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HAITI

**REHABILITATION OF THE IRRIGATION SYSTEM AND DEVELOPMENT OF
AGRICULTURE IN THE ARTIBONITE VALLEY**

(HA0018A)

LOAN PROPOSAL

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H A I T I

REHABILITATION OF THE IRRIGATION SYSTEM AND DEVELOPMENT
OF AGRICULTURE IN THE ARTIBONITE VALLEY

PROJECT HA0018A

LOAN PROPOSAL

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H A I T I

Basic Economic Data

1. Area and Population

Area (thousands of km ²)	28
Total population (thousands of inhabitants, 1975)	4,584
Inhabitants per km ²	165
Literacy rate (1971)	28
Rate of population growth (1960-1975)	1.7

Percentage breakdown of economically active population: (1973)

Agriculture	83.2
Mining	-
Manufacturing	4.9
Construction	0.6
Electricity	0.1
Commerce	3.5
Transportation	0.4
Services	4.6
Unspecified	2.7

2. National Accounts

1960 1971 1972 1973 1974

Percentage breakdown of gross domestic product, by sector:

Agriculture	49.9	47.7	46.9	42.1	39.7
Mining	1.2	1.9	1.6	1.7	1.6
Manufacturing	10.2	9.9	10.6	11.6	12.7
Electricity	1.0	1.4	1.6	1.8	2.0
Construction	2.0	2.4	2.8	3.8	3.8
Commerce	10.8	10.4	10.1	11.6	12.6
Transportation	3.1	2.5	2.7	3.0	3.0
Financial services	9.7	9.6	9.7	9.1	8.8
Other services	5.7	6.6	6.8	6.1	6.0
Government	6.4	7.6	7.2	9.2	9.8

Gross fixed capital formation
(as % of GDP)

7.2 9.6 11.3 8.9 10.3

1960-74 1966-74

Rate of growth of GDP	2.2	3.4
Rate of growth of GDP per capita	0.4	1.7
Rate of growth of total investment	4.6	11.5

3. <u>Foreign Trade</u> (millions of US\$)	<u>1960</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
Exports						
Total	38.0	40.0	46.0	43.0	52.0	71.0
LAFTA	-	-	-	-	-	..
Andean Group	-	-	-	-	-	..
CACM	-	-	-	-	-	..
Latin America	-	0.4	0.8	0.3	0.5	..
United States	19.7	24.3	31.3	28.1	31.8	..
Canada	0.2	0.2	0.4	0.4	0.5	..
Japan	-	1.3	1.3	0.3	0.2	..
United Kingdom	0.1	0.2	0.1	0.3	0.2	..
European Common Market	15.9	13.4	13.4	11.9	17.0	..
Imports						
Total	45.7	54.0	59.0	64.0	74.0	109.0
LAFTA	-	1.0	0.9	1.1	1.2	..
Andean Group	-	0.3	0.2	0.4	0.5	..
CACM	-	0.2	0.5	-	0.5	..
Latin America	0.1	1.5	1.7	1.9	2.3	..
United States	27.7	24.1	26.9	28.9	32.8	..
Canada	1.5	2.3	2.9	4.9	6.1	..
Japan	0.2	4.7	5.4	5.8	6.8	..
United Kingdom	2.8	2.1	2.7	3.0	3.5	..
European Common Market	10.7	13.2	13.5	15.7	19.7	..
4. <u>Balance of Payments</u> ^{1/} (millions of US\$)						
A. Balance on current account	1.4	1.7	0.7	6.8	-16.1	-19.5
B. Long-term capital flows (net):	1.3	2.3	2.3	11.5	6.9	11.3
Public	1.2	-0.8	-1.3	7.2	-2.7	-2.9
Private	0.1	3.1	3.6	4.3	9.6	14.2
Direct In- vestment	0.1	2.8	3.4	4.1	7.2	7.9
Other	-	0.3	0.2	0.2	2.4	6.3

^{1/} Fiscal years ending September 30.

5.	<u>International Monetary Reserves</u> (millions of US\$)	<u>1960</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>
	National Bank (gross)	5.0	4.4	10.5	18.0	17.1	19.8	11.2 <u>1/</u>
6.	<u>Cost-of-Living Index</u>							
	1970 = 100	77	100	110	114	140	161	187 <u>2/</u>
7.	<u>Public Finance</u> (millions of US\$)							
	Current Central Government Receipts	..	220.3	250.5	270.2	296.4	364.0	..
	Total Central Government Expenditures	..	226.0	267.5	277.4	321.8	396.2	..
	Current expenditures	..	217.7	253.6	246.3	292.8	366.1	..
	Capital outlays <u>3/</u>	..	8.3	13.9	31.1	29.0	30.1	..
	Overall surplus (+) or deficit (-)	..	-5.7	-17.0	-7.2	-25.4	-32.2	..

SOURCES:

Area:

Organization of American States, América en Cifras 1972 - Situación demográfica: Estado y movimiento de la población.

Total Population:

IDB estimate based on official national statistics.

Literacy:

Information supplied to the IDB by the Institut Haitien de statistique in December 1975.

1/ November.

2/ September.

3/ Debt amortization not included.

Economically Active Population:

IDB estimate based on information in: International Labor Office,
Anuario de estadística del trabajo, 1964-1967.

Gross Domestic Product:

Information supplied to the IDB by the Institut haitien de statistique
in December 1975.

Foreign Trade:

Exports and imports:

Total: International Monetary Fund, International Financial Statistics,
January 1969 and April 1976.

Group and country breakdown:

International Monetary Fund, Direction of Trade Annual 1960-64 and
Direction of Trade, November 1975.

Balance of Payments:

International Monetary Fund, Balance of Payments Yearbook (computer
tapes, December 1975).

International Monetary Resources:

International Monetary Fund, International Financial Statistics,
February 1968 and April 1976.

Cost-of-Living Index:

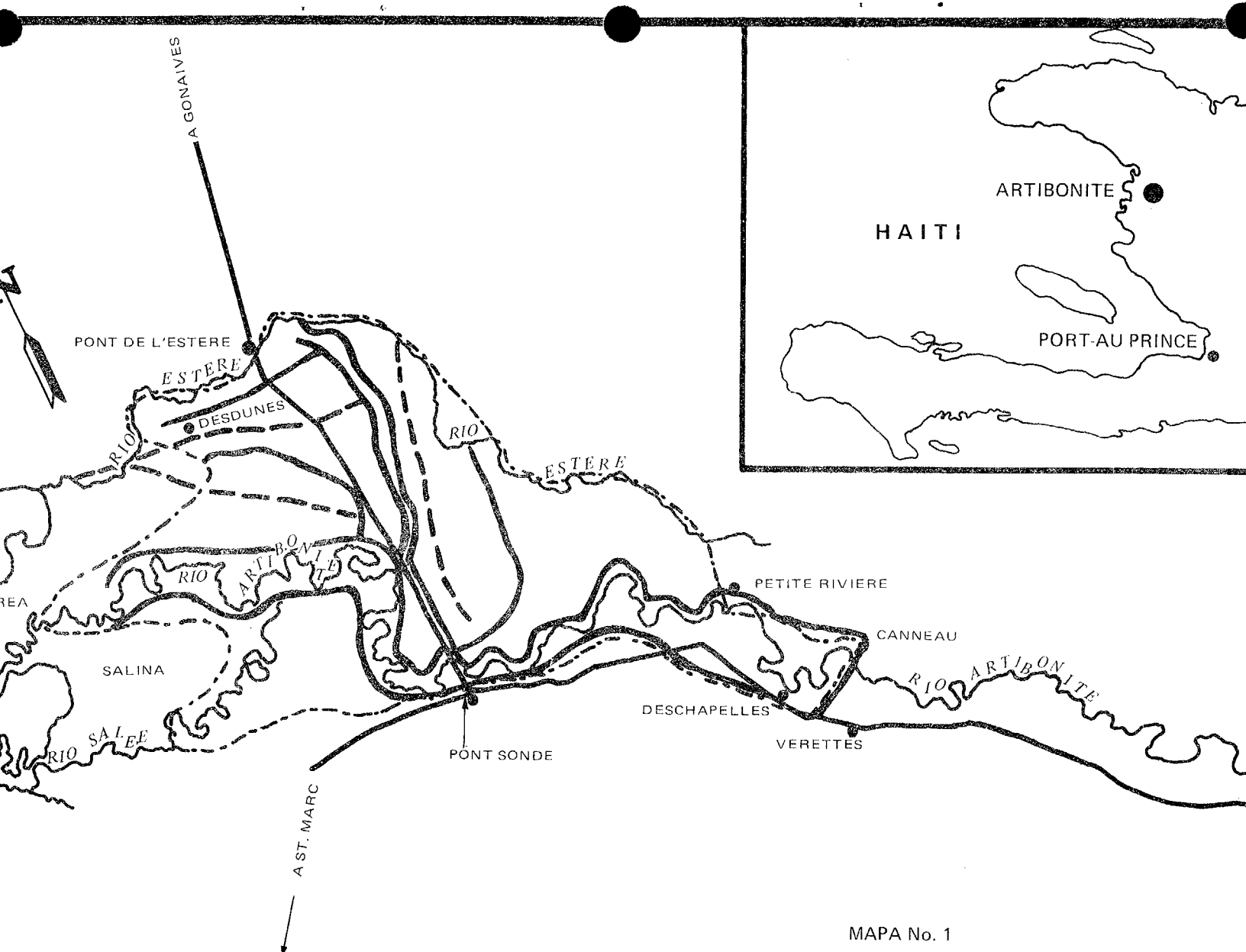
International Monetary Fund, International Financial Statistics,
February 1968 and April 1976.

