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UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
AGENCY FOR INTERNATIONAL DEVELOPMENT
Washington, D. C. 20523

HAITI

PROJECT PAPER

SECONDARY ROADS DEVELOPMENT

AID/LAC/P-103

Project Number: 521-0149

UNCLASSIFIED

AGENCY FOR INTERNATIONAL DEVELOPMENT
PROJECT DATA SHEET

1. TRANSACTION CODE
 A = Add
 C = Change
 D = Delete
 Amendment Number _____

DOCUMENT CODE
 3

2. COUNTRY/ENTITY
 Haiti

4. BUREAU/OFFICE
 IAC

3. PROJECT NUMBER
 521-0149

5. PROJECT TITLE (maximum 40 characters)
 Secondary Roads Development

6. PROJECT ASSISTANCE COMPLETION DATE (PACD)
 MM DD YY
 09 30 86

7. ESTIMATED DATE OF OBLIGATION
 (Under "B:" below, enter 1, 2, 3, or 4)
 A. Initial FY 82 B. Quarter 3 C. Final FY 86

8. COSTS (\$000 OR EQUIVALENT \$1 =)

A. FUNDING SOURCE	FIRST FY 82			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AID Appropriated Total	1,65	0,32	1,97	8,282	4,218	12,500
(Grant)	(1,65)	(0,32)	(1,97)	(8,282)	(4,218)	(12,500)
(Loan)	()	()	()	()	()	()
Other						
U.S.						
Host Country					25,798	25,798
Other Donor(s)						
TOTALS	1,65	0,32	1,97	8,282	30,016	38,298

9. SCHEDULE OF AID FUNDING (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE		D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1) ARDN	280	061				12,500		12,500	
(2)									
(3)									
(4)									
TOTALS								12,500	

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each)
 120 250 821 320

11. SECONDARY PURPOSE CODE
 134

12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)

A. Code BR BU BS
 B. Amount

13. PROJECT PURPOSE (maximum 480 characters)

-To strengthen the GOH institutional capability to rehabilitate, construct and maintain rural secondary roads.

-To provide improved access to rural commercial market centers both for farmers and consumers, through the rehabilitation/construction of at least 300 kilometers of rural roads by labor-intensive, capital-saving methods.

14. SCHEDULED EVALUATIONS
 Interim MM YY MM YY Final MM YY
 11 83 07 85

15. SOURCE/ORIGIN OF GOODS AND SERVICES
 000 941 Local Other (Specify)

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a _____ page PP Amendment)

17. APPROVED BY
 Signature: 
 Title: Director, USAID/Haiti
 Date Signed MM DD YY: 06 08 82

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

PROJECT AUTHORIZATION

Name of Country: Haiti
Name of Project: Secondary Roads Development
Number of Project: 521-0149

1. Pursuant to Section 103 of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Secondary Roads Development project for Haiti involving planned obligations of not to exceed Twelve Million Five Hundred Thousand United States Dollars (\$12,500,000) in grant funds ("Grant") over a five-year period from date of authorization, subject to the availability of funds in accordance with the A.I.D. OYB/allotment process, to help in financing foreign exchange and local currency costs for the project.

2. The project ("Project") consists of (i) strengthening the institutional capacity of the Ministry of Public Works, Transportation and Communications ("TPTC") of the Government of Haiti ("GOH") to plan and implement on a sustained basis the rehabilitation/construction and maintenance of the secondary road network in Haiti and (ii) improving access to rural commercial market centers, both for farmers and consumers, through the rehabilitation/construction of rural roads by labor-intensive, capital saving methods.

3. The Project Agreement, which may be negotiated and executed by the officer to whom such authority is delegated in accordance with A.I.D. regulations and Delegations of Authority, shall be subject to the following essential terms and covenants and major conditions, together with such other terms and conditions as A.I.D. may deem appropriate.

a. Source and origin of Goods and Services

Except as set forth in section g. below and except for ocean shipping, goods and services financed by A.I.D. under the Grant shall have their source and origin in countries included in A.I.D. Geographic Code 941 or in Haiti, except as A.I.D. may otherwise agree in writing. Ocean shipping financed by A.I.D. under the Grant shall, except as A.I.D. may otherwise agree in writing, be financed only on flag vessels of countries included in A.I.D. Geographic Code 941 or of Haiti.

b. Conditions Precedent to Initial Disbursement

Prior to any disbursement, or the issuance of any commitment documents under the Project Agreement, the GOH shall, except as A.I.D. may otherwise agree in writing, furnish to A.I.D., in form and substance satisfactory to A.I.D.:

- (1) A proposed 12-month schedule for the establishment of the Secondary Roads Service ("SRS");
- (2) Evidence that a full-time Project Director has been appointed; and
- (3) Evidence that a separate account in the National Bank of Haiti for deposit of both A.I.D. and GOH resources has been established.

c. Conditions Precedent to Disbursement for Road and Facility Construction

Prior to any disbursement, or the issuance of any commitment documents under the Project Agreement, to finance the construction of any road or facility, the GOH shall, except as A.I.D. may otherwise agree in writing, furnish to A.I.D., in form and substance satisfactory to A.I.D.:

- (1) Evidence of the delegation of authority and transfer of responsibility for construction, equipment, and staff of the Project Director whose authority will be assumed by the Director General of the SRS upon its establishment. This authority will include, but not necessarily be limited to, the ability to order equipment, services and commodities based upon the joint A.I.D. and GOH agreed-upon road segment cost estimate and to sign the necessary checks for said procurement;
- (2) A detailed cost estimate for each approved road and a time schedule for implementation prior to disbursement for each individual approved road; and
- (3) Evidence of the implementation of an orderly process for the transfer of completed road segments to the National Road Maintenance Service of the GOH ("SEPRRN") for ongoing maintenance. The process will identify the necessary steps, actions required, offices responsible for these actions, and relative time frames.

c. Condition Precedent to Disbursement for the Purchase of Equipment

Prior to any disbursement, or the issuance of any commitment documents under the Project Agreement, to finance procurement of equipment, the GOH shall, except as A.I.D. may otherwise agree in writing, furnish to A.I.D., in form and substance satisfactory to A.I.D., a detailed plan for the maintenance and assignment of Project equipment.

d. Condition Precedent to Disbursement for Technical Assistance

Prior to any disbursement, or the issuance of any commitment documents under the Project Agreement, to finance technical assistance services, the GOH shall, except as A.I.D. may otherwise agree in writing, furnish to A.I.D., in form and substance satisfactory to A.I.D., scopes of work for said services and a proposed list of counterpart personnel.

e. Conditions Precedent to Disbursement Subsequent to September 30, 1983

Prior to any disbursement, or the issuance of any commitment documents under the Project Agreement, subsequent to September 30, 1983, the GOH shall, except as A.I.D. may otherwise agree in writing, issue a formal decree or law establishing within TPTC the SRS having sole responsibility for rehabilitation/construction of secondary roads in Haiti. The SRS shall be fully operational with key positions staffed at its Headquarters and in the field. Except as A.I.D. may otherwise agree in writing, the GOH shall furnish to A.I.D., in form and substance satisfactory to A.I.D., an organization chart of the SRS and position/job descriptions of all key personnel, including regional engineers and those of the light brigades and equipment support pools.

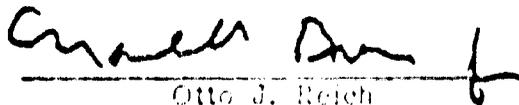
f. Covenants

The GOH shall covenant that, unless A.I.D. otherwise agrees in writing, it will:

- (1) Use equipment procured under the Project only for mutually agreed upon rural rehabilitation/construction and maintenance work, except in emergency cases where prior A.I.D. approval is obtained in writing;
- (2) Recruit and maintain sufficient qualified personnel at all levels required to carry out the objectives of the Project effectively;
- (3) Take such necessary actions as required to ensure that road maintenance will be provided to the roads constructed or reconstructed under the Project;
- (4) Continue to use the Joint Project Implementation Plan system or other mutually agreed upon method to systematically monitor the Project; and
- (5) Provide adequate budgetary support for all Project activities, the continued maintenance of secondary roads, the establishment of the SRS and for the continued operations of both SRS and SEPRRN.

g. Waiver

The procurement of approximately 24 motorcycles (100cc), with an aggregate estimated cost of approximately \$40,000, from countries included in A.I.D. Geographic Code 935 is hereby authorized.



Otto J. Reich
Assistant Administrator
Bureau for Latin America
and the Caribbean

7/28/82
Date

Clearances:

GC/LAC:BVeret: 60/6 date 7/28

LAC/CAR:BKosheleff: B.2 date 7/28/82

LAC/DR:DJohnson: 2/2 date 7/27/82

GC/LAC:GMWinters: 4/4 7/26/82:x23272

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ACRONYMS

AFRP	Agricultural Feeder Roads Project
BID	Banque Interaméricaine de Développement
CAMP	Community Action Maintenance Program
CODEVA	Comité de Développement de la Vallée (Jacmel)
DARNDR	Département de l'Agriculture, des Ressources Naturelles et du Développement Rural
DOT	Department of Transportation
DRE	Development Resources and Program Evaluation
EOP	End of Project
EOPS	End of Project Status
EPD	Excess Property Division
FAR	Fixed Amount Reimbursable
GOH	Government of Haiti
HIS	Haitian Institute of Statistics
IQC	Indefinite Quantity Contract
IFB	Invitation for Bids
JPIP	Joint Project Implementation Plan
LIPP	Labor Intensive Pilot Project
LOP	Life of Project
PASA	Participating Agency Service Agreement
RCU	Road Construction Unit
RIA	Road Influence Area
RSSA	Resources Support Services Agreement
SEPRRN	Service d'Entretien Permanent du Réseau Routier National
SLELC	Service de Location d'Équipement Lourd de Construction
SRD	Secondary Roads Development
SRS	Service des Routes Secondaires
TAMS	Tippetts-Abbott-McCarty-Stratton
TPIC	Travaux Publics, Transport et Communications

TPIC ACRONYMS

LNBTB	Laboratoire National du Bâtiment et Travaux Publiques
RSA	Routes Secondaires Agricoles
SAC	Service Administration et Comptabilité
SAT	Service Autonome des Transports
SCAEP	Service de Contrôle Alimentation Eau Potable
SCCE	Service de Contrôle des Centrales Électriques
SCE	Service de Contrôle Financier
SCES	Service de Contrôle, Évaluation et Supervision
SCPU	Service de Contrôle de Poids des Véhicules
SCS	Service de Construction et Supervision
SG	Service de Garages
SGCT	Service de Géodésie, Cartographie et Topographie
SGU	Service de Génie Urbain
SOM	Service d'Organisation et Méthode
SFU	Service de Planification Urbaine

I. RECOMMENDATIONS AND SUMMARY

A. Recommendations

Pursuant to the review and approval of the proposed Secondary Roads Development Project by the USAID/Haiti Mission Project Review Committee, it is recommended that:

(1) The AA/LAC approve the Project described herein for a total cost to AID of \$12,500,000 in grant funding over a four year period.

(2) Should additional program funding become available to the Mission, the LAC Bureau authorize up to an additional \$1,600,000 in FY 1982 and/or FY 1983 funding before or during the first quarter of FY 1983, (see increased output targets, page 22).

B. Summary of Project Rationale

Lack of access for rural producers to market opportunities is a serious development problem for Haiti, the poorest country in the Western Hemisphere. The location of small and medium sized agro-industries in provincial towns has been constrained by the lack of road networks which would assure a regular supply of products for their operations. Without such an industrial demand in the countryside, production incentives for small farmers are limited. This lack of access also affects the extension of services in health, agriculture and education. Previous AID-supported projects in the transport sector have been increasingly effective and well-implemented by GOH agencies. This has been true of efforts in both road maintenance and labor-intensive road rehabilitation/construction. However, the organizational/institutional approach of the GOH to construction and rehabilitation of rural secondary roads continues to be fragmented, with separate project units established for each externally-financed project. Therefore, a major objective of the Project is the establishment and full development of a separate entity within the Ministry of Transportation, Public Works and Communications (TPWC), responsible for all matters pertaining to secondary road rehabilitation or construction regardless of funding source. A broad consensus has been reached between TPWC and the major external agencies involved in secondary road construction (AID, IDB, IBRD) on the necessity for the establishment of this organization.

The establishment of such an entity, the Secondary Road Service (SRS) is not in itself a purpose of the project but rather one of its outputs. The fundamental rationale for the creation and development of the SRS is to permanently institutionalize, within the GOH, a capacity to adapt and replicate proven labor-intensive, capital-saving technologies for rural works projects. These employment-generating technologies were developed principally through previous AID-financed road rehabilitation and maintenance projects, and have now been fully adopted in concept and practice by the GOH. Nevertheless, they remain to be institutionalized in a systemic fashion, and this project seeks to give permanence to a technology transfer that has

largely occurred. It will institutionalize a process of cost-effective and productive human resource mobilization, linked to rural community participation, and supported by central technical/engineering capabilities now in place. This process will then be readily applicable to other rural works efforts in the future.

In more concrete terms, both the GOH and USAID/Haiti have demonstrated over the past six years a strong commitment to rural development through road network development and maintenance. The 1982 GAO Audit Report on the Haiti Program states that, indeed, AID road maintenance and construction efforts in Haiti have been the Mission's most successful endeavors. The consistency of GOH budgetary commitments was also noted. The GOH has reemphasized this commitment in its 1981-86 Five Year Plan. In its most recent CBSS, USAID/Haiti has delineated requirements for its continued participation in the sector. The proposed project supports other USAID initiatives and it builds on and reinforces those GOH departments (TPIC and SEPRIN) with a proven record of accomplishment and capability to implement development projects. Effective institution-building in Haiti requires a long-term commitment and this project constitutes an effort to continue and substantially further the most demonstrable GOH commitment to sustainable rural infrastructure creation and maintenance.

C. Summary of Project Description

The Project has a two-fold purpose each element of which is closely linked to the other. The institution-building purpose, described generally above, will not be addressed in the traditional fashion of large inputs of technical assistance, training, commodities and vehicles, operating costs, etc. to a central government agency. Experience in Haiti has shown that this approach carries a low yield on investment. As detailed in the USAID/Haiti FY 84 CBSS, the approach to institution building for all projects in Haiti will be to focus on strengthening the field capabilities of government agencies and "working inward" toward the center to develop the managerial, logistic and other systems required to support a strong field program. This "bottom-up" approach to institution-strengthening implies a very substantial effort in this Project to implement the rehabilitation/construction and maintenance of rural secondary roads. Thus, approximately 300 kms of such roads will be constructed and maintained over the life of the Project, to provide improved access to rural market centers for both producers and consumers. As completed by the SRS, these roads will be formally transferred to the jurisdiction of the National Road Maintenance Service (SEPRIN), a semi-autonomous unit of TPIC established through prior AID projects, for ongoing maintenance service. Under the project, SEPRIN's capabilities will also be strengthened and its Community Action Maintenance Program (CAMP) will be substantially expanded. The formal establishment of the Secondary Road Service (SRS) will occur during the first 6 - 12 months of the Project, after which the SRS will progressively assume more functions as its organizational capability increases. As has become apparent during negotiations between USAID and TPIC, the GOH is firmly committed to establishment of the SRS as soon as it is practicable. It is expected that a formal decree will be issued subsequent to finalization of the pending 1983-84 law on the road law, provisions of which will affect all GOH department organizational structures and reorganizations thereof.

The Project will continue to provide smaller amounts of assistance (technical assistance)

and equipment) to SEPRRN to further strengthen that organization's capabilities to bring it to a level of organizational, financial and technical independence eventually eliminating the need for further AID assistance.

The concrete physical objective of the project is the rehabilitation or construction of at least 300 kms of the rural secondary roads. But of immediate importance it will provide employment and certain skills to some 25,000 rural laborers. The roads will be improved through labor-intensive, capital savings construction methods supervised by SRS; work will be carried out through lightly-equipped community-based teams of laborers, or "light brigades". Laborers from the light brigades will later form the core of the long-term Community Action Maintenance Program (CAMP), which will provide ongoing maintenance of roads constructed under the project.

D. Project Preparation and Review

The following AID personnel were significantly involved in the development of this Project:

David Adams, Project Development Officer, USAID/Haiti
Joel Cotten, Program Evaluation Officer, USAID/Haiti
Phyllis Elchter, Assistant Director, USAID/Haiti
James Gardner, Chief, Engineering Office, USAID/Haiti
Gene George, Engineer, USAID/Haiti
Harry Proctor, Engineer, USAID/Haiti
William Stacy Rhodes, Chief, Development Resources and Program Evaluation
Muriel Jolivert/Ernest Paultre, Engineers, USAID/Haiti
Nicole Jean Mary/Daniel Cesar/Socra Gregoire, USAID/Haiti (DRE)
Harlan H. Hobgood, Director-Chairman, Project Review Committee
Richard Byess, IDI, AID/W
Robert Otto, LAC/Bureau Environmental Officer, AID/W

Non-AID personnel instrumental in the development of the project include:

Charles Vandervoort, Transport Economist, DOT
Donna Plotkin, Anthropologist.

The following GCH/TPTC personnel were involved in the project development process:

Alix Cinéas, Minister
Fritz Etienne, Chief Engineer
Fritz Benjamin, Coordinator, Program Unit
Wilfrid St. Julien, Director, Transport Planning
Eddy Timothée, Director General, SEPRRN
Jacques Gabriel, Transport Planning
Dieudonné Langhin, Coordinator, APTG
Reynold Désiror, Economist

Secretarial assistance was provided by:

Mireille Beloux, USAID/Haiti (DRE)
Yvette Laurens, USAID/Haiti (ENI).

II. PROJECT BACKGROUND AND RATIONALE

A. BACKGROUND

1. General

After more than a decade of isolation and neglect, Haiti began to re-emerge into Western Hemispheric affairs in the early 1970's. The first direct U.S.-financed assistance program in Haiti since the AID Mission withdrew in the early 1960's began in 1973 in the context of a country whose social, economic, educational and legal institutions lay largely inactive. Unlike most of the countries of Latin America and the Caribbean, Haiti did not benefit from the substantial bilateral development efforts undertaken in the 1960's through the Alliance for Progress. By many indices of development, Haiti actually regressed since the late 1950s, and was actually less developed on AID's return in 1973 than it had been two decades earlier. In particular, the condition of domestic transportation and communications infrastructure had deteriorated to a condition similar to that existing at the beginning of the century. Although major development efforts have been made by external entities and the GOH over the past 7-8 years, Haiti remains the poorest and in a number of respects the least developed country of the Western Hemisphere.

The most recent data available indicate that Haiti had a per capita gross national product (GNP) of \$260 in 1979, which makes it the only country in the Western Hemisphere to be included on the United Nations list of the 30 "relatively least developed countries" (RLDCs). Haiti's population is estimated variously from about 5.3 to 6 million persons, more than 70% of whom live in rural areas. The rate of natural increase of the Haitian population is approximately 2.6%/year, although the rate of actual growth (2.2%) is moderated somewhat by the high levels of out-migration. 80% of Haitians are estimated to live below the absolute poverty level of \$140/year (established by the World Bank). It is only the incomes of the small, primarily urban upper class, who control most of the commerce in the country, which bring the national per capita average above absolute poverty levels.

In addition to the existence of widespread absolute poverty, other statistics illustrate the gravity of the development problems faced by Haitian and externally financed project and investment planners: the adult literacy rate is at most 23%, while rural illiteracy hovers near 90% and fewer than 2% of all children in rural Haiti complete primary school; almost 30% of children 1-5 years are severely or moderately malnourished; infant mortality rates are 130 per 1000 live births nationally and rising in urban areas due to the increased and improper use of infant bottle-feeding methods; life expectancy is slightly over 50 years, compared to 69 years in neighboring Jamaica.

This peasant economy in Haiti was described recently by a development economist¹ as "sliding towards the abyss". Rapidly increasing population growth, loss of soil and soil nutrients, declining food production

1. Mats Lundahl, Peasants and Poverty: A study of Haiti, London Croom Helm, 1979

and rising unemployment are interacting insidiously and cumulatively on the rural economy to generate more poverty, and potent socio-economic pressures to migrate to the city or out of Haiti.

2. U.S. Interests

Haiti's close proximity to the United States, strategic location, and endemic poverty, provide the United States with sufficient security, economic, humanitarian and political interests to warrant a major long-term bilateral development effort. The U.S. has significant security interests in Haiti, which shares the Windward passage to the Caribbean Sea and the Panama Canal with Cuba. Haiti is strategically located only 700 miles from Florida, and the existence of a non-hostile government and populace in Haiti is a fundamental security interest which is being served, inter alia by the U.S. foreign assistance program. While Haiti has enjoyed a relatively stable government for the last 20 years, the invasion attempt in January 1982 by dissident exiles demonstrates--as does Haiti's history--that it is not invulnerable to outside attack.

In terms of economic interests, the U.S. enjoys a highly favorable balance of trade with Haiti. Moreover, a rapidly growing number of U.S. businesses are investing in the country, primarily in assembly industries. U.S.-Haiti trade may be small from the U.S. point of view, but is of great importance to Haiti. In recent years, almost 50% of all imports into Haiti have been of U.S. origin (estimated at \$267 million in 1980) and more than half of Haiti's exports are to the United States. The U.S. trade surplus with Haiti has generally ranged over \$20 million/year and is increasing. U.S. investment in the transformation/assembly industry sector is growing and U.S. investors are expanding to other sectors as well. The U.S. foreign assistance program can play an essential role in encouraging private investment, particularly in stimulating agroindustry development as access roads open up the neglected hinterlands and peasant crop production is increased through improved marketing networks, irrigation systems, soil conservation practices and cropping technologies.

U.S. interests in Haiti are also humanitarian and social in character. The close proximity of a nation with over three-quarters of its people living in absolute poverty, with nearly 80% illiterate and with malnutrition and disease producing the highest infant mortality and lowest life expectancy of any nation in this hemisphere, is by itself a strong motivating force for generous U.S. aid and trade concessions. These dramatic needs continue to draw the compassion and aid of numerous American non-governmental voluntary organizations.

With large labor surpluses and the lack of sufficient new economic opportunities in the rural areas, the already strong pressures for out-migration are growing. Haitian migration is not a recent phenomenon, but its rapid increase to South Florida in recent years has created substantial economic and social problems. The direct cost of illegal immigrants to Florida alone between January 1980 and September 1981 (though not all of Haitian origin) is estimated at \$250 million in federally reimbursed assistance and about \$80 million in direct, non-reimbursed State of Florida aid. To deal directly with this problem, the United States and Haiti signed an agreement in September 1981 to interdict boats engaged in illegal migration and to return Haitians

seeking illegal entry into the United States for economic motives. This program has effectively deterred such illegal migration since October 1981.

This bilateral commitment has been broadened through President Reagan's announcement of the Caribbean Basin Initiative which calls for an approximate doubling of economic assistance to the region from FY 81 to FY 83. The Haitian Government has welcomed the initiative and hopes to participate fully in it. As the only least developed and one of the most populous countries in the region, the GOH expects that the U.S. foreign assistance effort will fully reflect the statements made with respect to the interdiction agreement and the Caribbean Basin Initiative.

3. Poverty in Haiti

Haiti is in gradual transition from an overwhelmingly agrarian to a dual economy with a dynamic new industrial sector. Currently, more than 70 percent of the population lives in rural areas, but produces less than 40 percent of national income. Rural to urban migration is high and growing, and both sectors suffer from widespread and deeply embedded poverty. Rural poverty reflects, *inter alia*, an antiquated economic/social structure, low-level technologies and a lack of incentives for the predominantly small farmer population. Urban poverty reflects widespread unemployment estimated at up to 50 percent of the job-seeking population in the Port-au-Prince area. Urban wage rates, while low by international standards, are significantly higher than rural wages. This accelerates the inflow of rural poor to urban areas and exacerbates the problems of urban poverty. Furthermore, despite a level of absolute poverty in Port-au-Prince that afflicts more than half the city's population, *per capita* income in the capital was estimated by the World Bank at more than ten times that of rural areas.

Greater Port-au-Prince currently houses about 15-20% of the total population, with an additional 8-10% living in provincial towns. More than 70% of the population of Haiti remains fully rural (agricultural), and of this group estimates of those living in conditions of absolute poverty range to 90%. Thus, when one speaks of the rural poor in Haiti one is talking of virtually the entire rural population. The urban poor, for the most part, are crowded into slum areas in and around the capital city environmental conditions in these slums are often worse than those in rural areas, and by some indices of poverty the urban poor are worse off than the rural poor.

Rural-to-urban migration is increasing from all regions of Haiti. Although strongest from the southern peninsula of Haiti, rural to urban migration is a nation-wide phenomenon. The dearth of unutilized arable land, the lack of off-farm employment opportunities, and the far greater availability of social services in provincial capitals and Port-au-Prince are key push-pull factors toward urban areas. The rural population growth is about 1% per year while urban areas grow at over 4% per year. Port-au-Prince is growing at 7% or more per year.

In spite of these demographic and economic trends, Haiti is today, and will remain for the foreseeable future, a predominantly rural and agricultural country. The agriculture sector in Haiti is characterized by small plots and an increasing fragmentation of land holdings. Rapid population growth coupled with an inheritance scheme providing each child with an equal share in land

owned by his parents has resulted in extreme "minifundia." It has also resulted in a multiplicity of tenure arrangements in which any one farmer may be an owner, renter and sharecropper simultaneously.

Current estimates are that the land area in Haiti devoted to crop production now totals about 1.3 million hectares, or 43% of the total surface area of the country, much of which is only accessible seasonally by trails or rutted roads. As only 900,000 hectares of Haiti's surface area are considered suitable for cultivation of annual (food) crops, some 30% of land now cultivated for annual crops should be shifted to tree crop production for export, or to forest. Current land use patterns have resulted from the enormous population pressure on the land. The total land area of Haiti is 27,800 square kilometers (about the size of Maryland). Overall density is 220 persons per sq.km. but the population density relative to arable land, at 700 per sq. km. is one of the highest such ratios in the world.

4. Constraints to Development

Almost without exception, development programs and projects which have been undertaken to address Haiti's problems since 1973 (and before) have met with limited success, due to major development constraints in the country. These constraints have been discussed in detail in the USAID/Haiti FY 84 CDSS, and include severe topographical disadvantages (e.g. 65% of surface area is sloped over 20°) limiting agricultural productivity, very limited natural resources (e.g. no petroleum, few minerals), frequent natural disasters (especially hurricanes), extreme population density, limited trained human resources, an eroding agricultural base, a small (but growing) industrial base, and weak governmental institutions. A major factor contributing to and exacerbating many of these factors is the extremely limited basic infrastructure in the country. Haiti's inadequate transportation and communications infrastructure is a major constraint to development. During the earlier era of the centralization of power in Port-au-Prince, roads and other infrastructure in rural areas and provincial towns was grossly neglected. It has only been through 6-8 years of concerted efforts by TPIC, funded largely by external organizations (AID, IDB, IBRD, France), that the road infrastructure of the country has been developed to its current state.

5. Basic Problem to be Addressed - Rural Transport

Deficiencies in road access throughout rural Haiti constitute a major development problem.

Haiti is a market economy in which peasant farmers produce principally to sell crops to other peasants and to intermediaries who resell crop produce in the population centers. There is a direct relationship between the health of the extensive market economy and the quality of rural Haitian life. Most market activity takes place in more than 500 public market-places throughout Haiti. Human carriers and animal power are still the principal modes of transportation to and from these markets.

A major impediment to any improvement of this marketing system exists in the transportation sector, and particularly in the secondary road

network¹. More than one-third of the towns and villages in which the 500 odd public markets of Haiti are located lack roads permitting motor vehicle access. An additional two-fifths of the existing market roads are in poor condition and may be traversed only by four wheel drive vehicles and permit only intermittent (or seasonal) access by trucks.

An improved transportation network can result directly in reduced transportation costs to the rural farmers for agricultural produce. In other AID-financed rural roads projects, the percentage of product cost attributed to transportation has been shown to decrease from 80% before access roads were constructed to only 10% for some crops, and from 57% to 14% for others². Numerous studies and impact evaluations have revealed that the overall cost of transportation of peasant farm produce generally decreased by 30-50% through the introduction or substantial improvement of market access roads in rural areas.

In addition, access to agricultural, health, education, and other social services (including family planning) is severely limited due to the poor condition of most secondary roads, many of which are impassable by vehicle after heavy rains.

A corollary problem to that of the lack of access by road in rural areas is one of maintenance of rehabilitated roads. Unpaved roads in an environment of heavy rains and fast growing vegetation require regular maintenance. The challenge of rural roads improvement and maintenance is further enhanced through AID/GOH efforts to involve local community groups in maintaining "their" roads, the roads they themselves have rehabilitated. AID/GOH road projects generally, and the proposed project in particular, will stress community participation as a means of creating off-farm employment and as a stimulus to further rural development.

B. PROJECT RATIONALE

A reconstructed and systematically maintained road network, while not a sufficient condition in itself for improving the quality of life in rural Haiti, is a necessary condition to the fostering of rural development. The proposed project therefore is in conformance both with GOH priorities and USAID's Country Development Strategy Statement (CDSS).

1. Relationship to GOH Priorities

Preparation of the 1981-1986 Five Year Plan facilitated a GOH assessment of Haiti's basic social and economic problems and has provided a framework to articulate policies and programs for the 1980s. The GOH Plan

1. The primary road network is good but very limited in scope; it connects Port au Prince to the four other major population centers (Cap-Haitien, Les Cayes, Gonaives, Jassel). The roads are paved and are maintained by SEPRU.
2. AID Project Impact Evaluation Report No. 1 Columbia. Small Farmer Market Access Dec. 1979.

recognizes as major constraints Haiti's low level of literacy, education and skills, its low agricultural productivity and lack of modern technology in agriculture, its limited administrative capacity and its inadequate physical infrastructure.

The GOH Five Year Plan further concedes that progress in the 1970's was narrowly based and concentrated on certain modern sectors, affecting a small proportion of the population, and that efforts to integrate the agricultural and urban economies were lacking. The Plan states at the outset that Haiti's development is possible only through a system of free enterprise and emphasizes the Government's role in making it possible for the private sector to carry out its role in generating economic growth and development. The Five Year Plan places top priority on the goal of "the establishment of the basic infrastructure required to increase food production and establish a manufacturing network."

The GOH strategy for development of the physical infrastructure emphasized regional and sectoral integration in the aim of achieving "equilibrium" between rural and urban societies and reinforcement of agricultural and other development programs. Works carried out in the transport sector should, specifically, create employment for the rural population through the utilization of labor-intensive methods, in order to absorb at least a portion of the rural unemployed and to train them for continuing programs in construction and maintenance. Although the network of major highways is incomplete, the GOH Plan provides that priority be given to agricultural access roads. The GOH's investment budgets for the coming years indicate that the project discussed in this document is in full harmony with national needs and plans. (See Chart II B. 1). There is no question that the rural roads program now has effective GOH backing, and that the "labor-intensive" methods developed through predecessor projects have been widely accepted.

