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AGENCY FOR INTERNATIONAL DEVELOPMENT
PROJECT IDENTIFICATION DOCUMENT
FACESHEET (PID)

1. TRANSACTION CODE
A = Add
C = Change
D = Delete
Revision No.
DOCUMENT CODE 1

2. COUNTRY/ENTITY
Haiti

3. PROJECT NUMBER
521-0170

4. BUREAU/OFFICE
LAC
A. Symbol
B. Code 05

5. PROJECT TITLE (maximum 40 characters)
Interim Swine Repopulation

6. ESTIMATED FY OF AUTHORIZATION/OBLIGATION/COMPLETION
A. Initial FY 83
B. Final FY 84 *
C. PACD 85
*Full funding through FY 83 supplemental.

7. ESTIMATED COSTS (\$000 OR EQUIVALENT, \$1 =)
FUNDING SOURCE LIFE OF PROJECT
A. AID ARDN 2,503
B. Other U.S. 1.
2.
C. Host Country
D. Other Donor(s)
TOTAL 2,503

8. PROPOSED BUDGET AID FUNDS (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE		D. 1ST FY 83		E. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1) ARDN	210	078		1,000		2,503	
(2)							
(3)							
(4)							
TOTALS				1,000		2,503	

9. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each)
200

10. SECONDARY PURPOSE CODE
113

11. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)
A. Code
B. Amount

12. PROJECT PURPOSE (maximum 480 characters)
To distribute improved breeding stock to Haitian farmers during the period immediately following the eradication of African Swine Fever in the country.

13. RESOURCES REQUIRED FOR PROJECT DEVELOPMENT
Staff:
Funds \$25,000 ARDN PD&S

14. ORIGINATING OFFICE CLEARANCE
Signature: Harlan H. Hobgood
Title: Director, USAID/Haiti
Date Signed: 5/4/83
MM DD YY: 05 06 83

15. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION
MM DD YY

16. PROJECT DOCUMENT ACTION TAKEN
S = Suspended CA = Conditionally Approved
A = Approved DD = Decision Deferred
D = Disapproved

17. COMMENTS

18. ACTION APPROVED BY
Signature
Title

19. ACTION REFERENCE

20. ACTION DATE
MM DD YY

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I. INTRODUCTION

In 1978 the world agricultural community became aware that a highly destructive disease unique to swine had been identified on the island of Hispaniola, believed to have been imported by means of diseased meat transported by airplane from the Mediterranean. The disease, known as African Swine Fever, (ASF) is highly contagious and has an extremely elevated mortality rate approaching 100%. The infective agent for ASF is a virus and no preventive or curative measures for the disease are known.

The presence of ASF in this hemisphere threatened to cause enormous damage to the US and Canadian swine industry, for if the virus were to infect the mainland of North America, there would be no means to arrest its spread. Subsequently, a massive campaign was mobilised to eliminate the disease from Hispaniola through destruction of the island's entire swine population. A number of international donors contributed to the effort, which has been underway in Haiti and the Dominican Republic since 1980.

Thanks to this effort, it appears now that the island will be declared disease-free by February of 1984. Attention is now turning to the subject of repopulation of the island with improved varieties of swine and the establishment of a large-scale, permanent program of pork production for the island's farmers. The Inter-American Development Bank is currently preparing a major loan project to this end, which is scheduled to begin implementation in 1985 or 1986.

It is now clear that the period between the end of the eradication phase and the beginning of repopulation activities will be too long. The Haitian farmer, who has demonstrated excellent cooperation in ridding the island of ASF, will currently have to wait for three or four years before having access to breeding stock and recommencing his program of swine production.

The pig plays a much larger role in the Haitian culture than that of a source of protein. Swine have always represented the principal store of value for earnings for the Haitian peasant, who has virtually no access to modern banking facilities. For the Haitian farmer, a pig represents "money in the bank", and a good investment, for it earns interest for its owner by reproducing itself.

Realising the importance of addressing this problem, USAID/Haiti began a series of activities aimed at establishing an interim production program. In March, 1983, the Mission requested and received technical assistance from a team of three specialists in swine production from USDA and AID/W. They were brought in to propose a short term, high impact program of swine breeding in Haiti, designed to bridge the gap between the GOH eradication program and the IDB-financed production and breeding program. Their report forms the basis of the present PID.

In their report, the team stated that AID's support for an interim program:

...would serve as a positive measure towards overall USAID/GOH working relations since participating in the transition program would help demonstrate U.S. concern for Haiti's development, and in particular the loss of their national swine herd, as well as AID's desire to help the Haitian farmer recover some of his losses as soon as possible. Furthermore, village producers have no local source of breeding stock except that which is to be imported as sentinel pigs plus breeding herd replacements which this project could provide. (Copelin and Ferguson, 1983).

It is with this in mind that USAID/Haiti is proposing the present project for interim swine repopulation. The project described in this document is a \$2.503 million, two-year effort to be implemented through IICA, Winrock International, Heifer Project International or another group familiar with livestock production in Haiti. The project is designed to begin the process of repopulation of the island with improved pigs.

Over the LOP, approximately 6000 pigs will be distributed throughout the country. The mechanism for distribution of the piglets has been discussed thoroughly within the Mission, but no firm decision has been made yet. The distribution mechanism is discussed at length in the social soundness section of this PID.

II. BACKGROUND AND RATIONALE

Hogs may have been introduced to the island of Hispaniola on Columbus' first or second voyage to the New World. Cattle were introduced on the first voyage. Running wild and with no natural enemies, livestock increased rapidly. It was these animals that pirates located on Tortuga island would slaughter and roast over open fires (in Arawak, boucans) thus giving the pirates the name boucaniers, or buccaneers. Hogs such as these eaten by buccaneers were the ancestors (500 years removed) of the Creole pig found on the island today.

The problem. Swine production in Haiti has traditionally been carried out by small producers, who raise an average of 1.2 pigs per household (see Table I, next page). The economic importance of swine to the rural population can be demonstrated as follows: prior to 1979, the swine population in Haiti was estimated at 1.2 to 1.9 million heads. Following the outbreak of ASF, this figure declined to approximately 600,000. The direct death losses and losses from depressed pork prices were thus on the order of 12-15 million dollars, a crude indication of the magnitude of the disease's effects.

ASF is a virus caused disease unique to pigs. Mortality from the acute form of the disease is 90 to 100%. In the chronic form mortality ranges from 20 to 50%. At present it cannot be treated nor cured. The animals that survive remain carriers of the disease, and can serve as a source of infection for the rest of their lives. Once the disease appears, the only method of eradication is depopulation of animals from an infected area, followed by cleaning and disinfecting of all premises where swine were raised.

ASF was first confirmed on the island of Hispaniola in the Dominican Republic in July 1978. Because of the adjoining geography of the two countries which share the island of Hispaniola, the Haitian Government for its part immediately took measures to prevent the disease's penetration into Haiti.

Despite such urgent preventive measures, the disease crossed the border to Haiti. Haiti was then faced with two alternatives: either allow ASF to become endemic on the island, or eradicate the causative virus by depopulating the entire swine herd from Haiti.

The latter course was chosen for the following reasons: ASF is highly communicable and serves as a threat to neighboring countries; once endemic, periodic outbreaks occur with mortality rates of 90% or more. Thus, producers are constantly threatened with financial disaster should ASF enter their premises. The result is that it is virtually impossible for a country to maintain pre-ASF levels of production or to improve the swine industry so long as the disease is present. The resulting import restrictions on meat and breeding stock originating in ASF-infected countries serve, in effect, to eliminate the export market.