Public Finance:

IDB estimate based on data of the Banque Nationale de la République
d'Haiti and the Département des Finances et des Affaires Economiques.

Symbols used

- .. Not available
- Zero or less than half the last digit used.



MAPA No. 1

REPUBLICA DE HAITI
PROYECTO DE DESARROLLO AGRICOLA DEL
ARTIBONITE

Escala en Kilómetros
5 0 5 10

- CARRETERAS NACIONALES
- CANALES DE RIEGO PRINCIPALES
- DRENAJES PRINCIPALES
- - - - - LIMITE DEL PROYECTO

H A I T I

REHABILITATION OF THE IRRIGATION SYSTEM AND DEVELOPMENT OF AGRICULTURE IN THE ARTIBONITE VALLEY

PROJECT HA0018A

LOAN PROPOSAL

1. Frame of Reference of Project

Although 30% of Haiti's area is under cultivation, it is estimated that only 15% or some 450,000 hectares is suitable for agriculture. Of the workable land about 75,000 hectares is served by irrigation systems. Of this land, 25,000 hectares is in the Artibonite Valley and the rest is in other areas throughout the country served by some 100 small irrigation systems. The irrigation facilities are generally in poor condition and working well below design capacity.

The Artibonite Valley is a plain of approximately 45,000 hectares in central Haiti. Soils there are alluvial, fine, excellent for agriculture, rich in lime and have varying proportions of sand and clay. The climate is tropical and the temperature nearly constant, with a year-round average of 27°C (80.6°F) and variations of not more than 2°C (3.6°F).

The Artibonite Valley has been regarded as one of Haiti's best agricultural areas since colonial times, when it was used mainly for growing crops for export to the metropolitan nation. After independence the large properties were distributed and the structure of production gradually began to shift toward the cultivation of food crops for home consumption. In 1938 modern irrigation was introduced on a small scale when the Standard Fruit Company began to cultivate bananas in the valley. These facilities were expanded and eventually, thanks to an EXIMBANK loan, the Peligre dam was built, laying the foundation for a complete irrigation system. Although the project called for bringing some 32,000 hectares of land under irrigation, work was completed in only 80% of the program area, primarily because of a halt in foreign aid.

The irrigation works in the Artibonite Valley are in a bad state of repair. The irrigation canals, particularly those in the areas with only a slight grade, are filled with silt and weeds, except the canal along the right bank of the river which carries the greatest volume of water. Removal of obstructions and weeds is a serious problem, especially in the drainage network. Masonry structures, bridges, retaining walls and intakes are generally in a good condition, but some repairs are needed. Access and service roads are suffering from a lack of adequate maintenance. When it rains the water

mixes with the clayey soil to form mud puddles, impeding the flow of traffic. In short, rehabilitation of the irrigation system is urgent if the proper technical foundation is to be laid for a better management of irrigation water that will make it possible to introduce suitable cultivation methods and thereby help increase agricultural production in the valley.

2. Description of Project 1/

The project is the first stage of a global program designed to promote comprehensive development in the Artibonite Valley by means of completion and rehabilitation of the existing irrigation system, the introduction of suitable cultivation methods, the provision of credit and technical assistance to farmers and, finally, institutional strengthening of the Organisme pour le développement de la vallée de l'Artibonite (ODVA). With this purpose, a loan to assist in financing the five following subprojects is proposed:

(a) Infrastructure works

Under this subproject the existing network of primary irrigation and drainage canals will be rehabilitated to place them in operating condition with adequate maintenance, the network of internal roads running parallel to the canals will be rehabilitated, and other work of lesser importance will be done.

(b) Land preparation

The purpose of this subproject is the staged development of four 900-hectare nuclei with the aim of improving irrigation service at the parcel level.

(c) Agricultural extension

Agricultural extension services will be carried out on the lands where on-farm works are installed (see (b) above). This subproject is aimed at strengthening and improving the existing agricultural extension system.

(d) Supervised agricultural credit

Facilities will be furnished to farmers in the nuclei where on-farm improvements have been made.

^{1/} This project has its antecedent in technical cooperation program ATN/TF-1319-HA whereby the FAO/IDB Cooperative Program studied the feasibility of the project.

(e) Rural cadastral survey

A cadastral survey of rural properties covering approximately 45,000 hectares will be carried out in the Artibonite Valley for the purpose of ascertaining the land tenure situation as a basis for deciding future actions and improving the management of irrigation water.

3. Total Cost of the Project

The total cost of the project is estimated at the equivalent of US\$5,900,000, as itemized below:

(In US\$ thousands equivalent)

	Bank loan for			Total Bank	Local Contribution	Total
	Foreign Exchange		Local Currency Cost			
	Cost					
	Direct	Indirect				
Engineering and Administration	680	30	110	820	480	1,300
Direct Cost	1,850	380	1,260	3,490	250	3,740
Supervised Agricultural Credit	410	-	140	550	50	600
Associated Costs	-	-	-	-	100	100
Financial Costs	140	-	-	140	20 <u>2/</u>	160
<hr/>						
Total	3,080	410	1,510 <u>1/</u>	5,000	900	5,900
Percentage	(52.2)	(6.9)	(25.6)	(84.7)	(14.3)	(100)

1/ The equivalent of US\$710,000 will be disbursed in foreign exchange to cover local currency costs.

2/ In foreign exchange, to cover the credit commission.

4. Financing Plan

The project will be financed as follows:

(In US\$ thousands equivalent)

	<u>Currency of Origin</u>		<u>Expenditures</u>		<u>Total</u>	<u>%</u>
	<u>Foreign Exchange</u>	<u>Local</u>	<u>Foreign Exchange</u>	<u>Local</u>		
Bank Loan	4,200 <u>1/</u>	800	3,490	1,510 <u>2/</u>	5,000	84.7
Local Contribution	-	900	20	880	900	15.3
Total	4,200	1,700	3,510	2,390	5,900	100.0
Percentages	71.1	28.9	59.7	40.3	100.0	

5. Terms and Conditions of Loan

The loan would be made from the Fund for Special Operations (FSO). It would be amortized over a period of 40 years from the date of the contract by means of 60 consecutive, semiannual and, so far as possible, equal installments, the first of which would be payable 10-1/2 years after the date of the contract. Interest would be charged at a rate of 1% per annum during the grace period and 2% per annum thereafter for the life of the loan. The credit commission would be 1/2 of 1% per annum on the undisbursed portion of the loan, commencing to accrue from the date the Bank makes the first disbursement or 12 months after the date of approval of the loan. The loan funds would be committed over a period of three years from the effective date of the contract and disbursed within four years of the same date.