CHART II. B. 1

COMPARISON OF PROGRAM OF PUBLIC INVESTMENT EXPENSES FOR FY81 AND FY82

(Million of Gourdes)

<u>SECTOR</u>	<u>FY 81</u>		<u>FY 82</u>		<u>%change</u>
	G. Amount	% of total	G. Amount	% of Total	
Agriculture	170.35	15.6	239.98	24.5	+40.9
Mines	12.55	1.1	15.14	1.5	+20.6
Industry	100.13	9.2	68.79	7.0	-31.3
Energy	168.87	15.4	59.45	6.1	-64.8
Potable Water	60.76	5.6	25.32	2.5	-58.3
Tourism	3.66	0.3	2.40	0.3	-34.4
<u>TRANSPORT</u>	<u>171.16</u>	<u>15.6</u>	<u>175.76</u>	<u>17.9</u>	<u>+ 2.7</u>
Communications	32.26	3.0	39.01	4.0	+20.9
Housing	84.16	7.7	55.91	5.7	-33.6
Education	95.44	8.7	77.68	7.9	-18.6
Health	72.49	6.6	84.40	8.6	+16.4
Social Affairs	1.92	0.2	1.99	0.2	+ 3.7
Community Dev.	82.07	7.5	91.70	9.3	+11.7
Other Investments	<u>38.63</u>	<u>3.5</u>	<u>44.04</u>	<u>4.5</u>	<u>+14.0</u>
Totals	1,094.42	100.0	981.6	100.0	-10.3

2. Relationship to USAID CDSS

The FY 1984 CDSS established and described in detail the sectoral and cross-sectoral strategic goals of the USAID/Haiti Mission. The proposed project will directly address two major program goals of the AID Mission in Haiti: (a) strengthening of Haitian development institutions, and (b) improvement of basic rural infrastructure through labor-intensive, capital-saving methods. In addition, the project will have long-term positive ramifications on other major program objectives, including (c) increasing agricultural productivity, (d) promoting private sector investment and employment in Haiti, and (e) refocusing and concentration of development efforts in specific regions of Haiti.

a. Institutional Impacts

TPIC has been strongly supported and developed organizationally by prior and current AID-funded projects for rural road rehabilitation and maintenance. At present, the various road projects are administered by different project coordinators within TPIC. Each project coordinator works for a different department of TPIC, none of which is primarily responsible for the rehabilitation/construction of roads. Under this project TPIC will establish an agency with its own set of authorities, the Services de Routes Secondaires (SRS), which will have as its sole function the rehabilitation/construction of secondary roads. Responsibility for all externally supported and ODH-funded secondary road projects will, then, be assumed by this new agency. The proposed technical assistance, inter alia, will provide necessary expertise to establish and strengthen this new secondary road construction agency, as well as to strengthen SEPRRN. The success of SEPRRN can in part, be attributed to its semi-autonomous nature and substantial authority, developed under the Road Maintenance II Project. This project will build and capitalize on this success by the establishment of the "parallel" SRS.

b. Rural Infrastructure Improvement

The poor state of Haiti's rural infrastructure is a serious constraint to economic activity in Haiti. USAID/Haiti's strategy attempts to address this problem in a productive and cost-effective way through the construction and maintenance of rural infrastructure using techniques characterized by a high ratio of people to equipment. Thus the creation of new road infrastructure is accompanied by the generation of employment and the injection of income into the real economy.

The focus of the Mission's rural infrastructure strategy to date has been relatively narrow. Large infrastructural tasks, including construction of primary (trunk) highways, dams and bridges, rural electrification systems, etc., are left entirely to the larger programs of the multilateral donors in Haiti. USAID's focus is currently on three tasks: (1) the maintenance of existing and new road networks, (2) the rehabilitation/construction of all-weather, secondary (feeder) roads; and (3) the construction of community potable-water systems, carried out through private voluntary agencies. This project will constitute the Mission's primary effort with regard to the first two tasks. The proposed project, which is now limited in scope due to lack of funds, would be expanded to permit the

formation of additional labor-intensive "light brigades", if additional grant-or loan-financing becomes available late in FY 1982 or FY 83, and increased forward-funding of equipment needs and the rehabilitation of more links of roads necessary to provide improved access to markets. While the current focus is on road links in the Southwest and Northwest regions, activities could also be increased in other potentially productive but isolated areas of Haiti on which the GOH places high priority, including the Northeast and the Central Plateau.

c. Agricultural-Related Impacts

The lack of adequate road infrastructure in the hinterlands of the provincial towns has been a constraint to increased agricultural production, due to the significant costs incurred by the peasant farmer in transporting his produce to the markets and agro-industrial plants in regional towns. This insufficient road network also affects crop processing agro-industry in that if the processing or packing facility is located near the cultivation area, the finished or packed product must still be shipped, at a high cost, over unimproved or non-existent roads to Port-au-Prince. The more perishable the product the higher the risk and cost to the agribusiness. Therefore both Haitian and foreign investors have avoided agriculturally-related enterprises which by necessity must be located in the principal agricultural areas of Haiti. In nearly every case these regions lack an adequate transportation infrastructure to attract processing industries.

The improvement of access roads in agricultural areas will also reduce transport costs, increased competition among intermediaries, thus making possible an increase in the producer's share of the ultimate market price.

d. Employment Impacts

A large portion of economically active rural Haitians have tiny land holdings and perhaps as high as 50% are essentially unemployed most of the year. Some find seasonal employment as hired planting or harvest labor. But there is no time of the year when Haiti fails to have a vast surplus of able and willing rural workers. The agricultural sector employs the major share of the labor force, but it is characterized by a very low land/labor ratio (less than 1 hectare per economically active person), and by a high percentage of marginal land under cultivation. It is therefore unlikely and perhaps undesirable for the agricultural sector to absorb additional quantities of labor in significant numbers in upcoming years. The absence of sufficient off-farm employment alternatives for the rural population and subsequently their migration to Port-au-Prince is one of the principal factors in the rapid growth of the capital city. Population pressure has resulted in widespread unemployment and underemployment and large numbers of rural migrants to urban areas and to the U.S. Agricultural productivity and rural land use could be improved through the creation of non-farm employment opportunities and migration out of farming into other activities. Since the search for work and higher incomes is a principal cause of the rural-urban migration and out-migration, any programs aimed at a reduction and re-orientation of these migration flows must rely heavily on channeling the labor force into productive employment at places where people live or should migrate to. It is therefore evident that the vast majority of

the new entrants to the labor force in both the urban and rural areas will have to be absorbed by the informal sector¹ and through public works activities.

Through the development of improved road systems in rural Haiti it will be possible to assist small scale enterprises, including housing construction-related businesses, and establish and/or expand labor-intensive industries, particularly agro-industries. As a result of these activities off-farm employment will be generated by gainfully employing unemployed workers in the construction/maintenance of economically important physical infrastructure, providing small-scale enterprises with the resources necessary to increase their output which will thereby create additional jobs for the local work force, and assisting in the development of private sector initiatives in rural Haiti aimed at creating or expanding medium to large scale agribusiness enterprises in the near term.

e. Regional Strategy and Coordinated Development Activities

As delineated in the CDSS, the Mission is committed to refocussing existing, and designing new development efforts for program concentration in specific geographic areas, i.e. the South peninsula and Northwest. The Southern Region possesses several characteristics which recommend it for this focus. First, it suffers from extreme population density and supports over one million persons (nearly four times the population of the Northwest). Second, it is the region of highest rural-to-urban migration, and the source of large numbers of out-migrants to the U.S. Third, its agricultural productive potential substantially exceeds that of the Northwest and (to a lesser extent) other regions for three primary reasons: (1) its hillside ecology has suffered less from massive deforestation and erosion than have other regions of Haiti, making the potential benefits of soil conservation efforts promising; (2) average land holdings are somewhat larger than in other areas, especially near Les Cayes; and (3) the potential for irrigated farming in the Plaine des Cayes probably exceeds that of any other watershed except the Artibonite Valley. Other small river valleys provide additional potential. A major paved highway running almost the length of the peninsula substantially increases access to the region from the capital for purposes of providing inputs rapidly and for effective management/supervision by GOH and donor agency officials. This trunk highway also provides a strong base for expanding the system of secondary roads on the Southern peninsula, and this project will utilize that base.

The Mission has come to agreement with GOH/TPTC that the primary focus of the proposed project will be in the two regions. However, it has also agreed that clearly defined road links in other areas with high agricultural potential (e.g. Plateau Central), which meet the criteria for selection exceptionally well, will be considered on a case-by-case basis for project support.

1. The informal sector is defined as family or other very small establishments involved in producing a wide range of goods and services; e.g. cottage industry, repair of simple equipment, production of simple consumer goods.

F. Availability of Social Services

Increased access of rural inhabitants to various social services--whether provided by the GOH or AID/other donor activities--is also an important strategic consideration in undertaking this project. The USAID/Haiti program includes a substantial number of other development projects and activities which will benefit significantly from the further improvement of the rural road infrastructure in Haiti. Furthermore, a number of these on-going and proposed AID initiatives will, through interaction with the roads project help ensure the attainment of the latter's objectives. For example, the lack of road access to possible sites for health outposts is a constraint to the full realization of objectives under the Rural Health Delivery System Project. The relationship between actual provision of health services and the provision of access to such services becomes obvious. Other AID projects which are expected to interact favorably with the proposed project include Family Planning Outreach, Strengthening Rural Credit Institutions, Agroforestry Outreach, Malaria Control and a variety of PVO activities in rural health and education. Furthermore, direct linkages will be forged between the proposed project and the Agricultural Development Support (ADS) II project commencing in the near future. Specifically, cropping pattern and related agricultural data will be gathered under ADS II in areas under the influence of candidate roads. Concurrently with the collection of this data, AID/TPTC teams will be canvassing the same areas for socioeconomic data in communities near proposed road sites. Both sets of information will be used, therefore, in the application of criteria for road selection for the prioritization of road segments.

The expansion of community access to the social services provided through such projects is clearly perceived as a major benefit by the community in the vicinity of the road. Through an evaluation of one earlier USAID penetration road project, a survey showed the most often mentioned benefit by local inhabitants was "the rapid transportation of sick people" to health facilities. Community groups near the road sites of the predecessor projects have more readily solicited teachers, health personnel, agricultural credit and extension services, etc.

Roads are viewed by peasants as sine qua non's for development¹, particularly in their potential for in-flows of assistance, for outsiders to be able to see what communities have managed to do on their own, and for the opening up of linkages to secondary cities, through the growth of commerce.

3. Other Externally-Financed Activities

The other major external financing agencies with existing and/or planned rural roads programs in Haiti are the World Bank (IDA), Canada (CIDA), and the Inter-American Development Bank (IDB). These programs are for the most part regionally concentrated and intended to tie in with other development activities in the region. CIDA and the IDB are explicit in requiring the use of the labor-intensive methods.

1. See Social Foundations Analysis.

a. World Bank/IDA

The World Bank concluded a \$10 million loan agreement in May 1977 as Phase I financing of a multi-sector regional development program in the Department du Nord operated by the Government's Organization for the Development of the North (ODN). Of this amount, \$1.2 million was set aside for the secondary roads element of the program. Additional amounts will have been allocated for that purpose by the end of the loan implementation period in December 1982. Of a target of 93 kilometers that are to be constructed by then, approximately 83 have been constructed to date. Prefeasibility discussions are already underway for a Phase II IDA loan for the ODN project, in which allocations for roads would finance the rehabilitation of 68 kilometers and the new construction of 52 kilometers.

b. CIDA

CIDA has assisted regional community based (self-help) efforts in another regional development program along the northern part of the Southern Peninsula, called DRIPP (Développement Régional Intégré, Petit-Coève - Petit-Trou de Nippes). During its first phase, a five-year period ending in July 1981, the DRIPP rehabilitated (without TPIC participation) approximately 100 kilometers of tertiary roads at a cost of about \$1 million. Much of the work was subcontracted to Community Action Councils, and this portion was labor-based. For the heavier work, DRIPP has CIDA-financed equipment pool, including four bulldozers, a grader, and a compactor. Canadian inputs to the project have been suspended, however, due to disagreement between the GOH and CIDA on management issues and alleged administrative irregularities.

c. IDB

In April 1981, the IDB and the GOH concluded two agreements involving roads and a third IDB proposal for the Artibonite is under review. The first is a secondary road reconstruction loan which will provide \$5.0 million for the rehabilitation of 132 kilometers in the Southern Peninsula to be carried out through TPIC. The existing Agreement provides explicitly for use of the labor-intensive methods. The AID-financed Agricultural Feeder Road Project's experience with light brigade construction was highly influential in the decision to adopt the method. This is the first instance of a multilateral agency requiring such methods for a major road project in Haiti. In 1948, a UN Mission had recommended precisely the opposite, i.e. mechanized construction, in the same region.

The road component of the second IDB loan is for \$5.63 million of a \$12.1 million project total (to which the IDB will also contribute). This project will have two major components: (a) road construction efforts along the Southwest coast of the Southern Peninsula (Port-Salut/Tiburon), and (b) a rural development effort involving road construction in the center of the Southern Peninsula (in the area surrounding Azile). Under the roads portion of this loan, for which TPIC is responsible, the reconstruction of 179 kilometers is planned, again using labor-intensive techniques.

d. French Bilateral

The Government of France financed primary road construction during the mid-1970's (Jlcmel road).

e. Conclusions

The establishment of the SRS, therefore, will be a large step toward ensuring complementarity between various external agency efforts to improve the rural secondary roads infrastructure in Haiti. As stated elsewhere in this document, a broad consensus on the necessity for the SRS based on the Berger Study¹ has been reached by USAID with other donors and TPTC. The Mission will be taking the lead in the implementation of this institution-building scheme.

Second, a comprehensive transport sector analysis² made sound planning possible for road projects in Haiti. The study provided a comprehensive information base, and authoritative recommendations on organization, standards for road construction, priorities in road selection, and related requirements.

Finally, the existence of the SEPRRN road maintenance program, begun by the first AID-financed project in the transportation sector, ensured for the first time that properly constructed roads would achieve the approximate life span for which they were designed.

C. CURRENT STATUS OF AID ROAD PROJECTS

The proposed project combines elements of two existing AID-financed rural road projects, i.e. the reconstruction of rural roads (Agricultural Feeder Roads, 521-0074) and maintenance of the country-wide road system by the semi-autonomous GOH road maintenance organization, SEPRRN (Road Maintenance II, 521-0084). AID assistance to the GOH Ministry of Public Works, Transport, and Communications (TPTC) in both of these areas began in the mid 1970's. These AID-financed efforts represented the first attempt in several decades to improve the secondary road transport subsector in Haiti on a sustained basis.

1. Rural Road Reconstruction: AID's decision to assist the GOH in 1976 with the rehabilitation of its rural road system was based primarily on an economic argument--that deterioration of the road system, inhibiting the flow of goods, services and information, had contributed to a steady decline in agriculture production and per capita income in rural areas. Moreover, a growing number of other development programs in these areas depended on regional and national transportation links to permit achievement of maximum impact.

1. "Secondary Roads Service (SRS), Preliminary Organization Study", Louis Berger Int'l, Inc. January 1982.

2. National Transport Study, Louis Berger International, Inc. 1976 (Financed by the IIRD).

AID-financing and other support for the Agricultural Feeder Roads Project (AFRP) commenced in June 1976, and will terminate in September 1982. The project has consisted of a \$5 million loan (\$3.023M equipment plus \$1.977M operation and maintenance costs) and a \$4.946 million (\$4.8 TA and evaluations plus \$.14 M in equipment) grant. The GOH has contributed PL-480 Title I counterpart funding totalling \$7.1 million (operation and maintenance costs) over the life of the project. The project was implemented by a special unit of TPTC established for that purpose, and advised by a U.S. engineering consulting firm.

Under the AFRP, two mechanized road construction brigades were organized and equipped--one for the North Region and the other for the Southern Peninsula. Later, two labor-intensive road rehabilitation/construction brigades were created. These "light brigades" proved so successful under the project that two additional ones, not originally foreseen, were formed. The project also stocked a spare parts warehouse and established and equipped an equipment leasing service (SLELC) authorized to rent road construction equipment to the public and private sectors. The project has rehabilitated approximately 300 kilometers of agricultural feeder roads, at an average cost of \$26,000 per km for operation and maintenance costs directly attributable to road rehabilitation/construction. These costs include: labor, POL, spare parts, cement, steel, etc.

Clearly, the most important achievement of the AFRP, and a decisive factor in planning the proposed project, was the successful development, testing, and demonstration of the viability of the labor intensive, capital-saving light brigade methods in the construction of secondary roads in Haiti. The initial experimentation and development of these methods was carried out during 1978 through a Labor Intensive Pilot Project (sub-project under AFRP), implemented under field conditions.

The objectives of the Labor-Intensive Pilot Project (LIPP)¹ were to determine the feasibility of using labor-intensive technologies for road construction in Haiti. Preparatory work was started in the summer of 1977 with actual field operations starting in January 1978 and ending in September 1978.

Field activities included clearing and grubbing, hillside excavation, construction of stone (Telford) basecourse, quarrying of borrow materials, surfacing, soil cement stabilization, ditching, culvert manufacturing and placement, construction of headwalls and retaining walls and construction of ferds.

As the final report of the LIPP notes:

1. See: "AFRP Labor-Intensive Pilot Project, Final Report", TAMU, July 1980.

Socio-Economic studies were carried out to study the effects of labor-intensive road reconstruction. It was found that labor-intensive technology is applicable in Haiti, labor is available and rural community organizations are a satisfactory medium for labor recruitment; however, social animation of rural communities is required in the initial stages...labor-intensive road construction/maintenance technologies were found feasible from a technical, financial and socio-cultural point of view".

Based on the experience gained during the LIPP and a review of existing literature, a road construction training manual was developed for use in classroom and on-site settings. The manual is geared to the supervisors and provides both background and details for in-depth training.

The first light brigade was activated in January 1979 for operations in the South. A second light brigade, trained by the personnel from the first, began operations in an adjacent area in February 1981. Two others were formed in July 1981 and are now working in the department of the North. TPTC, with AID encouragement, now plans to transform the mechanized brigades formed at the outset into support brigades, and to utilize the heavy equipment to form an equipment pool to reinforce light brigade construction in difficult terrain.

A light brigade, as formed under the AFRP, currently employs some 150-200 laborers organized into 10-12 teams. The teams are organized to handle different specialized activities. Each light brigade is currently composed of an engineer, a junior engineer, 3-4 supervisors, 10-12 team leaders, and administrative personnel. The light brigade concept as developed in the AFRP is a balanced one in which manual labor--for clearing, excavating, surfacing, ditching, etc. is supplemented by light equipment for the functions which are not suited to manual labor, i.e. haulage and compaction. Thus, a light brigade has no heavy equipment, such as bulldozers, graders, loaders, and dump trucks. However, the light brigade concept is flexible enough so that when difficult terrain requires, heavy equipment can be assigned on a temporary basis.

For all its substantial successes, the light brigade model developed under the AFRP has its limitations. As noted in the recent independent evaluation of the AFRP by Group Seven Associates,

"The limitations of light brigade work must be recognized in terms of: terrain conditions and availability of labor and time. It should not be considered as a replacement for all mechanized road construction."

However, the evaluation finds that in spite of these limitations and the need to adapt TPTC standards under local conditions, road quality has generally been very high:

Construction standards of quality have been adhered to throughout the project, at least at those places observed by G7 while on field trips. We found little evidence of poor workmanship or improper engineering practice. This is not to say that road geometric standards, that establish roadway width, ditch and slope shapes, and so forth, have not been altered. Variation of the standards in densely populated and planted areas is the rule rather than the exception, in order to adapt road to field conditions without causing undue extra costs, or disrupting villages or homesites. The roads are being constructed with the modern feeder road concept: make the road fit the terrain".

As a result of the AFRP's successful demonstration of the light brigade concept, the method has gained adherents among other donors as well as in the GOH. TPTC is now consequently less inclined to request external financiers to provide major quantities of heavy equipment for secondary road construction. The IDB, in consultation with the GOH, has adopted the AFRP's light brigade model for its own forthcoming secondary road program.

2. Road Maintenance. From the 1950's into the early 1970's, Haiti's road system of about 3700 kilometers deteriorated steadily. The need to build up and adequately finance a GOH road maintenance function was recognized as imperative in the early 1970s in connection with IBRD financing of the major national highway Route No. 1 (north from Port-au-Prince via Gonaives to Cap-Haitien) and IDB financing of Route No. 2 (southwest from Port-au-Prince to Les Cayes), as well as for other road programs (primary and secondary) which were being planned.

The GOH responded in a 1972 law creating SEPRRN (Service d'Entretien Permanent du Réseau Routier National), or, Permanent Maintenance Service for the National Road Network, a semi-autonomous agency under the TPTC. This law provided the rubric within which AID assistance for highway and road maintenance could be justified and made effective.

AID's Phase I Highway Maintenance Project began in 1973. It assisted in the establishment of SEPRRN. A \$3.15 million loan and a \$2.05 million grant provided technical assistance, equipment, and equipment maintenance facilities. The objective initially was to enable SEPRRN to carry out urgent maintenance on a limited number of roads. The Road Maintenance II project began in 1977 and provided \$12 million grant funds for additional equipment, construction of a central administration building and eight district SEPRRN facilities, the reinforcement of the training division within SEPRRN, a community-based maintenance program and technical assistance. The objective of Phase II was to enable SEPRRN to meet its statutory responsibility and, on a practical level provide a strong capability for maintaining the country-wide road system. As has been recognized in recent evaluations of the project and by the GOH itself, substantial progress has been achieved by SEPRRN in becoming such an organization. In the last project evaluation by Group Seven (January 1981), the evaluators stated:

"As an example of adjusting to field and weather conditions, the response of SEPRRN to Hurricane Allen was reportedly timely and effective and is a positive sign of SEPRRN beginning to mature and becoming accepted as a vital institution of the government of Haiti".

As with the road construction light brigades, SEPRRN also employs capital-saving technology for its maintenance operations. Personnel costs account for over 50 percent of total costs, and most of this is for brigade labor. Most of its 140 brigades are "hand brigades". Moreover, SEPRRN is increasingly contracting out local maintenance work to community councils or groups which are supplied with tools and training, and their fee covered.

Apart from completing the basic physical requirements, the Road Maintenance II project emphasized the development of modern management systems (for brigade operations and equipment maintenance) and of a permanent and comprehensive training capability for all levels and functions of the organization. The priorities of management and training are carried forward into the new project in which AID-financing will be limited to technical assistance in those areas, and to equipment maintenance.

3. Institutional Development. Following numerous discussions with USAID/Haiti and other donors, TPTC requested (in November, 1981) AID assistance in establishing a new secondary road service which would be an organization within TPTC and the focal point for all OOH and donor-sponsored secondary road rehabilitation or construction activities.

In response to this request, a U.S. consulting firm completed a short term study which had as its primary objective the development of recommendations for TPTC which will lead to the establishment of a viable Secondary Roads Service (SRS). The SRS is described in the Detailed Project Description.

While both predecessor projects to the proposed project have been judged to be largely successful by the several evaluations carried out, it is clear that they did not reach all targets established in the original project papers. As regards construction, major problems in the AFRP have been: (1) lack of certain authorities (e.g. budgetary) and resulting bureaucratic delays, and (2) requirements unforeseen in the original PP, for higher road standards which directly affected the estimates for construction rates and costs contained in the original project paper. With respect to maintenance, inordinate early delays in procuring foreign equipment under Road Maintenance II and some ineffective TA by the consulting firm have been major hindrances. The proposed project will address and continue institutional improvement in several problem areas identified by evaluations of the two predecessor projects, including the following:

-Delays in the procurement for construction operations, and delays associated with the process of Ministry approval of requisitions and effecting of payment;

-Inadequate equipment maintenance support for construction brigades, which have had only limited access to SEPRRN's or other adequate maintenance facilities;

-Inadequate coordination between the maintenance and construction units and a lack of well-defined conditions for the transfer to SEPRRN of completed roads.

-Problems in construction brigade productivity, efficiency and staff motivation;

-Inadequate preventive equipment maintenance of SEPRRN equipment.

The second and third items above are problems which require assurance of adequate coordination between SEPRRN and the SRS. The combination of these activities in a single project will facilitate joint approaches to these and other problems.

III DETAILED PROJECT DESCRIPTION

A. Goal and Purpose

The goal of the project is to increase economic opportunity and family income in selected rural areas of Haiti through stimulation of agricultural production, creation of rural employment and expansion of market activity.

The primary purpose of the project is to strengthen the institutional capability of the GOH Ministry of Public Works, Transportation and Communications (TPTC) to plan and implement on a sustained basis the rehabilitation/construction and maintenance of Haiti's secondary road network. The secondary purpose of the project is to provide improved access to rural commercial market centers, both for farmers and consumers, through the rehabilitation/construction of about 300 kilometers of rural roads by labor-intensive, capital-saving methods. Improved access to agricultural production areas will lower transport costs to farmers for agricultural produce and inputs, as well as enhance the timeliness/dependability of delivery of produce and inputs. It will also encourage isolated farmers to shift their current cropping patterns from the more durable and lower-value food crops to higher-value, more perishable crops which can then be transported more efficiently to market. Thus, the establishment of improved secondary roads is expected to induce increased food production and increased incomes in rural Haiti, especially where the roads are complemented by other agricultural programs (e.g. credit, extension, etc.).

As noted in the summary section above, the two purposes of this project are closely linked. Prior AID and other projects have shown that effective-institution building in Haiti is difficult to achieve through a "top-down" transfer of resources, technical assistance, etc. to a central Ministry. Experience indicates that GOH institutions are most effectively strengthened through a focus on field delivery capabilities, with a progressive strengthening of the systems needed to support those capabilities in the central ministry. Therefore, the critical factor in achieving the institution-building purpose in this Project will be the successful, cost-effective rehabilitation/construction and maintenance of the some 300 kms plus of secondary road which are planned. This Project seeks to move a step beyond the transfer of labor-intensive road-building technologies which have been developed through the predecessor AFRP, and institutionalize those technologies in the SRS, so that their continued and expanded utilization eventually will not require AID project support. In fact, it is intended that this project will institutionalize these technologies in a way which will make possible the future replication and adaptation of them to other types of rural works which are functions of TPTC. It is the institutionalization of a process of effectively mobilizing an appropriate mix of human and capital resources, supported by technical guidance and community participation, which is sought by this Project.

B. Project Components

The primary emphasis of the project is to build upon the efforts

and successes of prior AID projects to strengthen the institutional capabilities of TPTC to carry out effective secondary road rehabilitation/construction, and maintenance. This will be done in two ways: (1) The establishment of a Secondary Roads Service (SRS) within TPTC for secondary road rehabilitation/construction, and (2) the provision of additional support to the National Road Maintenance Service (NEMERAN) for the maintenance of the national road system.

1. Secondary Road Service (SRS)

a. Organization

(1) General Statement: In cooperation with other external financing organizations supporting the construction of secondary roads in Haiti, there will be established within TPTC an agency which will be charged with the responsibility for the rehabilitation/construction of all secondary roads. This agency, Service des Routes Secondaires (SRS), will have authority for the programming, budgeting and execution of all secondary road construction and rehabilitation, regardless the source of financing. The SRS will be the implementing agency for secondary road projects funded by AID and by other external financing organizations, including the World Bank and the Inter-American Development Bank. This new service will help spur improved road construction and maintenance levels achieved in the predecessor projects, and, since it is one of several, will provide for increased accountability to donors and road users. Due to its increased authorities, success and higher standard projects will be directly attributable to the SRS organization. At the time the organization and financing that credit is given when it is received, the annual development budget has been established and approved through a donor or AID non-consulting procedure, the SRS Director General will be able to approve expenditures for fuel, equipment, salaries, etc., conforming with the donor's guidelines, without referral to higher level approvals.

(2) Staffing: The staff of the SRS will be drawn mainly from the staff of the TPTC, with one or two and perhaps three regional operations offices. The SRS will have a general coordination with that of the construction of road projects. Each Regional Engineer (with a small staff) will be responsible for the execution of projects. All recurring costs to normal operations of the SRS, including its personnel will be the responsibility of the TPTC.

(3) Management: A project manager will be appointed by the TPTC Director General and a construction unit within the SRS and he will be charged with the responsibility for the rehabilitation/construction of AID financed roads. The project manager within the SRS will have AID financial support for the construction of secondary roads over the life of the project by implementing the approved methods. This unit will be an extension of the TPTC National Road Construction organization. It is expected that the staff of the SRS will have been familiarized with the construction of secondary roads over the past 4 to 7 years. These

lightly-equipped construction brigades will be supported by a pool of equipment which will be available to assist in construction only in those areas not suited to construction by labor-intensive methods. Each brigade will construct at least 1 km of road per month.

b. Budgeting and Incentive Cost-Sharing System:

The AID contribution for each approved road sub-project to be constructed will be one third of a predetermined and agreed-upon construction cost estimate. Should the actual cost exceed the agreed-upon cost estimate, the additional cost will be borne by the GOH. Should the actual cost be less, AID's one third contribution will be smaller than estimated and the "surplus" project funds will be made available for additional project road construction. Therefore, this system will provide incentives to construct roads within the estimated cost. However, should circumstances not foreseeable in the original cost estimate and not under the control of the GOH increase overall construction costs, the AID contribution may be raised to equal one third of the revised cost upon presentation for AID approval of appropriate documentation to justify cost increases, which will be verified by direct on-site field inspections by AID personnel. This system of cost-sharing is not to be a form of Fixed Amount Reimbursable (FAR) system. The SRS will keep separate accounts for each road sub-project to facilitate record keeping and provide a source of accurate, up-to-date construction costs which can be used for future cost estimates. These funds will be used on a priority basis for pre-programmed project requirements for offshore procurement of spare parts for efficient brigade operation. A local CPA firm will perform financial audits of SRS and other project accounts biannually during the first two years of the LOP, and annually thereafter.

c. Output Targets

There are 302 kms of road programmed for rehabilitation/construction inclusive of roads currently in the process of being rehabilitated by the light brigade method in the AFRP. The number of light brigades operating during the first year of the project will be increased from four to five. It is expected to remain at five during the second year. These brigades will be expanded to seven in FY 85 and will remain constant for the remainder of the LOP. The following is an estimate of road rehabilitation/construction outputs:

<u>Year</u>	<u>Brigade No</u>	<u>Km/Year</u>	<u>Cost/Km</u>	<u>Cost/Year</u>
FY 83	5	60	\$ 36,200	\$ 2,172,000
FY 84	5	66	39,800	2,626,800
FY 85	7	84	43,800	3,679,200
FY 86	7	92	48,200	4,434,400
Total		302		\$ 12,912,400

The average cost/km over LOP is \$42,956. (\$12,912,400 divided by 302 km). This cost/km is escalated by an inflation factor of 10% per year. The LOP targets will be constantly monitored during the project and provision

made for two in depth project evaluations and audits to review and verify project performance. The cost/km estimates are based solely on operation and maintenance costs directly attributable to road rehabilitation/construction, and therefore, exclude TA costs for institution-strengthening, equipment acquisition and road maintenance costs (ref. Section V, Table I, Budget Summary).

Should additional program funding become available to the Mission and an additional \$1,210,000 be authorized for the first quarter of FY 1983, the project will purchase all light brigade equipment and CAMP hand tools early in the LOP rather than through three procurement phases. By purchasing all the equipment and hand tools at the beginning of the Project it is projected that at least \$150,000 in Project Funds will be saved. Equally important, in reducing the procurement from three purchases to one, procurement delays which directly result in project output delays will be greatly reduced if not eliminated. This will also enable the project to expand the number of light brigades from the existing 4 to 7 in FY 83 and then to 8 in FY 84. The light equipment for the additional brigade will be funded from the Project contingency. The construction period can then be reduced from 48 months to 42 months with the final project evaluation beginning during the 43rd month and ending during the 48th month. By reducing the construction period by 6 months construction is reduced during the final year in which the construction costs are highest due to projected yearly inflation of 10 percent. In four years the cost per kilometer increases from \$36,200 in FY 83 to \$48,200 in FY 86; the result being that 339 kilometers of road could be rehabilitated/constructed at a total cost of \$13,286,670. By reducing the construction period, the T.A. will be reduced by a total of 18 man-months for savings of \$209,400. The result is that by increasing the authorization by \$1,200,000 for FY 83, an additional 36 kilometers of roads can be rehabilitated/constructed for a net increase of only \$15,000 over the LOP. The cost per kilometer is thereby reduced from \$42,956 to \$39,194.

The following is the estimate of the road rehabilitation/construction outputs based upon increased funding:

<u>Year</u>	<u>No. of Brigades</u>	<u>Km/Year</u>	<u>Cost/Km</u>	<u>Cost/Year</u>
FY 83	7	94	\$36,200	\$2,823,600
FY 84	9	96	39,800	3,820,800
FY 85	8	125	43,800	4,204,800
FY 86*	8	57	**45,990	2,437,470
		<u>339</u>		<u>\$13,286,670</u>

* First 6 months of FY 86

** As this is for the first 6 months of FY 86, the cost/km. has been inflated by 5 percent.

d. Modes of Operation of Construction Light Brigades

(1) Light Brigade Rehabilitation/Construction Methods: Clearing, ditching, surfacing, light excavation and other appropriate activities will be done by hand-labor teams with a variety of hand tools and wheelbarrows. Each brigade will also be equipped with light equipment for short haulage of

materials and for compaction. Haulage will be accomplished by hand-loaded trailers pulled by farm tractors. Compaction equipment consists of a small vibratory roller which is required for consolidation of road base and surface materials so that the completed road will be all-weather.

