	Placement of guarantee funds						
		Reinforcement of laws and regulations						
		Loan Grants						
		Institutional Support						
	B.3.3 Post Harvest Management and commercialization	Training						
		Availability of material and working capital						
		Modernization of infrastructures of commercialization						
		Construction of mini						

		industrial parks						
		Development of a communication and information system						
	B.4. Urban and Suburban agriculture	Identification of beneficiaries and sites						
		Active diagnostic						
		Establishment of micro-gardens						
		Establishment of family gardens						
		Reinforcement of capacities						
	B.5 Local production and humanitarian operations (local purchases)	Putting in place of support structures of operators						
		Identification of production with surpluses						
		Putting in place of purchasing mechanism						
		Reinforcement of capacities						
		Development of local purchases from producers						

Intervention Point	Elements	Main Activities	Short Term	Semi-Long Term					
			2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	
C- Agricultural services and institutional support	C.1 Extension through "Farm Schools"	Evaluation of needs and identification of beneficiaries							
		Rehabilitation of training centers of youths							
		Training of trainers and facilitators							
		Acquisition of agricultural inputs							
		Establishment of farm schools							
		Putting in place of agricultural associations							
		Monitoring							
	C.2 Access to land and security of tenure	Establishment of cooperation mechanism and arbitration procedures							
		Focalizing and application of legal							

		disposition						
		Review of civil code						
		Availability of means in the profit of INARA						
	C.3 Institutional support to agricultural public services	Support to the development of regional centers						
		Achievement of studies of plague detection						
		Execution of programs of prophylaxis and fight against plagues						
		Training of farmers and leaders						
		Development of quarantine programs						
		Putting back in service schools of agriculture						

**APPENDIX 2. MATRICE OF RESULTS
NATIONAL PLAN OF AGRICULTURAL INVESTMENT**

Points of intervention	Elements	Main Activities	Outputs	Outcome	Estimated Costs (US \$)
A. Development of rural infrastructures	A.1 Development of watersheds and forestry	Erection of anti-erosion structures on the mountains. Correction work of ravines Rehabilitation of agricultural lands. Reforming of rivers. Reforestation. Establishment of agro/sylvo/pastoral system. Construction of cisterns and hillside lakes. Development of sources.	Number of plants produced and put into soil. Kilometers of treated ravines. Number land km rehabilitated. Number of river beds km restored. Number km of berge gabionnees. System of recuperation of rain water installed.	Developed surface area. Number of people/day of created employments. Better flow of agricultural products. Reduction of main river beds. Flooding risks diminished.	251.000.000
	A.2 Irrigation and drainage	Rehabilitation of infrastructures (irrigation canals and, agricultural lands). Development of new perimeters.	Number of km of canals. Number of systems rehabilitated. Number of irrigation system built.	Supplementary area irrigated. Access to irrigated water improved. Food production increased.	109.790.650

		Reinforcement of AI.	Number of AI consolidated.		
B. Production and development of fields	B.1 Livestock farming	Production of aliments. Reinforcement of capacities. Implementation of Dairy industries. Animal health program. Construction/Rehabilitation of slaughterhouses and units of the preparation and conditioning of meat products. Reopening of schools of production and animal health.	Number of production units installed. Number of benefitting families. Number of animal products. Number of middle management and youths trained. Number of cattle vaccinated and protected against parasites.	Better security of livestock aliments. Decrease in the rate of animal death. Productivity of animals improved. Increased in incomes of farmers. Reduction in importation of animal product.	38.400.200
	B.2 Aquaculture and Fishing	Organizational reinforcement of fishermen. Updating of the fishing laws. Establishment of plans for certain species. Technical formation and assistance. Support to the acquisition of fishing material. Fish stocking of water	Number of installed devices. Number of alevin production center. Number of hectares of supplementary water plans stocked. Number of people trained. Number of fishermen having access to fishing material.	Increase and diversification of catches and production. Improvement in the availability of sea foods. Improved conditions of commercialization Probability of improved sub-sectors.	32.500.000

		plans. Establishment of aquaculture farms Installment of refrigerated chains	Number of alevin produced. Number of refrigerated chains installed.		
	B.3 Plant Production				
	B.3.1 Access to agricultural tools and inputs	Acquisition and distribution on inputs. Reinforcement SNS. Acquisition of agricultural equipment.	Tons of seeds and fertilizers available. Laws are established and respected. Number of tractors and tillers. Number beneficiaries.	Additional area put into agriculture. Better quality seeds commercialized on the market. Improved access to inputs and surrounding agricultural services. Level of infestation of cultures reduced. Profitability of culture increased.	197.580.000
	B.3.2 Rural Credit	Placement of guarantee funds. Reinforcement of laws and regulations. Institutional support.	Credit funds made available to operators. Number of credit beneficiaries. Legislative projects developed and voted on. Number of consolidated structures.	Change in access to financial services. Activities generating income.	24.000.000