6. Principal Aspects of Project

Nonreimbursable technical cooperation. Nonreimbursable technical cooperation in an amount up to the equivalent of US\$808,000, to be charged to the net income of the Fund for Special Operations, is proposed as a parallel operation aimed at assisting ODVA in: i) strengthening its units in the fields of administration and finance; ii) strengthening its technical procedures, particularly in relation to implementation of the project being financed with the Bank's loan; and iii) preparing a plan to cover the next stages in the development of the entire Artibonite Valley, either using the existing system

1/ Includes the equivalent of US\$710,000 to be disbursed in foreign exchange for local currency costs and the equivalent of US\$410,000 for indirect foreign exchange costs. These amounts represent 16.9% and 9.3% respectively, of the foreign exchange in the loan.

2/ Includes the equivalent of US\$710,000 to be disbursed in foreign exchange to cover local currency costs.

or possibly expanding it, including preparation of feasibility studies for the next stage (see Appendix D).

Justification. The Artibonite Valley is Haiti's rice production center. It contains about 90% of the irrigated land devoted to the cultivation of rice, an important staple in the diet of the Haitian people. The main benefit expected from the project is an increase in the average yield of rice per hectare, from 2,000 kilograms to 2,500, as a result of an improved irrigation system allowing the application of fertilizer, improved seeds and adequate cultivation practices.

The added production of rice on the 3,600 hectares covered by the first stage of this rehabilitation project will amount to some 10,800 metric tons of unmilled rice per year, equal to 13% of the country's yearly rice production in recent years. The extension of the same type of cultivation to all the irrigated land in the valley could possibly double the country's production of rice in the course of the next 10 to 15 years. The project will therefore be an important factor in increasing Haiti's rice production.

The increase in rice production is the principal and most direct easily quantifiable benefit expected from the project. Although expanding the production of rice is the immediate and primary objective at this specific stage, natural conditions in the valley, combined with better control and regulation of water through the rehabilitated irrigation system, will make it possible later on to increase the production of various fruits, vegetables, and other commercial crops. Tomatoes, cucumbers, onions, tobacco, sugarcane and bananas are grown commercially on a small scale.

The project will also serve to raise income levels and improve living conditions for farm families within the area.

The increase in the annual gross cash income of the farmers has been estimated at more than US\$600, which is more than 70% of present income and is sufficient to:

- (a) cover the added production costs, irrigation charges, new agricultural inputs (fertilizers, pesticides) and all the additional labor hired for transplanting and harvesting; and
- (b) provide a surplus for covering household expenses, increasing the consumption of food, and raising the standard of living.

The demonstration centers at the four farm nuclei will be supplied with potable water (for drinking and cooking), which will have favorable effects on public health.

The internal rate of return has been estimated at 26%, taking into account the incremental net agricultural benefits and the cost of the project, including all the main components of rehabilitation of the irrigation system, agricultural improvements, and institutional and technical support.

This rate of return is highly satisfactory and indicates that the project is economically sound and technically well structured.

Use of FSO resources. Based on the general policy guidelines approved by the Bank in 1972 and the amendments in Document GN-870-6 of July 4, 1974, it is recommended that the loan be made from the Fund for Special Operations and with the most concessionary interest rate and terms. This recommendation takes into account the general situation of Haiti as a less developed country and the economic and social characteristics of the project.

7. Special Aspects of Project

The project will be carried out in an area where minifundia apparently predominate. According to the property survey made in 1965, 70% of the holdings in the valley have an area averaging approximately 0.57 hectares. However, since the survey was not very detailed, nothing is known about the number of properties measuring less than one half hectare or the number of families owning more than one property. Since properties in the valley are rectangular in shape and the property lines are continuous, the prevalence of minifundia will be no obstacle to the project inasmuch as irrigation canals at the farm level can follow existing dividing lines between properties. Nevertheless, the terms of reference of the technical cooperation proposed as a parallel operation include as one of the responsibilities of the consultant that of studying the system of land use and tenure in the light of experience gathered in the execution of the project and recommending, if considered necessary, a plan for rationalizing the system of land tenure in the valley.

The farmers pay a charge equivalent to US\$11.00 per year for the use of water. This is divided into the equivalent of US\$5.00 for irrigation and US\$6.00 for property appreciation. The general impression is that this rate is sufficient to cover operating and maintenance costs of the irrigation system. However, ODVA's revenues are not sufficient to cover the entire cost of the various activities such as infrastructure maintenance, agricultural extension, loan administration, etc. In order to gauge the adequacy of the rate and establish a clear policy in the future, a recommendation has been included in the terms of reference of the consultants to be hired under this technical cooperation, to the effect that they make a study to determine whether the charge for the use of water is sufficient to cover the operating and maintenance costs of the irrigation system. This study must be submitted for the Bank's approval within 24 months of the effective date of the loan contract.

The proposed clause does not include a requirement that ODVA generate the necessary resources for payment of pending obligations, but it does include a requirement that the government agree to transfer the counterpart funds and the loan proceeds to ODVA as a capital contribution and assume the obligation of providing the financing required by ODVA to cover its operating costs.

The detailed plans for the Artibonite irrigation works were prepared in 1952 by a firm of consultants and are available in ODVA's engineering department. These are the plans that will be used for rehabilitation of primary and secondary canals. As for the smaller jobs to be done at the farm level, these will be designed with the aid of the cadastral survey and at the time of their implementation, on the basis of topographic information obtained. Owing to the nature of these smaller jobs, it is not technically advisable to prepare complete designs for them because the topographic field references are lost. Accordingly, the firm of engineers to be hired before the first disbursement to design these small irrigation works could not be contracted usefully at an earlier time nor is it necessary to have the final plans for the completed works at the present time. The works for rehabilitation of the irrigation system and the on-farm irrigation facilities are small works that will be done in such a way as to make intensive use of available labor supply. These works are not attractive for international bidding. For this reason it is recommended that the infrastructure works consisting in the rehabilitation of irrigation and drainage canals, land preparation, and reconstruction of roads be carried out directly by ODVA, up to an amount equivalent to US\$1,000,000.

Percentage of IDB financing of project. It is recommended that the Bank finance 84.7% of the total cost of the project. This recommendation is based on Haiti's limited ability to mobilize domestic resources and the fact that the project is directed exclusively to aiding small farmers with low income and limited financial capacity.

Project follow-up. The project will require special monitoring by the Bank. Two recommendations are made with this in view: that a specialist be appointed to supervise the execution of the project and that headquarters schedule the sending of supervisory missions with the frequency required to provide assistance to the field office and the Haitian Government in coordinating the execution of the project.

PROPOSED RESOLUTION

HAITI. LOAN /SF-HA TO THE BANQUE NATIONALE
DE LA REPUBLIQUE D'HAITI

(Project for rehabilitation of the irrigation
system and development of agriculture in the
Artibonite Valley)

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the Banque Nationale de la République d'Haiti, as borrower, and the Republic of Haiti, as guarantor, for the purpose of granting the former a loan to cooperate in the financing of a project having as its purpose the rehabilitation of the irrigation system and development of agriculture in the Artibonite Valley (hereinafter called "Project") comprising the five following subprojects: (a) infrastructure works (Subproject A), (b) land preparation (Subproject B); (c) agricultural extension (Subproject C), (d) supervised agricultural credit (Subproject D), and (e) rural cadastral survey (Subproject E). This loan shall be subject substantially to the following conditions:

1. Amount and Currencies: Up to US\$5,000,000, or the equivalent in other currencies which are part of the Fund for Special Operations, of which amount (a) up to US\$4,200,000, or the equivalent in other currencies (except that of Haiti) shall be disbursed to pay for goods and services acquired through international competition in the member countries of the Bank and for such other purposes as may be specified in the loan contract; and (b) up to the equivalent of US\$800,000 shall be disbursed in gourdes to cover local expenses. Payments of amortization and interest shall be effected proportionately in the respective currencies disbursed, in accordance with provisions to be included in the loan contract.
2. Source of Funds. The Fund for Special Operations.
3. Guarantee: Full guarantee of the Republic of Haiti.