Eradication Program. Because of the imminent threat of ASF's spreading to the other Caribbean islands, the USA, Canada and Mexico, and the potential devastation of the swine industries in these countries, an agreement was reached between these parties and the GOH for the creation of an organization

TABLE I: SWINE POPULATION, RURAL HOUSEHOLDS AND PIGS PER FAMILY,
1979 AND 1982 BY REGION

Region	Pre-Campaign (1,000)	Rural Households 1979 (1,000)	Pigs Per Household 1979 (No.)	1982
West	218	157	1.4	0.3
North	70	78	0.9	0.3
Northeast	29	36	0.8	0.2
Northwest	34	50	0.7	0.2
South	168	126	1.3	0.5
Southeast	88	79	1.1	0.4
Grand-Anse	66	75	0.9	0.1
Central	97	54	1.8	0.1
Artibonite	129	78	1.7	0.5
• Total	900	733	1.2	0.3

Source of data: IDB/IICA Feasibility Study. Assumes pre-campaign pig population over-estimated by about 25 percent.

for the eradication of ASF and subsequent development of Haiti's swine industry. The Project for African Swine Fever Eradication and Swine Industry Development in Haiti, known locally as PEPPADEP, was established on July 21, 1981.

To carry out the depopulation program, the GOH entered into an agreement with the Inter-American Institute for Cooperation in Agriculture (IICA). IICA launched the depopulation program in May 1982 with the assistance of technical personnel from the USDA and local counterpart personnel from the Department of Agriculture, National Resources and Rural Development (DARNDR).

PEPPADEP's progress to date. Eradication procedures began in May 1982 in the Northwest corner of Haiti. Under the program, farmers bring their swine to local "kill centers", where they are slaughtered by PEPPADEP agents after inspection. PEPPADEP pays the farmer a fair price for the carcass, and the farmer may choose to consume the meat himself or to sell it. Meat from infected pigs is safe for human consumption.

The eradication teams are following the strategy of depopulating one region of the country at a time, beginning at the ends of the northern and southern peninsulas and moving gradually toward the capital. Eradication is scheduled to be completed by June of 1983, and operations are running ahead of schedule. Raking (searching remote areas for any pigs not eradicated in the "kill centers") and disinfectant operations have begun and will be completed by September 1983.

Before the country can be declared disease-free, a program of sentinelization must be carried out. PEPPADEP is establishing regional stations where noninfected pigs will be placed. If they pass a trial period of time (90-120 days) without contracting the disease, then that area can be considered safe and repopulation can begin. Repopulation efforts can then begin between 180 and 210 days after the infected pigs have been destroyed.

The first shipment of sentinel pigs arrived on April 25; they will be placed in the Northwest, where depopulation activities were first initiated. PEPPADEP expects to introduce roughly 2,000 sentinel pigs between April and October 1983. If no ASF outbreaks reoccur, Haiti will be declared ASF-free by February 1984.

One reason for the success PEPPADEP has had to date is the remarkable cooperation of the GOH and of the swine owners. Due to a national multimedia program of public awareness building, the GOH has succeeded in bringing the attention of all sectors of Haitian society to the problem.

Need for swine repopulation. Current joint GOH/PEPPADEP plans do not allow for peasants to receive their nucleus stock of disease-free, improved pigs until the beginning of 1987. The IDB has recently completed the design of a large-scale swine breeding project, to be carried out with the cooperation of the Ministry of Agriculture. However, it is not expected that this program will be operational before 1986, and pigs will not be available until many months after that date. The IDB program is described below.

The IICA/GOH agreement creating PEPPADEP stipulated that eradication of the national herd was not to be initiated until the G.O.H. was assured of external support for the repopulation program. At the time of the signing of the agreement, the Inter-American Development Bank (IDB) was the only potential funding source able to offer such assistance. The IDB offer was made contingent upon the successful completion of the eradication program and final negotiation of the formal loan agreement.

Proposed IDB program. Preliminary repopulation activities were postponed until the depopulation program was well on its way to being accomplished. In October of 1982, IDB contracted IICA to conduct an in-depth study of the mechanism needed to conduct a systematic repopulation program.

This study, entitled "Swine Repopulation, Sanitary Surveillance and Development of the Swine Industry", was submitted to the GOH and IDB on April 11, 1983 for their review. It is a comprehensive three-volume study which sets forth a national plan for swine repopulation. Essentially, the proposal calls for a four-year LOP expenditure of \$18.662 million, of which IDB is called upon to provide \$14.442 million in loan funds. The GOH and private enterprise will finance the remaining 23%.

The proposal envisages the construction of a minimum of two nucleus breeding centers in Port-au-Prince; four multiplication centers, to be strategically located throughout the country; and up to 50 demonstration centers to be built for farmer training and swine distribution.

According to the proposed breeding plan, pure lines of the Duroc, Yorkshire, Berkshire and Hampshire pigs will be maintained in the two nucleus breeding centers. These purebreds will be crossed under controlled conditions to provide hybrid progeny (F₁) for the multiplication centers. These hybrid progeny are expected to possess a genotype that is significantly superior to the Creole swine population. It is also believed that these hybrid progeny will acclimate and readily adapt to Haitian environmental conditions.

The offspring of the F₂ generation will become available for distribution to demonstration centers and to interested farmers.

If the IICA study for repopulation is accepted by the IDB and if Haiti is declared free of ASF by February 1984, the loan agreement could be signed by March 1984. Assuming that the GOH fulfills the conditions precedent for drawing upon the loan fund by July 1984, the implementation of the repopulation phase can begin by August 1984. From Table II below which outlines the time frame for repopulation activities as presented in the IICA proposal, it is noted that the first batch of pigs consigned for distribution to affected peasants will not be available until the end of 1987 (next page).

TABLE II: Timetable, Proposed
IDB-Financed Swine Industry Development Program for Haiti

<u>Estimated Completion</u> <u>Date</u>	<u>Activities</u>
April 1983	Feasibility study performed by IICA for IDB presented to GOH
May 1983	Formal request by GOH to IDB
June 1983	Acceptance of request by IDB
July-August 1983	Intensive project review by IDB team
September-October 1983	Review of findings of IDB project review team and negotiation of modifications with the GOH
November 1983	Approval of loan by IDB Board of Directors
December-January 1983	Preparation and negotiation of terms of loan agreement
January-February 1984	Haiti declared ASF-free
March 1984	Signing of loan agreement
August 1984	Conditions Precedent for IDB loan met and drawing down of funds authorized
August 1985	Infrastructure completed
September 1985	Arrival of breeding stock
February-March 1986	First pigs farrowed
October-November 1986	First pigs enter multiplication centers
November 1987	First pigs available to demonstration centers and farmers

The IDB proposal for industry development, although technically sound, does not respond to the short-term needs for a swine repopulation program directed to the small producer. Some small producers have been without pigs since mid-1978, when 21,000 hogs along the Dominican border were destroyed to prevent the spread of ASF into Haiti. If the first breeding pigs from the IDB program are not available until late 1987, as projected, some farmers will have been without their most important source of security for over eight years.

Using the average of 1.2 head per hog producer during the pre-ASF period, and the conservative estimate of two years for the hog production cycle in Haiti, it is calculated that the opportunity cost foregone during this eight year period will approximate \$600 for each producer, on the basis of a \$90.00 animal weighing 80 kg at maturity. Nationally, then, the 733,000 small hog producers will have lost approximately \$352 million in cash income.