	B.3.3 Post harvest and commercialization management	Training. Availability of material and working capital. Modernization of commercialization of infrastructures. Development of communication and information system.	Number of beneficiary operators. Number of functioning units of storage and conditioning.	Strategic stocks established. Post harvest losses diminished. Larger access to markets of producers.	45.000.000
	B.4 Urban and Suburban Agriculture	Identification of beneficiaries and sites. Active diagnostic. Establishment of micro-gardens (acquisition and made available agricultural material, placement of parcels). Capacity strengthening	Production sites identified. Number of micro gardens established.	Improved food diet. Increased farmers' income.	16.000.000
	B.5 Local production and humanitarian operation (local purchases)	Putting in place of assisting structures to operators Identification of production zones with surpluses Putting in place purchasing mechanism Reinforcement of capacities Development of local purchases from producers	Number of areas identified. Number of structures put in place.	Supply of an attractive market to farmers. Better integration of the local production in the population.	11.500.000
	C.1 Extension through "farm	Evaluation of needs and	Number of trainers	Better integration of	5.000.000

C. Agricultural services and institutional services	schools”	identification of beneficiaries. Rehabilitation of training centers. Training of trainers and facilitators. Supply of agricultural inputs. Communication. Placement of agricultural associations.	and facilitators. Number of farm schools put in place. Number of associations put in place.	youths in the rural community. Improvement of knowledge of young cultivators.	
	C.2 Access to land and tenure security	Establishment of concertation mechanism and arbitrage procedures. Elaboration and application of legislative disposition. Review of civil code. Availability of means of profit of INARA.	Mechanism put in place. Number of laws elaborated and voted on. Civil code revised.	Reduction of conflicts. Access to land secured. Reduction of cost of access to land. Greater motivation to invest in a durable agriculture.	4.000.000
	C.3 Institutional Support to public agricultural services	Support to the reopening of regional centers. Realization of studies of detection of plagues. Execution of programs of prophylaxy and fight against plagues. Training of farmers and authorities. Establishment of quarantine programs. Reopening of agricultural	Number of research centers rehabilitated Number of schools reopened. Number of quarantine services reinforced. Number of quarantine national program. Laws and sanitation regulation elaborated and put in place.	Services to producers improved. Performing technical packages available. Reduction of losses due to plagues.	56.200.000

		schools.			
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APPENDIX 3.- TABLE OF FININCING PLAN