(2) Reinforcement by Equipment Pools: The light brigade road construction method has been proven to be an effective alternative to capital-intensive methods when site conditions permit. However, in a variety of situations, the basic light brigade equipment will have to be augmented as described in Section III A. 3. b.

(3) Private Sector Involvement: The project will utilize the services of the private sector for road construction and maintenance whenever practical and cost-effective to do so, as described in Section III A. 3. c.

e. General Criteria for Road Selection

During the collaborative project paper development process, AID and TPTC agreed to a set of road selection criteria, which are presented in the Economic Analysis, Section III B. In sum, candidate roads will be subject to a phased selection process to be implemented by teams of appropriate AID and TPTC personnel, although baseline data gathering will be carried out largely by a local contractor with a wide range of expertise. Initially, seven primary screening criteria will be applied to each candidate road segment; one negative conclusion will eliminate the candidate road from further consideration. Briefly, the primary criteria are: 1) The road must be part of a network leading to a local market and must connect with an existing all-weather road or an improved port; 2) The road project must have the endorsement of local communities; 3) The road must not be in the influence area of another all-weather road; 4) Population density in the road influence area must be at least 50 persons per kilometer of road (other than for penetration type road projects); 5) The road must not benefit primarily large plantation owners; 6) The road should not have any significant negative environmental impacts; and 7) The road (or road network) can be constructed primarily by labor-intensive methods.

A road segment meeting the seven primary criteria would then be graded according to factors in the second phase. Each factor has a rating scale and weight assigned to it. The general categories of secondary criteria

for selection are: A) Economic Activity - as measured by benefit/cost ratio, potential for stimulation of social/economic activity in area, and parallel development activities in the area; B) Quality of Life - as measured by population served and access to social services; C) Equity as measured by existing income distribution and distribution of incremental income; and D) Regionalization - as measured by location in a priority AID geographic region or elsewhere. Equal overall weights of 30 are assigned to categories A, B and C, respectively and a weight of 10 to category D. These and individual sub-category weights are delineated in the Economic Analysis (Table 2). The third phase will be a more detailed economic review of the candidate road and network to assure a benefit/cost ratio of greater than one. If it becomes apparent during the early stages of project implementation that Phases II and/or III of the selection/prioritization process are too cumbersome, appropriate adjustments will be made to simplify the process.

2. SEPRRN

a. Conventional Road Maintenance

SEPRRN will continue to maintain the 2800 kilometer road network as well as the road sections added to its workload during the life of the project with its existing maintenance brigades. The bulk of this responsibility is handled by the 140 maintenance brigades already established, including intervention brigades, responsible for emergency and intensive maintenance; regrading brigades responsible for periodic maintenance and the 87 hand brigades responsible for routine maintenance activities. The new project will continue to strengthen SEPRRN's capacity to carry out these maintenance activities by reinforcing the management capability of the organization in the areas of road maintenance, equipment management and training. Project roads, once completed and accepted, will be turned over to SEPRRN to be incorporated into the maintenance program. In those areas that community groups and organizations are found, those sections of roads will be maintained labor intensively under the Community Action Maintenance Program (CAMP).

b. Maintenance through the Community Action Maintenance Program (CAMP)

Since FY 81, SEPRRN has instituted a program of secondary road maintenance through the direct involvement of rural communities. During the first year of operation the CAMP maintained 75 kms of roads and this figure will increase to approximately 200 kms by the end of FY 82. Under this program, contracts are made with various community groups to perform identified tasks throughout the year for a fixed amount. It is SEPRRN's policy to implement the CAMP on those road sections that have been rehabilitated through the "light brigade" method of reconstruction whenever possible. A number of laborers employed by the CAMP formerly worked in the light brigade on the rehabilitation of that particular road segment. Therefore, a significant beneficial side-effect of the road construction component is the training of workers and the creation of community pride in the completed road which in turn has a positive residual effect on the road maintenance effort. The CAMP will be gradually expanded over the LOP to cover

approximately 400 kms of secondary roads. AID's contribution to the CAMP consists of providing the necessary hand tools to the community groups, and some equipment and short term technical assistance to SEPRRN to assist in the organizational development of its CAMP section.

c. Training

SEPRRN's training division is now involved in all aspects of training for the organization. Formal classroom instruction as well as on-the-job training are provided in such subject areas as:

- Management (for management personnel and managing engineers)
- Engineers (various specializations)
- Administration (e.g. bookkeeping and warehousing)
- Mechanics
- Heavy equipment operators
- Foreman and team leaders; and skilled specialists
- Labor-intensive methods (in road maintenance work)

A number of programs have been developed for each of the above areas but the task is far from completed. Curricula development is required on a number of the remaining modules in the various areas of expertise. The greater portion of AID assistance with the training division has been in the development of SEPRRN instructors capable of implementing established training programs. This has been largely achieved and the training staff can perform the required functions for most training modules. This project will address the training staff's capacity to develop curricula for the new training modules as the need arises. As SEPRRN begins to replace its equipment fleet the training division must develop courses of instruction for the new systems introduced by the equipment manufacturers. Also, in recent months the training division has begun to address the training needs of other organizations within TPTC, in other GOW agencies and with some PVOs. The project will provide technical assistance to the training division in three functional areas: engineering, mechanics, and equipment operation. The T.A. will facilitate transferral of technology to instructors required to develop new curricula.

d. Equipment Maintenance Management

SEPRRN's equipment inventory includes more than 400 vehicles ranging from motorbikes to Caterpillar D-7E Bulldozers. An equipment maintenance system has been designed and installed in some of the 11 districts/subdistricts. This project will provide technical assistance for the completion of the installation of the system in the remaining districts/subdistricts and for the continued implementation of the system. Adjustments and corrections to the system will be required to complete the system and assure its smooth functioning.

C. Summary of Project Inputs and Outputs

1. Inputs

AID project inputs include grant financing of 1) light brigade

and support pool equipment; 2) hand tools for the CAMP; 3) minor building construction; 4) technical assistance to TPTC for the SRS and SEPRRN; 5) one third of agreed upon road rehabilitation/construction costs, (not to exceed the authorized amount of project funds); 6) pre-road selection baseline data gathering; and 7) evaluation and audits. T.A. provided will be under a host country contract with one consultant firm and a separate host country contract to continue the services of the current TPTC management advisor funded under the AFRP. The types of T. A. required include engineering, implementation/management and manpower services, training, and equipment operation and maintenance. The proposed T.A. configuration is described in the financial plan with detailed scopes of work for each advisor presented in Annex L.

GOH public treasury resources will finance the SRS Headquarters including the project's central road construction unit, and will also finance the SEPRRN central office, central garage, CAMP, training program and road maintenance.

GOH counterpart PI-480 Title I funds will contribute to the remaining road rehabilitation/construction costs and a portion of equipment and road maintenance costs. The GOH will also provide in-kind contribution of office space and equipment to the project.

2. Outputs

Project outputs will include a) a functioning Secondary Roads Service; b) a significantly strengthened SEPRRN; c) 300 kms of additional secondary roads through rehabilitation/construction by capital savings methods; d) effective maintenance of a national road inventory of 4,000 km; e) expanded and improved access to rural public markets; f) a rural economy strengthened through the input of approximately \$7.5 million in local wages and services; g) expanded rural community involvement in road maintenance through the use of the CAMP ; h) increased market activity based upon higher levels of production; i) decreased spoilage of produce; and j) greater income earned by agricultural producers.

Technical Assistance

Configuration

I. Consultant Team

Senior Advisor 44 person/months

Short Term Experts¹ 64 "

Construction

Construction Engineer Advisors (2 over LOP) 72 "

Equipment Maintenance Advisor 36 "

SEPRRN

Instructor/Training Advisors (3 over LOP) 72 "

Garage/Equipment/Mechanic Advisor 24 "

II. Host Country PSC

TPTC Management Advisor² 36 "

Total

348 Person/Months

Management Training Seminars (2 over LOP)

1. The provision for short term TA is flexible. This expertise will be drawn upon as needed in the early formative period of the SRS to help lay the ground work to build this organization. It is foreseen that after the initial strengthening of administrative, budgeting, personnel, and financial processes, etc., there will be a cyclical short term return of experts to monitor progress of the SRS and the SEPRRN, as required. If a longer term effort is needed in any particular area the expert's service will be extended to meet the need. However, if it becomes apparent that these short term services are not required to the extent budgeted, funds remaining will be made available for the rehabilitation/construction of project roads.
2. This position will be continued with the same individual that currently holds the separate host country contract.

4. BENEFICIARIES

a. Direct Beneficiaries:

Among the principal beneficiaries of the project are the small-scale peasant producers in rural agricultural areas which have limited marketing opportunities. The goal is to increase this group's income by increasing access to public markets and improving the marketability of their produce. This will be accomplished through the construction and/or improvement of rural roads to be linked (directly or indirectly) to roads serving the major population centers. It is expected that spill-over benefits will also accrue to urban residents, since with increased access to markets and availability of agricultural inputs and services the peasant producers will have an incentive and the ability to increase agricultural production. This, combined with a reduction of transportation costs, may also be translated into lower prices for the urban consumers.

Approximately 75% of Haiti's population is rural, yet agriculture contributes only about 40-45% of the Gross Domestic Product. Further, the average annual growth rate of the farm sector over the period 1976-1981 ranks last among sectors in the Haitian economy, and the per capita rate of growth of agricultural output has been estimated variously from nil to a negative 2.6%.

Benefits will flow to Haiti's cultivators through the selection of road rehabilitation/construction projects which serve those rural inhabitants whose transportation needs are demonstrable and whose potential for exploiting the improved access is established. Road construction or rehabilitation--by itself--does not automatically call forth a positive and vigorous response from the agricultural sector¹. There are supporting activities that must be carried out to assure that producers have the knowledge, the techniques, and the resources to benefit from road improvement. On-going improvements in services provided by the Department of Agriculture, Rural Development and Natural Resources (DARNDR) will assist in this regard. More important in the short and medium term are the efforts of various indigenous community groups (e.g. community action councils, agricultural credit societies and groupements) to assume responsibility for delivery of resources and services (e.g. credit and extension) at the local level. It has already been demonstrated² that such community group activity has had a synergistic effect for development, greatly increasing the number of rural inhabitants, e.g. farmers, becoming aware of ways to increase their access to knowledge and resources. Another benefit to these rural areas will be through the increased provision of social services--primarily in the areas of health and education--that will be possible as a result of improved road access.

1. See Report on Integrated Rural Development in Haiti, Ira P. Lowenthal and Harlan A. D. Attfield, March 1979.
2. See e.g. Rural Road Impact Evaluation Conference Harper's Ferry W. VA., AID Nov. 80.

The labor-intensive method of road rehabilitation/construction establishes a class of immediate--if sometimes non-recurring--beneficiaries. These are the workers employed in project activities. Skilled and professional workers in Haiti have fewer problems in finding at least somewhat suitable employment making use of their talents and those trained under the project are likely to remain employed beyond its completion. Unskilled workers in the countryside do have serious economic problems, primarily due to a lack of opportunities for steady, gainful employment. Since farm activity only demands some 150 days a year of effort, the pool of underutilized manpower in rural Haiti is substantial, and those hired for project financed activities will be direct and substantial beneficiaries. Some of the unskilled labor hired for rehabilitation/construction will remain employed through the CAMP, to maintain completed road segments.

b. Indirect Beneficiaries:

While the rural population is considered to be the principal beneficiary group, advantages are also expected to accrue to urban residents. Inefficient agriculture combined with wastage and spoilage of farm products account in part for the high level of food prices in the cities as well as generally inadequate diets. Improved access to markets and urban centers can--at the same time--bring increased income to farmers and lower prices to urban consumers.

Another avenue through which project benefits are likely to accrue to urban areas is by the impact of the rural road rehabilitation/construction on rural-to-urban migration. When the quality of rural life is low and expectations for improvement are dim, there is substantial internal migration to urban areas. For example, population growth in rural areas is about 1-2%/year whereas Port-au-Prince's growth rate is about 6-7%/year. This population flow creates major infrastructure and social service burdens in the cities. An improved quality of life in rural areas will help to reduce these pressures to move to the cities and contribute to a less congested city environment in the long term.

Another category of beneficiaries are road users. This category includes vehicle owners and operators as well as passenger traffic and shippers and receivers of goods and produce. The benefits will be a combination of vehicle operating cost savings and reduced charges for the movement of passengers and commodities.

c. Magnitude of Employment Benefits:

A cursory examination would indicate that the employment benefits of road construction employment seem temporary, lasting only through the life of the project. However, in addition to the substantial short-term benefit of increased wage earning, road construction workers will benefit in the long run from skills acquisition and an overall increase in local economic activity. Various ways and means are also being considered to provide worker employment beyond the period of road construction in their region. For example, during road maintenance negotiations with community organizations, SEIDUC will strongly encourage the latter to hire former light brigade road workers for maintenance tasks.

The non-recurring employment and income gains associated with rural road rehabilitation/construction are:

- (a) Over the four year project period approximately 80,000 person-months of work for labor will be created. With respect to the distribution of this employment, the construction component will employ unskilled laborers for a period of around 3-4 months each, creating over 26,000 short term jobs.
- (b) For the purpose of determining the income generated by the construction activity, the total person-month figure of 80,000 will be used. The total income generated for non-recurring labor over the life of the project is estimated at over \$5.1 million. The average unskilled worker will earn a total wage of at least \$185.00 during the short term employment period.
- (c) The per capita yearly income for the rural sector is at most \$150, and for a family of five the annual income is about \$750. Assuming that of those families contributing labor, if a minimum of one person per family works on the project, the family's income will increase by the \$185 earned on the project, a net increase of 25%.

There is another category of employment generated by the reconstruction of rural roads that can be characterized as recurring employment for that cadre of people who will be permanently employed for the life of the project. The employment created for this category (including engineers, supervisors, operators, and mechanics) amounts to over 8,700 person-months of full time employment or about 725 person-years of jobs. The income generated by these jobs amounts to a total of over \$3.0 million for the life of the project.

The road maintenance aspect of the project is well on its way to becoming an unaided GOH effort. Once the roads have been rehabilitated as determined by standards agreed upon by SRS and SEPRRN they will be turned over to the maintenance organization to be programmed for continued maintenance. A large portion of these roads will be placed in the Community Action Maintenance Program to be maintained by the local communities. This will provide the area with recurring employment opportunities for permanent road maintenance and a greater level of intermittent employment when the periodic maintenance activities occur.

d. Women in Development (WID) Concerns

This project also should effect improvement in the status of poor rural women, particularly those responsible for marketing. Indeed, it is rural women who almost always deliver agricultural products to market. Women delivering produce to market must usually cover a distance of several kilometers over bumpy, practically impassable roads by donkey or on foot to

reach 60%¹ of rural markets. They often do not stop at only one market since approximately 44% of the market women frequently visit 2 markets or more in a single trip.

Furthermore, women from urban and suburban areas engaged in the retail trade also cover an equivalent distance under similar conditions. The lack of adequate infrastructure does not permit efficient marketing of goods. Therefore, Haitian market women will benefit greatly from the construction or rehabilitation of secondary roads.

These concerns are dealt with more at length in the Social Soundness Analysis, Section III C.

I. Haitian Research Center for Women (CHREPROF) Survey on Status of Haitian Market Women - 1979.

IV. PROJECT ANALYSES

A. Technical Analysis

1. Condition of Existing Roads: There are approximately 630 kms of paved and about 350 kms of newly rehabilitated all weather gravel roads in Haiti. All others are dirt roads generally in extremely poor condition. These dirt roads are in some cases impassable to trucks and cars due to either their deteriorated state or seasonal rains and can only be negotiated by rugged four wheel drive vehicles, trail bikes or by horse/donkey. In some sections the road itself has become the water course. The project will rehabilitate/construct about 300 kms of roads through the SRS primarily by labor intensive, capital savings methods. There may be some cases where a short, completely new road will be constructed to provide access to a market or to complete a road link. They will be subsequently transferred into SEPRRN's road maintenance program to be maintained, in most cases under the Community Action Maintenance Program (CAMP).

2. Standard Design to be used¹: Engineering will be simplified since the majority of roads will follow alignments and contours of existing roads and trails to the maximum extent possible to avoid unnecessary excavation and environmental disturbance. However, to reduce excessive grades or to avoid any obvious construction problem areas, a detailed field survey, a trace, and profile of each road selected will be prepared. The roadway will average 6 meters width including .5 meter shoulders on each side with a 4% to 6% crown. However when site conditions warrant, such as when hard rock out-croppings are encountered, the reality of the situation will take precedence over standard designs and the road width will be reduced to as little as 4 meters, with passing areas provided as required. Adequate ditches and cross drainage will be installed. Bridges will be avoided to the maximum extent possible, with culverts or river fords provided in almost all cases. The road will have a telford (hand placed stone) or select material base with a wearing surface of select material, utilizing available sources along the roads to the greatest extent possible. The thickness of the sub-base will be 30 centimeters and the wearing surface 10 to 15 centimeters. When the sub-grade is in pure rock (which occurs occasionally), the rock will be cleaned of all deleterious material and a 3 to 4 m. wide concrete carriage-way, 10 to 15 cm. thick, will be poured. In this case, transversal and longitudinal drainage are not required and experience on the Agricultural Feeder Roads Project (AFRP) has shown that it is no more costly than standard construction.

The design standards for secondary roads will take into account and plan ahead for the direct effect of road construction activities on the environment. Slope stabilization activities will be employed in cut areas which may be prone to severe slides after construction. Such activities will

¹ Road design per se is the responsibility of the Service Autonome de Transport (SAT) within TPTC. The project will attempt to adhere to established Secondary Roads standards.

include the cutting back of the slope to obtain a stabilized angle of repose; benching will be performed on extremely steep slopes; and care will be taken on the downhill side in the cut-to-waste sections. As was stated earlier a major focus of the reconstruction effort will be in the area of improved drainage. Transverse drainage (reinforced concrete culvert pipe) is programmed where the path of water naturally crosses the road and care will be taken to avoid excessive erosion on the discharge of the culvert and scouring on the inlet side. Another area to be emphasized is the proper planning of borrow pit development to avoid the creation of pools of stagnant water. This will be accomplished through a systematic layout at the site where the material will be extracted to build in continued drainage away from the area to prevent pooling of water. The above will be accomplished with the assistance of the field advisors. The scope of work for these individuals will include a provision for instruction regarding the effect that road construction activities may have on the environment and the steps that can be taken during construction to address these issues. It should be pointed out that a number of these issues are also the concern of the maintenance organization responsible for the eventual upkeep of the roads. The SRS will include SEPRRN in the initial planning of each road section and will attempt to incorporate its concerns in the actual construction.

3. Modes of Operation of Construction by Light Brigades.

a. Light Brigade Rehabilitation/Construction Methods: The method of construction will be a continuation of the successful capital saving "light brigade" method developed in the AFRP. Each fully staffed and equipped light brigade is a logical balance of manual labor supplemented by light equipment capable of constructing, on the average, one kilometer of road per month.

Full light brigade strength will consist of 200 to 250 laborers organized in 10 to 16 teams. Each will include 10 to 16 team leaders, 3-4 supervisors, mechanics, equipment operators, administrative personnel, an engineer and an assistant engineer. Except for the skilled and some semi-skilled laborers, the work force is hired from the surroundings area with each laborer working on the road for about three months. This gives more people from the area an opportunity to work on the road, spreading the benefits of employment throughout the area, and training more people in organized construction methods. Thus the involvement of more people from the community directly in the construction activity will help instill more community pride in applying their skills in the maintenance of their road via the CAMP.

Clearing, ditching, surfacing, light excavating, etc. will be done by hand-labor teams with a variety of hand tools and wheel barrows. Supplementary light equipment will be used for those functions not suited to manual labor, such as haulage, compaction, and blasting of rock. Haulage of selected base and surface material will be accomplished by hand-loaded detachable trailers pulled by farm tractors. Compaction equipment consists of a small vibratory roller, which is required for consolidation of base and surface materials to insure an all-weather road. Small air compressors will be used for rock drilling in preparing areas which require

rock blasting. Motorcycles (100 cc), required for transportation of supervisors, which are not available from US manufacturers (000) will be procured from code 935 sources, as was approved under the AFRP.

There are presently 4 light brigades in the AFRP and they will form the nucleus of the new project. As in the AFRP the method for forming new "light brigades" is to expand by over 50% an existing brigade's complement of engineers, supervisors, team leaders, and laborers. After a 3 to 6 month period of formation and on the job training, a new brigade is "cloned" from the expanded brigade. This new brigade then initially begins operations in the vicinity of the existing "parent" brigade. However, when a new brigade is required in a distant area the process will differ. In this case, an experienced engineer plus about half of the skilled personnel will be drawn from established brigades. The additional supervisors, team leaders, and laborers will come from the vicinity of the road. Then, as the new brigade gains experience it will increase its complement of local laborers until it reaches full brigade strength. The number of light brigades operating during the first year of the project will be increased from four to five. It is expected to remain at five during the second year. These brigades will then be expanded to seven in FY 85 and remain at seven until the end of the project.

b. Reinforcement by Equipment Pools: The light brigade road construction method has been proven to be an effective alternative to capital-intensive methods when site conditions permit. However, in a variety of situations, the basic light brigade equipment will have to be augmented. This will include areas where: (1) good road construction materials have to be hauled long distances to the construction sites; (2) large amounts of materials have to be moved (such as in embankment excavation); (3) there is a large amount of rock excavation; and (4) there is a low population density and thus an insufficient labor pool. In such circumstances more capital-intensive methods are required and are more appropriate for the task. In order to insure the capability of the light brigades to construct uniform high standard road networks, support for light brigades will be provided in the form of area equipment pools which will enable the brigades to respond to difficult site situations. This capacity is critical to the creation of a viable network of roads from the market areas to producing and consuming centers. The two or three equipment pools to be formed will be located in the proximity of the 2 to 4 light brigades that each mobile equipment pool will support. The amount of essential equipment for the pools is the maximum that can be continually employed productively, with the balance of the equipment to be rented (or services procured) from private owners or from the TPIC-sponsored equipment leasing service (SEELC) established under the AFRP. It should be emphasized that the equipment pools will only operate as support groups when and where needed for the light brigades and not as separate, distinct mechanized brigades. The equipment will be freely moveable between the various pools depending upon the demand. The largest piece of equipment to be procured will be a Caterpillar D-6 bulldozer which can be pulled on a tilt trailer by a 5 ton truck. With the exception of a number of small items, much of the equipment will be USG excess property. Aside from some spare parts support problems in the past, TPIC has been pleased with the excess property program and has purchased major equipment with GOM funds. However,

proprietary procurement (ref AID HB 11 and 15) will be used to procure new Caterpillar equipment, as was approved under the AFRP (Annex L) for the support pools, should this equipment not be available from USG excess property sources.

In the event that any of the equipment initially assigned to the light brigade equipment support pools is underutilized this equipment would be transferred to the TPIC equipment leasing service, SLELC or to SEPRRN. The equipment would then be maintained by SEPRRN during road maintenance by SLELC and hence be available for leasing to other organizations at a cost approved by the SLELC governing board. However, this equipment would remain available for project road construction activities on a first priority basis, should the need arise. Equipment subsequently returned to project road construction from SLELC would not be subject to any rental charges, aside from any personal services, cost of repairs or materials provided to the project road construction activity.

c. Private Sector Involvement: The project will utilize the services of the private sector for road construction and maintenance whenever practical and cost-effective to do so. The use of private contracts lends itself particularly well for the procurement of a clearly identifiable work unit or service, such as for culvert pipe manufacture, installation of gabions (wire mesh cages for building retaining walls), masonry in-place, delivery of construction materials on site, equipment rentals or repairs and other ancillary work. The profit motive may spur private contractors to perform at an efficiency level that exceeds that of a public entity. However, contract work will be monitored to insure that the motive for profit does not result in exploitation of laborers or an inferior quality of work caused by cutting corners on materials. The private sector will also be used for equipment support as described in Section III. A.3.b. above.

4. Maintenance: The road segments, once completed and accepted by the SRS and SEPRRN, will be turned over to SEPRRN to be incorporated into the maintenance program. In those areas that community groups or organizations are found, the sections of roads will be maintained under the Community Action Maintenance Program (CAMP).

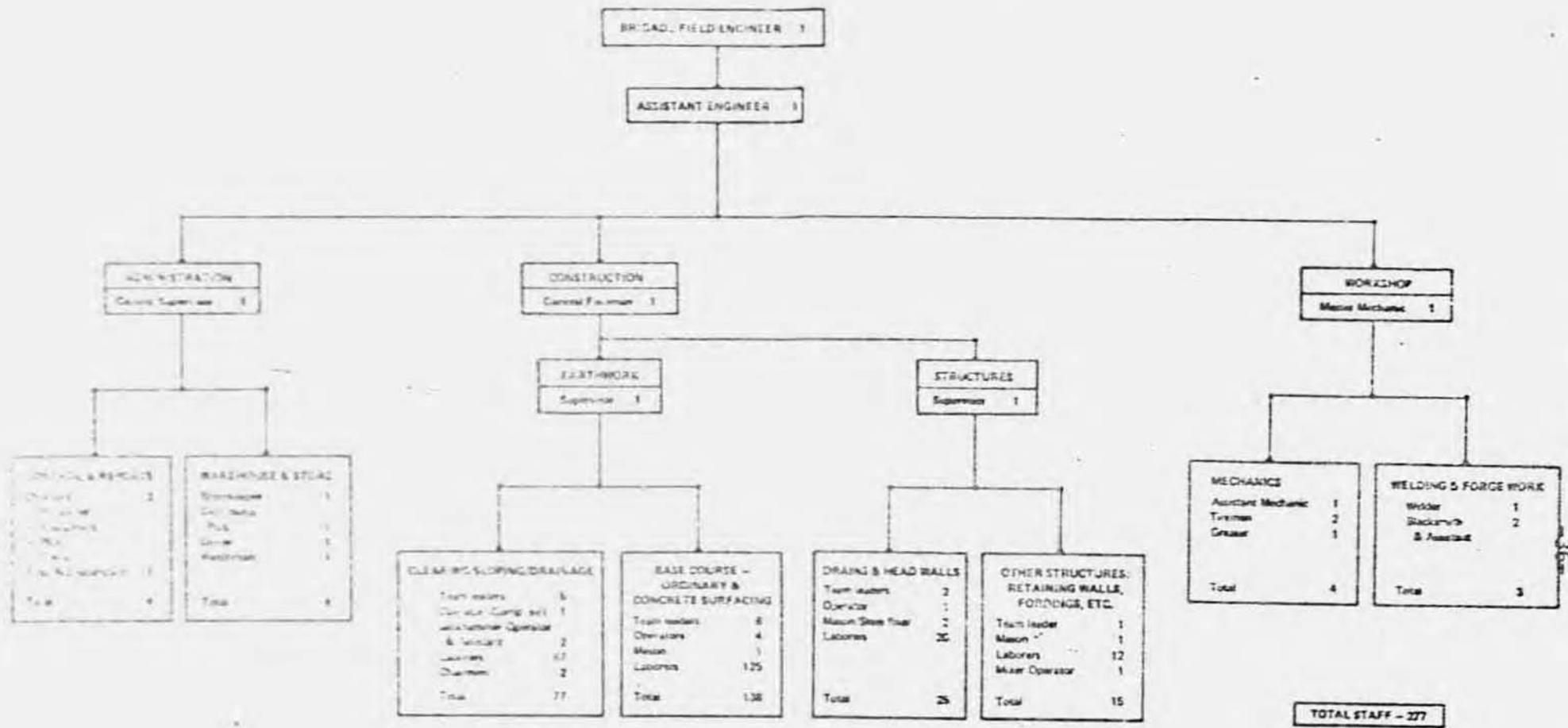
The CAMP is supervised by the various SEPRRN engineers in whose areas the road segments are located. The engineers have a staff of inspectors and are equipped with utility vehicles, motor bikes, dump trucks and rollers. The inspectors supervise the work performed by the different community groups and institute payment for the completed work. The dump trucks are used, inter alia, to stockpile select material along the road links for pothole patching and minor recharging (broader road surface repair than is involved in pothole patching). The rollers are used to compact the select surface material spread by the communities in order to reduce road deterioration.

The communities will be charged with such tasks as grass cutting and brush clearing, ditch cleaning and reshaping, culvert cleaning to remove silt settlement and obstructions, pothole preparation and patching, and the spreading of select material stockpiled along the road. Each contract

group will be provided with sufficient hand tool sets (picks, shovels, wheel barrows and machetes) to carry out the work along with some on-the-job training to insure those performing the work understand what is required. The division of labor is left completely up to the different groups. Experience has shown that communities are gradually employing additional workers and that the bulk of the labor is performed in the morning and evening hours. This schedule enables laborers to continue daily routines (such as farming) aside from road maintenance, and ensures that strenuous labor on the roads is less tiring. The CAMP has proven to be most successful on those roads reconstructed using the light brigade method because the people in these areas are more familiar with such concepts as ditch shapes, surface conditions and acceptable vegetation levels. Also, it is expected that the people in CAMP areas will take pride in maintaining a road that they have had a hand in building.

The SEPRRN training division will continue to address the various training needs of SEPRRN and will offer the same training services to SRS personal on an equitable basis. The training program will, as in the past, employ classroom techniques for some aspects of the training modules. Audiovisual aides (i.e. slides and video cassettes) developed by the division will be utilized, in addition to prepared handouts. The various materials developed so far have been very successful because they are Haiti-specific and address the particular needs and situations in SEPRRN. Training opportunities on specific topics are available from non-SEPRRN services and it is anticipated that such services will be utilized to the maximum extent possible, as was the case under the Road Maintenance II Project. On-the-job training will be provided by the training brigade which is a production brigade performing maintenance activities on road sections located within a reasonable distance from the training center. The equipment possessed by the brigade are typical pieces of equipment found in SEPRRN's fleet so as to simulate an actual work situation for the trainees.

All of the technologies described above and in the Detailed Project Description have been extensively tested and evaluated during implementation of the AFRP and Road Maintenance II projects. These technologies have proven technically feasible, appropriate and cost-effective. No untried or untested technology is proposed by this project. Therefore, there appears to be no doubt of this project's technical feasibility.



ORGANIZATION CHART OF A TPTC LIGHT BRIGADE

B. Economic Analysis

1. Introduction

This section presents the selection procedures for identifying and ranking in order of priority the candidates for road improvement, and the methodology to be applied for the economic justification of secondary roads. As with most road projects where the host government provides many of the suggestions for road improvement and nominates candidate roads, the total number of candidates exceeds the available budget. Therefore, procedures must be applied that, with little effort, cull out non-viable candidates and rank the remaining roads according to criteria that give due consideration to both social and economic issues. Finally, since the economic evaluation procedures used in the socioeconomic ranking will only provide a broad indication of the relative merit of each road, a more detailed economic analysis must be performed to assure that each road network is economically justified before it is improved.