It is clear, then, that an interim bridge-building program of swine repopulation must be initiated as quickly as possible.

USAID/Haiti is therefore proposing the present project, to be coordinated through IICA, Winrock International, Heifer International or a similar organization not yet identified. 500 gilts and boars will be imported under sanitary conditions and will reproduce over a two-year period, gradually becoming acclimated to Haitian conditions. Swine will be bred in leased facilities and distributed to the small farmers who participated in the eradication program. Some limited training will be undertaken and, funds permitting, the national animal health laboratory will be upgraded to improve its diagnostic capability. The project is a short-term effort, with the last pigs being distributed in mid-1985.

II. PROJECT STRATEGY

The preceding section has outlined the need for accelerating the country's swine repopulation program. This established, there are several possible approaches to repopulation, each of which will be outlined here.

The first approach--essentially to do nothing--would mean reliance upon the IDB program as the sole source of breeding stock for the country. This would imply an extensive time lag before the program can begin to deliver pigs.

One approach towards repopulation over the short term would be to breed sentinel pigs immediately after they have fulfilled their primary function. If this approach were to be adopted, approximately 1,040 piglets per month could be ready for distribution beginning February, 1984 (Copelin, March, 1983). This is based on the premise that sentinel pigs will be bred in the field, with the first litters to be farrowed in November, 1983. Progeny would be available for distribution in February 1984. However, under the stress conditions that they will be subjected to, the productivity of these animals will not be high. Also, assuming that the pigs survive the initial sentinelization program, at best the sentinel offspring will be available to less than one percent of former owners (estimated at 733,000) even if each received only one gilt.

Another possibility is to purchase the needed pigs in the US and simply ship them here for distribution. The disadvantage with this approach is that these pigs would arrive without having been fully acclimatized. It would thus be some time before they were fully adapted to local conditions; in the absence of proper feed and veterinary care, they might have a lower survival rate. Furthermore, this would be an extremely expensive approach, with individual pigs costing around \$250 before transportation.

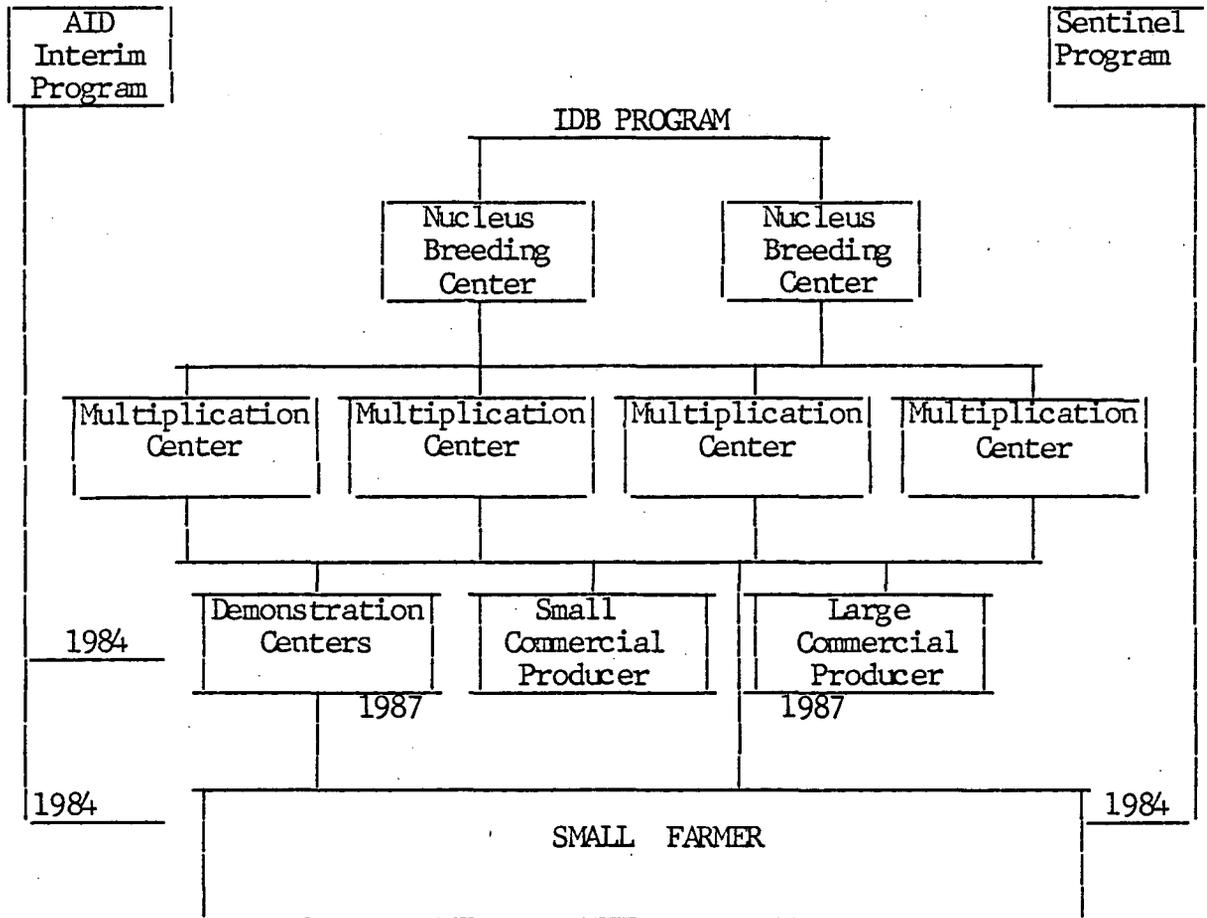
It is therefore proposed to introduce a "nucleus" of breeding pigs and to distribute their first-generation offspring to farmers. This approach has the advantage of permitting the pigs to become adapted to local conditions. Further, the pigs can be produced in this way at the lowest cost possible. During project preparation the possibility of procuring adapted swine from the Dominican Republic will be examined.

Because of the lack of adequate in-country infrastructure for modern swine breeding in Haiti, it is important that the project be limited in size and scope. This project is a short-term, high-impact activity aimed at the specific goal of repopulation, and is not as comprehensive as the IDB program described above. The AID program will not duplicate the IDB-funded project, but will rather serve as a catalyst for the repopulation effort. (See figure 1)

The project inputs will consist of the purchase of the pigs, the leasing of facilities for reproduction, and the financing of the cost of distribution to small farmers. The project will fund all necessary support costs as well, including technical assistance, feed, and laboratory support.

Clearly, this project represents an excellent opportunity for Haiti to upgrade its swine industry. In Haiti, the local varieties, having been in the country for nearly 500 years, had retrogressed through inbreeding to the extent that they were clearly genetically inferior. Haiti now has the opportunity to wipe its slate clean and begin repopulation with genetically superior varieties.

FIGURE 1: FLOW CHART OF RELATIONSHIP BETWEEN
AID INTERIM PROGRAM AND IDB PROPOSED PLAN



II. PROJECT DESCRIPTION

A. Goal and Purpose

The goal of the project is to restore the standard of living of Haiti's pork producers to its pre-ASF level. The goal can be exceeded through introducing a genetically superior swine population that could substantially increase rural incomes and enhance nutritional profiles.