4. Credit Commission: 1/2 of 1% per annum on the undisbursed portion of the amount indicated in subparagraph 1(a) of this resolution, commencing to accrue from the day the Bank makes the first disbursement for the Project, other than for inspection and supervision, or 12 months after the date of this resolution, whichever shall occur earlier. The commission shall be payable in dollars of the United States of America on the same dates as the interest.
5. Amortization: The loan shall be amortized in a period of 40 years from the date of the contract, by means of 60 equal and consecutive semiannual installments. The first installment shall be paid 10-1/2 years after the date of the contract.
6. Interest: 1% per annum during the first 10 years after the date of the contract and 2% per annum thereafter. Interest shall be payable semiannually on principal amounts outstanding, and the first payment shall be made 6 months after the date of the contract. At the request of the borrower, resources of the loan may be used to pay the interest in foreign exchange during the disbursement period thereof.
7. Commitment and Disbursement: The funds intended for Subproject D shall be committed within a period of 3 years after the effective date of the contract, and total disbursement of the resources of the loan shall be made within a period of 4 years after the effective date of the contract.
8. Special Conditions:
 - (a) The resources of the loan shall be utilized in their entirety by the Organisme pour le développement de la vallée de l'Artibonite (ODVA). If modifications in the legal provisions or the basic regulations concerning the borrower and/or ODVA are approved which, in the opinion of the Bank, may substantially affect the Project, the Bank may take such measures as it deems appropriate in accordance with provisions to be set forth in the loan contract.
 - (b) The loan shall be used to participate in the financing of a Project estimated at the equivalent of US\$5,900,000, and in no case shall the participation of the resources of the loan exceed 84.7% of the total amount of the Project. Consequently, the loan and guarantee contracts shall contain such provisions as the Bank deems appropriate to ensure that such national resources as may be necessary, in addition to the loan, for the complete and uninterrupted execution of the Project shall be duly provided, in an amount estimated at the equivalent of

US\$900,000, in accordance with a schedule of investments satisfactory to the Bank.

- (c) Prior to the first disbursement of the loan, the borrower shall present evidence to the Bank's satisfaction that:
 - (i) There have been created within ODVA: (1) a Coordinating Office for the Project; (2) a Construction Unit, in which there shall be included the Mechanical Workshop and the Cadastral Section; and (3) a unit in charge of the four development nuclei, which shall include the Research and Experiment and Agricultural Credit Services; and
 - (ii) There have been hired: (i) a firm of consultants acceptable to the Bank to perform the aerial photography contemplated under Subproject E; and (2) a firm of engineering consultants acceptable to the Bank to prepare the design standards, final designs and specifications for the Subprojects A and B works and to supervise construction thereof, in accordance with conditions to be set forth in the loan contract.
- (d) Prior to the first disbursement for the financing of Subproject D, the borrower shall demonstrate to the Bank's satisfaction that: (i) ODVA has begun the work called for by Subprojects A and B; (ii) the Board of Directors of ODVA has put into effect the rules for extension of credit to beneficiaries, which shall be consistent with the draft previously approved by the Bank.
- (e) The guarantor shall agree to transfer to ODVA, as a capital contribution, the additional resources referred to in subparagraph 8(b) of this resolution for execution of the project, as well as such resources as required to cover the operating expenses of ODVA.
- (f) Only persons and legal entities included in one of the following categories will be eligible for credit:
 - (i) small agricultural producers who personally manage their property and obtain their principal source of income therefrom and whose total agricultural assets do not exceed 50 times the annual minimum wage in effect for agricultural workers of the region, at the time the credit is requested, and
 - (ii) cooperatives or associations, at least two-thirds of whose members meet the requirements established in subparagraph (i) above.

- (g) There may not be granted to the same beneficiary:
 - (i) In the case of single agricultural producers, credits whose total outstanding balance exceeds the equivalent of US\$500; or
 - (ii) In the case of associations or cooperatives, credits whose total outstanding balance exceeds the equivalent of US\$10,000.
- (h) The borrower shall agree to take the necessary measures in order that, so long as the loan contract is in effect, ODVA shall not incur medium or long-term debts without first obtaining the Bank's agreement. The Bank shall indicate its agreement or disagreement within 30 working days after the date of receipt at headquarters of a request for such concurrence accompanied by the pertinent substantiating documents. Should the Bank not agree to the request, it shall state its reasons in detail in its reply. If the Bank does not reply within a period of 30 days, the request will be considered to have been approved.
- (i) Within a period of 24 months after the effective date of the loan contract, the borrower and the guarantor shall take appropriate measures acceptable to the Bank so that the rates charged by ODVA for water service produce revenues at least sufficient to cover all operating expenses of the system, including those relating to administration, operation and maintenance.
- (j) Funds arising from recoveries under credits granted with the resources of Subproject D shall be utilized only for the granting of new credits conforming substantially to the rules set forth in the loan contract and in the credit rules, unless five years after the date of the last disbursement from the loan, the Bank and the borrower agree on another use for recoveries which does not depart from the basic objectives of the loan, or agree to reduce the period of effectiveness of this obligation.
- (k) On the credits granted with the resources of Subproject D, the beneficiaries shall be charged on account of interest, commission, insurance, or any other charges, the annual rate or rates which the Bank considers reasonable.
- (l) In the acquisition of machinery, equipment and other materials for the Project and in the awarding of construction contracts, the system of public bids shall be followed in each case in which the value of such acquisitions or contracts exceeds the equivalent of US\$50,000. The bidding procedures shall be included as an annex in the loan contract.

- (m) The provisions in (i) above notwithstanding, ODVA may utilize the system of force account in the execution of work included in Subprojects A and B, up to an amount equivalent to US\$1,000,000, provided that in each case ODVA first submits for the Bank's approval the justification for carrying out such work by force account, accompanied by the budget and detailed construction plans.
- (n) The Bank shall establish such inspection procedures as it deems necessary to assure the satisfactory execution of the Project, and the borrower and ODVA shall extend all cooperation which is required for the most effective accomplishment of this purpose. The amount to be charged to the resources of the Bank's financing and credited to the general income account of the Bank as the Bank's commission for general inspection and supervision shall be established in the contract.

RECOMMENDATIONS

It is recommended that the following conditions, to be performed to the Bank's satisfaction, be included in the loan contract in addition to the conditions set forth in the proposed resolution:

1. Prior to each call for bids or, when a call for bids is not applicable, prior to the start of construction, the borrower, through ODVA, shall present for the Bank's approval:
 - (a) Evidence that the guarantor has sufficient rights to the lands on which construction is to be carried out.
 - (b) The studies, designs, plans, specifications, budgets, bidding requirements and other documents needed in order to call for bids or begin construction.
2. Within a period of 36 months from the effective date of the loan contract, the borrower shall present for the Bank's consideration the plan for rationalization in the use and tenure of land in the Artibonite Valley, prepared by the consultant firm to which reference is made in Nonreimbursable Technical Cooperation Agreement ATN/SF- -HA, or by another firm acceptable to the guarantor.
3. Within a period of 24 months from the last disbursement of the loan, ODVA shall submit a first evaluation report, and within a period of 48 months from the last disbursement of the loan, a second evaluation report on the social and economic impact produced as a consequence of the execution of the Project, in accordance with the methodology agreed with the Bank.
4. The borrower, through ODVA, shall undertake to maintain the facilities in accordance with engineering practices acceptable to the Bank, as specified in Appendix C to this document, for a period of at least 10 years after completion of such works.
5. Nonreimbursable Technical Cooperation Agreement ATN/SF- -HA shall be signed on the same occasion as the loan contract.
6. The financial statements of the project and those of ODVA shall be audited by a firm of independent public accountants acceptable to the Bank and in accordance with procedures satisfactory to the Bank.
7. The sum of US\$50,000 shall be set aside from the resources of the loan to cover the Bank's commission for general inspection and supervision.

8. The loan contract shall include an annex substantially similar in content to Appendix C (Description of Project) to the loan proposal.
9. The dollars of the United States of America to be utilized in the loan shall be drawn from the resources contributed to the Fund for Special Operations by virtue of the increases approved by Resolutions AG-2/65, AG-10/67 and/or AG-12/70.

Description of Project

(Annex B to Loan Contract)

I. Objectives and Description of Project

The Project, which is the First Stage of a program directed to comprehensive agricultural development in the Artibonite Valley, comprises the five following subprojects:

(a) Infrastructure works (Subproject A)

This subproject has the following purposes: (i) rehabilitation of the existing network of primary canals comprising 230 Km. of irrigation canals and 70 Km. of principal drains, to place them in operating condition with adequate maintenance; (ii) rehabilitation of the network of internal roads running parallel to the irrigation canals; (iii) repair of minor damages to structures included in the Project; (iv) replacement of metal gates and wires to allow controlled deliveries of irrigation water; (v) design and construction of pedestrian walks across the canals and vehicular driveways into each irrigation sector; (vi) construction of canal passages under roads, where necessary to prevent run-off; and (vii) construction of gaging structures for determining volumes of flow to the various Project sectors.