2. Proposed Selection Procedures for the Haiti Secondary Roads Project

A three phase selection procedure consisting of screening, socioeconomic ranking and economic evaluation is recommended. This will assure that selected roads are both economically feasible and also rank high with regard to social impact. The approach is based on several important assumptions. The first or screening phase is introduced since several of the individual roads initially proposed for the project cannot be justified because they do not contribute to one or more of the basic AID rural development objectives. Secondly, though the need to establish the economic rate of return is recognized, it is also true that the economic return of a project by itself accounts for only part of the value of the investment. For this reason a second phase is proposed that ranks the roads in order of their socioeconomic impact. Thirdly, a requirement to establish a quantified economic return measured by an indicator such as internal rate of return, benefit/cost ratio or net present value for each project road is proposed, though it is recognized that the economic return can be only an approximation of the true economic value of the project due to the often weak data base available and the many uncertainties associated with important parameters of projects. Thus the third phase consists of verifying the economic feasibility of those roads that receive a sufficiently high grade in the preceding phase of socioeconomic ranking. This cutoff grade is determined by the size of the road improvement budget, and should be low enough so that the included roads absorb all of the budget plus a 20% margin to allow for the possible elimination of road projects that fail to pass the economic feasibility test.

a. Phase I: Initial Screening

Screening is not a trivial operation that can be done initially desk. Each road will require a physical inspection by a small team

of experienced technicians¹ to obtain the minimum required information on:

- (1) exact location and length of project road and nearby roads possibly serving the same influence area.
- (2) size and nature of population served.
- (3) attitude of local communities toward the road project and their commitment toward maintenance.
- (4) characteristics of land ownership and the distribution of income in the road influence area (RIA).
- (5) present condition and proposed improvement of the road, and a rough estimate of the improvement cost (within 30 percent)

Table 1 presents the proposed screening criteria. The candidate road projects must satisfy all of these to be eligible for the second phase, that of socioeconomic ranking. Parenthetical remarks are included with each screening criterion to illustrate the general rationale for the criterion.

1. a qualified local consulting firm supervised by TPTC and USAID personnel, as required.

Table 1: Proposed Screening Criteria

1. The road must be part of a network leading to a local or regional market, and must connect with an existing all-weather road or an improved port leading to a regional market and/or administrative center.

2. The road project should be endorsed by local communities/community groups.

3. The road must not be closely parallel to or in the influence area of another all-weather road or road scheduled for construction to all-weather standards.

4. Except for penetration type road projects, the population density in the road influence area must be at least 50 persons per kilometer of road (road improvement projects are seldomly economically justified in areas with a population density in the RIA¹ of less than 50 persons per kilometer of road).

5. The road must not lead primarily through plantation areas (such as sugar cane plantations) or any area where it is known that the majority of the land is held by large land owners.

6. The road shall not unduly contribute to erosion, adversely affect drainage, or interfere with irrigation of farmland along the road.

7. The road can be rehabilitated/constructed primarily through labor-intensive methods.

1. Road Influence Area

This set of criteria for preliminary screening of candidate roads reflects current AID policy of stressing the need to establish economic rates of return for projects financed by AID. It also recognizes, however, that the project's economic rate of return -- in addition to being only an approximation of the real economic value of the project due to measurement uncertainties and imperfect analytic techniques -- does not fully reflect the total value of the investment because non-economic factors are not included. Phase 2 (below) aims at including both the economic return criteria, through use of indicators of the project's economic feasibility, and the value of the non-economic social factors.

b. Phase 2: Socioeconomic Ranking

The procedures for socioeconomic ranking must be comprehensive in that they must consider both the economic and non-economic components of the objectives. An improvement in health, for example, has both an economic benefit -- healthy farmers work harder in their fields and till more acreage than unhealthy farmers, thereby contributing to higher agricultural productivity -- and a non-economic benefit: healthy farmers simply feel better.

The economic component of a factor such as better health or education is usually implicitly included in the projections of economic growth that are expected from the road improvement project. For example, a typical procedure used in projecting the new yields that could be expected in the RIA after the improvement of the road is to study yields in a nearby reference area where, because of good roads, access to the rural areas has been satisfactory for some time. Provided that the reference area also has similar soil availability and fertility as that found in the RIA of the project road, and that other factors such as climate and cultural characteristics are reasonably comparable, the future yields along the project road, after it has been improved, can be assumed to be similar to those of the reference road. For example, if the historic annual yield of corn in the RIA of the project road was 2.4 tons per hectare, whereas the yield in the reference area was 2.8 tons per hectare, it could reasonably be assumed that after the improvement of the project road corn yields would increase from 2.4 tons to 2.8 tons per hectare.

To be comprehensive, however, the procedures must also include non-economic factors. The technique of "multi-objective analysis" has been applied successfully in the past and is proposed for this project. It incorporates both economic and non-economic objectives into a single evaluation framework. The Multi-objective analysis proposed for this project is like the "weighted ranking" technique that has been applied in the Bolivia Rural Roads II project and on the Philippines road projects. The multi-objective analysis will establish the socioeconomic priority of the candidate roads based on four categories of road impact: Economic Activity, Quality of Life, Equity, and Regionalization.

To measure how each of these categories contributes to the overall objective of the road improvement program, each category is disaggregated into several major factors, as follows:

(i) Economic Activity: Economic activity is measured by the three factors of (1) the agricultural potential indicator¹, (2) the degree of access improvement, and (3) the existence of parallel development activities in the RIA. Given that we have the impact that each of these three factors makes towards the project objectives (for example, on a scale going from zero to 100 the factors for a particular road may score 65, 40 and 53 respectively) weights must be established to represent the importance of each factor. In Table 2 these weights are assumed identical at .10 for each of the three factors. In developing these weights, it would be preferable to include, where practical, parties involved in rural development and at both the local and central government levels, and ideally community leaders. Consensus by the parties involved in developing these weights can be achieved either by asking each participant to rank the factors in order of importance, and then normalizing the various rankings, or by asking each participant to assign his subjective weight to each factor and averaging the weights. Overall weights assigned by the participants will then be averaged as well to arrive at the consensus. Table 3 presents an example of the final weights that might be assigned by each of the participants. Actual consensus on these weights will be attempted during the first month of the project.

(ii) Quality of Life: Accessibility to Social Services: With respect to the quality of life, road improvement may affect the accessibility to social services both through improved level of transport services (from walking to riding, for example, or from high-cost low-reliability service to low-cost reliable service) to existing services, and through the construction of additional health posts and other services facilities that may follow the road improvement.

We will first define the various levels of social services followed by definition of the levels of improvement in access to social services. Two levels consisting of primary and secondary social services are defined for health and education:

<u>Secondary Services</u>	<u>Education</u>	<u>Health</u>
1. Primary Schools	1. Visiting trained nurse	
2. Secondary Schools	2. Visiting Health Clinic	
3.	3.	
4.	4.	
 <u>Primary Services</u>		
1. Vocational School	1. Permanent Health Clinic	
2. Adult education	2. Visiting doctor & nurse	
3.	3.	
4.	4.	

1. This indicator may consist of no more than a subjective estimate by an experienced agronomist of the basic agricultural potential of the RIA as dependant on resource factors such as soil quality, weather and rainfall, elevation, and terrain.

We have defined four levels of access improvement to social services:

1. Good Improvement- This describes the improvement from no access to any services to access to both primary and secondary services.
2. Fair Improvement- This describes the improvement from no access to any services to access to secondary services only.
3. Poor Improvement- This describes the improvement from access to only secondary services to access to both secondary and primary services.
4. No Improvement- This occurs when there are no social service facilities or services available even after the road has been constructed or improved.

These measures entail a subjective estimate of "access" and this estimate is best made by an expert in the provision of health, educational, and other social services.

If, in the opinion of the expert the majority of the population indeed makes use of the services of a secondary or primary social service facility, we may conclude that "access" is available. If the majority of the population does not use such services, access is not available. It should be noted that, even if the facility (such as health post) or the service (a visiting doctor) is available, access to these services after the road improvement may not improve if the road condition is not the binding constraint. This may occur if the health post is poorly equipped or manned, or if the visiting doctor is so overwhelmed with patients upon his visit that he clearly cannot provide the appropriate level of service. For example, take the situation where a village is visited once per week by a doctor who arrives over a poor road on mule back, and where the doctor finds (as is sometimes the case) several hundred patients waiting for treatment. One cannot say that the villagers have "good access" to medical services, and the expert will have to judge whether or not the access to medical services will be improved after the construction of a road. This may well occur since the visiting doctor can now make the trip by car, and he will have more time to treat patients. He may also decide to increase the frequency of his trips, to say twice per week, or he may take along a nurse on this visit. Finally, the villagers may now be able to take public transportation to a health center, thereby reducing the visiting doctor's workload. On the other hand, the health expert assessing the possible improvement in health services may judge that the visiting doctor may not take advantage of the easier transport over the new road, and that there are other reasons for not expecting an improvement in access to health services, despite the new road.

(iii) Equity: Equity is measured in terms of the existing income distribution and the expected distribution of the incremental income resulting

from the road improvement project (combined with complementary development activities, if any). This measure is related to the distribution of project benefits among the project beneficiaries, and therefore to the expected degree of alleviation of poverty among the poorest element of the population in the RIA. Since income data are almost impossible to obtain in Haiti, the use of proxy measures are mandatory. These might be the distribution of ownership of cultivatable land as a proxy for the existing income distribution, and the share of transport cost savings passed on by the vehicle operators to the road users (both passengers and shippers of agricultural products) as an estimate of the distribution of incremental income. Estimates of the existing farmland distribution in the RIA (also admittedly difficult to obtain) may be categorized at three levels:

1. Small farmers/landholders (those with less than 4 hectares) own less than 20 percent of the land in the RIA.
2. Small farmers/landholders own between 20 and 60 per cent of the land.
3. Small farmers/landholders own more than 60 per cent of the land.

The distribution of incremental income is expressed in terms of the fraction of transport cost savings passed on to the users. The latter is measured by the degree of competitiveness of the transport industry expected after the road improvement has been completed. An estimate of the expected degree of competitiveness of the trucking industry can be obtained by interviewing farmers located along a road that is representative of the improved project road.

(iv) Regionalization: USAID/Haiti policy for regional prioritization of project activities, as justified in the Food Sector Strategy Report and delineated in the FY 1984 CDGS, places emphasis on the Southwest and Northwest of Haiti. This emphasis is based primarily on agricultural production potential, population density and on basic human needs. This policy criterion, therefore, will be factored into the road selection process for this project.

c. Phase 3: Economic Justification

The economic evaluation of the secondary road links is based on an assessment of their likely developmental impact on agricultural production and improvement in personal mobility rather than solely on benefits arising from reduction in transport costs to the existing and projected traffic. Due consideration must be given to the interrelationships between the secondary road links, and the analysis must be done in the context of sub-networks. For example, the economic justification of the improvement of the link between Lombardopolis and Baie de l'Esne in the Northwest must take into consideration the status of the network connecting this secondary road link with the rest of

Table 2: SELECTION CRITERIA, HAITI SECONDARY ROADS PROJECT
SOCIOECONOMIC RANKING

<u>General Category and Overall Weight</u>	<u>Factor</u>	<u>Unit</u>	<u>Quantity</u>	<u>Scale</u>	<u>Weight (Illustrative)</u>
A. <u>Economic Activity</u> (30)	Agricultural Potential Indicator	Qualitative Assessment of agricultural potential	Good Fair Poor	100 60 30	10
	Degree of Access Improvement	Road Condition before Improvement	No road (category 3) Poor road (category 2) Fair road (category 1)	100 60 20	10
	Complementary Services and Planned Development Activities in the RIA	Dollar cost of planned complementary activities per road kilometer	0-1500	0-100	10
B. <u>Quality of Life</u> (30)	Population Served	Population in the RIA per km of road	0-2000	0-100	10
	Access to Social Services	Improved from no access to any services to access to both primary and secondary services	Good Improvement	100	20
		Improved from no access to any services to access to secondary services only	Fair Improvement	66	
		Improved from access to secondary services to access to primary services	Poor Improvement	33	
	No Improvement	No Improvement	0		
C. <u>Equity</u> (30)	Existing Income Distribution	Farmland Distribution	Small farmers own less than 20% of land	0	10
			Small farmers own between 20% and 60%	50	
			Small farmers own more than 60%	100	
Distribution of Incremental Income	Fraction of transport costs savings passed on the users	More than 80% (highly competitive)	100	20	
		Between 40% and 80% (competitive)	50		
		Less than 40% (non-competitive)	0		
D. <u>Regionalization</u> (10)	Regional Priority	Conformance with CDSS, Food Sector Strategy	Southwest, Northwest Other Regions	10 0	10

TABLE 3

Weights Assigned to Socio-Economic Factors by Participants
in the Haiti Secondary Roads Selection Process
 (Illustrative)

Factor Weight	Weights Assigned by participants				Average
	1	2	...	N	
Economic Activity	<u>30</u>	<u>25</u>	...	<u>40</u>	<u>30</u>
B/C Indicator	10	5	...	10	12
Stimulation of Socio-Economic Activity	10	5	...	10	10
Parallel Development activities	10	15	...	20	8
Quality of Life	<u>35</u>	<u>40</u>	...	<u>45</u>	<u>40</u>
Population Served	15	25	...	20	25
Access to Social Services	20	15	...	25	15
Equity	<u>35</u>	<u>35</u>	...	<u>15</u>	<u>30</u>
Existing Income Distribution	15	20	...	5	18
Increment Income Distribution	20	15	...	10	12
	100	100		100	100
Regionalization*	20	15	...	25	<u>10</u>

Participant No. 1 - TPTC Advisor/Economist
 No. 2 - TPTC Engineer
 No. 3 - USAID Rural Development
 No. 4 - USAID Engineering
 .
 .
 .
 No. N - Community Council Leader; Southwest Region

* Policy criterion.

the country. It would not be correct, for example, to improve this link without verifying that the links from Baie de Henne to Anse Rouge and from Anse Rouge to Gonaives provide adequate access. There also may exist important diversions of traffic to the improved link from other links which may be either road links or links in the coastal waterway system.

Ideally, network analysis should be done using a model that is able to consider the interrelationships between all the links. Such a model is of necessity complex because of the large number of possible interrelationships between the links of even a small system, and computerization is usually mandatory. However, the network of the secondary roads in Haiti is a simple one in that only a few links are strongly interrelated, and the network can be divided into sub-networks which are independent and which can be studied in isolation. These sub-networks, many of which are formed simply by linear chains of links, can be identified easily by persons with knowledge of the transport flows in Haiti and the major markets for farm produce. An example of such a sub-network which must be analyzed as a system would be the one in the Northwest from Môle St. Nicolas to Bombardopolis to Baie de Henne to Anse-Rouge.

It should be noted that, especially if the link improvement cost is held as low as possible, the cost of possible errors introduced by the simplified network analysis is not great. If more traffic than expected materialized on one of the improved links, that link can later be upgraded to design standards appropriate to the higher than expected traffic growth. Because the additional investment has been postponed for several years, the discounted value of this additional cost effectively reduces the cost of the link upgrading. In fact, this procedure is similar to the staging approach used for those transport projects (build simply at first and upgrade later if necessary) where traffic demand projections are uncertain. If less traffic than expected materializes, the cost of the mistake is higher, though losses are somewhat offset by the fact that the lower traffic levels will also reduce maintenance costs.

For purposes of economic evaluation, roads (or road sections) will be grouped into three broad categories defined in terms of existing access conditions. The categories of roads, the type of needed improvements, and the nature of economic benefits associated with such improvements are as follows:

Category 1: This category includes those roads which are in relatively fair condition and serve the existing agricultural activities within the area reasonably well. Benefits from induced agricultural production and generated traffic are not likely to be significant since these roads, even in their present state, provide adequate access between farm areas and the main road network. Estimates of normal traffic and vehicles operating costs will be used for calculating road-user savings.

Category 2: This category includes those roads which are mostly in bad to fair condition with poor drainage. This means that there is only partial access to the area and some induced agricultural production and generated traffic is expected to result from the improvement of roads. There is existing motor vehicular traffic, but road user costs are high. In

addition to the expected benefits from induced agricultural production, road user cost savings will also accrue to normal and generated traffic. To avoid double counting, generated traffic benefits from induced agricultural production will not be included in the estimates of road user benefits.

Category 3: This category includes construction of new roads and/or improvement of existing tracks requiring considerable reconstruction. These roads presently have little or no motor vehicle traffic. A major portion of the existing traffic consists of pack animals or human labor. These roads provide very poor accessibility to the area which they serve. On such roads, the induced agricultural production and generated traffic might be significant with the improvement of the roads, especially if complementary services such as agricultural extension and credit are made available. The benefits for roads in this category are calculated the same way as for Category 2 roads.

(1) Estimates of Population, Agricultural Production and Agricultural Marketable Surplus

For the rural areas in which many of the candidate links are located, in the upland areas of the Northwest and Southwest, data on population and agricultural productivity are unfortunately not available in Port-au-Prince, and must therefore be collected in the field. As illustrated in the examples below of the economic justification of these typical secondary road links, field interviews with farmers, the area agronomists, SNEM¹ officials, and other knowledgeable individuals provided estimates of the population served, the total number of farmers, the average size of cultivated land for each road, yields and production costs, and per capita consumption of farm products on the farm.

It is realized that these interview techniques provide only approximate information and that the production forecasts are liable to contain quite substantial errors unless techniques such as sensitivity analysis are used to identify particularly sensitive variables. The two most sensitive variables affecting increases in agricultural production, quite naturally, are the projected increase in cultivated area and the projected increase in yield. Care must be therefore be taken to assume conservative values for these variables to avoid inflated projections of agricultural productivity increase. Notwithstanding the paucity of reliable data, it has proved possible through field interviews to marshal sufficient evidence to permit a valid indication of the economic return of a secondary road link.

(2) Sample Application of Economic Justification Methodology

(a) Economic Analysis of Link 143 (Southwest Region)

The application of the economic methodology is best illustrated by following the calculations made for the economic justification of one of the two sample road links. Link No. 143 (this notation is from the

1. Service National d'Eradication de la Malaria et des Endemies Majeures (SNEM)

National Transport Study conducted in 1977 for the United Nations Development Program and the World Bank) is located in the Southwest and leads from Carrefour Zaboca to Carrefour Charles and Roseaux. It is about 28 kms long, links the important towns of Jérémie and Les Cayes, and consists of gravel surfaced road with an average width of 4 meters. The road is Category 2 (fair to bad condition) with an average travel speed of 22 kph. Traffic is estimated at between 15-20 vehicles per day, mostly trucks.

It leads through mountainous terrain and the farmers in the road influence area (RIA) grow mostly maize, coffee, tubers, plantain, and beans. The largest town on the link is Beaumont, with a population of about 1,100 people according to SNEM, and 24 small villages with a total population of about 4,000 people are located along or near the road. The total population in the RIA as estimated from a census count made in 1979 by Catholic Relief Services and from estimates provided by the District Agronomist of the number of farm families as about 50,000. Total cultivated area, again estimated from the number of farm families and the average area per farm (about four hectares per farm) is about 33,000 hectares. Extension services are minimal, though there is a growing agricultural credit program (BCA), and therefore it is assumed that the road improvement would not induce any short-term increase in yield¹. In the short and medium term, however, better transport would reduce crop spoilage both during transport and while waiting for transport by 5 per cent, and would also lower the cost of transport. To facilitate the computation of the economic rate of returns, the 5 percent reduction in spoilage is assumed equivalent to a 5 per cent increase in yield. A major assumption throughout this discussion is that the producer will receive much of the direct benefit of reduced transport costs. This assumption is validated below.

Current costs for various types of goods transported by truck to nearby regional markets along the unimproved road averaged \$.35 per ton-km, and with a range varying from \$.30 to \$.54 cents per ton-km. This is very high, of course, and is caused both by high vehicle operating costs and lack of competition by truckers along the poor quality road. Interviews along a road in good condition through terrain similar to that of link 143 indicate that truck transport costs are substantially lower and average about \$.16 per ton kms.

The length of the road link is 28 kms, and the average saving in transport cost per ton is $(\$.35 \text{ per ton km} \times 14 \text{ km}) - (\$.16 \text{ per ton km} \times 14 \text{ km})$ equals \$2.66 per ton. According to the national Transport Survey (1977) and the World Bank appraisal report of their Sixth Highway Project, truck transport in Haiti is competitive. This was also verified during our field surveys for those roads that are in good condition, and that therefore can be driven even by vehicles that are not in perfect operating condition. We may therefore assume that these savings in transport cost are passed on by the truck operators to the farmers. (Again, this was verified by interviewing farmers that lived along recently improved roads).

1. Prospective long term fruition of complementary agricultural and social services obviously qualifies this assumption.

The major crops grown by the farmers in the RIA consist of maize, coffee, beans, and a group consisting of tubers and plantains. As shown in Table 1, the total cultivated area of 33,000 hectares is equally divided among these four crops. Though the actual use of the cultivated area will differ from the simplifying assumption of equality, data were not available to enable refinement of the estimate of land utilization by each crop. It is not believed that the calculation of incremental agricultural surplus is very sensitive to the simplifying assumption of land use.

For the "with project" case, after road improvement, the utilization of land for each crop is assumed unchanged. The RIA of link 143 has very little land that is not under cultivation.

Yields without and with the project are as indicated in Table 1. Almost nothing is known about crop yields by the small farmer in Haiti, and the limited field interviews were clearly not adequate to establish precise estimates of yields. To guard against overly optimistic agricultural productivity estimates we assumed crop yields that are conservative, or well below what the farmers actually obtain in their fields.

As discussed above, it is not believed that yields will increase significantly through the introduction of an improved secondary road alone. It is reasonable, however, to expect a reduction in spoilage during transport and while waiting for transport of about 5 percent, even without a boost in crop yields. For this reason the yields as a result of the road improvement project alone were estimated as 5 percent higher than the yields without the project. It must also be noted, however, that improved road access will most likely induce farmers to take land out of production for lower value, less perishable crops (e.g. corn) and to plant higher value food crops (e.g. fruits and vegetables) which could be shipped to market quicker. Incomes, therefore, may increase disproportionately higher than the actual reduction of transport costs.

Production costs with and without the project were also conservatively estimated. Farmgate prices without the project were obtained by adjusting the local market prices collected during the field surveys (See Table 5) by the transport cost before road improvement. For the "with road improvement" case, the reduction in transport cost derived above (\$2.66 per ton or about 3 cents per kilo) was added to the without project farmgate price. It is of interest to note that the resulting increase in farmgate price is very small, at most three percent for the low cost tubers, and would by itself provide little incentive to the farmer to increase production. But this is normal for the case of road improvement projects as compared to penetration feeder roads where transport cost reductions of 90 per cent or more can be expected. More important would be the reduction in spoilage and the reduction in cost of inputs, such as fertilizer, if the farmer used these.

Finally, the per capita consumption estimates for on-farm consumption were taken from the recent USAID Food and Agricultural Sector Strategy Study. Estimates of local consumption are important both in the calculation of the net incremental agricultural income as well as for estimating the vehicle requirements for transporting the agricultural surplus.

With the information presented in Table 4 we can calculate the value of the net incremental agricultural surplus, (often called value added) or the money value of the increased agricultural production exported and sold at the regional market (taking into account local consumption). A well known equation (See World Bank Staff Working Paper No. 362) defines the value added (B) as

$$B = P_2 q_2 - P_1 q_1 - P_1 (H_1 - H_2) - 1/2 (H_1 - H_2) (P_2 - P_1) - (C_2 - C_1).$$

Where

P_1	=	Farmgate price without project, \$/ton
P_2	=	" " with project "
q_1	=	Exportable surplus without project, tons
q_2	=	" " with " "
H_1	=	Local Consumption without Project, tons
H_2	=	" " with " "
C_1	=	Production Cost without project, \$ tons
C_2	=	" " with " "

Applying this equation yields the value added for the third year after road improvement as \$740,000 per year. Also, as shown in Table 1, the agricultural surplus after the two year gestation period is 38,790 tons per year, or 106 tons per day. Assuming this surplus will be carried by medium trucks carrying an average of six tons per trip, about 17 one-way truck trips per day would be required to transport this surplus. The average daily traffic contributed by these trucks would therefore be double that number, or 34 trucks per day.

Table 4 shows the results of the economic evaluation of the road. The net benefit from reduced spoilage and transport as calculated in Table 1 are shown in the first Column. The second Column gives the savings in passenger user costs brought about by reduced passenger transport fares. These are calculated as follows: It is estimated that, before the road improvement, the adult population in the RIA makes about 1.8 trips per year to Les Cayes/Camp Perrin or Port-au-Prince. This trip frequency is low, and is of course due to the high cost of travel on the unimproved road and the low level of transportation service. The total number of trips per year before the road improvement is the product of the number of persons over 14 years of age (.25 x 50,000) times the trip frequency (1.8). This equals 22,500 trips per year.

After the road improvement the number of trips per adult is expected to increase to at least six trips per year. These estimates, by the way, were derived from knowledge of the passenger trip frequencies in other developing countries (in the Philippines, for example, trip frequencies increased from between 14 and 45 trips per thousand population before the road improvement to 56 after improvement), and from interviews of the farmers along a number of good and bad secondary roads in Haiti.

Passenger fares are expected to decrease from the current rate of 7 cents per passenger kilometer to 3 cents per passenger kilometer after the road improvement. Applying the well known equation for benefits from normal and generated traffic where the latter is assigned one-half of normal traffic benefits we obtain:

$$\text{Annual Passenger Users Cost Savings} = 1/2 (Q_1 + Q_2) (C_1 - C_2)$$

Where Q_1 = annual trips before road improvement
 Q_2 = " " after " "
 C_1 = passenger transport cost before road improvement
 C_2 = " " after " "

Since the road is 28 kilometers long and, on the average, passengers will travel half this distance, the cost difference between the before and after road improvement case is $\$.07 \times 14 - \$.03 \times 14 = \$.56$. Q_1 equals 22,500 trips per year and Q_2 is 75,000. Applying the above equation yields the user cost savings as \$27,300 per year. As indicated in Table 3, this is assumed to grow along with the traffic at a rate of 6% per year.

(b) Road Reconstruction and Maintenance Costs, Link 143

Subject road is 28 kms long and is part of the road linking Les Cayes to Jérémie. It is a mountainous, gravel surfaced road with an average 4 m width. Proposed rehabilitation consist of digging longitudinal ditches on the mountain side along the road, laying pipes for transverse drainage, regrading the wearing surface for smoothness and providing widenings every 300 meters for turn outs and bypasses.

Rehabilitation would be done by two light brigades averaging a total 3 kms per month.

Three pipe culverts per km are estimated for transverse drainage. The wearing surface would be recharged with 15 cm layer of pit run material. Most of the earth retaining structures are dry laid rock walls which will not be upgraded to masonry walls or removed because they are deemed satisfactory in relation to traffic volume. Hence, heavy equipment must not be used on this type of rehabilitation. Again due to the low volume of traffic, general widening of the road is not considered.

Following is the cost estimate for the above mentioned rehabilitation.

<u>ITEM</u>	<u>QT</u>	<u>UNIT</u>	<u>UNIT COST</u>	<u>TOTAL COST (\$)</u>
Longitudinal Drainage	28	km	6,000.00	168,000.00
Traverse drainage	84	pipe culvert	850.00	71,400.00
Surface recharging	28	km	5,500.00	154,000.00
Widening	93	units	800.00	74,400.00
Sub-Total				<u>403,800.00</u>
Contingency 20%				80,760.00
TOTAL				484,560.00

Cost per km: \$17,300.00*

Unit costs were obtained from the Office of the Agricultural Feeder Road Project.

Routine maintenance cost is assumed at \$1,000 per km for each year, and periodic maintenance cost at \$2,000 - 2,500 per km for every two years.

The road improvement and maintenance costs are shown in Column four of Table 6.

* Unit costs have substantially risen since this estimate was established.

TABLE 4AGRICULTURAL PRODUCTION SURPLUS CALCULATION FOR LINK 143

(For the third year after road improvement)

	<u>Maize</u>	<u>Coffee</u>	<u>Tubers</u> <u>plantains</u> <u>rootcrops</u>	<u>Beans</u>
Area Cultivated w/o Project, ha.	8,250	8,250	8,250	8,250
Area Cultivated with Project	8,250	8,250	8,250	8,250
Annual Yield w/o Project Kgs/ha	800	250	4,200	800
Annual Yield with Project	840	262.5	4,200	840
Annual Prod cost w/o Project \$/ha	232	119	180	344
Annual Prod. cost with Project \$/ha	232	119	180	344
Farmgate Price w/o Project \$/kg	.290	.950	.090	.860
Farmgate Price with Project \$/ks	63	10	106	25.6
Population 50,000 persons				
Value added, \$/million	.107	103	.237	.301
Surplus, with Project Kg/million	3.78	1.66	27.70	5.65
Local Consumption Kg/million	3.15	.50	5.30	1.28

TABLE 5

FARM PRODUCT MARKET PRICES, CAMP PERRIN, LES CAYES AND BOMBARDOPOLIS (1982)

\$/Kg

	<u>Bombardopolis</u>	<u>Les Cayes</u>	<u>Camp Perrin</u>
Maize, ground	.40	.35	.44
Maize, whole	--	.31	.35
Maize, flour	--	.18	--
Beans, black	.88	.88	.97
Beans, red	1.01	1.06	--
Beans, white	.88	--	--
Rice, white	1.32	.88	.88
Yams	--	.11	--
Coffee, whole	--	1.06	.97
Coffee, cracked	--	.97	--
Millet, whole	.26	--	.26
Millet, ground	--	--	.44
Flour, (Farina)	.61		

(\$/Unit)

Yams	1 1/2 gourdes each (6.0 lbs)
Malanga	2 gourdes/lot (3 per lot)
Potato	2 gourdes/lot (8 per lot)
Banana	13 gourdes/22 units
Mazombelle	2 gourdes/lot (6 per lot)
	1 gourde/lot (5 per lot)
Kerosene	\$2/gallon (\$1.18 in Port-au-Prince)

Source: May 1982 market interviews.

(c) Result of the Economic Evaluation of Link 143

As shown on Table 6, the internal rate of return (IRR) of the link exceeds 50 per cent and the benefit cost ratio calculated at a discount rate of 15 per cent is well above unity. In fact, the road improvement cost could be tripled by, for example, widening the road or applying a better pavement, and the improvement would still be feasible. However, though every effort was made to keep the economic analysis conservative and to guard against over optimism in forecasts, the analysis still includes risk. The best policy therefore is to adhere to the "staging" approach where the road is improved to minimal standards and the build up of traffic is closely monitored. If indeed the impact of the road materializes as expected, the road can then at a later date be further improved.

(d) Economic Analysis of Link 008, Baie de Henne - Bombardopolis (Northwest)

This analysis follows the same general procedure as for Link 143. Tables 7 and 8 present the results of the calculation. As evidenced by the low IRR of 13.4 per cent, and the B/C ratio which falls between .90 and 1.27 depending on the rate of discount used, this secondary road link is in an area with considerably lower potential than that for the Link 143 analyzed previously. Much of the area is dry and subject to erratic rainfall, and the cultivatable area along the road, even though it is longer, is only one-third that of Link 143. Nevertheless, since the opportunity cost of capital according to the National Transport Study is 9 per cent, the link is economically justified.

One important element that may have been treated too conservatively in the analysis of Link 008 is the possibility of expanded charcoal production made possible by the improved road. Already the area is exporting 6,000 sacks of 100 lbs per month, and there exist large areas in the RIA that would support reforestation efforts planned by CAPE. This organization plans to plant 100,000 seedlings in 1982 and 200,000 in 1983. If the road is improved, this level of effort could be substantially increased and could contribute a very substantial value added component to the benefit stream for this road.

The subject road is 23.5 kms long and is part of the National Road Network. It is flat for 15.3 kms and mountainous for 8.2 kms. The roadway is dirt surfaced in the low area, and it is very rocky in the mountainous areas. Proposed rehabilitation consists of digging longitudinal ditches on the mountain side along the road, laying pipes for transverse drainage, regrading the wearing surface for smoothness. Because the mountainous lay out is much on the crest line of the mountains, very little excavation thru hard rock is needed.

Three pipe culverts per km are estimated for transverse drainage. The wearing surface would be recharged with a 20 cm layer of pit run material. And in the flat 6 kms measured from Baie de Henne, a .5 m fill is recommended. Rehabilitation would be done by one light brigade on the 12.5 kms of road measured from Baie de Henne. Because there is no evidence of a borrow source on the remaining 11.1 km, it is recommended that a reinforced light brigade be considered for this link. Due to the low volume of traffic, general widening of the road is not considered. The expected output is 3 km/month. Furthermore, because some sections of the roadway are very steep and contain outgrowths of hard rock, it is recommended that a double strip of concrete be laid on these sections located at km points 5-500; 5-800; 6-800; 7-900; 8-000 and totaling 300 meters.