HAITI: National Agricultural Investment Plan

INVESTMENT PLAN MAY 2010									
	ORIGIN OF FINANCING		Necessary BUDGET			GAP TO BE FULFILLED BY CONTRIBUTORS	% OF THE GAP	CONTRIBUTION OF GOVERNMENT	LOANS AND EQUITY FROM PRIVATES
			SHORT TERM	SEMI LONG TERM	TOTAL				
			2010-09/2011	10/2011-2016					
A-DEVELOPMENT OF RURAL INFRASTRUCTURES									
	Gov. Haiti	BUDGET	5,640,000	17,250,000				23,890,000	
		SOURCE	1,000,000	0					
	Donors	BUDGETED	0	0					
		PREDICTED	112,000,000	184,400,000		296,400,000	82%		
	Private		0	0					0
	Equity	BUDGET	500,000	4,000,000					4,500,000
		SOURCE	6,350,000	19,828,100					
	Loans	BUDGET	2,000,000	35,000,000					37,000,000
TOTAL INTERVENTIONS ON SHORT THEN LONG TERM			120,140,000	240,650,000	360,790,000				
TOTAL OF INTERVENTION INCLUDING THE SOURCE			127,490,000	260,478,100					
B-PRODUCTION AND DEVELOPMENT OF FIELDS									
	Gov. Haiti	BUDGET	15,900,000	60,850,000				76,750,000	
		SOURCE	0	0					
	Donors	BUDGETED	7,800,000	0		7,800,000			
		PREDICTED	43,800,000	153,950,000		197,750,000	57%		
	Private		0	0					0
	Equity	BUDGET	12,550,000	8,500,000					21,050,000
		SOURCE	1,590,000	13,915,400					
	Loans	BUDGET	12,230,000	30,400,000					42,630,000
TOTAL INTERVENTIONS ON SHORT THEN LONG TERM			92,280,000	253,700,000	345,980,000				
TOTAL OF INTERVENTION INCLUDING THE SOURCE			93,870,000	267,615,400					
C-AGRICULTURAL SERVICES INSTITUTIONAL SUPPORT									
	Gov. Haiti	BUDGET	1,200,000	6,500,000				9,900,000	
		SOURCE	200,000	2,000,000					
	Donors	BUDGETED	0	0					
		PREDICTED	6,500,000	51,000,000		57,500,000	88%		
	Private		0	0					0
	Equity	BUDGET	0	0					
		SOURCE	0	690,000					
	Loans	BUDGET	0	0					0
TOTAL INTERVENTIONS ON SHORT THEN LONG TERM			7,700,000	57,500,000	65,200,000				
TOTAL OF INTERVENTION INCLUDING THE SOURCE			7,900,000	60,190,000		551,650,000	71%		
Gap to fulfill and budget already obtained						559,450,000			
TOTAL FINANCING OF INVESTMENT PLAN			220,120,000	551,850,000	771,970,000			110,540,000	105180000
CONTRIBUTION IN % OF EACH PARTNER			229,260,000	588,283,500			71%	14%	14%
Contribution in source gov. source			1,200,000	2,000,000	3,200,000				
ONG, private, pop. source			7,940,000	34,433,500	42,373,500				

APPENDIX 4.- TABLE OF RECCURENT COSTS

RECURRENT COSTS AND ACTIVITIES WITH GAP FILLED				
		RECURRENT COSTS	ABSENT EFFECT WITHOUT EXTERNAL FINANCING	
A-DEVELOPMENT OF RURAL INFRASTRUCTURES				
Project total:	360,790,000	<p>In this series of activity the most important recurrent costs are those related to the maintenance of new works produced by the project such as: reforming of rivers; the construction of cisterns and hillside lakes; the construction of new perimeters; development and protection of water sources. These four points represent 59% of this component recurrent costs .</p>	<p>Without these developments of structures in the rural area, a part of the capacity of production will be absent in the future and, more importantly, will cause considerable damages to the population, the harvest, and goods every year by such as tropical storms, flooding, mud slides ect. Without these developments, the losses can be very important. The gap to produce directly is estimated at \$80 mil and indirectly \$50 mil = \$130mil</p>	
GAP:	296,400,000			
recurrent costs:	8,939,000			
B- PRODUCTION AND DEVELOPMENT OF SUB-SECTORS				
Project total:	345,980,000	<p>In this component which contains 40 activities, the most 3 important ones are: -the reinforcement of BAC and DDA, -the program of credit and agricultural insurances; -the acquisition of agricultural equipments tractors and tools; representing 46% of total recurrent cost of the component.</p>	<p>The activity that would produce the highest result would contribute to fertilizers in the cultures and the use of seeds of quality with a participation of \$100mil. With the investments of the government, the private, and the contributions of donors the increase of the production and the decrease of post harvest losses could represent \$182mil per year.</p>	
GAP:	205,550			
recurrent costs:	5,395,000			
C- AGRICULTURAL SERVICES AND INSTITUTIONAL SUPPORT				
Project total:	65,200,000	<p>In this third component are regrouped 13 activities and 3 activities that will assume the most recurrent costs; they are: support to the renovation of regional centers; sanitary protection services; access to land and security of tenure that represent 77% of the total.</p>	<p>Directly it has not been possible to measure in monetary term the contribution of these activities to the food security, but if these adequate services included in these activities are not offered many sub-sectors will not grow and develop. Therefore, we must invest in these activities if we want to obtain the expected results in the preceding components.</p>	
GAP:	57,500,000			
recurrent costs:	1,372,000			