(b) Land preparation (Subproject B)

The purpose of this subproject is the development of four 900-hectare nuclei within an area free of problems of salinity and alkalinity, by stages eventually including all the area covered by an intake and representing different sectors of the Project. The delivery and drainage canals to be built will permit the delivery of water at the intake and the tapping of drains at the outlet of the irrigation unit.

(c) Agricultural extension (Subproject C)

This subproject, to be carried out on the land where on-farm works are installed, is aimed at strengthening and improving the existing agricultural extension system. An agricultural agency with offices for credit, depots for inputs, a garage for machinery, and housing for extension workers, will be established in each development nucleus.

(d) Supervised agricultural credit (Subproject D)

The purpose of this subproject is to furnish supervised agricultural credit facilities exclusively to farmers located within the nuclei where on-farm improvements have been made and only after land preparation work has begun in the sector in question.

(e) Rural cadastral survey (Subproject E)

Implementation of this subproject will make it possible to take a cadastral survey of rural properties in the entire Artibonite Valley, with an area of approximately 45,000 hectares. This survey will begin in the areas selected for Subproject B. At the same time an effort will be made to cover the entire Project area, although not with precision, by means of recent photos and a minimum of topographic field work. This would be followed by fully detailed work at the rate of about 15,000 hectares per year until the entire area is completed in three years.

II. Total Cost of the Project

The total cost of the Project is estimated at the equivalent of US\$5,900,000, itemized as follows:

(in US\$ thousands equivalent)

	Bank Loan for			Total Bank	Local Con- tribution	Total
	Foreign Direct	Exchange Cost Indirect	Local Cur- rency costs			
<u>Engineering and Administration</u>	<u>680</u>	<u>30</u>	<u>110</u>	<u>820</u>	<u>480</u>	<u>1,300</u>
Engineering and supervision	400	-	-	400	80	480
Organization	280	-	50	330	180	510
Administration	-	30	60	90	220	310
<u>Direct Costs</u>	<u>1,850</u>	<u>380</u>	<u>1,260</u>	<u>3,490</u>	<u>250</u>	<u>3,740</u>
Rehabilitation of canals and roads	-	170	300	470	110	580
Land preparation	-	140	300	440	60	500
Office and buildings	100	70	400	570	80	650
Machinery and replacement parts	1,140	-	180	1,320	-	1,320
Equipment	330	-	40	370	-	370
Vehicles	280	-	40	320	-	320
<u>Supervised Agricultural Loan</u>	<u>410</u>	<u>-</u>	<u>140</u>	<u>550</u>	<u>50</u>	<u>600</u>
Inputs	310	-	100	410	50	460
Capital goods	100	-	40	140	-	140
<u>Associated Costs</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>100</u>	<u>100</u>
Purchase of land and compensation	-	-	-	-	100	100
<u>Financial Costs</u>	<u>140</u>	<u>-</u>	<u>-</u>	<u>140</u>	<u>20</u>	<u>160</u>
Interest and commission	90	-	-	90	20 ^{1/}	110
Inspection and supervision	50	-	-	50	-	50
Total	<u>3,080</u>	<u>410</u>	<u>1,510</u> ^{2/}	<u>5,000</u>	<u>900</u>	<u>5,900</u>
Percentage	(52.2)	(6.9)	(25.6)	84.7	15.3	100.0

In foreign exchange. Corresponding to Credit Commission.

The equivalent of US\$710,000 will be disbursed in foreign exchange to cover local currency costs.

III. Financing of Project

The Project will be financed as follows:

(In US\$ thousands equivalent)

	<u>Currency of Origin</u>		<u>Expenditures</u>		<u>Total</u>	<u>%</u>
	<u>Foreign Exchange</u>	<u>Local Currency</u>	<u>Foreign Exchange</u>	<u>Local Currency</u>		
Bank loan	4,200 ^{1/}	800	3,490	1,510	5,000	84.7
Local Contribution	-	900	20	880	900	15.3
Total	<u>4,200</u>	<u>1,700</u>	<u>3,510</u>	<u>2,390</u>	<u>5,900</u>	<u>100.0</u>
Percentages	71.1	28.9	59.7	40.3	100.0	

1/ Includes the equivalent of US\$710,000 to be disbursed in foreign exchange for local currency costs and the equivalent of US\$410,000 for indirect foreign exchange costs. These amounts represent 16.9% and 9.3%, respectively, of the foreign exchange in the Loan.

IV: Maintenance of the Works

The Borrower, through ODVA, agrees to maintain the irrigation and drainage canal and internal roads in a satisfactory condition, according to generally accepted engineering standards, for a period of at least 10 years after completion of the corresponding rehabilitation work and, for this purpose, to perform whatever upkeep, maintenance and repair may be necessary.

V. Selection and Contracting of Consulting Firms

In the selection and contracting of consulting firms for the Project, the procedures set forth in the Loan Contract and the Technical Cooperation Agreement, as appropriate, will be followed, and it is understood that neither ODVA nor the Borrower will establish, for application, either before or after the rendering of services: (i) provisions or conditions precluding or restricting the selection and contracting of said consultant firms from member countries of the Bank, or (ii) requirements or conditions based on the nationality of such consulting firms of member countries of the Bank.

Bidding

The specific bidding requirements shall permit unrestricted participation of bidders from member countries of the Bank, and accordingly no conditions precluding or restricting the participation of such bidders shall be established in such specific requirements.

PLAN OF OPERATIONS FOR NONREIMBURSABLE TECHNICAL
COOPERATION TO THE ARTIBONITE VALLEY DEVELOPMENT AGENCY

(Institutional support for beneficiary (ODVA) in administrative, technical and operational fields and preparation of following stage)

I. APPLICATION

- 1.01 The application was presented by the Government of the Republic of Haiti, through the Ministry of Finance and Economic Affairs and the Ministry of Agriculture and Natural Resources, jointly with the loan application to finance the first stage of the Artibonite Valley agricultural development program. The applications were presented on November 12, 1975.
- 1.02 The total cost of the technical cooperation is estimated at the equivalent of US\$1,036,560, of which the Bank would contribute up to the equivalent of US\$808,000, chargeable to the net income of the Fund for Special Operations on a nonreimbursable basis.
- 1.03 The beneficiary of this technical cooperation would be the Artibonite Valley Development Agency (ODVA).
- 1.04 This operation is not included on the list of technical cooperation projects for 1976, although it has always been considered necessary for the loan to be accompanied by parallel technical cooperation.

II. BACKGROUND

- 2.01 The ODVA is an autonomous federal agency established by law on September 12, 1949, and reorganized by a law of May 24, 1971. It is a comprehensive development agency with exclusive jurisdiction over all aspects of agricultural development of the Artibonite Valley. Its most important functions are: a) to construct and maintain infrastructure works, including irrigation and drainage canals and internal roads relating to irrigation of the Artibonite Valley; b) to administer water use for irrigation purposes; c) to provide farm extension services to farmers in the area and to carry out research; d) to grant supervised credit to promote production, and e) to conduct and maintain a cadastral survey of the valley.
- 2.02 In 1973 a tripartite FAO/IDB/IBRD mission visited Haiti to identify prospective agricultural development projects in the country. The mission attached great importance to the project for rehabilitation and expansion of the irrigation system in the Artibonite Valley associated with the development of productive valley activities.