The purpose of the project is to produce and distribute improved breeding stock to Haitian farmers during the period immediately following the eradication of ASF in the country. This will enable former pig producers, who would otherwise be without pigs until 1987, to resume some economic activity. The project is to serve primarily as a transition program, with immediate socio-economic benefits to accrue to the small producers. The project will build upon the successful African Swine Fever Eradication campaign.

This interim effort is designed to link the ASF eradication program with the proposed IDB project for swine industry improvement (repopulation). This transition program will reduce, as much as possible, the time lapse between the end of depopulation (on or about June, 1983) and the time the IDB financed project will be in full-scale operational status, distributing pigs to farmers (mid-1987)

The transition program will provide pigs as early as February, 1984, for:

- (a) providing disease-free (free from ASF, brucellosis, hog cholera, pseudorabies) breeding stock for in-country multiplication and demonstration centers;
- (b) initiating the distribution of pigs to the farmers; and
- (c) providing a limited source of in-country produced pork meat for consumption.

B. Implementation Arrangements

The design of the project is relatively simple, with three major components: a facility for reproducing the breed stock, a technically and administratively competent agency to administer the program, and a distribution network. Each of these is described below.

Swine production. An inventory of the existing production facilities in Haiti has shown that only one institution currently possesses the modern infrastructure required for the project: The Haitian-American Meat and Provision Company (HAMPCO). HAMPCO owns a large swine facility (described in greater detail in the Technical Analysis and Annex II), located near Port au Prince at Damien, where the Ministry of Agriculture's headquarters are also located.

Preliminary discussions between HAMPCO's management and AID/Haiti indicate that a suitable arrangement can be made for leasing of all the physical facilities necessary for the proposed breeding program. HAMPCO is also willing to second its hog unit manager and his staff to manage the breeding program. At the end of this period this production unit will revert to the HAMPCO management under the terms of a contract agreement to be negotiated.

AID will also provide support for technical assistance in swine production.

Project coordination. The recipient of the AID grant will be IICA, Heifer Project International, Winrock International or another similar organization. IICA is the leading candidate for the interim repopulation effort, having been the coordinator of international assistance to Haiti for the eradication campaign.

The organization selected will undertake the following:

technical support services for the production of the breeding stock at HAMPCO;

technical backstopping in swine production and extension activities for PVOs, the GOH and NGOs;

material and technical assistance for improving and expanding the services of the animal disease diagnostic laboratory at DARNDR;

participant training in animal husbandry with special reference to the modern type hogs; and

formulation and implementation of the distribution program.

AID will also directly participate in the on-farm selection of the breeding herd, to ensure that the pigs meet the exacting health and soundness criteria as presented under Section I.G of the Annex I. To this end, animals will be inspected on the farm of origin by two AID representative specialists and one representative from the swine's country of origin.

C. End of Project Status

At the end of two years, the project will have produced the following outputs:

HAMPCO will have produced 5,400 gilts and 540 to 1,080 boars of improved breeds. These will be supplied to the repopulation program via demonstration centers and direct distribution to small farmers.

The pigs not suitable for breeding and distribution will be sold for local consumption after slaughter. This has the benefit of reducing the importation of pork meat and saving on scarce foreign exchange.

Farmers, Haitian technicians and DARNDR staff will have been trained in improved swine production techniques.

Resources permitting, the diagnostic capabilities of the country's animal disease laboratory will have been upgraded, both in terms of trained human resource personnel and upgrading of laboratory facilities.

The on-farm residues, formerly consumed by farmers' pigs and currently unutilised, will be consumed by the pigs and converted to needed protein.

Small producers will have been able to start commercial pig production more quickly than without the project.

The confidence of the nation's 733,000 pig producers will have been restored.

D. Relationship to AID and GOH priorities

The ASF epidemic is a rather unique occurrence during Haiti's economic difficulties. The USG has declared the presence of the disease an emergency, and did so before the GOH acknowledged it as such. A variety of groups in the US and Canada were responsible for the swift organization and funding of an eradication campaign, and these groups have followed PEPPADEP's progress closely.

While the African Swine Fever crisis is unique and is not specifically addressed in the FY 1984 Country Development Strategy Statement, the proposed interim swine repopulation program is consistent with USAID/Haiti's policy to "increase the access of the poor to a reliable and adequate food supply, promote controlled livestock culture to protect the production potential of the land, increase production and net farm income, thereby enhancing nutritional profiles of the farm family."

The GOH has both indicated and demonstrated strong support for the eradication effort. DARNDR's stated priorities include the "improvement of the socio-economic position of the nation's rural population" and "direct investments into activities which increase the efficiency of land and water use". In the wake of the ASF eradication program, the GOH has stated that the evolution of a modern industry is the goal of DARNDR. Further, the present Minister of Agriculture has stated that "swine repopulation directed to the small producer is DARNDR's number one priority at this time." This environment is an ideal one in which to undertake a repopulation program at this time, with so many diverse groups supporting the project's goals.

A major issue, however, which must be resolved early in the process of PP preparation regards possible GOH objections to a non-GOH organization coordinating project implementation. Furthermore, given IICA's overall mandate to assist governmental institutions, if it is chosen as lead organization excessive GOH involvement in the project may result, and project activities impeded.

E. Financial Plan

The total cost of the project is \$2,503,000, to be fully funded with supplemental FY 1983 ARDN DA funds over and above the Mission's current OYB. During the first year the costs of importing the nucleus breeding herd and leasing and managing the hog production unit will amount to \$642,000. For the second year of the project these costs are estimated at \$911,000. This increase is attributed solely to the increased volume of animal feed (3.5 times as much as the first year) required to maintain the increasing herd size.

A cooperative agreement for the entire amount of \$2.503 million will be signed with the lead institution. Subcontracts will be signed by the implementing agency for the leasing of HAMPCO's facilities, as well as with selected PVO's. The GOH may be requested to allocate a small amount of Title I resources to the project, particularly if the capabilities of the National Animal Disease Laboratory are to be upgraded.

TABLE 3
ILLUSTRATIVE BUDGET

<u>Funding Category</u>	<u>U.S. \$000</u>	
	<u>1983-'84^{1/}</u>	<u>1984-'85^{1/}</u>
<u>HAMPCO Subcontract</u>		
1. Lease facilities, management and labor	\$ 300.0	\$ 300.0
<u>Commodities</u>		
2. 405 gilts and 45 boars at \$350 ea (incl. Transport)	158.0	-0-
3. Feed for breeding herd and production, (1st year 1,158 ton, 2nd year 4,006 ton at \$150/ton)	174.0	601.0
4. Medication for breeding herd and production units	10.0	10.0
5. Two 4 WD vehicles and one 3/4 ton flatbed truck	60.0	-0-
6. Operational and maintenance costs for above vehicles	20.0	20.0
Subtotal Commodities		<u>422.0</u> <u>631.0</u>
<u>Technical Assistance</u>		
7. Swine production specialist (2 years)	100.0	100.0
8. Swine extension specialist (2 years)	100.0	100.0
9. Short-term TA for 2 year LOP (e.g. veterinarian, trainers, coop specialists)	50.0	50.0
Subtotal for TA		<u>250.0</u> <u>250.0</u>
<u>PVO Support</u>		
10. Training of personnel, construction, materials, equipment, etc.	125.0	125.0
<u>Miscellaneous</u>		
11. GOH laboratory support and animal sanitation	25.0 ^{2/}	25.0 ^{2/}
12. Contingency	<u>25.0</u>	<u>25.0</u>
Total/year	\$1,147.0	\$1,356.0
Grand Total		<u>\$2,503.0</u>

1. FY 1983 supplemental funding
2. GOH to be requested to fund additional support

III. FEASIBILITY ANALYSES

A. Technical Analysis

The Haitian pig has historically been a very poor producer for these reasons:

The genetic potential of the animals was poor. The animals were characterized by a small skeletal structure, poor conformation, leanness, and a slow rate of growth (pigs requiring 1 and 1/2 to 2 years to reach a marketable weight, and adult males rarely reaching 100 Kg by 3 years of age).