TABLE 6

ECONOMIC EVALUATION OF LINK 143, CARREFOUR ZABOCA - CARREFOUR CHARLES/ROSEAUX

(U.S. Dollars)

Year	Net Benefits from Reduced Spoilage and Transport Cost Saving	Passenger User Cost Savings	Road Construction and Maintenance Costs	Net Benefits
0			484,560	484,560
1	249,333	27,300	28,000	248,633
2	498,667	28,650	54,000	473,332
3	748,000	30,098	28,000	750,098
4	770,440	31,603	54,000	747,043
5	793,553	33,183	28,000	798,736
6	817,360	34,842	54,000	798,202
7	841,881	36,584	28,000	850,465
8	867,137	38,414	54,000	851,551
9	893,151	40,334	28,000	905,485
10	919,946	42,351	54,000	908,297
11	947,544	44,469	28,000	964,013
12	975,970	46,692	54,000	968,662
13	1,005,249	49,026	28,000	1,026,275
14	1,035,249	51,478	54,000	1,032,525
15	1,066,469	54,052	28,000	1,092,521

IRR 50%

NPV at 15% discount (\$3,667,327)

IRR 50%

at 15%, B/C $\frac{4,151,887}{484,560}$ 8.57

1. Benefits from reduced spoilage, transport cost and user cost savings are assumed fully achieved by the third year after road improvement. After that, Benefits from reduced spoilage and transport cost savings are assumed to grow at 3 per cent per year, and passenger user cost savings at 6 per cent per year.

TABLE 8

Economic Evaluation of link 008, Baie de Henne - Bombardopolis
(U. S. Dollars)

<u>Year</u>	<u>Net Benefits from Reduced Spoilage & Transport Cost Savings</u>	<u>Passenger User Cost Savings</u>	<u>Road Construction and Maintenance Costs</u>	<u>Net Benefits</u>
0			366,510	-366,510
1	27,667	5,460	23,500	9,627
2	55,333	10,920	61,100	5,153
3	83,000	16,380	23,500	75,880
4	85,490	17,363	61,100	41,753
5	88,055	18,405	23,500	82,960
6	90,696	19,509	61,100	49,105
7	93,417	20,679	23,500	90,596
8	96,220	21,920	61,100	57,040
9	99,106	23,235	23,500	98,641
10	102,080	24,629	61,100	65,609
11	105,142	26,107	23,500	107,749
12	108,296	27,674	61,100	74,870
13	111,545	29,334	23,500	117,379
14	114,891	31,094	61,100	84,885
15	118,338	32,960	23,500	127,798

IRR = 13.4%

B/C = 1.27 (at 10% discount rate)

B/C = .90 (at 15% discount rate)

TABLE 7

LINK 008 : AGRICULTURAL PRODUCTION SURPLUS CALCULATION FOR LINK 008
(for the third year after road improvement)

	Maize	Beans	Tubers Rootcrops & Plantain	Millet	Charcoal	Total
Area Cultivated,						
w/o Project, ha	2,500	2,500	2,500	2,500	n.a.	
w. Project, ha	2,500	2,500	2,500	2,500	n.a.	
Yield,						
w/o Project, Kgs/ha	800	800	4,000	1,000	n.a.	
w. Project, Kgs/ha	800	800	4,000	1,000	n.a.	
Production Cost,						
w/o Project, \$/ha	232	344	180	130	n.a.	
w. Project, \$/ha	232	344	180	130	n.a.	
Farmgate price,						
w/o Project, \$/kg	.29	.88	.09	.26	n.a.	
w. Project \$/kg	.296	.886	.096	.266	n.a.	
Per Capita						
Consumption, kg/year	32	26	106	32	n.a.	
Population:						
30,000 persons						
Value Added \$ (million)	.006	.007	.041	.009	.020	.083
Exportable Surplus with						
Project, kg (million)	1.040	1.220	6.820	1.540	3.350	13.970
Local Consumption with						
Project, kg (million)	.96	.78	3.18	.96	-	5.88

For charcoal, the savings in transport cost are calculated as
(74,000 sacks per year) X (\$.27 per sack) = \$.02 million per year.

3. Economic Feasibility of the Project

If the screening, socioeconomic and benefit/cost criteria described above are conscientiously applied to the road segments (and networks) proposed for financing under this project, the economic feasibility of the project as a whole appears assured.

C. Social Soundness Analysis

1. Introduction

This analysis of the social characteristics of the proposed project and of the effect of project activities on prospective beneficiaries will address three major questions:

- 1) Target population: Who are the intended beneficiaries? How do they live? What is their source of livelihood? How are they likely to interact with the project?
- 2) Expected effects: What effects are the project likely to have upon the lives of the target population? Will it make them better off? Will some profit at the expense of others?
- 3) Mitigating measures: How can the project be organized in order to deal with the target group's needs more effectively? Can the benefits of the project be equitably distributed?

The analysis is organized around these three general topics. The usual disclaimers apply: that more research is required for a better understanding of the Haitian milieu; that it is difficult to deal with so broad a topic in so little space; and that the best analysis would be on a village-by-village basis, rather than by examining the broad spectrum. Nevertheless, a great deal can be understood about the Haitian environment without plunging deeply into individual cases, and attention to the needs of the Haitian farmer can help ensure that the project will have its desired effects.

2. Target Population

Most rural Haitians are descendants of Africans enslaved and brought to Hispaniola (as the island is called) in the seventeenth and eighteenth centuries by French plantations owners. Their origins are found from what is now northern Senegal on the west coast of Africa down to Mozambique. In the three hundred years which have elapsed since the first slaves arrived, the rural population in what is now Haiti has intermarried and adopted the same language and customs to the extent that it can now be said to be ethnically and culturally homogeneous.

While this is true for the rural population, there exists an elite mulatto stratum, descendants of intermarriage with the French landowners, who are concentrated in Port-au-Prince, and in whose hands most of the economic and much of the political power in the country resides.

The language of Haiti is Créole, an amalgam of French vocabulary and African syntax, with heavy borrowings from a number of other languages. It is estimated that over ninety per cent of the Haitian population (this figure approaches one hundred per cent in the rural areas) speaks Créole as its only language. The term Créole defines not only the language, but the culture of rural Haiti. Most rural inhabitants, when asked to describe themselves will respond "Créole" rather than "Haitien".

Although the Cr sole culture is demonstrably homogenous ethnically and linguistically, there is evidence that economic stratification exists at the rural level. Plotkin's research¹ has illustrated the disparity in the size of individual landholdings, and others have demonstrated the different sources of political power at the village level. Plotkin's research involves variables such as type and quality of housing, the area of landholdings, and estimates of household income. The question of the distribution of landholdings bears study, as the benefits of economic development may flow most quickly to those with larger plots.

The Institut Haitien de Statistique (IHS) estimates that some 74% of the economically active population of the country over the age of 14 are engaged in agriculture. This estimate includes data for Port-au-Prince, without which the figure would certainly be over 90%. Interestingly, the percentage of the population deriving its primary income from agriculture has declined, according to the IHS, from 86% in 1950. The principal crops produced in Haiti are sugarcane, coffee, and cocoa. Grains include corn, millet, rice, and sorghum, although irrigated rice production is almost entirely limited to the Artibonite valley.

Per capita income measures. Surprisingly little is known about the per capita income of the Haitian farmer, although some estimates exist. The IHS publishes no per capita figures, although estimates can be made from available estimates of GNP. Published estimates generally range in the area from \$60 to \$150 per capita.

Haitian agricultural yields are recognised to be low, although few estimates for these exist either. The Zuvekas report (Agricultural Development in Haiti, 1978) estimates that yields are as low as 1 ton per hectare for corn and for sorghum. Rice yields may exceed three tons per hectare in the Artibonite valley, but almost certainly nowhere else. Many factors have been cited to explain this, among them a lack of technical support by the Ministry of Agriculture, extremely fragmented plots, and poor market accessibility. The Ministry has been notably weak in designing a technical package for farmers, and weaker still in disseminating agricultural information. Although almost all rural Haitians are farmers, agriculture provides only 45% of GDP. The Haitian farmer is locked into a cycle of trying to derive his income from increasingly fragmented, poor fields, with little technical and financial aid available to him.

Number of beneficiaries. As the project is implemented, the precise choice of road sites will be determined through the selection process described in the Economic Analysis. Without information on the exact areas to be served, it is not possible to obtain a precise figure for the number of direct and indirect beneficiaries. Nevertheless, approximations can be made.

Following the distinction made elsewhere in the paper between direct and indirect beneficiaries, direct beneficiaries can be defined as those directly employed by the project to construct and maintain the roads. Up to seven brigades will be formed, each composed of 200 to 250 short term

1. Unpublished data

laborers. As the construction advances, the composition of the brigades will change as the team becomes separated from one village and nears another. It is estimated, then, that over 26,000 persons will eventually be employed in this manner.

Similarly, the CAMP program, under which the roads are to be maintained by labor-intensive means, will affect perhaps 200 of the constructed kilometers and employ up to 2,000 persons.

Indirect beneficiaries can be considered to be those living within the road influence area (RIA) of links improved or built under the project. The RIA is a rule-of-thumb measure which extends five kilometers on either side of the constructed road. Assuming the total number of kilometers to be in the area of 300, the total area within the project RIA is 3,000 km². The next step is to estimate population densities. The following figures are chosen from three representative arrondissements. The source is the 1971 census of the population:

<u>Arrondissement</u>	<u>Population/Km²</u>	<u>Total population (3,000 x density)</u>
Belle Anse	47	141,000
Dessalines	176	528,000
Léogane	339	1,017,000

If we assume that the median estimate is characteristic of the average area in which the roads will be constructed, a reasonable estimate of the number of indirect beneficiaries is in the neighborhood of one half million persons. A clearer picture of the exact number of direct and indirect beneficiaries can only be determined as the selection process for the project proceeds. The size of the population served by the road will play a role in influencing the desirability of a particular link.

Village structures. The settlement patterns in rural areas are determined partially by topography, and heavily by the distribution of agricultural land. Houses may be constructed in dense settlements, characteristic of larger towns, or widely scattered. Where topography dictates, settlements may string along a valley or riverside. The distinctions between one village and the next may be weak, particularly in low-density settlements.

Kinship ties are still a predominant influence in the countryside. The Créole vocabulary for the names of kin relations derive from the French, the strength of the bond decreasing as one becomes more removed from the first generation. Inheritance patterns are bilateral, such that children are entitled to receive land from both parents, whether they are male or female. The quantities inherited may not be of equal magnitude for each child. The apparently widespread pattern described as follows may contribute to fragmentation: The ceding of three plots to three children may involve the subdivision of each of the three plots into three equal portions, such that each child is assured of equal access to good soil. Land is classified according to its fertility, and occasionally according to its altitude.

Terre chaude generally refers to lower-elevation or less fertile soil, and terre froide to higher, or more productive soil.

Influence in the community appears to be correlated with land holdings. Métraux (1951) studied the sources of authority in the rural community, and identified several patterns. Large landholdings may permit the farmer to acquire a large capital stock, from which he may draw in times of economic distress to lend to other farmers in return for interest or cooperation.

Influence may derive from the Catholic church, where the curé (priest) may play an important role in the community decision-making process. Further influence may come from association with the Voudou establishment, as the Houngan and Mambo (priest and priestesses in the Voudou hierarchy) are believed to possess certain psychic powers. Métraux indicates that one of influence is not limited to a single role, but may manipulate his influence through careful politicking: "When one looks at the positions held by an individual who is a notable, it becomes evident that the lines of authority cross through him". Such an individual may, for example, play an important role in the conseil communautaire, the community action organization. She describes the following individual:

...One large landowner...is a regular employer of work societies (in one of which a son is influential) which means that the society owes him work and he owes them benefits), but also that he is the leader of the combined Catholic cooperatives (a position to which he was "elected" by the leaders of the several cooperatives, not because he was popular but because he was chosen by the curé), and a leader in other Catholic affairs as well. Furthermore, he is a representative of the coffee company and therefore a buyer from and sometimes the creditor of small farmers in his part of the region.

These non-kinship sources of authority play an important part in the division of economic resources within the village.

Work societies. Haitian farmers have a long history of cooperative work in worksquads, ad-hoc or permanent committees organized for the purpose of contributing collective effort to an individual task. These work groups--the coubite, escouade, corvée and others--are described at length in other sources. The composition of the work groups varies from village to village, but certain characteristics are universal. The group is seldom limited to members of an immediate extended family, including neighbors and others. The members are generally members of the same socioeconomic stratum.

A farmer who benefits from work done on his land may participate in the work of the group on another's lands and or give compensation to the members of the invited group by providing food and clairin (raw rum). Members may occasionally refrain from working, preferring to contribute cash in return for a day's duty. Paid labor, and sharecropping, are also common.

Division of labor. The sexual division of labor is not as marked in Haiti as in other peasant societies, although certain tasks are exclusively in the domain of women or men. Marketing, especially at the low-volume wholesale level, is generally performed by the madame sara or the revendeuse, who are always female. Men are more likely to be occupied with growing crops for the export sector, for the domestic market and home consumption, or selling their labor for wages. Women generally do not participate in traditional work groups, although they work along-side men in the fields.

In previous road projects for which labor is hired, women have been asked to participate in the work brigades, but have consistently declined. In previous occasions they have been involved in peripheral tasks, such as preparing hot food or providing water. Workers, when asked about the usefulness of this activity, almost universally replied that the provision of water in particular was most welcome.

Peasant attitudes toward their environment. Several studies have included components studying Haitian farmers' attitudes toward their world and the future. Among the most interesting and extensive was that undertaken by Métraux in 1951.

She describes the Haitian farmer's attitude toward the state (l'Etat) as being one of general indifference. The government is located in the capital city and only rarely directly affects people's lives. Local evidence of the government is limited to the presence of a few local officials, whom farmers suspect of being transmitters of information--spies--for the central government. Métraux characterises this relation as being one of "passive participation" exacted of the individual, but not of true participation in the economic and political life of the country.

The government's concurrence is ostensibly required in the case of inheritance of land or any transfer of title (see below), but many peasants ignore this requirement and employ informal means to transfer land.

The president is generally believed to be distant geographically but to have the poor farmer's interests at heart. While he is believed to be well-intentioned, it is understood that not all of his actions reach the village level. The inequity of distribution of government benefits, and the inefficiency of governmental program is explained by favoritism and political influence on the part of local power brokers. "Breakdowns in communication" which occur between the national and the village level are attributed to malfeasance on the part of local officials. A general attitude of alienation from the central government is characteristic.

The villager's primary government contact is the chef de section, the local rural official who is usually a militia "volunteer" or a military officer. His duties include investigation of infractions of the law, settlement of minor disputes and other administrative responsibilities.

The rural Haitian is generally disposed toward adopting new practices and improving his situation when the benefits are clear. The forces motivating the Haitian peasant to adopt modern practices have been studied. Robertson (1977) investigated farmers' attitudes toward agricultural

innovation, but was unable to discern any particularly strong factors which clearly influence this attitude, except for "commercialism". Murray has written extensively on the willingness of the Haitian peasant to respond quickly to cash rewards and economic incentives, and on the market orientation of even the poorest rural Haitians.

No known studies of farmers' attitudes toward the proposed road improvement have been written, but it is known that they are universally eager to participate in the construction work. Engineers from previous road projects were deluged with requests for jobs in various areas. Past experience has clearly shown an openness and willingness of the peasant to join the work brigades, to work hard at arduous, back-breaking labor with enthusiasm, and to contribute to the maintenance of improved and unimproved roads through community action programs such as the CAMP.

3. Expected Effects of the Project.

Nature of the project. The roads proposed to be constructed under the project are primarily "existing" secondary roads, whose quality will be upgraded. New construction will thus be limited for the most part to widening, basing and resurfacing existing tracks and digging borrow pits from which to extract rock, sand and gravel. No road will be constructed through an existing settlement or farm, such that any farmer would be displaced by the activity.

The mechanism by which benefits are expected to flow to the farmer are as follows: One of the most serious constraints to raising rural incomes is the difficulty of access to inputs and to markets. Many of the rural roads in the proposed project area are in such poor condition that trucks cannot pass to deliver merchandise. Farmers thus pay excessive margins to traveling market women (madame sara and the revendeuse) who use as their mode of transport mules, trucks when available, or human portage. Access to a road means that the truck can approach the village much more easily, such that more produce can be transported out at lower costs. Because the truck driver pays less in gasoline and maintenance, the savings in transport costs are passed on to the farmer through the middleman in the form of higher farmgate prices. In addition to the reduction of transport costs, the introduction of significantly improved access of farmer to markets is expected to result in increased production of higher value crops. Because of the great difficulty in transporting perishable and "injury-prone" vegetables to population centers, isolated farmers tend to focus commercial production on durable and easily transportable crops, such as corn, sorghum, etc. More ready access to markets will cause a shift in production patterns by reducing the risk in the production of higher value food crops, increasing the return to the farmer. Concurrently, the farmer is more likely to receive technical assistance and inputs such as fertilizer and improved seeds, which will raise his production. He is thus induced to produce more and to achieve higher yields. Other benefits will be in the form of access to medical supplies, increased likelihood that teachers will travel to the village, and in some cases, easier access to sources of employment.

Another consideration is that persons who participate on the work brigades will learn certain skills--how to use tools, how to plan and execute construction projects, how to mix concrete. Farmers introduced to good drainage practices may apply them in their own villages, reducing the quantity of standing water and lowering the incidence of malaria and other diseases. Increased income earned from the project will be invested in productive enterprises and not wasted.

Several other concerns should be addressed, however, relating to possible deleterious effects of the project upon the rural milieu.

(1) Labor availability. One area of concern to the design team was that the work calendar for construction should not conflict with the agricultural calendar, making demands upon the labor pool at a time when labor availability was at a premium. The Haitian economy is traditionally described as one of underemployment. Two observations may be made in this regard:

a) level of underemployment. In many agrarian societies the average level of employment may be low throughout most of the year, but there may be an intense need for labor at critical moments of the agricultural calendar--for land preparation, for example, or for harvesting. In order for the proposed road project to affect this balance adversely, the percentage of labor employed by the project would have to be substantially greater than planned. It is estimated that within the RIA of approximately 500,000 persons, only about 1,400 would be employed by the project at any given time. If one assumes a 50% participation rate in the labor pool, and that 50% of that group will be women, then the road activity still only accounts for 1-2% of the available labor force in the RIA. Furthermore, unemployed laborers, and even employed farmers, may travel from their villages when the opportunity to work for wages on a daily or weekly basis appears. Laborers on the brigades could thus afford to pay someone to work their plots while they were otherwise engaged--a practice reported to be not uncommon in previous projects.

b) nature of the agricultural calendar. Unlike his counterparts in many other countries, the Haitian farmer is not monocultural. The average number of crops grown on all plots is often as high as 11 or 12. This means that labor demands of farming in Haiti are more continuous than cyclic. The attached chart (Table I) illustrates a typical agricultural calendar calculated for a village in the southwest region. Farmers thus tend to be continuously occupied throughout the year, but usually on a part-time basis. Most farm tasks can be carried out by members of a farm family who do not have the opportunity of wage labor, and it is difficult to imagine a rural Haitian family which could not "spare" an able-bodied male for several months of full-time employment. The attached chart is an example only, of course, but it is probably typical for farms throughout the country.

(2) Marketing. Concern has also been expressed that the provision of secondary rural roads may have other effects upon traditional economic patterns. In particular, there is an extensive traditional market system involving the existence of a middleman class which draws from various sectors of rural society.

Roe (1978) undertook a thorough study of the agricultural marketing system in rural Haiti. In addition, IICA has published a number of studies on the marketing mechanism, with tonnage, direction, and value calculated for a great number of urban and rural markets.

Table 1

Illustrative agricultural calendar

<u>Month</u>	<u>Activity</u>
January	"Idle month". This is the season of marriages, house construction, etc., and of secondary occupations.
February	Harvest of beans planted on irrigated land. Towards end of month prepare land for spring planting of all food crops.
March (rains begin)	Complete land preparation. Plant field crops: maize, millet, sesame, beans, peanuts, sweet potatoes, manioc. Plant melons, pumpkins, etc., in vicinity of house.
April	Complete planting of crops. Plant new trees (e.g. palms, oaks, etc.) if needed. Cultivate field crops.
May (rains end)	Cultivate field crops. Begin harvest of fresh beans and "green" maize.
June	Continue harvest of beans and maize. Harvest peanuts. Plant bananas. Begin harvest of dried maize and beans. Cultivate millet.
July	Complete harvest of dried maize and tie maize for storage. Cultivate millet. Begin to pick ripening avocados. Prepare fields for second field crops.
August (rains begin)	Complete preparation of fields. Plant second field crops: maize, millet, beans, peanuts, sweet potatoes. Cultivate crops. Clear underbrush in coffee plantations. Gather early coffee crop. Set out new coffee trees.
September	Cultivate field crops. Dry and prepare early coffee crops for sale during dry period.
October	Harvest second field crops. Gather main coffee harvest. Begin preparation of main coffee crop for sale.
November (rains end)	Continue harvest of coffee, completing it in the lower valley. Continue and complete preparation of coffee for sale. Prepare irrigated land.
December	Mass sales of coffee to middlemen and to coffee company. Begin harvest of millet (runs on onto January). Sale of poultry and animals. Plant beans on irrigated land. Pay rent on coffee farms, pay debts, etc. Purchase new clothes, renovation and improvement of property in preparation for New Year holidays.

Source: Môtiaux (1951)

Roe states that the marketing system can be described as being composed of three levels of sophistication:

- 1) the urban market, consisting of areas such as Port-au-Prince or Cap-Haitien;
- 2) the regional market, and
- 3) the semi-rural market, which is found thorough the country.

Roe prepared a chart (Figure I) showing the spatial distribution of each type of market. It shows, among other things, that the provision of rural roads in almost any area of rural Haiti is likely to provide improved access to a nearby market.

There are other examples, described in various sources, of direct producer-consumer transactions occurring on the farm. Farmers and their wives in reach of semi-rural markets may deliver their produce to the market themselves, or may contract with local middlemen who provide this service for a fee.

Within the category of travelling market women, there is a distinction to be made between low-volume merchants who travel predominantly by foot, and larger-volume merchants (the madame sara) who may use other forms of transportation. Table 2 shows the means of transport use by different merchants. Typically, the market women travels between two or more markets, transporting a small number of commodities. A study by CHREPROF in 1979 indicates that 44% of the women frequent two or more markets in a single trip.

Their range of activity is typically limited: the same study shows that only 3% travel outside a given administrative district. This latter group contains madame sara whose activity is characterised by a higher volume of turnover of goods and a wider variety of commodities traded.

Table 2

DISTRIBUTION OF MARKET WOMEN ACCORDING TO MEANS OF TRANSPORTATION UTILIZED

<u>MEANS OF TRANSPORTATION UTILIZED</u>	<u>No. of Market Women</u>	<u>Percentage</u>
On Foot	411	60,44
Small Pick-up Truck	137	20,15
Animal	58	8,53
Lever-operated Trucks	55	8,10
Foot and Animal	8	1,17
Large Bus	1	0,15
Foot and Large truck	2	0,29
No response	8	1,17
<u>TOTAL</u>	<u>680</u>	<u>100%</u>

Source: CHEPROF Survey

The mobility of Haitian market women is legend. To deliver their agricultural produce to market, they usually must cover a distance of several kilometers of bumpy or nearly impassable roads on foot or by donkey. The attached table illustrates the qualitative condition of the roads and the transportation channels used by Haitian women. Clearly, the poor condition of the roads throughout most of the country contributes to the spoilage of perishable commodities, and to a subsequent reduction in agricultural revenues.

The madame sara serves another role, as a source of credit to the farmer. She may contract for a farmer's production during the growing season and may even harvest it, in the case of rice. Alternatively, she may purchase produce at the farmgate and transport it to semi-rural or regional markets, where she maintains a dépot. Plotkin has gathered data indicating two-way transport of goods between local commercial poles and regional markets. The madame sara may transport grains to market and return with a variety of goods, including oil, salt, and quincaille (household goods such as soap, matches or candles).

The mode of transport employed depends upon the quality of the road in the vicinity of the farm, and the distance from the proposed point of sale. When trucks are available, the madame sara may make arrangements with the truck driver to haul her goods as she rides with him. This arrangement, which may be worked out on a regular, long-term basis, is known as pratik.

Although several aspects of rural marketing have been studied over the years in Haiti, and a good data base is being developed, very little is yet known about the actual effects of improved roads upon the traditional marketing system. The role of the madame sara may be reinforced, as more trucks are likely to travel into rural areas. The existing system of pratik relations between the traveling madame sara and the truck driver may continue and be expanded. In the longer run, however, it is not beyond possibility that larger commercants move into rural areas with the increased abilities to move high volumes of produce. This presents the interesting question of whether the madame sara may herself be inclined eventually to invest in her own truck, providing her own transport.

Deforestation. The devastating ecological problems of Haiti have been described in sufficient detail elsewhere to preclude their being elaborated here. The question must be raised within the context of the social soundness analysis, however, whether increased deforestation which may result from the improvement of roads in rural areas is likely to adversely affect the lives of the rural population significantly.

The gradual loss of firewood stock combined with increasing population pressure and pressure upon marginal agricultural land will imply, in the long run, that the Haitian farmer will need to turn to other sources of fuel for his heating needs. Should the firewood situation not improve, this will force the farmer either to sell an increasing portion of his product to pay for an alternative source of energy, such as kerosene. There are several efforts underway, however, to take marginal land out of agricultural production and return it to fuelwood production. Should these efforts succeed, the farmer will have an additional source of income. Efforts will

therefore be made to couple the activities of programs such as those supported in the ongoing Agroforestry Outreach project (521-0122) to assure that the farmer not be forced into economic peril as a result of the loss of his fuelwood stock to charcoal.

(3) Land tenure. Land ownership and tenure is unfortunately an ill-defined area in both Haitian law and practice. A great deal of investigation has taken place, but what has resulted is a variety of theories about the land security of the peasant today. There are few fixed empirical conclusions on the percentage of land "legally-owned" by rural inhabitants. As mentioned, there is a great disparity between formal, legal land titling procedures and the practice of inheritance and informal division as it is practiced today. Sharecropping, long-term rentals and other practices complicate the picture. Zuvekas surveyed a dozen studies of land ownership in Haiti; and concluded that the great majority of Haitian farmers (75-80%) consider themselves to be land owners. Those who own some land also frequently sharecrop land they do not own.

Gerald Murray, whose dissertation was written on the subject, suggests the following two categories of agricultural land use:

- 1) privately owned plots, to which clear title can be demonstrated and
- 2) plots for which no separate deed has been taken out, but which for practical and even certain juridical purposes can be considered as private property.

Haitian land law provides for inheritance by all children from both parents, which exacerbates the problem of fragmentation of productive plots. Unfortunately, the process of dividing and passing land on to children is regularly not registered with the legal authorities, largely because of the fee for surveying and titling the plots, which may cost up to thirty per cent of the value of the land.

Murray's opinion is that the majority of land in Haiti can be shown to belong to the user, although some landless do exist. Some land is not clearly titled but is clearly understood by the community to belong to certain parties. However, it is conceivable that the clarity of the understanding may be brought into question if the value of the land rises significantly in the eyes of the disputants. The question for this project is to what extent the improvement of an existing secondary road will actually increase the value of adjacent land, and to what extent will that land be subject to "consolidation" without compensation by more powerful persons than the users.

It is unlikely to be an issue, however, unless the value of the land increases dramatically, an unlikely occurrence in the present project. The economic analysis proposed that a five to ten per cent increase in land value is expected, which is unlikely to affect tenure patterns.

In any case, the teams carrying out baseline data surveys for the road selection process will be instructed to encourage community members with whom they come into contact to report incidents of land consolidation attempts. In addition, follow-up visits are planned to areas where rehabilitation/construction has taken place to attempt to ascertain if this phenomenon is occurring. Where USAID can determine that it has occurred and that it is detrimental to the interests of small landholders, the GOH will be strongly encouraged to seek legal redress.

(4) Mitigating Measures

Thus far the direct short-term impact of the project upon the population expected to participate in it has been discussed only briefly. In particular, the method by which workers are recruited and paid should be examined.

TPTC has no set formula for making initial contact with the villages in which it works. An engineer frequently meet with the conseil communautaire in villages where one has been established, and express the need for labor. The conseil communautaire then recommends individuals to participate in the project. An informal survey in a village where a road had been constructed in a previous AID project indicated that not all labor needs may be met through this mechanism. In this case, willing farmers will approach the chef de brigade to solicit employment.

The TAMS final report praises the efforts of a local community development organisation (CODEVA) in the recruitment of labor in the Jacmel La-Vallée area. CODEVA was involved at all levels of interaction between the engineers in the pilot project and the villagers. CODEVA was able to integrate the road construction project into their ongoing community development activities, and both the project and the villages benefitted from this cooperation. Such cooperation would be extremely beneficial in areas where similar organisations exist. Unfortunately, there are only a few such organisations outside of the conseils communautaires in most of the area under consideration for future roads. It is recommended, based upon the results of the pilot project, that early contact be made between the organisers of the project and development groups like CODEVA which are working in the RIA. In particular, the selection teams should identify such groups in advance and discuss the effects of the road with them. Development organisations can play an important role in spreading information about the road. They can undertake sensibilisation (sensitization) activities in preparation for the construction. Furthermore, they may be able, as did CODEVA, to integrate the road construction activities into their ongoing projects in a beneficial manner. This cannot happen if the road is seen to be a discrete activity in which the community does not participate.

Conclusion. Some possible effects of the proposed project have not been discussed in the present study. Long-term effects, such as the interruption of traditional marketing networks, cannot be estimated at all except through case-by-case studies. Settlement patterns may also be affected as the road serves as a commercial "magnet" via which individuals may undertake commercial activities. Finally, the effects upon a community of increased access to modernizing forces such as education, health delivery systems, and commercial networks are certain to alter the structure of the village, but it is unlikely that effects such as these can be known without intensive, long-term study. However, with respect to the nearer-term effects of substantially improved secondary roads in rural Haiti, it appears that they are predominantly beneficial, with few foreseeable negative elements.

Secondary roads are a necessary component of an active development program, but can best realize their potential when coupled with a dynamic and carefully planned program of service delivery. With the extensive portfolio of AID and other donor financed activities planned and in implementation in the areas in which most project-financed roads will be constructed or rehabilitated, it is apparent that these roads are not an isolated activity. The socioeconomic criteria to be used for road site selection should assure that the impact of roads built under the project is significantly more beneficial to the target population than if constructed in isolation from such complementary activities.