- 2.03 To study the feasibility of that project a mission organized under the FAO/IDB Cooperative Program visited Haiti between May 17 and August 16, 1975. This mission was financed under the terms of Technical Cooperation Agreement ATN/TF/SF-1319-HA and cost the equivalent of US\$59,000, of which the Bank contributed 86.5%, equivalent to US\$51,000, while the remainder, amounting to US\$8,000, was underwritten by the FAO.
- 2.04 Based on the foregoing studies, the Government of Haiti, on November 12, 1975, presented the loan application referred to in paragraph 1.01. The advisability of receiving technical cooperation for execution of the project was indicated in that application.
- 2.05 As a result of the application an IDB study mission visited Haiti from January 18 to 31, 1976, to undertake technical, economic, financial, legal and institutional analyses of the project. Pursuant to those analyses a project report has been produced which proposes, parallel to this technical cooperation, a loan in the equivalent of US\$5.6 million to finance 86% of an agricultural development project for the Artibonite Valley.
- 2.06 The study and negotiation mission referred to in the preceding paragraph concluded that success of the proposed project required technical cooperation designed: i) to strengthen the ODVA administratively, operationally and technically for execution of the project, and ii) to help the ODVA in identifying and preparing the following stages of the overall program for development of the Artibonite Valley.

III. PURPOSES

- 3.01 The purposes of the proposed technical cooperation would be to finance part of the contracting of consultants who would assist the ODVA: i) in its institutional strengthening in the areas of administrative and financial management; ii) in providing technical support for the ODVA in relation to the investment project being financed parallelly with IDB Loan /SF-HA, and iii) based on the experience acquired during execution of the loan referred to above, in preparing a plan covering the next stages of the program for development of the entire Artibonite Valley, either by using the present system or by expending that system, including preparation of feasibility studies for the following stage.

IV. PROJECT DESCRIPTION

- 4.01 To attain the technical cooperation goals it is planned to contract consulting firm or firms to provide services for a period of 24 months. The total duration of the technical cooperation will be 24 months. The various services will represent total labor of 110 man/months, as follows:

- a. Institutional support of the ODVA (16 man/months),^{1/} in the areas of administrative, technical and financial organization to improve its operating capacity and enable it to meet current requirements and future needs of the new stages of its development plan.
 - b. Technical support for execution of Loan /SF-HA (66 man/months),^{2/} in order to execute the loan satisfactorily and acquire the experience and ability needed to implement future stages of the program. In performing such functions the consultant should: 1) help the ODVA to organize the office for conduct and maintenance of the cadastral survey of the valley; 2) study the water rate charged by the ODVA for its services, with a view to determining whether that rate is adequate and consistent with the financial obligations contracted with the Bank, and, if not, to make such recommendations as may be necessary, and 3) to study, on the basis of the cadastral survey and other information obtained during execution of the project, the economic and financial aspects of farms of different sizes and types, using in particular the experience and data obtained in the areas benefited by the Bank project. As a result of this study the economically feasible size of the property should be estimated, under the various possible assumptions of productive activity, in order to recommend a policy on land use and tenure that will improve such economic as those identified in the project report prepared by the Bank.
 - c. Preparation of the development plan for the entire valley and feasibility study of the following stage (28 man/months).^{3/} The information compiled during execution of the project should serve as a basis for the consultants' preparation of a global plan for farm development of the Artibonite Valley which would include total rehabilitation of the current irrigation system, introduction of the farm techniques employed in the development nucleus covered by Loan /SF-HA to the entire valley and eventual extension of the irrigation system to other parts of the valley suitable for such works, and finally, to the extent possible, a study of the solution of current salinity and drainage problems. The consultants should prepare the general plan to be submitted to the Bank for approval as provided for in the chapter on reports of this plan of operations, and, when the Bank approves that report, prepare the corresponding feasibility study for the following stage.
- 4.02 To comply with this technical cooperation the following consulting services must be contracting:
- a. For administrative and financial support of the ODVA:

^{1/} The terms of reference for this technical cooperation are given in Annex 1.
^{2/} The terms of reference for this technical cooperation are given in Annex 2.
^{3/} The terms of reference for this technical cooperation are given in Annex 2.

1 specialist in general organization (four months);
Specialists in financial administration and accounting (12 man/months).

b. For advisory services on execution of Loan /SF-HA:

1 managerial advisor with experience in irrigation projects (24 months);
1 agronomist specializing in farm extension and credit (24 months);
1 mechanic with experience in heavy machinery shops (12 months);
1 specialist in rural cadaster (six months).

c. For preparation of valley development plans and the following stage:

1 edaphologist to study soils and salinity (10 months);
1 team, consisting of hydrolic engineers, geologists, an economist and financial analyst, to prepare the feasibility study and design of the second stage (18 man/months).

- 4.03 As agreed with the Government of Haiti, the Bank, in coordination with ODVA, would select and contract directly the consulting services referred to in paragraph 4.02 above. This constitutes an exception to the technical cooperation policies of the Bank and is justified by the difficulties encountered by the Haitian authorities in carrying out selection and contracting functions. The standards and procedures established in Document AT/80-10 and the Technical Cooperation Manual will be observed in all other respects.
- 4.04 The functions of the coordinating unit will be as follows: a) to advise the ODVA Board of Directors on all matters relating to project execution; b) to prepare the investment schedule in order to ensure that the critical aspects of the project will not delay execution of the works because of faulty planning; c) to program and coordinate execution of the tasks; d) to participate directly, in cooperation with the consultants, in preparing the work standards manual, with design criteria appropriate for the valley, and, subsequently, in preparing designs for the various works to be built; e) to supervise the works schedule with the aid of the consultants, and f) to plan the subsequent stages of the program, aided by consultants contracted for the purpose.
- 4.05 In order to facilitate receipt of the technical cooperation a coordinating unit should be set up and operated under the ODVA to coordinate the various units that will participate in project execution. This office will operate as technical advisor to the ODVA Director General.
- 4.06 In addition to the provision contained in the preceding paragraph, the ODVA will need to contract, within the same term established for the contracting of consultants, the necessary counterpart personnel. Such personnel will include the following: i) a chief of the project office, who should be a civil engineer or agronomist experienced in similar projects; ii) a hydrologist; iii) an edaphologist and iv) an audio-visual expert. In addition, six employees (accountants) will have to be contracted as local counterpart staff under the technical cooperation for institutional support of the ODVA.

- 4.07 In addition to this technical cooperation, all of the personnel indicated in the project report for Loan /SF-HA, paragraph 3.09, will have to be contracted.

V. JUSTIFICATION

- 5.01 This technical cooperation is justified for the following reasons: a) the project for rehabilitation of the irrigation system and farm development of the Artibonite Valley may be the most important effort that could be undertaken in Haiti and will undoubtedly have the most immediate effect in terms of increasing food production volume for the country; b) the ODVA, which will serve as executing agency for the project referred to in the preceding subsection, is an organization requiring reinforcement of its administrative, technical and financial structure in order to execute the project, and c) the ODVA is an organization that can absorb technical cooperation along the lines proposed and prepare itself to perform fully the various functions entrusted to it.
- 5.02 Since this is one of the least developed member countries of the Bank and it is expected that action aimed at institutional support of the executing agency will have positive effects, and considering further that the project beneficiaries will be small farmers, it is recommended that all of its technical cooperation be extended on nonreimbursable basis.

VI. TOTAL PROJECT COST

- 6.01 The total cost of this technical cooperation is estimated at the equivalent of US\$1,036,500, which the Bank would contribute up to the equivalent of US\$808,000 on a nonreimbursable basis, charged to the net income of the Fund for Special Operations. The Haitian Government would contribute up to the equivalent of US\$228,260, according to the following distribution:

A. Institutional technical assistance (administrative and financial)

(in US\$ equivalent)

	<u>IDB</u>	<u>Haiti</u>	<u>Total</u>
1. Fees			
a. International personnel (16 man/months at an average cost of US\$2,500)	40,000	--	40,000
b. Local counterpart personnel (144 man/months at an average cost of US\$200)	--	28,800	28,800
2. General expenses (150% of fees)	45,000	14,000	59,000
3. International travel (4 fares at an average of US\$500 each)	2,000	--	2,000
4. Per diem (480 man/days at US\$39 each)	--	18,800	18,800
5. Contingencies (10% of 1 to 4)	8,000	6,000	14,000
6. Equipment	<u>10,000</u>	<u>--</u>	<u>10,000</u>
Total	<u>105,000</u>	<u>67,600</u>	<u>172,600</u>
%	79.2	20.8	100.0

B. Technical assistance for project execution

(In US\$ equivalent)