Under the peasant production system, pigs were generally undernourished. The two major management systems were tethering pigs underneath fruit trees and allowing pigs to roam freely to scavenge for food. Little or no investments in feed were made. When the producer decided to sell an animal, he fattened it with surplus food items and crop residues such as sweet potato leaves and vines, royal palm seeds, overripe or damaged fruits, avocados, and garbage. Although wheat bran, rice bran, molasses, cottonseed meal, and soybean meal are available for feeding pigs, these feedstuffs were utilized almost exclusively by commercial producers.

Diseases and parasites contributed to substantial losses in animal numbers and performance.

The imminent eradication of ASF from Haiti provides a unique opportunity to completely replace a very unproductive race of livestock with a very productive one. Since all pigs will have been destroyed, a typical breed improvement project is unnecessary. All pigs entering the country will be improved varieties. Therefore, the technical portion of this project is to select, import and multiply improved swine and to provide the offspring for distribution as quickly as possible.

Adequacy of HAMPCO facilities. Prior to the onset of ASF, HAMPCO's operations included the commercial production of 6000 hogs/year, with balanced rations composed of primarily locally available feedstuffs. HAMPCO's 400-sow production unit is strategically located east of Port-au-Prince within two miles of the airport. Despite the disruption in hog production activities, the facility has been maintained in excellent condition and could be refitted to receive swine on relatively short notice. Further, HAMPCO's trained and experienced hog production personnel are still in place and available to manage the breeding program envisaged under this project.

Feed Costs. HAMPCO has adequate feed mixing and storage facilities for all project needs. Balanced rations can and will be formulated using agricultural by-product feedstuffs available in Haiti (with the exception of a vitamin pre-mix and phosphorous which will have to be imported). Wheat bran, rice bran, soybean meal, and molasses are available for feeding swine. Availability and prices of these feed ingredients are presented in Table 4. Tables 6 and 7 show a breakdown on a monthly basis of total feeds required for maintaining

the entire herd to be produced under the program. Due to the inclusion of high levels of wheat bran in the rations, the diets will be lower in energy than those typically fed to hogs in the U.S. and thus the rate of weight gain will be slower. It is estimated that approximately 240 days will be required for hogs to reach a marketable weight of 90 Kg.

The possibility of utilizing excess Title II commodities and /or surplus USDA dairy products in swine rations, to partially reduce DA funding for project costs, will be investigated during PP preparation.

TABLE 4: QUANTITIES AND COST OF FEEDSTUFFS AVAILABLE IN HAITI PER YEAR (a)

Feedstuff	Quantity available per annum MT	Cost per metric ton ^{a/} , US \$
Wheat mill feed	34,684	56.10
Rice bran	10,000	22.00
Molasses	14,545	33.00
Soybean meal	80,000	184.00
Cottonseed meal	462	80.00
Limestone	unlimited	22.00

a/. Based on information available November 7, 1982.

Source: IICA

Breeding. Under good management conditions, the current reproductive potential of swine is 18 piglets per sow per year. Realizing that pigs will be adjusting to a new environment and feeding regimen, the technical team has predicted that sows will produce 16 piglets per sow per year. The team proposed the importation of 405 gilts and 45 boars. This breeding herd will arrive in three air shipments beginning in September 1983, with the final shipment to arrive in November 1983.

According to the production schedule designed for the imported breeding herd (Table 5), the first batch of breeding stock will be distributed in February 1984 compared to November 1987 if USAID does not intervene with an interim program. Further, at the end of the first year, 1,800 gilts will have been distributed together with 180 to 360 boars. At the end of two years, a breeding herd of 5,400 gilts and 540 to 1,080 boars will have been produced for distribution. In addition to the production and distribution of improved breeding stock throughout Haiti, under this project substantial quantities (5,000 pigs) of pork will have been produced for local consumption. Based on the projection that 5,400 gilts and 540 to 1,080 boars will have been

distributed by the end of the project a static sow herd size of 20,000 to 24,000 sows will result from the offspring of the HAMPCO sows within one to two years after termination of the project (i.e. 1986-1987, assuming start-up date of September 1983).

Based upon the recommendations of the technical team, a preliminary breeding program has been designed. Maternal breeds to be used are the Yorkshire and Yorkshire crosses (showing predominantly Yorkshire breeding) which are superior in mothering ability, feed efficiency, growth rate and foraging abilities. Duroc, Spotted, and Yorkshire sires will be used in a 3-breed rotational cross. The resulting offspring will have a high lean-to-fat ratio, a high feed efficiency and will be hardy. The Creole pig was generally a black-skinned animal. Reports that there is some bias against light-skinned hogs were taken into consideration when selecting breeds. Despite these biases, color is not expected to be a major acceptance factor, due to the high demand for hogs.

Rationale for Selection of HAMPCO (see Annex II)

HAMPCO (Haitian American Meat and Provision Co., S.A.) was established in Haiti as a private corporation in 1958. The present meat processing facility was constructed in 1960 by the Murchinson interests of Texas, with stockholders and officers of the corporation all being American citizens. In 1971, the packing plant was sold to Serv-Best Foods, Inc., Highland Park, Illinois. Mr. Bill Steed has managed HAMPCO since 1960.

In 1973, HAMPCO built a modern 400-sow hog farm to produce hogs for its processing plant, primarily because of the difficulty in obtaining sufficient numbers of quality hogs locally. A 10-foot high concrete block wall surrounds the farm and strict sanitation procedures were carried out to minimize disease problems. Breeding animals were imported from the U.S. and Mr. Steed reports that they adapted well to the conditions under which they were raised. Haitian Agronome Jean-Robert Ambroise managed HAMPCO's hog unit up until the time that HAMPCO voluntarily slaughtered all their hogs as part of the African Swine Fever eradication program (HAMPCO hoped that early participation in the program would allow them to resume hog production soon after, but thus far this has not been the case). Dr. James Allison, a veterinarian and swine management consultant from Kansas worked with Mr. Ambroise on all aspects of production. HAMPCO produced an average of 5000-6500 pigs annually, using balanced rations composed primarily of locally available feedstuffs, such as wheat mill feed, molasses, and soybean meal. (HAMPCO has feed mixing and storage facilities as well). Records show that HAMPCO was producing hogs at near U.S. efficiency. HAMPCO employed a total of 25 Haitians to take care of the hog operation. A hog unit the same size in the U.S. would only employ two or three people.

HAMPCO also processes cattle, a limited number of goats, and manages a 10,000-head confined rabbit farm to produce fryers for the local market.

Because HAMPCO possesses the only suitable modern swine breeding facility in the country and because HAMPCO has offered to second its experienced hog production personnel to the project, it was the logical choice in selecting a site for breeding stock reproduction under the U.S. AID/H Interim Swine Repopulation Program.