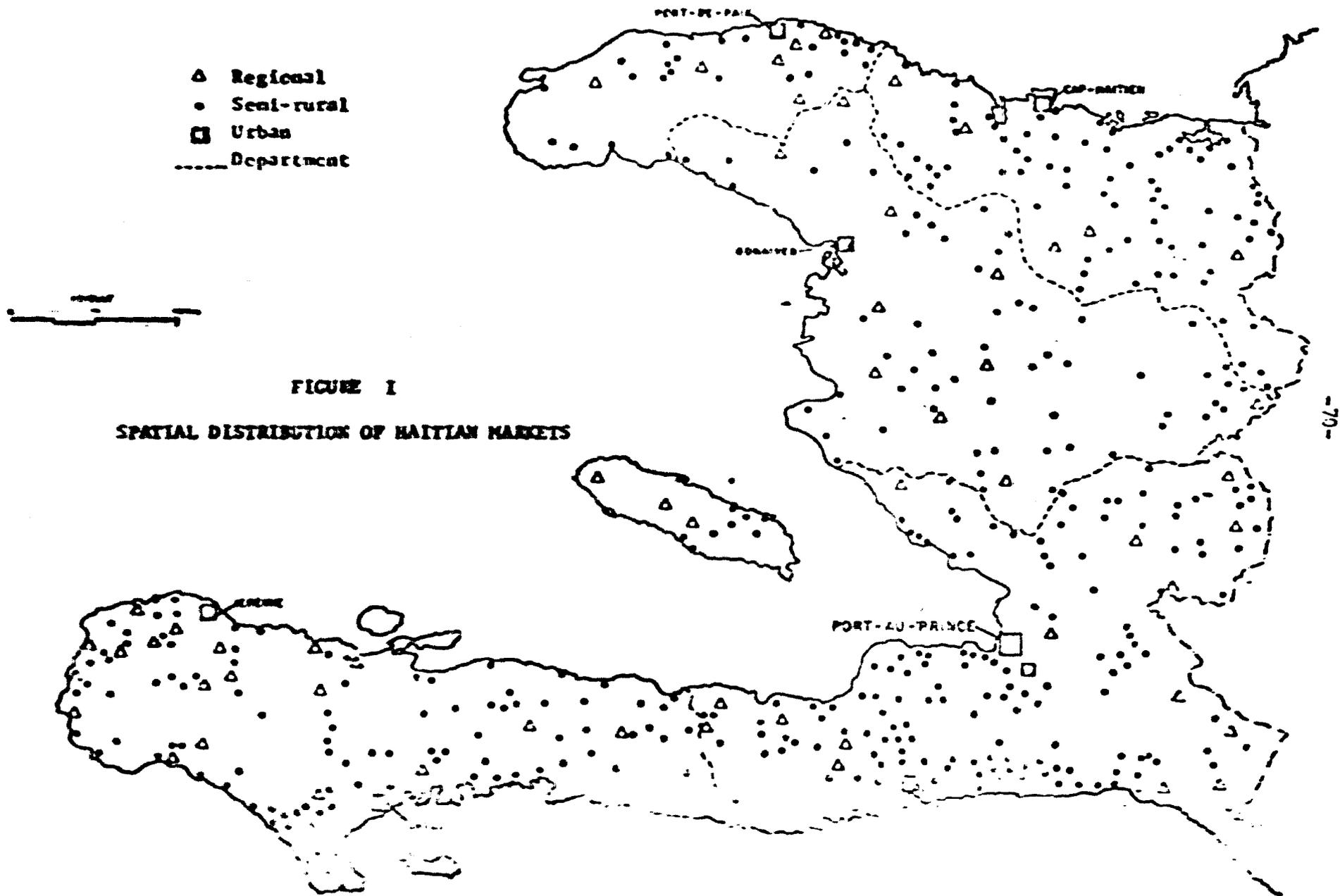


FIGURE 1
SPATIAL DISTRIBUTION OF HAITIAN MARKETS

Source: Roe (1978)

D. Administrative Analysis

In view of the institution-building objectives of the proposed project, particular attention will be given toward administrative (e.g. budgetary) requirements for a viable SRS. The major focus of the project is administratively feasible, but we do not discount the difficulty of its implementation. The administration of the project is, of course, primarily the responsibility of TPTC, the implementing agency. The Mission has worked very closely with TPTC on predecessor projects and will continue this close relationship in monitoring the proposed project.

1. Road Rehabilitation/Construction

a. Existing System

The current road rehabilitation/construction activity is being performed under the Agricultural Feeder Roads Project (AFRP). This project is approaching completion, i.e. the Project Assistance Completion Date (PACD) under Grant 521-0074 is 30 September 1982 and the Terminal Disbursement Date (TDD) for Loan 521-T-007 is 29 October 1982. The AFRP is administered by a central office with direct GOH treasury support. The AFRP coordinator (an engineer) reports directly to TPTC's Chief Engineer (who is officially the Director of the Project). There are divisions for administration, accounts, equipment, engineering plans, and field operations. In addition 13 engineers and assistant engineers, and administrative personnel are assigned to the 6 operating field brigades. The existing internal methods for accounting, personnel management, supply procurement, parts warehousing, and works supervision appear capable of handling increasing work loads.

At present, there is no single entity within TPTC which has the responsibility for the rehabilitation/construction of roads. The roads program of the World Bank is administrated by one unit (ODN), the roads program of the Inter-American Development Bank by another (Routes Agricoles) and the AID AFRP is under the direction of the TPTC Chief Engineer who has other duties as well. There is a clear need for an organization within TPTC with jurisdiction over all secondary road rehabilitation/construction activities being implemented by TPTC.

b. Proposed System

The Minister, TPTC, formally requested on 25 November 1981 AID assistance in developing a scope of work for a consultant to develop the base for a new service within TPTC responsible for construction of secondary roads. Subsequently Louis Berger International Inc., was awarded a contract. The result of their analysis was a report entitled "Secondary Road Service (SRS) Preliminary Organization Study" (available from USAID/Haiti or AID/IAC/DR). This report is being reviewed by TPTC and will be utilized in the development of the SRS. Furthermore, it is proposed that the SRS will be a direct output of this project. The formation of an SRS will concentrate all TPTC secondary road rehabilitation/construction activities within one entity. Hence, there will be one clear and definitive TPTC organization which will have the single purpose of rehabilitating and constructing secondary roads.

The SRS will have the mandate, and significantly more authority, to accomplish its work than did its fragmented predecessors. It will be the single organization within TPTC through which all external financing organizations will implement such projects. The expected outcome, therefore will be a coordinated secondary road program with no overlapping or conflicting projects. This will also result in greater dialogue, interaction and cooperation between all those interested in secondary road improvement. A long range (beyond the limits of this project) objective is the establishment of a highway department under which would be separate services for primary roads, secondary roads, highway maintenance, and equipment maintenance. The nucleus of staff required for the SRS will be drawn mainly from personnel on the AFRP and from within TPTC, as described in section II.B.2.a. of this PP.

The principal new staff requirement will be regional engineers and personnel for the new brigades and equipment support pools. Over the life of the project there will be a requirement for a total of about 20 additional engineers. These will be drawn from the existing ranks of TPTC which currently has a pool of engineers which TPTC can select from. During on-the-job training in light brigade methods, prospective engineers will be evaluated by the SRS on their ability to learn and motivation to perform. Those judged to be suitably motivated and capable will be selected as brigade engineers. The majority of other light brigade supervisory staff will be recruited and trained, as described in section III.A.3.a. of the PP. The additional equipment operators and mechanics which require training will be trained at the SEPRRN training facility and/or by suppliers of equipment.

The new budget and cost-sharing system, described in section II.B.2.a. will enable the SRS to expeditiously meet project requirements thus minimizing the administrative lag time which is inherent in the existing procedures for approvals outside of the requesting unit. In addition, using the system developed by the Interamerican Development Bank on their major drainage project for Port-au-Prince, the SRS will have certain budgetary authorities which will increase efficiency and decrease red tape in Project implementation. Each subproject--i.e. road link or network-- will have a budget prepared by the SRS with the assistance of the T.A. consultant and agreed to by USAID. Based on this mutually agreed upon budget, the Director General of SRS will have the authority to authorize the expenditures of project funds and sign checks for the required goods and services. As a check and balance, all invoices for goods and services must be verified and countersigned by the T.A. consultant.

Once a road budget is approved, expenditures and progress will be monitored by monthly project reports and through the USAID/OOH Joint Project Implementation Plan (JPIP) system. The budget will be reviewed during the TPTC annual budget exercise and when a road sub-project has expended 90 percent of the authorized budget, the Minister of TPTC and the Director, USAID will retain the right to make any special sub-project or project reviews as required. In addition to the establishment of the SRS there is one other major "divergence" from established practice under the AFRP, i.e. in the area of equipment maintenance. TPTC proposes to use the basic SEPRRN structure to perform most of the major equipment maintenance activities. Additions to the

various facilities, increased personnel levels and additional tools where required will be funded under the project to reinforce SEPRRN's capacity to carry out the work. It is also anticipated that preventative maintenance and minor repair activities will be performed at the worksite. The use of SEPRRN facilities as proposed by TPTC is in complete harmony with AID's long range objective of eventually establishing an Equipment Service having the specific task of equipment maintenance with no allegiance to, and thus no suborganizational priorities for, any individual TPTC service. There are, of course, risks inherent in any new endeavor of this nature, but the prospects of moving toward the attainment of long range objectives expressed herein merits the attempt. However, this system will be carefully monitored and adjusted as appropriate. If it is ultimately apparent that SRS equipment is not receiving due attention under the new system, responsibility for all project road construction equipment maintenance will be returned to the SRS. This is a fall-back position which, as proven under the APRP, is a viable option.

All recurring costs to support the operations of SRS offices and any services of the National Laboratory for Buildings and Public Works (LNBTW) for monitoring quality control (not covered in the approved road construction estimate) will be the responsibility of the GOH. In addition, the salaries of all project engineers, general foreman of the equipment support pools, permanent SEPRRN employees performing maintenance, and a core group of mechanics and operators assigned to the equipment support pools will also be the responsibility of the GOH.

2. Road Maintenance

Project technical assistance to SEPRRN (in management and training) will operate within the following administrative framework. SEPRRN is a government service with major divisions e.g. accounting (including personnel and procurement) and the technical section (under which are branches for the garage, the warehouse, planning, inspection, surveys, and work coordination) reporting to the Director General. Field operations are carried out by five district offices and six subdistrict offices, which direct the work of:

- 5 Intervention brigades
- 11 Regrading brigades
- 84 Hand brigades
- 26 Asphalt brigades and
- 6 Bridge brigades

The organization includes more than 400 administrative employees and more than 3,000 operational personnel. A large proportion of the technical as well as the administrative staff has received training by the SEPRRN Training Division. Modern management and accounting systems, planning operations, equipment maintenance scheduling systems and a computer systems supported spare parts inventory/storeroom, have been installed.

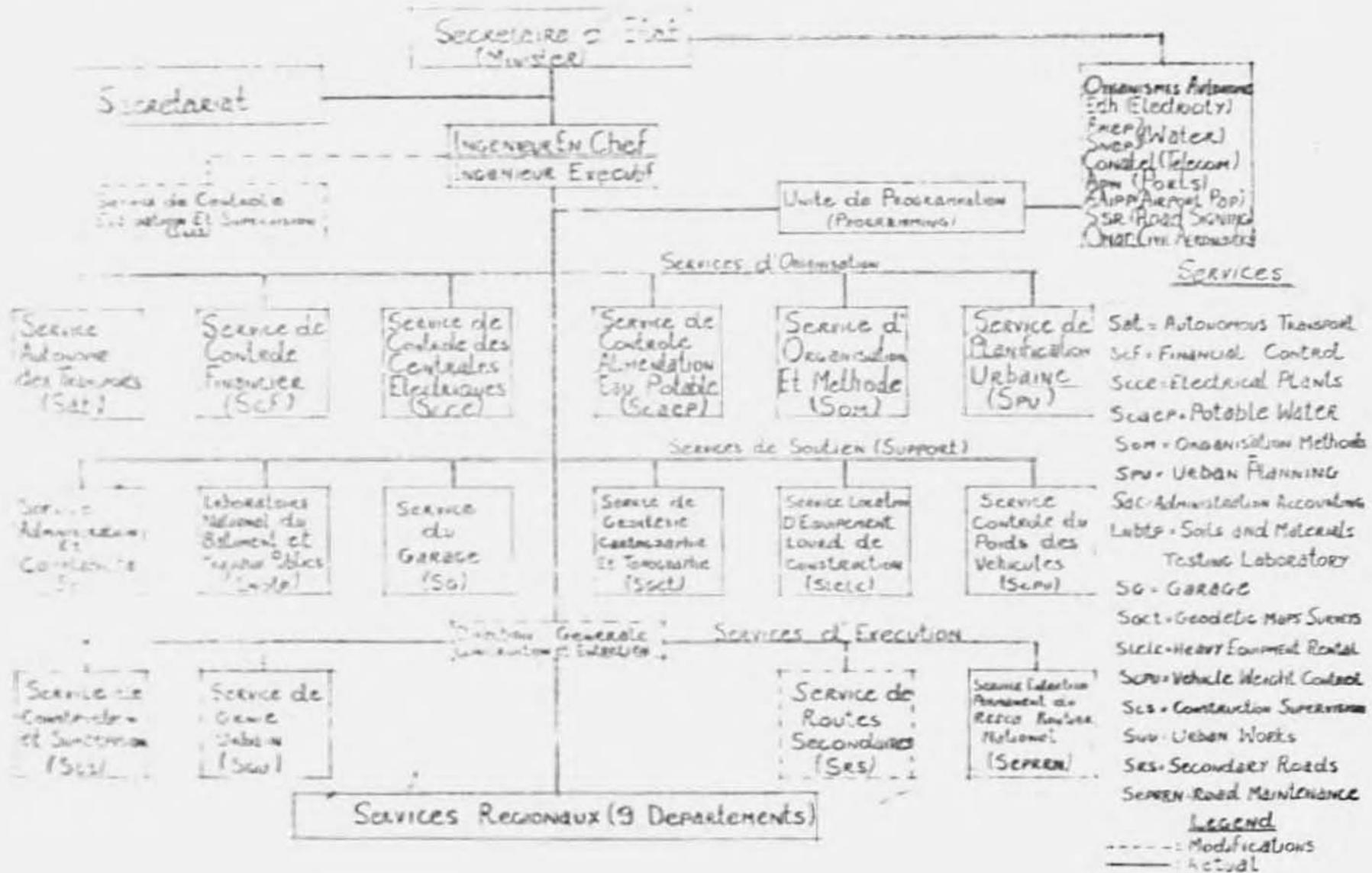
SEPRRN's quasi-autonomous status provides a significant degree of budgetary and administrative independence and allows it to operate with greater flexibility than mainline GOH services. No major changes in the organization's structure (which is consistent with recommendations of the Berger study) or in its operating procedures are contemplated under the proposed project. The project will provide technical assistance toward consolidating SEPRRN's procedures (notably those in equipment maintenance) and will further develop the training program. The administrative feasibility of implementing these activities has been fully demonstrated.

As described above, the SRS will possess similar authorities to those of SEPRRN. One difference, however, is that it is envisaged that there will be a separate "project" coordinator assigned full time to each externally-financed and supported secondary road project being implemented by the SRS. Following the guidelines of the Berger Preliminary Organization Study therefore, and given the established administrative capability of TPTC, the administrative viability of the SRS can be predicted with sufficient certainty.

Secrétariat d'Etat des Travaux Publics, Transports Et Communications

B

Organigramme Avec Modifications Minimales



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V. PROJECT IMPLEMENTATION ARRANGEMENTS

A. Financial Plan and Project Budget

1. Project Funding

The total cost of the four year Secondary Roads Development Project is estimated at \$38,298,000, of which \$12,500,000 (32.6%) will be grant financed by AID and the remainder, i.e. \$25,798,000 (67.4%) by the GOH, including PL-480 Title I local currency generations in the amount of \$14,000,000.

The AID grant will provide for advisory assistance, training, commodities, equipment, repairs on existing equipment, and one third of the road rehabilitation/construction costs. The GOH will provide counterpart funds for repairs on existing equipment; administration and management of the GOH identities concerned with secondary road construction, and road maintenance; training; and two third of road rehabilitation/construction costs. The Budget Summary (Table I), Summary of Project Expenditures by fiscal year, (Table III), and Summary of Foreign Exchange and Local Currency Expenditures for AID Financed Activities (Table II) include an inflation factor of 10 percent per annum. There is a contingency (11%) of \$1.35 million in the budget which is primarily intended for road rehabilitation/construction. Cost estimates for the latter are based on empirical cost per kilometer data gathered from the predecessor Agricultural Feeder Roads Project, in lieu of detailed cost estimates for specified roads. Once specific roads for rehabilitation/construction have been determined through application of the selection criteria process, a detailed cost estimate will be prepared. Given the difficulty of predicting even average costs, due to terrain and other factors a contingency in the AID funding of \$1.35 million and the GOH Title I contribution of \$1.39 million is prudent and reasonable.

2. Budget Tables

Table I - Budget Summary

This table presents the costs of the project by line item and source.

Table II - Summary of Foreign Exchange and Local Currency Expenditure for AID Financed Activities

This table presents the foreign exchange and local currency costs of AID-financed activities in relation to the major input line items. Of the \$12,500,000 financed by AID under this project, \$8,282,000 (66.3%) will be foreign exchange expenditures and the remaining \$4,218,000 (33.7%) will be local currency expenditures.

Table III - Summary Project Expenditures by Fiscal Year

This table presents the costs of the total project by fiscal year, as funded by AID and GOH.

Table I
BUDGET SUMMARY
(US \$ Million)

A. Road Rehabilitation/Construction Component

	USAID	GON	
		Title I	Treasury
Construction Operations	4.31	0.61	
Light Equipment	0.72		
Support Equipment	0.90		
Repair of Exist. Pool Equipment	0.41		
Secondary Road Service Central Office*			1.40
Minor Building Construction	0.15		
<u>B. Maintenance (SEPRRN) Component**</u>			
Hand Tools	0.60		
Community Action Maintenance Program		3.00	0.39
Road Maintenance		1.00	1.37
SEPRRN Central Office			4.22
SEPRRN Garage			2.56
Training Program			1.06
<u>C. Technical Assistance</u>	<u>3.90</u>		
<u>D. Project Evaluation (2)</u>	<u>0.00</u>		
<u>E. Baseline Data Collection</u>	<u>0.06</u>		
<u>F. Contingency 11%</u>	<u>1.22</u>	<u>1.32</u>	<u> </u>
TOTAL	012.80	014.00	011.00

* This is an estimation of the SRS budget which can be attributed to this AID-financed project. The total SRS budget is undetermined at this time.

** The figures in this component are are estimation of the GON contribution to those items directly attributable to activities under this AID-financed project. The total SEPRRN budget for the period in question will be about \$44 million, almost all of which is funded from the GON treasury.

Table II
Summary of Foreign Exchange and Local
Currency Expenditures for AID Financial Activities
 (U.S. \$000)

	Funding Source			GDI	Total		Project	
	AID Grant		AID TOTAL		LC	FX		LC
	FX	LC						
Technical Assistance	3,900		3,900		3,900		3,900	
Construction/Rehabilitation	1,291	3,013	4,304	8,608	1,291	11,621	12,921	
Equipment	1,543	77	1,620		1,543	77	1,620	
Repairs to Exist. Equip Fleet	371	41	412		371	41	412	
OWP Hand Tools	680		680		680		680	
Minor Build Construction	25	125	150		25	125	150	
Project Evaluation	80		80		80		80	
Baseline Data Collection		60	60			60	60	
Contingency	392	902	1,294		392	902	1,294	
	8,282	4,218	12,500	8,608	8,282	12,826	21,108	

Table III
Summary of Project Expenditures by Fiscal Year
 (U.S. \$000)

Category	FY 83		FY 84		FY 85		FY 86		LOP	
	AID	GOH	AID	GOH	AID	GOH	AID	GOH	AID	GOH
Technical Assistance	1,000	-	1,300	-	1,100	-	500	-	3,900	-
Rehabilitation/ Construction	724	1,448	876	1,751	1,226	2,453	1,478	2,956	4,304	8,608
Light Equipment	240	-	480	-	-	-	-	-	720	-
Equipment Pool	900	-	-	-	-	-	-	-	900	-
CWP Hand tools	200	-	200	-	280	-	-	-	680	-
Equipment Repair	412	-	-	-	-	-	-	-	412	-
Minor Building	150	-	-	-	-	-	-	-	150	-
SRS Central Office	-	200	-	400	-	400	-	400	-	1,400
Road Maintenance	-	510	-	560	-	620	-	680	-	2,370
Community Action Maint. Program (CWP)	-	420	-	640	-	840	-	980	-	2,880
SEPSN Central Office	-	910	-	1,000	-	1,100	-	1,210	-	4,220
SEPSN Training Program	-	400	-	440	-	480	-	540	-	1,860
SEPSN Garage Data Collection Project Eval.	- 60 40	550 - -	- - -	610 - -	- - 40	670 - -	- - -	730 - -	- 60 80	2,560 - -
Contingency	<u>140</u>	<u>425</u>	<u>250</u>	<u>425</u>	<u>400</u>	<u>515</u>	<u>504</u>	<u>535</u>	<u>1,294</u>	<u>1,900</u>
TOTAL	3,866	4,863	3,106	5,826	3,046	7,078	2,482	8,031	12,500	25,798

Technical Assistance Cost Estimate

I. Contract Consultant Team

<u>Position</u>	<u>Month</u>	<u>Average Salary*</u>	<u>Total Amount</u>
Senior Advisor (Chief of Party)	44	\$12,900	\$567,600
Short Term Advisors	64	11,000	704,000
<u>Construction</u>			
Construction Engineer Advisors	72	11,000	792,000
Equipment Advisor	36	10,500	378,000
<u>SEPRRN</u>			
Instructors/training Advisor (3)	72	10,500	756,000
Equipment/Mechanic/Garage Advisor	24	11,000	264,000
Home Office Special Support			<u>101,600</u>
2 Management training Seminars			100,000
		Sub-Total	\$3,661,600

II. Host Country PSC

TPIC Management Advisor	36	6,000	\$216,000
			\$3,877,600
		Rounded to	\$3,900,000

*Burdened Rate.

TECHNICAL ASSISTANCE

<u>Man/Months</u>		<u>FY 83</u>	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>
44	Senior Advisor \$12,900	\$ 103,200	\$ 154,800	\$ 154,800	\$ 154,800
64	Short Term Advisor \$11,000	176,000	176,000	176,000	176,000
72	(2) Construction Eng. Advisors \$11,000	88,000	176,000	264,000	264,000
36	Equipment Advisor \$10,500	63,000	126,000	126,000	63,000
72	(3) Instructor/Train. Advisor \$10,500	63,000	378,000	315,000	-
24	Equipment/Garage Advisor \$11,000	88,000	132,000	44,000	-
	Special Home Office Support	25,000	25,000	25,000	25,000
	Management Training Seminar (2)	-	50,000	-	50,000
	Total	\$ 606,200	\$1,217,800	\$1,004,800	\$ 732,800
36	TPIC Management Advisor	72,000	72,000	72,000	
		\$ 678,200	\$1,289,800	\$1,176,800	\$732,800
	Rounded To	\$ 700,000	\$1,300,000	\$1,200,000	\$700,000

B. Project Implementation Plan and Schedule

1. Project Agreement signed August 2, 1982
2. GOH begins meeting
CP's to initial disbursements August 10, 1982
3. GOH counterparts assigned to project September 1, 1982
4. Evaluation committee establishes selection
criteria for technical proposals September 3, 1982
5. Equipment IFB documents developed for light
brigade No. 5. September 10, 1982
6. Support pool equipment IFB documents developed September 10, 1982
7. CAMP hand tools and equipment IFB documents
developed September 10, 1982
8. Training activities at the SEPRRN Training
Center continue October 1, 1982
9. CP's to initial disbursements satisfied October 1, 1982
10. Light brigade Nos. 1 and 2 continue work on
the roads in the South October 1, 1982
11. Light brigade Nos. 3 and 4 continue work on
the roads in the North October 1, 1982
12. IFB for support pool equipment issued or
orders placed with EPD October 4, 1982
13. IFB for light brigade No. 5 issued or orders
placed with EPD October 4, 1982
14. Repair of the equipment transferred from the
completed Agricultural Feeder Roads Project
begins October 4, 1982
15. CAMP continues on with its maintenance
program with 200 Kms. in FY 83 to 500 Kms. in
FY 86 October 4, 1982
16. Work on the organization structure of the SRS
begins October 11, 1982
17. Receive technical proposals for T.A. October 11, 1982
18. Evaluation committee reviews the technical
proposals and recommends and award October 18, 1982

19. Pre-qualification of the firms who will bid on the facility construction component begins. October 22, 1982
20. IFB for the first lot of hand tools and equipment for the CAMP issued and orders placed with EPD October 29, 1982
21. Negotiate contract for T.A. and award contract November 25, 1982
22. Award contracts for light brigade No. 1 equipment December 2, 1982
23. Award contracts for the support pool equipment December 2, 1982
24. The SRS is established by decree February 1, 1983
25. T.A. team begins to arrive including Chief of Party, first field engineer, and SEPRRN equipment/garage/mechanic advisor February 1, 1983
26. Award contracts for the hand tools and equipment for the CAMP January 10, 1983
27. Construction of additional work area for SRS equipment maintenance begins February 3, 1983
28. Light brigade No. 5 begins development February 10, 1983
29. Engineer training instructor advisor arrives April 1, 1983
30. Receive equipment purchased for the light brigade No. 5 April 4, 1983
31. Receive equipment purchased for the support pool April 4, 1983
32. Repair of the equipment transferred from the AFRP completed April 29, 1983
33. Equipment support pools fully operational May 6, 1983
34. Receive ordered equipment and hand tools for the CAMP May 10, 1983
35. Light brigade No. 5 fully operational (staffing completed and equipment in place) May 17, 1983
36. Policy and procedures manuals drafted for the SRS July 1, 1983
37. Construction of maintenance facilities for the SRS equipment is completed August 12, 1983

38. Program review for FY 84 completed by SRS/
USAID/TA September 16, 1983
39. C.P's met for disbursements subsequent to September 30, 1983
40. Training operator instructor advisor arrives
in country October 4, 1983
41. Training mechanic instructor advisor arrives
in country October 4, 1983
42. First project evaluation conducted November 14, 1983
43. First management seminar planning begins November 17, 1983
44. First project evaluation completed and final
draft report submitted November 25, 1983
45. Final report received on first evaluation January 7, 1984
46. First Management Seminar conducted in Haiti January 8, 1984
47. Specifications revised for light brigade
No. 6 and 7 January 15, 1984
48. IFB for light brigade No. 6 and 7 issued
and orders placed with EPD February 1, 1984
49. Specifications revised for the Lot II
procurement of the hand tool sets and equipment
for the CAMP February 12, 1984
50. IFB for lot II hand tools and equipment for the
CAMP revised and orders placed with EPD February 23, 1984
51. Award contracts for the equipment for light
brigades No. 6 and 7 April 5, 1984
52. Award contracts for lot II hand tool sets and
equipment for the CAMP April 30, 1984
53. Light brigade Nos. 6 and 7 begin development May 28, 1984
54. Field engineer No. 2 arrives in country June 7 1984
55. First audit of project activities begins June 4, 1984
56. Audit team departs leaving a draft report
for the Mission July 3, 1984
57. Receive the ordered equipment for light
brigade Nos. 6 and 7 September 3, 1984

58. Program review for FY 85 completed by SRS/
USAID/TA September 17, 1984
59. Light brigade Nos. 6 and 7 fully operational
(staffing completed and equipment in place September 28, 1984
60. Receive Lot II hand tool sets and equipment
for the CAMP September 28, 1984
61. Audit final report received and Mission begins
to close recommendations October 1, 1984
62. SRS/USAID unit fully functioning with at least
seven light brigades and two/three support pools October 1, 1984
63. Specifications revised for Lot III hand tool
sets and equipment for the CAMP February 11, 1985
64. IFB issued for Lot III hand tool sets and
equipment for the CAMP and orders placed
with EPD February 25, 1985
65. Equipment/garage/mechanic advisor for SEPRRM
departs March 9, 1985
66. Award contracts for Lot III hand tools and
equipment for the CAMP April 22, 1985
67. Second project evaluation conducted on project
activities July 22, 1985
68. Engineer Training instructor, operator training
instructor and mechanic training advisors
depart August 5, 1985
69. Received Lot III hand tool sets and equipment
for the CAMP August 30, 1985
70. Draft report issued on evaluation findings and
recommendations September 9, 1985
71. Program for FY 86 reviewed by SRS/USAID/TA September 23, 1985
72. Final report received on second evaluation October 4, 1985
73. Second management seminar planning begins December 9, 1985
74. Second management seminar conducted January 13, 1986
75. Equipment advisor for the SRS departs April 17, 1986
76. Remaining TA members depart (i.e. Chief of
Party and two field engineers) September 30, 1986
77. Project completed September 30, 1986

C. EVALUATION AND AUDIT PLAN AND SCHEDULE

Two evaluations will be undertaken by a U.S. consultant, who should utilize trained local expertise, during the life of the Secondary Roads Project--one at the end of the first year of operation and the second at the end of the third year. An ex-post impact evaluation is also proposed and should occur about one year after the 1986 PACD. An Inspector General (IG) Audit will also be requested after the first evaluation. The audit will review the appropriateness of disbursements and expenditures and assess the adequacy of financial management systems. This will be in addition to quarterly financial audits to be carried out by a local CPA firm.

The first evaluation will assess the efficiency and effectiveness of project implementation including:

- 1) Establishment and effectiveness of the SRS
 - Organizational and budget authorities (CP)
 - Adequacy of staffing
 - Adequacy of management information and control systems in place, etc.
- 2) Appropriateness and timeliness of procurement
 - Technical Assistance
 - Equipment
 - Other inputs
- 3) Organization and performance of light brigades
 - Number and composition of brigades
 - Person months of labor employed
 - Adequacy of supervision
 - Number of kilometers and cost of road rehabilitated
- 4) Participation in Community Action Maintenance Program (SEPRRN)
 - Number of contracts
 - Evaluation of contract performance by SEPRRN and use of findings to improve performance
- 5) Collection and adequacy of data for road selection and impact evaluation.
- 6) Application of screening and selection criteria.
- 7) Adequacy and effectiveness of off-site training programs - person hours training by personnel category.
- 8) Equipment utilization and maintenance
 - Utilization of equipment support pools
 - Vehicles and equipment deadlined
 - Equipment rental costs
 - Comparative cost data for project owned versus rental equipment

The second evaluation (3rd year) will assess the same performance factors as the first and in addition will perform a preliminary impact assessment on those roads which have been completed. This will involve a replication of the rapid assessment surveys (discussed further below) undertaken for purposes of initial road selection.

The FY 87 Mission Evaluation Plan and ABS, prepared in June 1985, should provide PD&S or other appropriate funding for an ex-post impact evaluation for the project.

1. Rapid Rural Assessment

Because of the importance of site-specific baseline data for both road selection and subsequent impact evaluation, it is recommended that technical assistance be provided early in the project to develop a methodology and a capability within the appropriate unit of TPTC to carry out or contract locally for rapid, low-cost rural assessments.

Rapid assessments would not require rigorous survey methods, but would, instead use an unstructured approach to data collection relying upon informed judgements of local technicians, notables and other informants, and upon direct on-site observations. Data collected should be limited to that which is necessary and sufficient to measure indicators specified in the road selection criteria cited in the Project Paper. It is recommended that baseline data be maintained on the WANG Word Processor to facilitate quick retrieval and analysis.

In addition to rapid rural assessments, funding should be provided for in-depth, longitudinal data gathering by a trained anthropologist in selected project areas to provide information on the process and causes of change.

2. Estimated Level of Effort

There are about 600 kms of secondary roads in Haiti which are candidates for selection. Assuming that the average road length is about 24 kms, there would be approximately 20 road segments or sub-projects to be surveyed to provide basic socio-economic data for initial selection and subsequent impact evaluation.

It is estimated that a two-person team, including an engineer and a social scientist, could collect sufficient information on the road influence area of a candidate road in four or five days.

The level of effort for initial road screening purposes would thus be between 160 and 200 person days. With two or three such teams the duration of the task would be from 30 to 50 days. The level of effort for subsequent evaluation would of course be less since the roads ultimately included in the project will total about 300 kms or 10 - 15 sub-projects.

D. USAID/H SUPPORT CAPABILITY

The Mission is fully able to support the project with existing staff. Supervision of the T.A. contractor and monitoring of the project will be provided by the Engineering Division (ENG). ENG will receive support and assistance from the Division for Development Resources and Program Evaluation (DRE), the Controller's Office and the Regional Contracting Officer, as required. They will participate in road selection, site inspection, major decision-making, project meetings and coordination with other donors. Also, these offices will receive contractor and GOH reports, review and approve payment and procurement documents, participate in the selection of the T.A. consultant, maintain liaison with TPTC and other GOH Ministries, and otherwise insure that progress is maintained toward contract and project objectives.

E. Waivers

The authorization of this Project Paper will also signify the approval for procurement of 100 cc light weight motorcycles from Code 935 source and origin. See Section IV A.3.a.

A procurement source waiver from Geographic Code 000 (U.S. only) to Geographic Code 935 (Free World including Host country) is required to allow procurement of motorcycles (100cc) to be used in the supervision of light brigades during road rehabilitation/construction.