	<u>IDB</u>	<u>Haiti</u>	<u>Total</u>
1. Fees			
a. International personnel (66 man/months at an average cost of US\$2,500)	165,000	--	165,000
b. Local counterpart personnel (50 man/months at an average cost of US\$ 400)	--	20,000	20,000
2. General expenses (150% of fees)	248,000	10,000	258,000
3. International travel (20 fares at an average of US\$500 each)	10,000	--	10,000
4. Per diem (1,980 man/days at US\$39 each)	--	78,000	78,000
5. Contingencies (15% of 1 to 4)	42,000	10,000	53,000
6. Equipment	<u>40,000</u>	<u>--</u>	<u>40,000</u>
Total	<u>505,000</u>	<u>118,000</u>	<u>623,000</u>
%	81.1	18.9	100.0

C. Preparation of following stage

(In US\$ equivalent)

	<u>IDB</u>	<u>Haiti</u>	<u>Total</u>
1. Fees			
a. International personnel (28 man/months at an average cost of US\$2,500)	70,000	—	70,000
b. Local counterpart personnel (10 man/months at an average cost of US\$400)	—	4,000	4,000
2. General expenses (150% of fees)	105,000	2,000	107,000
3. International travel (10 fares at an average of US\$500 each)	5,000	—	5,000
4. Per diem (480 man/days at US\$39 each)	—	32,700	32,700
5. Contingencies (15% of 1 to 4)	18,000	3,900	21,900
6. Equipment	<u>—</u>	<u>—</u>	<u>—</u>
 Total	 198,000	 42,600	 240,600
	<u>=====</u>	<u>=====</u>	<u>=====</u>
%	82.5	17.5	100.0

D. Consolidated total cost

(In US\$ equivalent)

	<u>IDB</u>	<u>Haiti</u>	<u>Total</u>
A. Institutional technical assistance (administrative and financial)	105,000	67,600	172,600
B. Technical assistance for project execution	505,000	118,000	623,000
C. Preparation of following stage	<u>198,000</u>	<u>42,600</u>	<u>240,600</u>
Total	<u>808,000</u>	<u>228,000</u>	<u>1,036,200</u>
	=====	=====	=====
%	78.0	22.0	100.0

6.02 The beneficiary will agree to make any supplementary contribution that might be required to complete this project, in the event that its cost should exceed the amount provided for in this plan of operations.

6.03 The consulting firm or firms contracted to provide technical cooperation should begin work within approximately 180 days from signature of the respective agreement, pursuant to the following schedule:

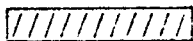
ARTIBONITE PROJECT - HAITI

1	2	3	4	5	6	7
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MANAGEMENT ADVISORY SERVICES				
GENERAL ORGANIZATION				
ACCOUNTING AND ORGANIZATION				
Mechanical Shop				
AGRICULTURAL ADVISORY SERVICES				
FARM EXTENSION AND CREDIT				
PROPER PLOT SIZE				
RATE STUDY				
SOIL STUDIES				
TOPOGRAPHY AND CADASTER				
WATER STUDY				
COMPILATION OF HYDROLOGICAL DATA				
GENERAL PLAN OF VALLEY DEVELOPMENT				
FEASIBILITY STUDY FOR SECOND STAGE				

-) Consultants on administration and organization
-) Supervision of management advisor.

direct participation of advisors



VII. FINANCING FUND

- 7.01 The Bank's contribution, up to the equivalent of US\$808,000 on a non-reimbursable basis, will be charged to the net income of the Fund for Special Operations.

VIII. DISBURSEMENTS

- 8.01 Disbursements from the loan will be made within a maximum period of 36 months from signature of the technical cooperation agreement between the Bank and the beneficiary.
- 8.02 At the request of the beneficiary the Bank may set up a revolving fund not exceeding 10% of the total amount allocated by the Bank to technical cooperation. The Bank may replenish that fund as it is used through presentation of the proper request justified by the necessary documents which demonstrates satisfactorily the use of both the Bank resources and counterpart funds provided. At all times a percentil ratio must be maintained between Bank disbursements and counterpart funds at least equal to that provided for in this document.
- 8.03 The agreement signed with the beneficiary will establish that the Bank reserves the right to withhold an amount not exceeding 10% of the total cost of technical cooperation services, in each case, and that the consultants will be paid only when the final report has been presented and accepted by both the beneficiary and the Bank.
- 8.04 The technical cooperation agreement signed with the beneficiary will establish that resources uncommitted by the close of the disbursement period will be automatically canceled.
- 8.05 To determine the percentages of local currency to be used for payment of consultants the criteria established in the Bank's technical cooperation manual will be followed, but in all cases the respective agreement will stipulate that not less than 30% of the Bank contribution will be disbursed in local currency.

IX. REPORTS

- 9.01 The technical cooperation agreement signed with the beneficiary and the contract with the consulting firm or firms will establish the obligation to present to the ODVA, with copy to the IDB, on the dates established in the work schedule contained in paragraph 6.03, the following reports and studies: a) a report at the end of the administrative systems design phase; b) an economic study of the land tenure system in the valley; c) a study on rates charged for water use; d) the general plan for valley development; e) the feasibility study for the following stage; f) quarterly progress reports, and g) final reports. In addition, the consulting firm or firms will provide the IDB with all such information as it may reasonably request in connection with project execution.

- 9.02 The technical cooperation agreement will also stipulate that the ODVA will present to the IDB, within the three months following the date on which the final report is received, such observations or comments as may be necessary, or its approval, if applicable.
- 9.03 Within not more than 60 days from the date of final disbursement the beneficiary will present to the Bank a justification of costs incurred chargeable to its contribution and contributions to project execution, with the financial and accounting portion certified by auditors satisfactory to the Bank.

X. SUPERVISION

- 10.01 The technical cooperation agreement will establish that the Bank may supervise the work of the consulting firm or firms through its field office in Haiti. To this end the beneficiary must keep the Bank's representative in that country informed on activities relating to execution of the project.
- 10.02 The respective agreement will also establish the obligation of the consulting firm or firms to provide the Bank with all such additional information as it may request.

XI. AGREEMENT

- 11.01 The technical cooperation agreement with the beneficiary will be signed simultaneously with the contract for Loan /SF-HA.

XII. EVALUATION OF CRITERIA

- 12.01 The evaluation of this technical cooperation will be based on an analysis of:
 - a) attainment of the objectives described in section III of this plan of operations, and b) the reports described in paragraph 9.01.

XIII. DISTRIBUTION OF IDB RESPONSIBILITIES

- 13.01 The Office of the Deputy Operations Manager for Region III, through Division 7, will assume basic responsibility for this technical cooperation. Technical responsibility will be assigned to the Project Analysis Department, through the Agricultural Division.
- 13.02 In addition to the general responsibility assigned to Division 7 of Operations and the Agricultural Division (Project Analysis Department), it will be advisable to schedule supervisory missions to the field as often as necessary in order to maintain adequate supervision and collaborate to some extent with the executing agency to ensure that the project is carried out as planned.

XIV. RECOMMENDATIONS

- 14.01 The Operations Manager recommends this plan of operations to the President of the Bank, through the Project, Loan and Technical Cooperation Evaluation Committee, for approval and subsequent presentation of the corresponding resolution to the Board of Executive Directors for consideration.

TERMS OF REFERENCE FOR CONSULTING FIRMS TO ASSIST
ODVA IN ADMINISTRATIVE AND FINANCIAL SUPPORT

I. Evaluation

1. Examination and evaluation of the institutional structure and organizational scheme of the ODVA in the administrative and financial areas with a view to adapting them to current operating requirements and its future development plans. To this end particular account should be taken of the basic elements of an internal control system, such as:
 - a. Definition of functions and responsibilities of the various units;
 - b. Determination of levels and fields of delegated authority;
 - c. Coordinated performance of functions;
 - d. Quantitative and qualitative upgrading of personnel;
 - e. Analysis of job responsibilities.
2. Survey of administrative and financial procedures to determine whether they meet the requirements of efficient management for the attainment of institutional goals, i.e.:
 - a. Authorization of system;
 - b. Forms and primary records;
 - c. Flow of information to recording sectors;
 - d. Communication and control circuits with national finance agencies;
 - e. Procurement and dispatch of materials;
 - f. Budget performance;
 - g. Flow of funds;
 - h. Systematization of internal accounting and administrative control.
3. Review of current ODVA accounting systems, with particular attention to timely, analytical and systematic information needed as a basis for decision-making, in accordance with modern management and administrative control techniques. A study should be made of the possibility of introducing an information system with integrated codification consistent with records, control and analysis requirements by:
 - Area of responsibility;
 - Cost control;
 - Source and use of funds;
 - Special accounts for accounting and control of programs or projects that may eventually be partly financed by the IDB.