TABLE 5: PRODUCTION SCHEDULE FOR PROPOSED AID BREEDING HERD
FOR USE IN INTERIM REPOPULATION PROGRAM

	<u>Date</u>
1. Arrival of first group of 135 gilts, 15 boars	September 1983
2. Arrival of second group of 135 gilts, 15 boars	October 1983
3. Arrival of third group of 135 gilts, 15 boars	November 1983
Total Importation: 405 gilts, 45 boars	
4. Begin breeding 30-35 gilts/week	November 1983
5. Begin farrowing 26 gilts/week (80% conception rate)	February-March 1984
6. Begin weaning 208 pigs/week (weaning 8 pigs/litter)	March-April 1984
7. 72 gilts/week and 7-14 boars/week will be available for distribution. 10 gilts/week will be retained at HAMPCO for replacement gilts. 100-110 pigs/week will be available for growing and finishing for eventual slaughter, including cull gilts and excess boars.	April-May 1984
8. 1,800 gilts and 180-360 boars will have been distributed; slaughter of 100 pigs/week will begin.	October 1984
9. 3,600 gilts and 360-720 boars will have been distributed; 2,500 or more pigs will have been slaughtered for local consumption	April 1984
10. 5,400 gilts and 540-1080 boars will have been distributed; 5,000 or more pigs will have been slaughtered for local consumption.	October 1985

The HAMPCO herd will consist of 380-400 sows, 40-50 boars, 832 pigs under 4 weeks of age, and 2,600 or more pigs from 4 weeks of age to slaughter weight.

TABLE 6: MONTHLY FEED REQUIREMENTS AND COSTS,
INTERIM SWINE REPOPULATION PROJECT

	Starter	Growing Finishing	Gestation	Lactation	Boar
Ingredient	190.60/ton	71.00/ton	75.20/ton	195.00/ton	136.00/ton
Cost	9.53/100lb	3.55/100	3.76/100	9.75/100	
Sept. 83	9.45	5.4	-		
Oct. 83	9.45	24.0	-		
Nov. 83	9.45	41.4	5.0		
Dec. 83	-	36.0	13.4		1.0
Jan. 84	-	18.0	21.75		2.0
Feb. 84	-	-	23.00	4.25	3.375
March 84	-	-	18.10	18.72	"
April 84	22.5	20.7	"	"	"
May 84	37.5	62.1	"	"	"
June 84	37.5	103.5	"	"	"
July 84	37.5	144.9	"	"	"
Aug. 84	37.5	186.3	"	"	"
Sept. 84	37.5	227.7	"	"	"
Oct. 84	37.5	258.75	"	"	"
Nov. 84	37.5	"	"	"	"
Dec. 84	37.5	"	"	"	"
Jan. 85	37.5	"	"	"	"
Feb. 85	37.5	"	"	"	"
March 85	37.5	"	"	"	"
April 85	37.5	"	"	"	"
May 85	37.5	"	"	"	"
June 85	37.5	"	"	"	"
July 85	37.5	"	"	"	"
Aug. 85	37.5	"	"	"	"
Sept. 85	37.5	"	"	"	"
Oct. 85	37.5	"	"	"	"

TABLE 7: TOTAL FEED TO BE MANUFACTURED AT HAMPCO BY MONTH (U.S. TONS)

	Tons Per Month	Total Cost	
<u>Of Complete Ration</u>			
Year 1			
Sept. '83	14.85	\$2,200	
Oct.	33.45	3,500	
Nov.	55.85	5,100	
Dec.	50.40	3,700	
Jan. '84	41.75	3,300	
Feb.	30.625	3,000	
March	40.195	5,500	
April	83.395	11,240	
May	139.795	17,000	
June	181.195	20,000	
July	222.195	23,000	1,158 Tons
Aug.	263.995	26,000	1st year total \$123,540 = \$106.68/Ton
Year 2			
Sept. '84	305.395	29,000	
Oct.	336.445	31,000	
Nov.	336.45	31,000	
Dec.	336.45	"	
Jan. '85	336.45	"	336 Tons/Month
Feb.	336.45	"	15.3 Tons/Working Day 22/Mo.
March	336.45	"	1.91 Tons/Hour 8 Hr./Day
April	336.45	"	
May	336.45	"	
June	336.45	"	
July	336.45	"	4,006.3 Tons
Aug.	336.45	"	2nd Year Total \$370,000=\$92.34/Ton
Year 3			
Sept. '85	336.45	"	Total Tons= 5,164
Oct.	336.45	"	Total \$ = \$493,540
			Total Ave./Ton=\$96.00/Ton

Disease and adaptability. HAMPCO's facilities and the planned production system will minimize disease problems. Vaccines and other medications are included in the project budget to carry out a preventive health program. Also if funding allows, support will be provided for the Animal Disease Diagnostic Laboratory to insure that diagnostic services are available specifically for the project.

Of the major domesticated animals, swine are easily the most adaptable and it is confidently expected that the distributed cross bred offspring will survive and will produce at levels of efficiency well above the pigs they are replacing. Survival of any pig, whether an improved breed or native, depends on feed and water. "American" pigs will survive if treated as well as the native pig. Improved performance, however, can be achieved only with improved management. That American pigs have been in Haiti for some time under modern production practices and have performed well is evidenced by the HAMPCO experience. Also, the pigs introduced into the DR following ASF eradication have adapted well and reproduced healthy and sound offspring. It is important to recall that HAMPCO officials noted that the offspring of the imported pigs were well adapted to the conditions under which they were raised. Therefore it is reasonable to expect that each succeeding generation of pigs produced will be more acclimated and will adapt more readily to the peasant's management level.

Traditional production methods. Peasant producers have been raising pigs under the current system of minimal inputs for almost 500 years. Although tradition will be a negative factor in convincing peasant farmers to adopt improved management techniques it is reasonable to assume that producers will be more apt to invest in supplemental feedstuffs and provide more care for their animals because the new pigs will have a greater economic value. The newly introduced swine will be larger in size and have substantially greater production potential than the breeds they are replacing. To achieve the maximum utilization of the improved genetic stock thus distributed, a system of extension training for these farmers should be established.

Pigs have traditionally been a very important part of the farming and social system in Haiti. Over 80% of the rural population was involved in pig-raising in 1978. Pork is an integral part of the Haitian diet. Griot, bits of deep-fried pork, is the national dish of Haiti, and a typical meat dish of both peasant and elite.

C. Social analysis

There are three principal concerns to be addressed during the social soundness analysis of the project, which will constitute a major portion of the PP design.

1. Color. The first is the acceptability of American varieties of pigs in Haitian culture. While it has been stated within this paper that the Creole pig is in general black, there are instances in which other colors are preferable (for example, for some ritual slaughters). The breeding program has been designed with this in mind, and a variety of acceptable colors of pigs have been proposed for reproduction. During PP design, the question of

swine color will be thoroughly investigated, and an appropriate recommendation will be made. IICA's comprehensive study, mentioned previously, includes information on this topic and will be referenced during PP design.

2. Traditional methods. The second question also concerns the way in which the Haitian farmer will accept the improved pig. It would be preferable that the farmer adopt a package of improved practices (including feed, veterinary care, and attention to breeding) but it is doubtful that this will be the actual case for the vast majority of farmers.

Therefore, it must be ascertained that the variety of pigs to be introduced can survive under rural conditions, such as those described in the technical feasibility section. The traditional method of feeding pigs is to tether them or allow them to forage for garbage and other feed they may locate. The PP will therefore examine the question of whether the improved pigs will survive under these conditions. In the Dominican Republic and in previous programs in Haiti, the varieties of pigs introduced were able to do so.