Motorcycles are required by supervisory personnel on the light brigades of the project, but this type of light weight motorcycles (trail bikes) is not available from the Code 000 source/origin. These motorcycles are required for existing brigades and brigades to be formed during the LOP. Therefore, widening eligibility by waiving the Code 000 source/origin requirement to include Free World Code 935 countries will enable this item to be procured through the use of AID HB 11, Chapter 3 procurement procedures. The Mission cites the following Section 2.6.2.3 of Chapter 3 of AID Handbook 11 as authority for this waiver. The number of motorcycles to be procured in a project of \$12.5 million would be 24, estimated at a cost not to exceed \$40,000.

Authorization of this Project Paper approves a waiver of AID Geographic Code 000 source and origin requirements to allow procurement of the required motorcycles from countries located in AID Geographic Code 935.

VI Conditions and Negotiating Status

A. Conditions Precedent to Initial Disbursement

Prior to any disbursement, or the issuance of any commitment documents under the Project Agreement, the Grantee, except as AID may otherwise agree in writing, shall furnish in form and substance satisfactory to AID:

(1) An opinion of the Secretary of State of Justice of the Republic of Haiti or other council acceptable to AID that this Agreement has been duly authorized and/or ratified by, and executed on behalf of the Republic of Haiti and that it constitutes a valid and legally binding obligation of the Republic of Haiti in accordance with all of its items;

(2) A statement of the name of the person holding or acting in the office of the Grantee and of any additional representatives, together with a specimen signature of each person specified in such statement;

(3) A proposed 12 mo. schedule for the establishment of the Secondary Roads Service (SRS)

(4) Evidence that a full time project Director has been appointed;

(5) Evidence that a separate account in the National Bank of Haiti for deposit of both AID and GOH resources has been established;

B. Conditions Precedent to Disbursement for Road and Facility Construction

Prior to any disbursement, or the issuance of any commitment documents under the Project Agreement to finance the construction of any road or facility, the Grantee will, except as AID may otherwise agree in writing, furnish in form and substance satisfactory to AID:

(1) Evidence of the delegation of authority and transfer of responsibility for construction, equipment, and staff of the Project Director whose authority will be assumed by the Director General of the SRS upon its establishment. This authority will include but not necessarily be limited to the ability to order equipment, services and commodities based on the joint AID and the Grantee agreed-on road segment cost estimate and to sign the necessary checks for said procurement; all validating documents must be concurred with and signed by the technical assistance consultant, or in his absence, AID;

(2) A detailed cost estimate for each approved road and a time schedule for implementation prior to disbursement for each individual approved road;

(3) Evidence of the implementation of an orderly process for the transfer of completed road segments to SEPRRN for ongoing maintenance. The process will identify the necessary steps, actions required, offices responsible for these actions, and relative time frames;

C. Conditions Precedent to Disbursement for the Purchase of Equipment

Prior to any disbursement, or the issuance of any commitment documents under the Project Agreement, to finance procurement of equipment, except as AID may otherwise agree in writing, the Grantee shall submit in form and substance satisfactory to AID a detailed plan for the maintenance and assignment of project equipment.

D. Conditions Precedent to Disbursement for Technical Assistance

Prior to any disbursement, or the issuance of any commitment documents under the Project Agreement to finance technical assistance services, the Grantee will submit to AID scopes of work for said services and a proposed list of counterpart personnel for AID approval;

E. Conditions Precedent to Disbursement Subsequent to Sept. 30, 1983

Prior to any disbursement, or the issuance of any commitment documents under the Project Agreement, the Grantee, except as AID may otherwise agree in writing, shall issue a formal decree or law establishing within TPTC a Secondary Roads Service having sole responsibility for rehabilitation/construction of secondary roads in Haiti. The SRS shall be fully operational with key positions staffed at its Headquarters and in the field. The Grantee shall also furnish in form and substance satisfactory to AID an organization chart of the SRS and position/job descriptions of all key personnel, including regional engineers and those of the light brigades and equipment support pools.

F. Covenants

The Grantee shall be covenant that, unless AID otherwise agrees in writing, it will:

- (1) Use equipment procured under the Project only for mutually agreed upon rural rehabilitation/construction and maintenance work except in emergency cases where prior AID approval is obtained in writing;
- (2) Recruit and maintain sufficient qualified personnel at all levels required to carry out the objectives of the project effectively;
- (3) Take such necessary actions as required to ensure that road maintenance will be provided to the roads reconstructed under the program;
- (4) Continue to use the JPIP system or other mutually agreed upon method to systematically monitor the project;
- (5) Provide adequate budgetary support for all Project activities, the continued maintenance of secondary roads, the establishment of the SRS and for the continued operations of both SRS and SEPRRN.

1

ANNEXES

AND PRIORITIZED DURING INTENSIVE REVIEW, A SUFFICIENT NUMBER OF REPRESENTATIVE ROADS SHOULD BE IDENTIFIED FOR PURPOSES OF CONDUCTING THE REQUIRED PROJECT ANALYSES.

5. COST ANALYSIS:

--(A). COMPLIANCE WITH ARTICLE (I) OF FAO: TO DEMONSTRATE THAT ADEQUATE PLANNING HAS TAKEN PLACE AND REASONABLY FIRM COSTS ESTABLISHED FOR RURAL ROADS PROJECTS, IT IS NOT NECESSARY TO IDENTIFY ACTUAL STRETCHES OF ROADS TO BE CONSTRUCTED AND/OR MAINTAINED PRIOR TO OBLIGATION OF FUNDS. COMPLIANCE WILL BE DEEMED TO HAVE OCCURRED IF, PRIOR TO OBLIGATION OF FUNDS, THERE HAS BEEN SUFFICIENT PLANNING TO IDENTIFY THE KINDS OF ROADS THAT WILL BE BUILT, THE DESIGN AND CONSTRUCTION STANDARDS FOR THE ROADS, THE TERRAIN IN WHICH THEY WILL BE BUILT, WHO WILL DO THE DETAILED DESIGN, IF ANY, AND THE CONSTRUCTION, THE AMOUNT OF SKILLED AND UNSKILLED LABOR REQUIRED, THE AMOUNTS AND TYPES OF EQUIPMENT

NEEDED, AND A REASONABLY FIRM ESTIMATE OF COSTS.

-- D A REASONABLY FIRM ESTIMATE OF COSTS.

--(B). INITIAL EXPENDITURES: MISSION SHOULD CAREFULLY ASSESS PROJECT EXPENDITURES OVER FIRST YEAR OR SO AND DETERMINE WHETHER CURRENT A.I.D. FUNDING ALLOCATIONS FOR PROJECT (DOLS. 1.9 MILLION IN FY 82 AND DOLS. 1.7 MILLION IN FY 83), TOGETHER WITH GOH COUNTERPART FUNDS, ARE SUFFICIENT TO INITIATE REQUIRED PROJECT ACTIVITIES (E.G. CONTRACTING CONSULTANTS, PROCURING ROAD CONSTRUCTION EQUIPMENT, ETC.) IF START-UP COSTS EXCEED AVAILABLE FUNDING, BUREAU PREPARED TO SEEK ADDITIONAL FUNDS DURING EARLY YEARS OF PROJECT. BUT SECURING SUCH FUNDS CANNOT BE ASSURED.

--(C). UNSKILLED LABOR COST: WHILE PID PROPOSES THAT A DAILY WAGE EQUIVALENT TO DOLS. 2.60 BE PAID FOR UNSKILLED LABOR, THE OPPORTUNITY COST FOR SUCH LABOR IS ESTIMATED AT ABOUT HALF THIS AMOUNT. TO HELP AVOID PROVIDING AN INCENTIVE FOR KICKBACKS AND/OR CRONYISM IN HIRING, MISSION SHOULD DETERMINE WAGE RATE PAID BY PRIVATE CONTRACTORS FOR SIMILAR WORK AND SEEK TO ESTABLISH A COMPARABLE RATE FOR UNSKILLED LABOR EMPLOYED UNDER THE PROJECT.

FOR SIMILAR WORK AND SEEK TO ESTABLISH A COMPARABLE RATE FOR UNSKILLED LABOR EMPLOYED UNDER THE PROJECT.

--(D). FUNDING CONSTRUCTION COST OVER-RUNS: WHILE PID INDICATES GOH WILL BE RESPONSIBLE FOR FUNDING UNFORESEEN CONSTRUCTION COST OVER-RUNS FOR PROJECT ROADS, BUREAU CONCERNED ABOUT GOH ABILITY TO MEET SUCH A COMMITMENT IN A TIMELY MANNER TO AVOID DISRUPTION IN CONSTRUCTION PROGRESS AND INCOMPLETED ROADWAYS. MISSION SHOULD ASCERTAIN WHETHER OR NOT GOH BUDGETARY PROCESS HAS ALLOWANCES FOR SUCH CONTINGENCIES AND EXAMINE GOH PERFORMANCE IN MEETING COST OVER-RUNS UNDER OTHER ROAD PROJECTS. WP SHOULD SET FORTH PROCEDURES, INCLUDING APPROPRIATE CONDITIONS AND/OR COVENANTS, FOR ASSURING ADEQUATE GOH FUNDING IN THE EVENT OF SUCH COST OVER-RUNS.

6. ENVIRONMENTAL IMPACT: PROPOSED PROJECT POSES POTENTIAL ENVIRONMENTAL PROBLEMS RESULTING FROM CONSTRUCTION WORK AS WELL AS SECONDARY IMPACT ON AGRICULTURAL LANDS IN VICINITY OF PROJECT ROADS. BUREAU PARTICULARLY CONCERNED ABOUT THIS QUESTION GIVEN HAITI'S ALREADY SERIOUS LAND DEGRADATION PROBLEM AND APPARENT INABILITY OF GOH TO IMPROVE SITUATION. ROAD SELECTION CRITERIA, ROAD DESIGN AND CONSTRUCTION STANDARDS AND COMPLEMENTARY AGRICULTURAL SERVICES SHOULD ALL TAKE INTO ACCOUNT THE ENVIRONMENTAL IMPLICATIONS OF THE PROJECT. BUREAU'S ENVIRONMENTAL OFFICER, MR. ROBERT OTTE, IS PREPARED TO ASSIST MISSION IN ADDRESSING THESE CONCERNS IF MISSION SO DESIRES.

7. PROPOSED AID LOANS: UNLESS THERE IS A PROGRAMMATIC INDICATION TO PARTIALLY LOAN-FUND PROJECT, WP SHOULD INDICATE GRANT FUNDING FOR ENTIRE A.I.D. CONTRIBUTION. SHOULD LOAN FUNDS BECOME AVAILABLE FOR PROJECT LATER IN FISCAL YEAR, THIS DECISION WILL BE RE-EXAMINED AT THAT TIME.

UNCLASSIFIED

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INVESTIGATIVE

Classification

8. ALL PID APPROVALS ARE NOW SUBJECT TO BUREAU REVALIDATION IF THE POST-PID, PROJECT DEVELOPMENT PROCESS EXTENDS BEYOND ONE YEAR.

9. A/AD REVIEW OF ROAD PROJECTS: ADMINISTRATOR HAS INDICATED CONCERN OVER A/AD SUPPORT FOR ROAD BUILDING PROJECTS, INCLUDING SUBJECT PROJECT, AND IS CURRENTLY REVIEWING AGENCY ROAD PROJECTS AND POLICIES. CONSEQUENTLY, APPROVAL TO PROCEED WITH THE DEVELOPMENT IS CONDITIONAL ON FAVORABLE OUTCOME OF THIS REVIEW. BUREAU WILL ADVISE MISSION ONCE ADMINISTRATOR HAS MADE A DETERMINATION ON THIS MATTER. HAD
BT

UNCLASSIFIED

Issues

Two issues have arisen during project development which potentially could jeopardize the long-term success of the Project. The issues and their current state of resolution are discussed below:

1. GOH Counterpart Contributions

GOH budgetary support to TPTC under the Project, and costs involved in SEPRRN's maintenance of roads will place a large burden on the GOH development budget. The prospects for diminished development expenditures resulting from the recent GOH/IMF agreement for an austerity program raise the possibility that the consistent GOH support for TPTC projects over the years may not continue at previous levels. This potential problem, if actualized, could be addressed through increased allocations of P.L. 480 Title I (or III) and/or ESF.

2. World Bank and IDB Support for the Secondary Roads Service (SRS)

A consensus has been reached among representatives of AID, the World Bank and IDB that the establishment of SRS in the near future is desirable and necessary. However, no firm financial commitments have been requested or received from the two multilateral organizations. During the upcoming Caribbean Consultative Group meeting in Washington USAID/Haiti will engage in private negotiations with the Banks and the GOH on future assistance to TPTC for road projects and will seek firm public support and commitments for future financial assistance to the SRS. It should be noted, however, that the proposed project has been designed so that such assistance is not required for the successful establishment and operation of the SRS.

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ANUSA C
UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D.C. 20523

LAC/DR-IEE-82-20

ENVIRONMENTAL THRESHOLD DECISION

Project Location : Haiti

Project Title and Number : Secondary Roads Development
(521-0149)

Funding : \$12,500,000 Grant

Life of Project : Four years

IEE Prepared by : David Adams, USAID/Port-au-Prince

Recommended Threshold Decision : Negative Determination

Bureau Threshold Decision : Concurrence with recommendation

Action : Copy to Harlan Holgood, USAID/Port-au-Prince
✓ : Copy to David Adams, USAID/Port-au-Prince
: Copy to Richard Byess
: Copy to IEE file

 date 17 June 1982
James H. Hester
Environmental Officer
Bureau for Latin America and
the Caribbean

INITIAL ENVIRONMENTAL EXAMINATION

PROJECT LOCATION : Haiti

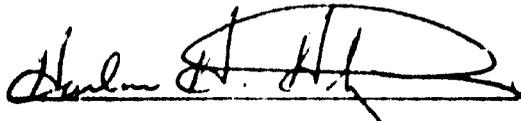
PROJECT TITLE : Secondary Roads Development

FUNDING : FY 82 Grant - IOP Grant

IEE PREPARED BY* : David Adams
Project Development Officer
May 24, 1981

RECOMMENDED THRESHOLD DECISION : A Negative Determination is recommended because the Project will involve minimal long-run environmental degradation.

MISSION DIRECTOR'S CONCURRENCE

: 

 6/8/82

 Date

*Section E. prepared by Harry Proctor, Engineer
 *Contributions made by Robert Otto, IAC Bureau Environmental Adviser

Examination of the Nature, Scope and Magnitude of Environmental ImpactsA. Description of the Project

The proposed project will involve the use of the proven light brigade method of road construction to construct/rehabilitate approximately 600 kms. of rural secondary roads. It is anticipated that rehabilitation of existing roads and trails will be the focus of project field activity rather than construction of new roads at new sites. Therefore, little or no new land will be converted to right of way, and in any case no timber or farm lands or residence will be significantly disturbed or relocated. As regards another integral component of the project, i.e. road maintenance, the continuing maintenance of the rehabilitated roads by the communities involved will impact relatively insignificantly on the environment.

The project will be implemented principally through the Ministry for Transportation and Public Works (TPTC), and its two sub-entities, the new Secondary Roads Service (SRS) and the firmly established and proven Service for Road maintenance (SEPRRN).

B. Discussion of Environmental Impacts

The proposed project will involve minimal short-run environmental degradation and in the long term should enhance rather than detract from the quality of the environment. The project will include required drainage ditches and culverts which will augment the natural drainage flow. Consequently standing and stagnant water in pot-holes, road subsidences and clogged ditches will be reduced.

Limited short-term environmental degradation is to be expected during periods of construction. Earth movement operations will temporarily alter natural drainage patterns. There will be some air and sediment pollution. Minor earth and rock slides may occur in mountainous and hilly areas. This could lead to some temporary silt and sediment pollution conditions. Every effort will be made in planning construction activities to minimize the temporary adverse environmental impacts. Preliminary review suggests that the

labor intensive aspects of project construction will lead to less environmental degradation than mechanized approaches. The careful use of the labor brigades will minimize interference with natural drainage canals.

As indicated above, the vast bulk of candidate roads are existing rights of way, the reconstruction of which do not pose a significant risk to the human environment. Most of areas of influence around these roads have been exploited, inhabited and accessible for at least 50 years. Currently, even the more inaccessible areas (e.g. of the Southwest) are regular haunts for charcoal makers, slash and burn farmers and goat herds. The implications of road reconstruction are entirely positive with potential negative impacts so clearly marginal in nature as to exceed AID's common standard of "reasonably foreseeable impacts". A criteria for road selection approach is not feasible from the environmental standpoint in that it requires some kind of data base which defines areas of significant, ecological, social or economic value as well as the processes which make the area or resource valuable. Such a data base does not exist. To lumber the project with a requirement to develop such a data base would increase project costs and would not be well received by TPTC. Further, past experience suggests that it is not important to deliver to road building organizations the capability to foresee secondary impacts of road construction or reconstruction. They have neither the mandate nor the resources to do anything about, for example, deforestation or soil erosion in the influence area of the roads they build.

C. Recommended Environmental Protection Strategy

The LAC Bureau Environmental Adviser has recommended abandoning the criteria approach for environment suggested in the PID Guidance cable and recommended rather that the services of an environmental impact analyst be acquired for a period of no more than 30 days to work on a close order analysis of impacts of (in order of priority): new road construction, reconstruction of roads in areas with infrastructure that might be at risk (such as irrigation and/or hydroelectric reservoirs) and reconstruction of roads in areas which may have significant natural resources (such as endangered species habitats, natural forests, etc.). Arrangements are being made at this time for the close order analysis.

The other area of environmental concern involves the direct impact implications of the construction/reconstruction of the secondary road network. In particular, on occasion road building activities may adversely affect natural drainage patterns, cause sedimentation problems and exacerbate road-related erosion. Such problems are at least partially dealt with through the application of TPTC construction standards, awareness of environmental concerns, and proposed revisions thereto as delineated in the Technical Analysis.

D. Threshold Decision Recommendation

After analyzing the various areas of potential environmental impact of the Project, USAID/Haiti has concluded that in those areas where an impact is planned under the Project, negative impact will be minimal or short term. USAID therefore recommends A Negative Determination.

IMPACT IDENTIFICATION AND EVALUATION FORM

- N - No environmental impact
- L - Little environmental impact
- M - Moderate environmental impact
- H - High environmental impact
- U - Unknown environmental impact

Impact Areas and Sub-areas

A. LAND USE

1. Changing the character of the land through:

- a. Increasing the population L+
- b. Extracting natural resources L+
- c. Land clearing L
- d. Changing soil character L

2. Altering natural defenses L

- 3. Foreclosing important uses N
- 4. Jeopardizing man or his works N
- 5. Other factors

B. WATER QUALITY

- 1. Physical state of water L
- 2. Chemical and biological states N
- 3. Ecological balance L
- 4. Other factors

IMPACT IDENTIFICATION AND EVALUATION FORM

C. ATMOSPHERE

- 1. Air additives N
- 2. Air pollution L-
- 3. Noise pollution L-
- 4. Other factors

D. NATURAL RESOURCES

- 1. Diversion, altered use of water N
- 2. Irreversible, inefficient, commitments N
- 3. Other factors:
 - reduce pressure on standing forests L

E. CULTURAL

- 1. Altering physical symbols N
- 2. Dilution of cultural traditions N
- 3. Other factors
-
-
-

F. SOCIOECONOMIC

- | | |
|---------------------------------|---------------|
| 1. International impacts | <u>L+</u> |
| 2. Change in population | <u>L+</u> |
| 3. Changes in cultural patterns | <u>N</u> |
| 4. Other factors | <u> </u> |
| | <u> </u> |
| | <u> </u> |

G. HEALTH

- | | |
|-------------------------------------|---------------|
| 1. Changing a natural environment | <u>L+</u> |
| 2. Eliminating an ecosystem element | <u>N</u> |
| 3. Other factors | <u> </u> |
| | <u> </u> |

H. GENERAL

- | | |
|---------------------------|---------------|
| 1. International impacts | <u>L+</u> |
| 2. Controversial impacts | <u>N</u> |
| 3. Larger program impacts | <u>M+</u> |
| | <u> </u> |
| | <u> </u> |

I. OTHER POSSIBLE IMPACTS (not listed above)

E. Identification and Evaluation of Environmental Impacts:

Note: This evaluation of the real and/or potential impact of this project takes into account both detrimental and beneficial projected impacts. These are appropriately indicated on the attached Impact Identification and Evaluation Form with plus (+) or minus (-) signs to indicate whether the impact will be beneficial (+) or detrimental (-).

1. Land Use: An increase in the productivity of land under cultivation may be expected to result from the successful rehabilitation/construction and maintenance of market roads. With reduced transport costs, the farmers should benefit through increased income from their produce. Some farmers will more intensively cultivate their land when it is shown that market opportunities have increased.

a. Changing the character of the land through:

i) Increasing the population. It may be expected that in the long term that improved rural roads may tend to stabilize populations by providing better incomes both from on and off farm employment and provide access for social benefits such as health facilities, agriculture extension, and schools, as well as to generate employment during road construction and provide long term income for community groups maintaining rural roads.

ii) Extracting natural resources. This will be limited to increased land cultivation and possible subsequent depletion of soil nutrients. Applications of fertilizers will ameliorate nutrient depletion and the improved market access will also increase availability of all agricultural inputs in the rural areas.

iii) Land Clearing. Clearing lands of bush for added crop areas may increase somewhat but since there are minimal commercial grade tree stands in Haiti, any wood cutting will be quite limited. In fact improved rural access will have a positive affect on the advancement of CMI and AID reforestation efforts.

Rehabilitation of the rural roads will call for very little clearing of more right-of-way, as the vast majority of roads will follow existing alignments (roadways and trails). Road maintenance will require no additional land clearing except for the possible need to open a new borrow area for gravel or select road surfacing materials.

(a) Altering natural defenses. No foreseeable consequences
(b) Foreclosing important uses. No foreseeable consequences
(c) Jeopardizing man or his works. No foreseeable consequences
(d) Other factors concerning land use. The only foreseeable factor affecting land use will be erosion and erosion control. As planned, the project will not alter natural drainage patterns on the rural roads. A major aim will be to eliminate the multitude of cases where the roadway presently is, in fact, the main water carrier during and after rains. This will be accomplished by having both good side ditches and by shaping the roads with a 4% to 5% crown, in order to quickly shed water from the road surface into the side ditches. These improvements will tend to substantially reduce conditions where quantities of water flowing directly along the roads rapidly erode the surface materials. In the mountain areas many of the side ditches will be cut into rock or the road surface will be protected by surface treatment. Where side ditches are in soil and have gradients where erosion may start, stone rip-rapping or drop structures will be provided to reduce the gradient thus reducing possibilities of erosion. The improved run-off control through major improvements in the side ditches and cross drainage is an aspect of the project which has the decided secondary benefit of providing controlled positive drainage. This benefits the adjacent farm lands as well as the road itself.

2. Water Quality:

a. The physical state of water within the project area will not be changed. However, there will be some extra silt burdens for short periods during and shortly following road and ditch reshaping work while sections of road are being rehabilitated. This effect will be strictly temporary however, since in soil areas the natural vegetation will soon recover denuded areas

and in rocky areas any loose material will soon be carried away by controlled drainage. As noted above, in potential erosion problem areas special steps will be made to minimize erosion.

b. No other significant changes in water quality can be ascertained.

3. Atmosphere:

a. Air Additives: During rehabilitation and maintenance work there will be some increase in dust but this will be minimal and for short duration. Dust generated by traffic movements will be light because of the use of select materials, for road construction and maintenance, which when compacted, form a tightly bound road base and surface.

b. Air pollution: Expected increases in traffic movements on project roads will put some more traffic smoke into the air. However, the rains and prevailing winds, especially in the growing and marketing season, should quickly wash out these pollutants so as to make any short term increases almost undetectable.

c. Noise pollution: During road work this will be minimized because most of the work will be done by labor-intensive methods. During crop marketing periods some added heavy truck noises will be apparent.

4. Natural resources:

a. There will be no altered use of water resulting from project actions.

b. There are no irreversible, irrevocable or inefficient commitments of natural resources contemplated in this project.

c. In fact, this project should have a positive impact in providing access for GDI programs, especially in reforestation.

5. Cultural:

a. Altering physical symbols. Since most rehabilitation and

maintenance work will be on existing alignments, there will be no disturbance of cemeteries, shrines, churches or other cultural sites within the project area.

b. Dilution of Cultural Tradition. The rural culture of Haiti is highly oriented on broad based family lines. There should be little, if any, dilution of this tradition. A possible secondary benefit may be the strengthening of this tradition by making less desirable the present out-migration from some parts of the project area.

c. Change in family structure. See 5 above.

6. Socio-economic:

a. Changes in economic/employment patterns: One of the substantive benefits expected of the improved rural roads is that there will be an increase in disposable farm income due to several factors including decreases in the cost of transporting farm products to markets.

It is expected that both on-farm employment may rise due to the increase in marketability of produce and the increased potential for the development of local enterprises. These increases opportunities should reduce pressures for out-migration.

b. Changes in cultural patterns: Cultural pattern changes, which the out-migration of young people have been producing, should slow down with increased rural activity. This should help stabilize population shifts and fortify the traditional extended family system.

c. Changes in population patterns: Facilitating transport will lead to increases in marketing and pick-up points. Likewise, agri-businesses and service businesses may locate at these points. These are seen as having minor impact on the environment.

7. Health:

a. Changing a natural environment: No significant impacts are anticipated.

b. Eliminating an ecosystem element: Since most road work will be

limited to existing alignments there will be little if any disturbance to natural ecosystem elements.

c. Other factors - changing and existing man-made environment:

Improved ditching and water run-off should eliminate all or nearly all pooling of water near the roads, thereby having a positive effect in helping to reduce the incidence of water related diseases.

Borrow areas for road surfacing materials will be so used as to minimize the pooling of water.

Improved roads will provide better access for public health efforts and inputs. Therefore, health conditions should improve or have the opportunity to improve with improved ingress and egress of the rural communities. Health centers should expand in numbers and services with the improvements in transportation.

8. General:

a. International Impacts: Increased market opportunities may stimulate higher production of export crops.

b. There are no impacts of a controversial nature foreseen.

c. There are no larger program impacts of a detrimental nature foreseen.

d. Other factors: Swine fever- Necessary drastic steps are being taken to control swine fever, a serious problem in Haiti. This program for control of swine fever calls for the total elimination of all pigs. The improved rural roads will provide much better access for the subsequent repopulation of the swine herds.

Endangered species: According to available data and knowledge, there are no known endangered species of either flora or fauna which the project will have an impact on.

e. Other possible impacts: None are foreseen

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

ANNEX D

Life of Project: From FY 82 to FY 86
Total U.S. Funding \$12.5 m.
Date Prepared: 6/2/82

Project Title & Number: Secondary Roads Development Project

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS								
<p>Program or Sector Goal: The broader objective to which this project contributes. (A-1)</p> <p>To improve the standard of living of the inhabitants in the targeted rural regions.</p>	<p>Measures of Goal Achievement: (A-2)</p> <p>Per capita income increases. Food consumption increases-in both quantity and quality. School enrollment increases. Health status improves.</p>	<p>(A-3)</p> <p>Impact evaluations, Socio-economic surveys. HIS statistics.</p>	<p>Assumptions for achieving goal targets: (A-4)</p> <p>GOH actively supports rural development efforts. No hyperdeflation in the economy.</p>								
<p>Project Purpose: (B-1)</p> <p>-Increase TPTC institutional capability to plan and implement the rehabilitation and maintenance of the secondary roads network -Increase peasant income and agricultural production through the improvement of road networks serving major public market towns. -Provide employment for rural un- and under-employed.</p>	<p>Measures of Goal Achievement: (B-2)</p> <p>A fully functioning and staffed SRS. Institutionalization of light brigade methods. Jobs provided to 26,000 previously un-/under employed rural inhabitants.</p>	<p>(B-3)</p> <p>Impact evaluations. Socio-economic surveys. Labor statistical surveys. TPTC/AID evaluations</p>	<p>Assumptions for achieving purpose: (B-4)</p> <p>Urban food demand remains high. No natural calamities. Wages are adequate to attract labor.</p>								
<p>Project Outputs: (C-1)</p> <ol style="list-style-type: none"> Bureau of Service de Routes Secondaires (SRS) established. Public market towns made more accessible. Rural roads improved/constructed Employment for rural laborers. Road maintained by Community Action Programs. 	<p>Measures of Goal Achievement: (C-2)</p> <p>To be determined To be determined At least 300 Kms. At least 80,000 man/months 400 Kms.</p>	<p>(C-3)</p> <p>TA reports. TPTC, AID, SEPRRN, SRS records. Field observations.</p>	<p>Assumptions for achieving outputs: (C-4)</p> <p>Normal weather conditions. No GOH increase in road standards. No Major implementation problems.</p>								
<p>Project Inputs: (D-1)</p> <p>AID</p> <ol style="list-style-type: none"> One third of local construction costs. Code 941 equipment Technical Assistance <p>GOH</p> <ol style="list-style-type: none"> Two thirds of local construction costs. Administrative support Road Maintenance. Construction Equipment (In kind) 	<p>Implementation Target (Type and Quantity) (D-2)</p> <table border="1"> <thead> <tr> <th></th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>AID</td> <td>\$12.5m</td> </tr> <tr> <td>GOH</td> <td>\$25.80m</td> </tr> <tr> <td>Total:</td> <td>\$38.55m</td> </tr> </tbody> </table>		Total	AID	\$12.5m	GOH	\$25.80m	Total:	\$38.55m	<p>(D-3)</p> <p>JPIPS TPTC, AID financed records. Title I records. Observation.</p>	<p>Assumptions for providing inputs: (D-4)</p> <p>AID & GOH funds available on schedule. GOH assigns competent Project staff in timely manner. Availability of suppliers. No major procurement problems.</p>
	Total										
AID	\$12.5m										
GOH	\$25.80m										
Total:	\$38.55m										

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Detailed Procurement Plan

The procurement activities of the project are divided into three parts; light brigade equipment, support pool equipment, and CAMP hand tools. There are basically five steps in the procurement process that will be followed, namely:

1. IFB document development including contracts and specifications.
2. Issuance of IFB package.
3. Receipt of the bids and evaluation.
4. Contract awards and orders placed.
5. Commodities received and dispatched.

Note: Step 1, 2, and 3 will contain the appropriate USAID approvals as outlined in AID Handbook 11 Chapter 3.