4. Evaluation of ODVA structure to determine the need for setting up an internal audit unit for effective performance of supervisory functions, taking into account the following aspects:
 - a. Level and status;
 - b. Work program;
 - c. Operating procedures;
 - d. Source and destination of reports.
5. Estimation of foreseeable volume of operations in order to propose alternatives for processing accounting, financial and managerial information.

Presentation of a report on research findings, including basically:

- a. Comments and conclusions on current organization, systems and procedures.
- b. Recommendations at long and short range to provide the ODVA with a functional structure and an information system consistent with its expansion needs;
- c. Development schedule with estimated time of implementation for the various activities comprising the stages of design, introduction and control of results.

That report will be submitted to the ODVA and the IDB for approval.

II. Design

1. Evaluation of a general scheme of ODVA financial administration and organization defining the duties and responsibilities of each post.
2. Formulation of the following definitive manuals for each entity:
 - a. Organizational manual, defining the organizational chart and internal regulations;
 - b. Administrative procedures manual;
 - c. Accounting manual (accounting code, including specific items for recording and financial control of operations that may eventually be partly financed by the IDB);
 - d. General budget rules;
 - e. Rules for systematizing data and reports;
 - f. General rules for authorization of loans;
 - g. Audit manual and work program;
 - h. Personnel administration manual;
 - i. Rules on administration and maintenance of property and equipment;
 - j. System for project programming and followup using PERT/CPM network techniques; if considered advisable, the consultant will decide which manuals are needed by the entity for efficient fulfillment of its purposes.

III. Introduction and Startup

The consulting firm should participate in the following specific tasks:

1. Initial programming;
2. Direction and supervision of application of the new organization, systems and procedures agreed upon;
3. Training of personnel in each area during the introductory stage.

IV. Control of Results

1. Evaluation and assessment of organizational structure and new systems of accounting and financial administration established.
2. Final recommendations considered appropriate to ensure optimum operation of the organization, systems and procedures recommended. This stage will be completed within six months of initiation of the introduction and startup.

TERMS OF REFERENCE FOR CONSULTING FIRMS TO ASSIST ODVA
IN PROJECT EXECUTION AND PREPARATION OF SECOND STAGE

1. Background Analysis

The various studies conducted to date in the Artibonite Valley will be analyzed and considered.

2. Basic Research

The basic field research and background studies described below were carried out.

2.01 Topography and Cartography

a) It will be determined whether existing topographic surveys are sufficient to serve as a basis for planning work in the second stage; b) the ODVA will be advised on contacting the aerial photography provided for under Loan /SF-HA; c) the ODVA will be advised on conducting a rural cadastral survey in the project area; d) local personnel will be trained in aspects of topography and photogrammetry necessary for the cadastral survey; e) advice will be provided on establishing the necessary cadastral records; f) advice will be provided on conducting a cadastral survey over a six-month period.

2.02 Farm Soils

a) A soil study at a semidetained level will be conducted by means of the aerial photography mentioned in 2.01 in accordance with USBR standards; b) advice will be provided on setting up a soil laboratory for field analyses; c) an edaphologist will be trained to participate as the local counterpart in studying field and laboratory aspects; d) a final agrological report will be presented with maps on a scale of 1:20,000 or more, as follows: i) soil map with taxonomic units; ii) map of soil types in accordance with USBR standards; iii) map currently in use; iv) special salinity map, and v) map of potential productivity following correction of rectifiable restricting factors.

2.03 Hydrology and Climatology

a) The sites for the new, climatological equipment will be located, and surveys of rivers and canals conducted; b) a work plan will be drawn up for compilation of hydrological and climatological data; c) an ODVA engineer will be trained for exclusive dedication to hydrological aspects, together with auxiliary personnel to make field observations; d) based on observations made and earlier studies of the

valley, the consistency of data for this design will be evaluated.

3. Advisory Services to ODVA

3.01 Management Advisory Services

a) Advisory services will be provided to the ODVA director on matters referring to project execution, especially the preparation of reports and work plans to be presented to the Bank; b) as managerial advisor the firm will take care to see that the ODVA staff is motivated to participate in the project and receives encouragement from the advisors and administrative personnel to improve their participation; c) special attention will be given to training and information programs for farmers, for which purpose an audio-visual local counterpart specialist will take films and photographs of important activities undertaken in connection with the project for distribution to other project areas; d) advisory services will be provided for bidding on equipment to be purchased for work execution; e) advisory services will be provided on annual work distribution programs, and supervision of their specifications furnished; f) execution of the works will be supervised to ensure fulfillment of the annual goals set for each period.

3.02 Advisory Services on Agronomy

a) The farm research under way in the Artibonite Valley will be studied and an annual report presented thereon; b) advice will be provided on the selection of areas to be developed under the project; c) advice will be provided on setting up an extension program in the four 900-hectare areas covered by the project; d) advice will be provided on the farm experimentation program in its various stages, and cooperation extended to the ODVA authorities in orienting research in the valley; e) the farm extension personnel will be advised and trained to carry on the several activities; f) advice will be provided on the establishment, supervision and control of the farm credit program, especially the preparation of procedural manuals; g) plot sizes will be defined with a view to obtaining sufficient income, using family labor, to maintain the family and provide savings by the use of demonstrated farm practices in the valley; h) advice will be provided in preparing a rate project enabling the ODVA to comply with its obligations to the IDB in this area.

3.03 Advisory Services on Heavy Machinery

a) A group of ODVA machinery operators will be trained in efficient operation and especially preventive maintenance; b) advice will be given on establishment of the machinery shop provided for under the project; c) ODVA mechanics will be trained in machinery and vehicle repairs; d) advice will be given on drawing up regulations to control in-shop parts

inventory with a view to maintaining a minimum stock of commonly used parts; e) a selection will be made from old ODVA equipment of those machines that can be economically repaired and advice on their repair given; f) regulations will be proposed for maintenance and control of the use of equipment, and their implementation will be supervised.

4. Second Stage

- 4.01 Once the basic research reports have been approved by the borrower and the Bank and based on the experience acquired during project execution, a study of over-all future development of the valley will be made in order to present alternatives.
- 4.02 Those alternatives should include a general analysis of the entire Artibonite alluvial plain including: a) works preprojects; b) costs; c) benefits, and d) economic analysis. On the basis of that over-all analysis a study of feasibility of the following stage will be made, covering:
- a) Topographic studies supplementing those undertaken during execution of the project;
 - b) Supplementary studies of soil mechanics that could be conducted with the equipment acquired and personnel trained under the project; c) location of the works; d) materials, equipment and personnel required for execution of that stage, determining ODVA availabilities and additional requirements or need for utilizing specialized firms; e) schedule of execution, and f) economic and financial analysis.
- 4.03 The team of engineers, topographers and draftsmen that will form part of the ODVA staff will collaborate in preparation of the second stage.
- 4.04 Development of the expanded area:
- a) The firm will propose a plan for farm development of the lands included under the project;
 - b) It will propose a plot reorganization plan, if applicable, based on the cadastral survey and the results of project execution and the soil studies;
 - c) It will indicate the materials, equipment and other facilities needed for work maintenance, and
 - d) It will prepare a budget for maintenance and operation of the project as expanded to include the works proposed.

PROPOSED RESOLUTION

HAITI. NONREIMBURSABLE TECHNICAL COOPERATION FOR
INSTITUTIONAL, TECHNICAL AND FINANCIAL
STRENGTHENING OF THE ORGANISME POUR LE
DEVELOPPEMENT DE LA VALLÉE DE
L'ARTIBONITE (ODVA)

The Board of Executive Directors

RESOLVES:

1. That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to sign such agreements and take such other pertinent measures as necessary for implementation of the plan of operations referred to in Document PR-745 on technical cooperation for institutional strengthening of the ODVA.
2. That the sum of US\$808,000 or its equivalent, to be charged to the net income of the Fund for Special Operations, is set aside for the purposes of this resolution.
3. That the sum mentioned above shall be provided on a nonreimbursable basis.