3. Distribution program. Because of the desire of small farmers to resume hog production, an important economic activity, the demand for quality breeding stock farrowed in Haiti will outstrip the supply produced under this program. Consequently, a rational distribution program must be developed to ensure that pigs will reach as many of the affected farmers as possible. Special consideration will be given to those farmers who can demonstrate the greatest need. Experience suggests that a demonstration type of extension outreach program would be most effective. Those groups desiring to participate in the pig distribution program will be required to provide training/demonstration sites for extension purposes. It is recommended that simplified cartoon style extension materials such as those used for the eradication campaign should be developed to train the small producer in basic animal husbandry for maintaining the improved animal under the Haitian village system. In addition, PVOs and NGOs have had many years of experience in dealing directly with the peasants. Consequently, training and extension carried out by these familiar institutions will make acceptance of new technology more likely.

Although it is not yet possible to specify the best or most equitable distribution system for this project, several alternatives have been discussed in the Mission and are outlined here. Because of the importance of this question to the success of the project, much attention will be given to it during PP design.

Preliminary options are outlined below:

(a) Use of private voluntary agencies (non-governmental organizations, community councils, and/or village groupements). The advantage of distributing pigs to PVOs for subsequent redistribution to farmers is inter alia that the PVO network in Haiti is very strong. USAID/Haiti has a long history of involvement with PVOs, many of which have strong technical and financial backgrounds. PVOs are located throughout the country and can assure the proper support services for the distribution program.

Under the PVO strategy, qualifying organisations would construct facilities to house five to ten pigs. They would provide food and veterinary services to breed pigs and would be supported with technical assistance from IICA and the Ministry of Agriculture. The PVOs would then work with farmers to establish sites for breeding and fattening, and distribute the pigs accordingly thereafter.

If this program is implemented, it could be financed by means of a revolving fund, built up for example, from the sale of the culled pigs at the HAMPCO station. These funds would be made available primarily to those who do not have the financial resources to purchase a pig or the necessary inputs. A number of repayment schemes will be explored, such as payment in-kind (a pig for a pig), delayed payment, or progressive payments.

(b) Rural credit. A second approach would be to provide credit for poor farmers to finance the cost of their own pig operation. One organisation through which this could be implemented is the Bureau de Cr dit Agricole, an institution supported by USAID. The BCA supplies credit to small farmers and others, and has indicated interest in providing credit for swine production. However, they are currently overextended and would require an injection of capital--around one million dollars--in order to undertake this program.

(c) PEPPADEP kill receipt method. Another, seemingly logical, method of distribution would be based on presentation of "kill receipts" provided to those who have turned in swine for slaughter under the PEPPADEP eradication program. While this approach would be relatively easy to implement, questions arise as to its equity. For example, an undetermined amount of swine have been turned in under the program by speculators who purchased them at substantially reduced prices, in some areas from peasants convinced that their swine might eventually be confiscated without due compensation. Furthermore, even where these circumstances do not exist it is often the more well informed middle income and wealthier farmers who have individually brought in larger number of pigs and therefore possess equivalent numbers of receipts. Potential problems and pitfalls related to the above could, of course, be partially avoided by limiting the number of receipts accepted from each person or family.

(d) Random distribution. Because the demand for pigs will greatly exceed supply, a lottery system could be instituted, with distribution based purely upon chance. In this way, a poor farmer could have the same chance at receiving a pig as could a rich farmer. However, the administrative considerations for such a program are staggering. Furthermore, it would be necessary to design a distribution system in such a way that misuse or corruption would be minimised; this is not a small undertaking.

In addition to the concerns outlined above, the PP will discuss the nature of the livestock market in the country and the impact that depopulation has had upon the lives of the Haitian poor.

C. Economic analysis

The economic analysis will go beyond an examination of the costs and the benefits of the project: it will play a key role in the design of an intervention strategy. There is a great number of externalities associated with this project, and a close examination of them will aid in designing a more efficient and less costly project.

For example, if the decision not to eradicate had been made, pork production in Haiti would have been devastated and any efforts to improve rural herd productivity would have been fruitless. ASF was a catastrophe for Haiti, but it also provides an opportunity to replace the swine population with more productive genetic stock which are free of major diseases. The implications of this possibility should be examined.

There are credit implications as well. Pig sales are one of the few ways by which peasants raise immediate cash to meet personal obligations (school fees for children, marriages, baptisms, funerals, medical expenses and other emergencies). The pig has filled a niche in the farming and household systems of Haiti that can not be filled by any other species.

The economic analysis should also look at the socio-economic matrix into which the pig fits in a farming system:

the native pig required little attention or investment to feed, house or enclose;

traditional marketing (or exchange) procedures permitted rapid exchange of animals on purchase, loan and sharing bases;

the pig is the preferred means of saving for known and unexpected future needs as sales or exchanges were always possible regardless of the size or conditions of the pig post weaning; and

they served as a natural garbage disposal system, consuming all edible materials which would otherwise have been wasted.

Other issues to be addressed in the economic analysis revolve around the cost-effectiveness of the operation, such as the following:

What is the most efficient way to accelerate the growth of the national herd while assuring equitable access to breeding stock by all potential producers, regardless of their management capability?

What are the cost efficiencies of large, medium-sized and very small (peasant) hog production systems?

What is cost effectiveness of producing breeding stock locally as opposed to importing it?

What is the possibility of reinvesting funds derived from the sale of pigs into the project to partially cover leasing costs, feed costs, or to establish a revolving loan fund to enable the poorest farmers to acquire pigs?

Undertaken in this way, the economic analysis can play a major part in the design of the project paper.

V. PROJECT DESIGN CONCERNS

A. Design Strategy

Timetable. Following approval of the PID in May by AID/W, the Mission will proceed with the preparation of the Project Paper. PP design will take place during the month of June, and will be completed by the end of June.

If the authority to authorise the PP in the field is granted, then implementation can begin in a very rapid manner. Given the urgency of the need for an on-line project, it is strongly recommended that the authority be delegated to the Mission for field authorisation.

Resources required. Much of the technical work in developing the PP has been done. What remains, in terms of project development, are the social and economic analyses. For the social analysis, it is proposed to hire a well-qualified sociologist or anthropologist and to permit him to spend two to three weeks in the field before preparing his report. A scope of work should be easily derivable from the social feasibility section in this document.

The economic analysis could be undertaken by the Mission's agricultural economist, although an outside consultant may be brought in.

Financial considerations. As is clear from a number of exchanges of correspondence between the Mission and AID/W, this project must be funded from supplemental funds above the current FY 83 ARDN OYB. Approval of the PID will therefore constitute an approval to raise the ARDN OYB by \$2.503 million in FY 83.

HEALTH AND BREED SPECIFICATIONS FOR USAID INTERIM REPOPULATION PROGRAM ^{1/}

I) Gilts

A) Total number: 405

must have been born and raised on farm where purchased and so stated on Health Certificate.

B) Gilts will be purchased only in groups of at least 50 animals that must originate from a single swine production unit.

C) Approximate delivery dates:

135 to be delivered Sept. 10-20, 1983.

135 to be delivered Oct. 10-20, 1983.

135 to be delivered Nov. 10-20, 1983.

D) Transportation:

Air Transport - Non-stop from the country of origin to Port-au-Prince, Haiti. Responsibility of contractor must include the cost in its bid price and take full responsibility to see that shipment does actually take place in accordance with the terms of the contract, and to arrive early evening, no later than 10 o'clock p.m.

E) Quality and Size:

1) All gilts must meet standards equal to those for U.S. No. I feeder pigs.

2) All gilts must be healthy and free from any genetic defects.

3) All gilts must weigh between 110 and 140 pounds at time of movement into quarantine on the farm of origin; age between 3 1/2 and 4 months.

4) All gilts must have a minimum of 12 teats (6 per side).

NOTE: Gilts will be inspected on the farm of origin at purchaser's expense by two AID representative specialists and one country of origin representative, who will be authorized by USAID or its representative to accept or reject any animal or the entire group if they fail

to meet the above-mentioned conditions

Gilts selected must be separated from the rest of the herd until laboratory results are available, and then be shipped to the export quarantine facility for shipment to Haiti.

The contractor must notify the purchaser by telephone or by telex at least 48 hours in advance so that arrangements can be made for inspection and selection.

F) Breeds:

The gilts must be Yorkshire and Yorkshire crossbred gilts showing predominately Yorkshire breeding.

Importation must be from Country free of African Swine Fever and Hog Cholera.

G) Health Requirements:

1) Must originate from herds officially free of:

a) Brucellosis - Brucellosis validated free herd, or the swine individually tested negative for brucellosis prior to entering quarantine in country of origin and all breeding animals in the herd six months of age or older are negative to an official brucellosis test conducted within thirty days of purchase.

b) Pseudorabies.

2) Must originate from herds that have not had a history or clinical evidence of the following diseases during the preceding twenty four months:

a) Tuberculosis

b) Leptospirosis

c) Erysipelas

d) Transmissible Gastro-Enteritis (TGE)

e) Jaw abscess - Cervical abscess

f) Glasser's disease

- g) Vesicular stomatitis
 - h) Swine dysentery
 - i) Mycoplasma pneumonia (Enzootic Pneumonia)
 - j) Atrophic Rhinitis
- 3) On farm quarantine requirements:
- a) Cement facility cleaned and disinfected before start of quarantine.
 - b) A minimum of one hundred feet from other swine pens (facility).
 - c) During the on farm quarantine pigs must:
 - I. Test negative for:
 - i) Brucellosis (card test or tube test 1:25)
 - ii) Pseudorabies (SN Test 1:4)
 - iii) Tuberculosis
 - iv) Transmissible gastro-enteritis (TGE) SN-1:8)
 - v) Leptospirosis - Serotypes (Pomona, canicola, hardjo, icterohemorrhagiae, gryppothyphosa)
 - vi) Hog cholera
 - vii) Specific date of test, results obtained, name and address of laboratory.
 - II. Must be treated for:
 - i) Endoparasites
 - ii) Ectoparasites
 - iii) Specify date, type of product and dosage
- 4) Pigs must meet requirements specified in the form S.V. 001 except the African Swine Fever requirements.
- 5) Pigs must have passed export quarantine period of not less than ten days immediately before departure to Haiti; said quarantine facility must be approved by Veterinary Services of Country of Origin.
- 6) The pigs must be accompanied by a Health Certificate to include the following:

- a) Name and address of exporter
- b) Name and address of farm of origin
- c) Name and address of buyer
- d) Complete swine identification. One official ear tag in each ear. (Both listed on Health Certificate)
- e) Certifications of the requirements for country and herds of origin.
 - 1) Coming from country free of:
 - i) Foot and mouth disease
 - ii) Vesicular swine disease
 - iii) Hog Cholera
 - iv) African Swine Fever
 - v) Teschen's disease
 - 2) Health Requirements:
 - i) Health Certificate must be issued by a veterinarian, who is licensed and accredited in the State or Country of Origin of the swine
 - ii) The issuing veterinarian must have visually inspected the entire herd of origin and so state on the Health Certificate
 - iii) Must be endorsed by the Official veterinarian in charge
 - iv) Laboratory tests results and type of treatments.
 - v) If vaccinated, list name and type of vaccine and date of vaccination

II. Boars

- A) Total Number - 45
- B) Boars should be purchased only in groups of five to ten originating from a single swine production unit, with no more than ten boars from the same production unit and being from a production unit different from the origination of the gilts.
- C) Delivery:
 - 1) Date:
15 - Sept. 10-20, 1983

15 - Oct. 10-20, 1983

15 - Nov. 10-20, 1983

2) Delivered to - Same as for gilts.

D) Transportation - Same as for gilts.

E) Quality and size:

1) All boars must be purebred and registered in the appropriate breed association.

2) All boars must be healthy and free from any genetic defects.

3) Both testicles must be in the scrotum.

4) All boars must have a minimum of twelve teats (six per side)

5) Weight - Same as for gilts.

F) Breeds: First shipment include boars of Duroc and Spotted Swine no less than 5 or more than 10 of either breed.

Second Shipment: Same as for first.

Third Shipment: must include Yorkshire and Duroc Boars no less than 8 Yorkshire and no more than 7 Duroc.

All boars must be registered in the appropriate breed.

G) Quarantine condition - Same as for gilts.

H) Sanitary conditions - Same as for gilts.

All documents accompanying the animals, shall be appropriate documents transferring ownership to the importer.

HAITIAN AMERICAN MEAT & PROVISION CO. S.A.

PORCHERIE D'HAITI

I. AREA

5.75 acres entirely enclosed by eight foot concrete block wall.

II. SWINE BUILDINGS

Total 28 hog structures, semi-confinement, electrified, automatic waterers. Consist of two farrowing buildings, one nursery, barns for breeding herd (sectioned for gilts and open sows, gestation and boars). Boar pens equipped with automatic, programmable sprinkler/shower watering. Growing/finishing barns. Barn occupancy interchangeable.

Farrowing buildings have sufficient stalls for 400 sow operation.

Farrowing buildings and nursery building are fitted with "tenderfeet" (baby saver) elevated, perforated flooring.

All barns connected to cement pits for waste collection.

III. AUXILIARY BUILDINGS AND FACILITIES

One office building containing two offices, one small laboratory and toilet.

One welfare facility including showers and toilets for farm employees.

One incinerator.

Two feed mixing tanks, manual, open construction, cement.

IV. ANCILLARY SERVICES/EQUIPMENT AVAILABLE

CHLORINATED WATER adequate for 5000 pig herd. This is deep well water, chlorinated on site, tested four times yearly by certified U.S. lab. Meets USDA requirements for HAMPCO meat processing plant.

ELECTRICITY. Lessor will install one meter for electricity supplied by Electricite d'Haiti; charges to be paid by lessee. Lessor will install one meter for electricity supplied by HAMPCO via existing Caterpillar diesel generator. This is source of stand-by electricity for "black out" periods from Electricite d'Haiti. Lessee will be charged monthly, per kilowatt hour at 2.5 times local rate. (HAMPCO cost to produce electricity is approximately twice the cost of purchased electricity. HAMPCO must also provide generator maintenance.)

FEED DEPOT AND FEED MILL. Approximately 6000 square feet modern, cement construction depot. Feed mill facilities are in place and operating.

MANURE WAGON WITH VACUUM PUMP AND DISCHARGE "Clay" model. Requires one tractor to haul, 48 hp or higher. Size is adequate for daily removal of manure from cement collection pits connected to each hog building. Waste is spread as fertilizer on nearby farms.

OFFICE TRAILER, 60' x 12', Model No. 6012F0. Furnished complete with carpeting and drapes. Modern including toilet, full heating/air conditioning. Divided into one general office, three private offices. Desks, chairs, filing cabinets, water cooler, etc.

N.B. Above offering is separable. Any, all or none of ancillary services may be included in lease.