The procurement plan as outlined below is a chronological listing of activities for all of the sections which demonstrates the overall flow of the procurement process:

<u>Activity</u>	<u>Date</u>
1. Develop IFB documents for light brigade No. 5.	September 10, 1982
2. Develop IFB documents for the support pool equipment	September 10, 1982
3. Develop IFB documents for the CAMP hand tools sets and equipment.	September 10, 1982
4. Issue the IFB for the light brigade No. 5 and order EPD items.	October 4, 1982
5. Issue the IFB for the support pool equipment and order EPD items.	October 4, 1982
6. Issue the IFB for the CAMP hand tools sets and equipment and place orders with EPD	October 29, 1982
7. Receive and evaluate bids for L.B. No. 5	November 18, 1982
8. Receive and evaluate bids for the support pool equipment	November 18, 1982
9. Awards contracts for L.B. No. 5 equipment	December 2, 1982
10. Award contracts for the support pool equipment	December 2, 1982

- | | |
|---|--------------------|
| 11. Receive and evaluate bids for the CAMP hand tool sets and equipment | December 12, 1982 |
| 12. Award contracts for the CAMP hand tools and equipment January 10, 1983 | |
| 13. Receive the l.b. No. 5 equipment | April 14, 1983 |
| 14. Receive the support pool equipment | April 14, 1983 |
| 15. Receive the CAMP hand tools and equipment | May 10, 1983 |
| 16. Revise the IFB documents for l .b.'s Nos. 6 and 7 | January 15, 1984 |
| 17. Issue the revised IFB documents for l.b. Nos 6 & 7 and place orders with EPD | February 1, 1984 |
| 18. Revise the IFB documents for the CAMP hand tool sets and equipment | February 12, 1984 |
| 19. Issue the revised IFB for the CAMP hand tool sets and equipment and place orders with EPD | February 23, 1984 |
| 20. Receive and evaluate bids for l. b.'s Nos 6 & 7 | March 16, 1984 |
| 21. Award contracts for l. b.'s 6 and 7 | April 5, 1984 |
| 22. Receive and evaluate bids for the CAMP hand tool sets and equipment. | April 19, 1984 |
| 23. Award contracts for the CAMP hand tool sets and equipment | April 30, 1984 |
| 24. Receive the equipment for l. b.'s Nos 6 and 7 | September 3, 1984 |
| 25. Receive the CAMP hand tool sets and equipment | September 28, 1984 |
| 26. Revise the IFB for the remainder of the CAMP hand tool sets and equipment | February 11, 1985 |
| 27. Issue IFB for the CAMP hand tool sets and equipment and place orders with EPD | February 25, 1985 |
| 28. Receive and evaluate bids for the CAMP hand tool sets and equipment | April 11, 1985 |
| 29. Award the contracts for the CAMP hand tools and equipment | April 22, 1985 |
| 30. Receive the CAMP hand tool sets and equipment | August 30, 1985 |

EQUIPMENT REQUIREMENT LIGHT BRIGADE (EACH)

<u>Item</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
1. Farm Tractor	4	13,750	\$55,000
2. Trailers	8	4,700	37,600
3. Pick-up Trucks*	3	12,000	36,000
4. Vibratory Roller	1	16,000	16,000
5. Tank Trailers			
500 gal. Fuel	2	3,000	6,000
500 gal. Water	2	3,000	6,000
6. Motorcycle (Waiver)	4	1,350	5,400
7. Compressor*	.5	19,000	9,500
8. Shop Trailer*	1	6,500	6,500
9. Pipe Form/Shop Tools		12,000	12,000
10. Hand Tools		11,000	11,000
11. Concrete Mixer*	.5	10,000	5,000
12. CB Radios	4	750	3,000
Sub-Total			209,000
Initial Spare Parts			31,000
Total Estimate (each brigade)			240,000
Total - 3 Additional Brigades X \$240,000			\$720,000

* It is anticipated that these items will be purchased from Excess Property.

EQUIPMENT REQUIREMENT SUPPORT POOL

<u>Item</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
Loaders (2 1/2 yd.)	2	29,000	58,000
Dump Trucks	15	20,000	300,000
Lube Truck	1	25,000	25,000
Fuel Truck	1	19,000	19,000
Water Truck	2	19,000	38,000
Water Trailer (2500 gal)	3	7,000	21,000
Pick-up Trucks Diesel*	2	12,000	24,000
Tilt Deck Trailer	3	12,000	36,000
Diesel Tanks for three of item 10*	2	7,000	14,000
300 CFM Compressor	2	19,000	38,000
Rock drills w/steel drills & hoses	8	5,000	40,000
Concrete Mixer 16 cu. ft.	2	10,000	20,000
Tractor/Trailer	1	40,000	40,000
Mobile Generator	1	7,000	7,000
Mechanic Tools*	2	2,000	4,000
Specialized Tools	LS		10,000
Shop Van, Equipment & Tools	1	28,000	28,000
6" Water Pump* Diesel	1	15,000	15,000
2" Water Pump* Diesel	1	3,000	3,000
Tank Trailers 500 gal.	2	3,000	6,000
C.B. Type Radios			20,000
Misc.			10,000
		Sub-Total	\$ 776,000
		Spare Parts	\$ 124,000
		<u>TOTAL</u>	<u>\$ 900,000</u>

*These items are not available from EPD and the new prices were used.

Training Plan

The attached chart shows proposed training activities for the SEPRRN training center for the four year LOP. The table lists the various categories of personnel to receive training and the number who will be trained/evaluated at the center.

Even within many of the various categories there are a variety of diverse activities that will be presented at the center. For example, in the mechanic training area there will be such modules as gasoline and diesel engine repair, auto-electric diagnosis and repair, hydraulic systems maintenance and repair, brake systems, drive train systems etc. The same applies to almost all of the other categories and it is beyond the scope of the plan to detail all of these activities. A second major training activity will involve the inclusion of the training of the SRS personnel by SEPRRN. Program and training activities will be extended to other GOH services as well as PVO's. The chart anticipates these additions in the number to be trained under any one category.

Training Plan

PERSONNEL CATEGORIES	FY 83	FY 84	FY 85	FY 86
	No. Pers	No. Pers	No. Pers	No. Pers
1. Management				
Actual	8	9	11	11
New	1	2		
2. Engineers				
Actual	48	49	48	48
New	2	3	2	2
3. Administration				
Actual	40	44	44	44
New	4	4	2	2
4. Training				
Actual	15	15	15	15
New	2	2	2	1
5. Warehousing				
Actual	10	12	14	14
New	4	4	2	2
6. Garage Supervisors				
Actual	14	16	16	16
New	2	4	2	2
7. Foremen				
Actual	20	26	26	26
New	6	6	4	4
7. Mechanics & aides				
Actual	60	100	100	100
New	20	30	20	15
9. Equipment Operators				
Actual	180	200	200	200
New	40	40	20	20
10. Drivers				
Actual	140	150	150	150
New	60	50	25	20

11. Welders				
Actual	16	20	20	20
New	4	3	2	2
12. Team Leaders				
Actual	120	140	80	80
New	40	20	20	20
13. Skilled Craftman				
Actual	60	70	70	20
New	10	5	5	5
<hr/>				
	905	1080	879	844



REPUBLIQUE D'HAÏTI

RECEIVED

JUN 4 2 09 PM '72

U.S.A. ...

SECRETARIE D'ETAT DU PLAN

RM.....SEP/USAID.....

No.....1972.....

La Nation a choisi la Planification
Voie logique du développement.

PALAIS DES MINISTERES

Port-au-Prince, le... 4 JUN 1972...

MEMORANDUM

A LA REPRESENTATION DE L'USAID EN HAITI

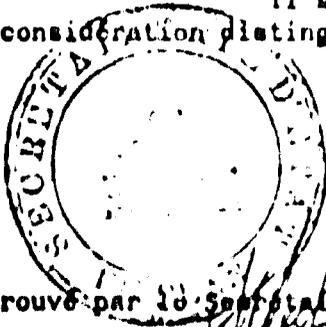
Le Département du Plan présente ses compliments à la Représentation de l'USAID en HAITI et a l'avantage de lui soumettre une requête relative à un second projet de construction de routes secondaires suite à un accord préalable intervenu entre le Département des Travaux Publics et les représentants de l'Agence.

Ce second projet vise à entreprendre la construction ou la réhabilitation de 300 kms de routes secondaires au cours des quatre prochaines années.

Les TPTC s'engagent à intégrer dans leur structure au cours de la première année du projet un service qui aura l'entière responsabilité de la construction de ces routes. De plus ils continueront à donner leur appui financier au SEPRRN pour l'entretien régulier du réseau routier.

Le Département du Plan saurait gré à la Représentation de l'USAID de toutes suites utiles accordées à la présente.

Il saisit l'occasion pour lui renouveler l'assurance de sa considération distinguée.



Approuvé par le Secrétaire d'Etat

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YVES BLANCHARD
Directeur Général

DATE REC'D	
USAID ROUTER	
OFFICE	ACT. INFO
DIR	
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OPC	



UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
AGENCY FOR INTERNATIONAL DEVELOPMENT
MISSION TO HAITI

Annex H
Page 1 of 1

For U.S. MAIL:

USAID/HAITI

Department of State
Washington, D.C. 20520

For INTERNATIONAL MAIL:

USAID/HAITI

P.O. Box 1834

Port-au-Prince, Haiti, W.I.

CERTIFICATION PURSUANT TO SECTION 611 (F) OF THE
FOREIGN ASSISTANCE ACT OF 1961, AS AMENDED

I, Harlan H. Hobgood, the Principal Officer of the Agency for International Development in Haiti, having reviewed the Project Paper and having taken into account, among other factors, the maintenance and utilization of projects in Haiti previously financed or assisted by the United States, do hereby certify that in my judgement the Ministry for Public Works, Transportation and Communications (TPTC) has both the financial capability and human resources capability to effectively maintain and utilize the proposed Secondary Roads Development Grant Project.


Harlan H. Hobgood
Director, USAID/Haiti

5C(1) - COUNTRY CHECKLIST

Listed below are statutory criteria applicable generally to FAA funds, and criteria applicable to individual fund sources: Development Assistance and Economic Support Fund.

A. GENERAL CRITERIA FOR COUNTRY ELIGIBILITY

- 1. FAA Sec. 481. Has it been determined that the government of the recipient country has failed to take adequate steps to prevent narcotic drugs and other controlled substances (as defined by the Comprehensive Drug Abuse Prevention and Control Act of 1970) produced or processed, in whole or in part, in such country, or transported through such country, from being sold illegally within the jurisdiction of such country to U.S. Government personnel or their dependents, or from entering the U.S. unlawfully? No.

- 2. FAA Sec. 620(c). If assistance is to a government, is the government liable as debtor or unconditional guarantor on any debt to a U.S. citizen for goods or services furnished or ordered where (a) such citizen has exhausted available legal remedies and (b) the debt is not denied or contested by such government? No.

3. FAA Sec. 620(e)(1). If assistance is to a government, has it (including government agencies or subdivisions) taken any action which has the effect of nationalizing, expropriating, or otherwise seizing ownership or control of property of U.S. citizens or entities beneficially owned by them without taking steps to discharge its obligations toward such citizens or entities? No.
4. FAA Sec. 532(c), 620(a), 620(f), 620D; FY 1982 Appropriation Act Secs. 512 and 513. Is recipient country a Communist country? Will assistance be provided to Angola, Cambodia, Cuba, Laos, Vietnam, Syria, Libya, Iraq, or South Yemen? Will assistance be provided to Afghanistan or Mozambique without a waiver? No.
5. ISDCA of 1981 Secs. 724, 727 and 730. For specific restrictions on assistance to Nicaragua, see Sec. 724 of the ISDCA of 1981. For specific restrictions on assistance to El Salvador, see Secs. 727 and 730 of the ISDCA of 1981. N.A.
6. FAA Sec. 620(1). Has the country permitted, or failed to take adequate measures to prevent, the damage or destruction by mob action of U.S. property? No.

7. FAA Sec. 620(l). Has the country failed to enter into an agreement with OPIC?
8. FAA Sec. 620(o); Fishermen's Protective Act of 1967, as amended, Sec. 5. (a) Has the country seized, or imposed any penalty or sanction against, any U.S. fishing activities in international waters?
- (b) If so, has any deduction required by the Fishermen's Protective Act been made?
9. FAA Sec. 620(q); FY 1982 Appropriation Act Sec. 517. (a) Has the government of the recipient country been in default for more than six months on interest or principal of any AID loan to the country? (b) Has the country been in default for more than one year on interest or principal on any U.S. loan under a program for which the appropriation bill appropriates funds?
10. FAA Sec. 620(s). If contemplated assistance is development loan or from Economic Support Fund, has the Administrator taken into account the amount of foreign exchange or other resources which the country has spent on military equipment? (Reference may be made to the annual "Taking into

No.

No.

No.

No.

This is a development grant.

Consideration" memo:
"Yes, taken into account
by the Administrator at
time of approval of
Agency OYB." This
approval by the
Administrator of the
Operational Year Budget
can be the basis for an
affirmative answer during
the fiscal year unless
significant changes in
circumstances occur.)

11. FAA Sec. 620(t). Has the
country severed
diplomatic relations with
the United States? If
so, have they been
resumed and have new
bilateral assistance
agreements been
negotiated and entered
into since such
resumption?

No.

12. FAA Sec. 620(u). What is
the payment status of the
country's U.N.
obligations? If the
country is in arrears,
were such arrearages
taken into account by the
AID Administrator in
determining the current
AID Operational Year
Budget? (Reference may
be made to the Taking
into Consideration memo.)

Half is not in
arrears.

13. FAA Sec. 620A; FY 1982
Appropriation Act Sec.
520. Has the country
aided or abetted, by
granting sanctuary from
prosecution to, any
individual or group which
has committed an act of
international terrorism?
Has the country aided or

No.

abetted, by granting
sanctuary from
prosecution to, any
individual or group which
has committed a war crime?

14. FAA Sec. 666. Does the country object, on the basis of race, religion, national origin or sex, to the presence of any officer or employee of the U.S. who is present in such country to carry out economic development programs under the FAA? No.
15. FAA Sec. 669, 670. Has the country, after August 3, 1977, delivered or received nuclear enrichment or reprocessing equipment, materials, or technology, without specified arrangements or safeguards? Has it transferred a nuclear explosive device to a non-nuclear weapon state, or if such a state, either received or detonated a nuclear explosive device, after August 3, 1977? (FAA Sec. 620E permits a special waiver of Sec. 669 for Pakistan.) No.
16. ISDCA of 1981 Sec. 720. Was the country represented at the Meeting of Ministers of Foreign Affairs and Heads of Delegations of the Non-Aligned Countries to the 36th General Session of the General Assembly of the U.N. of Sept. 25 and 28, 1981, and failed N.A.

to disassociate itself from the communique issued? If so, has the President taken it into account? (Reference may be made to the Taking into Consideration memo.)

17. ISDCA of 1981 Sec. 721.
See special requirements for assistance to Haiti.

Special requirements have been met.

B. FUNDING SOURCE CRITERIA FOR COUNTRY ELIGIBILITY

1. Development Assistance Country Criteria.

a. FAA Sec. 116. Has the Department of State determined that this government has engaged in a consistent pattern of gross violations of internationally recognized human rights? If so, can it be demonstrated that contemplated assistance will directly benefit the needy?

No.

2. Economic Support Fund Country Criteria

N.A.

a. FAA Sec. 502B. Has it been determined that the country has engaged in a consistent pattern of gross violations of internationally recognized human rights? If so, has the country made such significant improvements in its human rights record that furnishing such assistance is in the national interest?

b. ISDCA of 1981, Sec. 725(b). If ESF is to be furnished to Argentina, has the President certified that (1) the Govt. of Argentina has made significant progress in human rights; and (2) that the provision of such assistance is in the national interests of the U.S.?

c. ISDCA of 1981, Sec. 726(b). If ESF assistance is to be furnished to Chile, has the President certified that (1) the Govt. of Chile has made significant progress in human rights; (2) it is in the national interest of the U.S.; and (3) the Govt. of Chile is not aiding international terrorism and has taken steps to bring to justice those indicted in connection with the murder of Orlando Letelier?

5C(2) PROJECT CHECKLIST

Listed below are statutory criteria applicable to projects. This section is divided into two parts. Part A. includes criteria applicable to all projects. Part B. applies to projects funded from specific sources only: B.1. applies to all projects funded with Development Assistance Funds, B.2. applies to projects funded with Development Assistance loans, and B.3. applies to projects funded from ESF.

CROSS REFERENCES: IS COUNTRY CHECKLIST UP TO DATE? HAS STANDARD ITEM CHECKLIST BEEN REVIEWED FOR THIS PROJECT?

A. GENERAL CRITERIA FOR PROJECT

1. FY 1982 Appropriation Act Sec. 523; FAA Sec. 634A; Sec. 653(b).

(a) Describe how authorizing and appropriations committees of Senate and House have been or will be notified concerning the project;
(b) is assistance within (Operational Year Budget) country or international organization allocation reported to Congress (or not more than \$1 million over that amount)?

A Congressional Notification will be submitted.

Yes.

2. FAA Sec. 611(a)(1). Prior to obligation in excess of \$100,00, will there be

Yes.

(a) engineering, financial or other plans necessary to carry out the assistance and (b) a reasonably firm estimate of the cost to the U.S. of the assistance?

3. FAA Sec. 611(a)(2). If further legislative action is required within recipient country, what is basis for reasonable expectation that such action will be completed in time to permit orderly accomplishment of purpose of the assistance?

N.A.

4. FAA Sec. 611(b); FY 1982 Appropriation Act Sec. 501. If for water or water-related land resource construction, has project met the standards and criteria as set forth in the Principles and Standards for Planning Water and Related Land Resources, dated October 25, 1973? (See AID Handbook 3 for new guidelines.)

N.A.

5. FAA Sec. 611(e). If project is capital assistance (e.g., construction), and all U.S. assistance for it will exceed \$1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's capability effectively to maintain and utilize the project?

Yes.

6. FAA Sec. 209. Is project susceptible to execution as part of regional or multilateral project? If so, why is project not so executed? Information and conclusion whether assistance will encourage regional development programs. No.
7. FAA Sec. 601(a). Information and conclusions whether project will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; and (c) encourage development and use of cooperatives, and credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture and commerce; and (f) strengthen free labor unions. Deficiencies in road access to and from rural areas constitute a major development problem. An improved secondary road network will open new areas to development, will assist community action group activities and will help improve efficiency of agriculture and commerce.
8. FAA Sec. 601(b). Information and conclusions on how project will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise). Technical assistance services and equipment will be procured from U.S. (000) sources.

9. FAA Sec. 612(b), 636(h);
FY 1982 Appropriation
Act Sec. 507. Describe
steps taken to assure
that, to the maximum
extent possible, the
country is contributing
local currencies to meet
the cost of contractual
and other services, and
foreign currencies owned
by the U.S. are utilized
in lieu of dollars. About 68% of the total project costs
will be provided by the GOH.
10. FAA Sec. 612(d). Does
the U.S. own excess
foreign currency of the
country and, if so, what
arrangements have been
made for its release? No.
11. FAA Sec. 601(e). Will
the project utilize
competitive selection
procedures for the
awarding of contracts,
except where applicable
procurement rules allow
otherwise? Yes.
12. FY 1982 Appropriation Act
Sec. 521. If assistance
is for the production of
any commodity for export,
is the commodity likely
to be in surplus on world
markets at the time the
resulting productive
capacity becomes
operative, and is such
assistance likely to
cause substantial injury
to U.S. producers of the
same, similar or
competing commodity? N.A.
13. FAA 115(c) and (d).
Does the project comply
with the environmental
procedures set forth in
AID Regulation 167 Does Yes.

the project or program take into consideration the problem of the destruction of tropical forests?

14. FAA 121(d). If a Sahel project, has a determination been made that the host government has an adequate system for accounting for and controlling receipt and expenditure of project funds (dollars or local currency generated therefrom)?

N.A.

B. FUNDING CRITERIA FOR PROJECT

1. Development Assistance Project Criteria

a. FAA Sec. 102(b), 111, 113, 281(a). Extent to which activity will (a) effectively involve the poor in development, by extending access to economy at local level, increasing labor-intensive production and the use of appropriate technology, spreading investment out from cities to small towns and rural areas, and insuring wide participation of the poor in the benefits of development on a sustained basis, using the appropriate U.S. institutions; (b) help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward better life, and

a) The Project will promote use of labor-intensive construction methods.

b) The Project will assist in the creation or promotion of community action programs which will play an important role in the road maintenance.

c) The Project will assist the GOH in its efforts in decentralization and promotion of rural development.

d) The role of women in agricultural production and marketing of crops remains of high importance in the national economy of Haiti. An adequate road transportation network will facilitate commercial transactions in which females play a large role.

e) Not applicable

otherwise encourage democratic private and local governmental institutions; (c) support the self-help efforts of developing countries; (d) promote the participation of women in the national economies of developing countries and the improvement of women's status; and (e) utilize and encourage regional cooperation by developing countries?

b. FAA Sec. 103, 103A, 104, 105, 106. Does the project fit the criteria for the type of funds (functional account) being used?

Yes.

c. FAA Sec. 107. Is emphasis on use of appropriate technology (relatively smaller, cost-saving, labor-using technologies that are generally most appropriate for the small farms, small businesses, and small incomes of the poor)?

Yes.

d. FAA Sec. 110(a). Will the recipient country provide at least 25% of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or is the latter cost-sharing requirement being waived for a "relatively least developed" country)?

Yes.

e. FAA Sec. 110(b).
 Will grant capital assistance be disbursed for project over more than 3 years? If so, has justification satisfactory to Congress been made, and efforts for other financing, or is the recipient country "relatively least developed"? (M.O. 1232.1 defined a capital project as "the construction, expansion, equipping or alteration of a physical facility or facilities financed by AID dollar assistance of not less than \$100,000, including related advisory, managerial and training services, and not undertaken as part of a project of a predominantly technical assistance character."

Yes. Haiti is an RLDC.

f. FAA Sec. 122(b). Does the activity give reasonable promise of contributing to the development of economic resources, or to the increase of productive capacities and self-sustaining economic growth?

Yes.

g. FAA Sec. 281(b). Describe extent to which program recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage

GOH institutional capabilities will be developed and strengthened to carry out effective secondary road construction rehabilitation, and maintenance. This Project will respond to the needs of people from rural areas by increasing the flow of resources to them. Local community groups will be involved in both construction and maintenance phases and additional off-farm employment will be created.

institutional development;
and supports civil
education and training in
skills required for
effective participation in
governmental processes
essential to self-government.

2. Development Assistance Project N.A.
Criteria (Loans Only)
- a. FAA Sec. 122(b).
Information and conclusion
on capacity of the country
to repay the loan, at a
reasonable rate of interest.
- b. FAA Sec. 620(d). If
assistance is for any
productive enterprise which
will compete with U.S.
enterprises, is there an
agreement by the recipient
country to prevent export
to the U.S. of more than
20% of the enterprise's
annual production during
the life of the loan?
- c. ISDCA of 1981, Sec. 724
(c) and (d). If for
Nicaragua, does the loan
agreement require that the
funds be used to the
maximum extent possible for
the private sector? Does
the project provide for
monitoring under FAA Sec.
624(g)?
3. Economic Support Fund N.A.
Project Criteria
- a. FAA Sec. 531(a). Will
this assistance promote
economic or political

stability? To the extent possible, does it reflect the policy directions of FAA Section 102?

- b. FAA Sec. 531(c). Will assistance under this chapter be used for military, or paramilitary activities?
- c. FAA Sec. 534. Will ESF funds be used to finance the construction of the operation or maintenance of, or the supplying of fuel for, a nuclear facility? If so, has the President certified that such use of funds is indispensable to nonproliferation objectives?
- d. FAA Sec. 609. If commodities are to be granted so that sale proceeds will accrue to the recipient country, have Special Account (counterpart) arrangements been made?

5C(3) - STANDARD ITEM CHECKLIST

Listed below are the statutory items which normally will be covered routinely in those provisions of an assistance agreement dealing with its implementation, or covered in the agreement by imposing limits on certain uses of funds.

These items are arranged under the general headings of (A) Procurement, (B) Construction, and (C) Other Restrictions.

A. Procurement

- 1. FAA Sec. 602. Are there arrangements to permit U.S. small business to participate equitably in the furnishing of commodities and services financed? Yes.

- 2. FAA Sec. 604(a): Will all procurement be from the U.S. except as otherwise determined by the President or under delegation from him? Yes.

- 3. FAA Sec. 604(d). If the cooperating country discriminates against marine insurance companies authorized to do business in the U.S., will commodities be insured in the United States against marine risk with such a company? Yes.

- 4. FAA Sec. 604(e); ISDCA of 1980 Sec. 705(a). If offshore procurement of agricultural commodity or product is to be N.A.

financed, is there provision against such procurement when the domestic price of such commodity is less than parity? (Exception where commodity financed could not reasonably be procured in U.S.)

5. FAA Sec. 604(g). Will construction or engineering services be procured from firms of countries otherwise eligible under Code 941, but which have attained a competitive capability in international markets in one or these areas? No.
6. FAA Sec. 603. Is the shipping excluded from compliance with requirement in section 901(b) of the Merchant Marine Act of 1936, as amended, that at least 50 per centum of the gross tonnage of commodities (computed separately for dry bulk carriers, dry cargo liners, and tankers) financed shall be transported on privately owned U.S. flag commercial vessels to the extent that such vessels are available at fair and reasonable rates? No.
7. FAA Sec. 621. If technical assistance is financed, will such assistance be furnished by private enterprise on a contract basis to the fullest extent practicable? If the facilities of other Yes.

Federal agencies will be utilized, are they particularly suitable, not competitive with private enterprise, and made available without undue interference with domestic programs?

8. International Air Transport. Fair Competitive Practices Act, 1974. If air transportation of persons or property is financed on grant basis, will U.S. carriers be used to the extent such service is available?

Yes.

9. FY 1982 Appropriation Act Sec. 504. If the U.S. Government is a party to a contract for procurement, does the contract contain a provision authorizing termination of such contract for the convenience of the United States?

Yes.

B. Construction

1. FAA Sec. 601(d). If capital (e.g., construction) project, will U.S. engineering and professional services to be used?

Yes.

2. FAA Sec. 611(c). If contracts for construction are to be financed, will they be let on a competitive basis to maximum extent practicable?

Yes.

3. FAA Sec. 620(k). If for construction of productive enterprise, will aggregate value of assistance to be furnished by the U.S. not exceed \$100 million (except for productive enterprises in Egypt that were described in the CP)?
- N.A.

C. Other Restrictions N.A.

1. FAA Sec. 172(b). If development loan, is interest rate at least 2% per annum during grace period and at least 3% per annum thereafter?
2. FAA Sec. 301(d). If fund is established solely by U.S. contributions and administered by an international organization, does the Comptroller General have audit rights?
- N.A.
3. FAA Sec. 670(h). Do arrangements exist to insure that United States foreign aid is not used in a manner which, contrary to the best interests of the United States, promotes or assists the foreign aid projects or activities of the Communist-bloc countries?
- Yes.
4. Will arrangements preclude use of financing:
- a. FAA Sec. 104(f); FY 1982 Appropriation Act Sec. 521: (1) To pay for performance of abortions as a method of family
- N.A.

planning or to motivate or coerce persons to practice abortions; (2) to pay for performance of involuntary sterilization as method of family planning, or to coerce or provide financial incentive to any person to undergo sterilization; (3) to pay for any biomedical research which relates, in whole or part, to methods or the performance of abortions or involuntary sterilizations as a means of family planning; (4) to lobby for abortion?

b. FAA Sec. 620(c). To compensate owners for expropriated nationalized property?

Yes.

c. FAA Sec. 660. To provide training or advice or provide any financial support for police, prisons, or other law enforcement forces, except for narcotics programs?

Yes.

d. FAA Sec. 662. For CIA activities?

Yes.

e. FAA Sec. 636(i). For purchase, sale, long-term lease, exchange or guaranty of the sale of motor vehicles manufactured outside U.S., unless a waiver is obtained?

Yes.

f. FY 1982 Appropriation Act, Sec. 503. To pay pensions, annuities, retirement pay, or

Yes.

adjusted service
compensation for military
personnel?

g. FY 1982 Appropriation
Act, Sec. 505. To pay
U.N. assessments,
arrearages or dues?

Yes.

h. FY 1982 Appropriation
Act, Sec. 506. To carry
out provisions of FAA
section 209(d) (Transfer
of FAA funds to
multilateral
organizations for
lending)?

Yes.

i. FY 1982 Appropriation
Act, Sec. 510. To
finance the export of
nuclear equipment, fuel,
or technology or to train
foreign nationals in
nuclear fields?

Yes.

j. FY 1982 Appropriation
Act, Sec. 511.

Yes

For the purpose of aiding
the efforts of the
government of such
country to repress the
legitimate rights of the
population of such
country contrary to the
Universal Declaration of
Human Rights?

k. FY 1982 Appropriation
Act, Sec. 515. To be
used for publicity or
propaganda purposes
within U.S. not
authorized by Congress?

Yes.

TRONCONS	AGENCE	DISTANCES (km)	
<u>TOTAL DU PROGRAMME</u> (Pour Les Régions II, III & IV)	AID		700.9
1. <u>REGION II</u> (Nord-Ouest - Artibonite - Centre)			332.6
a) Département du Nord-Ouest		212	
Port-de-Paix - Jean Rabel (D)		35.6	
Jean Rabel - Môle St Nicolas (D)		27.3	
Môle St Nicolas - Bombardopolis		15.6	
Bombardopolis - Anse Rouge		44.4	
Anse Rouge - Jean Rabel		37	
↓ Port-de-Paix - Anse à Folcur (D)		29.1	
Anse à Folcur - Petit Bourg du Borgne (D)		17	
Petit Bourg du Borgne - Borgne		6	
b) Département de l'Artibonite -----		-----	120.6
Petit Port à Piment - Savane Figuier		18.5	
Savane Figuier - Terre Neuve		14	
Terre Neuve - Bois Marchand		28.9	
Savane Figuier - Ti Saline		12.3	
St Michel de l'Attalaye - Marmelade		16.9	
Marmelade - Vieux Dépôt		15	
St Michel de l'Attalaye - Marmont		15	
c) Département du Centre			

D. DEPARTEMENTAL

TRONCONS	DISTANCES (km)		
2. <u>REGION III</u> (OUEST & SUD-EST)			153.1
a) Département de l'Ouest (y compris la Gonave)		97	
Thomazeau - Cornillon	30		
Plaine Toman - Fonds Verrettes	10		
Forêt des Pins - Oriani	12		
Anse-à-Galets - Les Etroits	12		
Les Etroits - Ti Palmiste	20		
Ti Palmiste - Pointe à Raquettes	13		
b) Département du Sud-Est		56.1	
Marigot - Sequin	27.3		
Sequin - Belle Anse	28.8		

TRONCONS	DISTANCES (km)		
3. REGION IV (Grande Anse & Sud)			215.2
a) Département de la Grande Anse		160.3	
Anse d'Hainault - Les Irois - Tiburon(D)	24		
Anse d'Hainault - Source Chaude	14.4		
Léon - Crochu - Massanga	20		
Carref. Charles (La Bastille) - Carref.			
Avocat (Terre Blanche) (D)	16.2		
Carref. Avocat - Marcelline (D)	24.1		
Baradères - Petit Trou de Nippes (D)	18		
Abricots - Dame Marie	20		
Carref. Avocat - Pestel	23.6		
b) Département du Sud		54.9	
Camp Perrin - Marcelline (D)	7.5		
Bollevue (Abet) - Savanette	6.9		
Praslin - Fonfrède	6.9		
Savanette - Bourdet	8.7		
Chantal - Houck	9.9		
Maniche - Carref. Kanse	12.5		
Arniquet - Wolah	2.5		

Supplemental Financial Plan and Project Budget

In the event that adequate additional D.A. and/or ESF funds are made available for the USAID/Haiti program, the project will be extended to five years, and increased to a total cost of \$54,454,000. Of this total, \$18,600,000 (32.4%) will be grant financed by AID and the \$38,854,000 balance by GOH, including GOH PL 480 Title I local currency generation equivalent of \$22,000,000. If significant additional ESF is allocated to Haiti under the CBI program, the Mission would propose using \$1 million to finance a portion of the equipment needs of the expanded project.

To accomplish this, the number of labor intensive light brigades will be increased over the 5 year life of project to a total of 12. These light brigades will construct 464 km. of all weather secondary roads at an average cost of \$5,990/km. The construction cost is estimated at \$36,200/km. the initial year (FY 83) of construction and by the last year (FY 87) the cost will have increased to \$53,000/km. due to an inflation rate of ten percent per year.

The AID contribution to direct road rehabilitation/construction costs will be decreased from 33 percent to 25 percent with the additional funds required coming from increased PL 480 Title I generations. The increase in the number of light brigades from 7 (in the low option proposed project) to 12 will require an increased equipment support pool as well as more light equipment. In addition to the higher numbers of heavier equipment required to support the larger number of light brigades, there must be equipment replacements for the existing fleet which although some of the equipment will be overhauled at the beginning of the project, will be effectively depreciated prior to the end of the project. Even after project overhaul, the average projected remaining useful life will only be 3.79 years. There will also be a small increase (\$100,000) in minor building construction for additional expansion of existing

maintenance facilities. The contingency in AID funding will be increased to \$1,850,000, approximately 10 percent of total AID grant funding. The GOH Title I contingency will be increased to \$1,995,000 million or 9 percent. The reasonableness and prudence of this contingency has been described above.

Of the \$18,600,000 funded by AID under this project, \$13,203,000 (71%) will be foreign exchange expenditures and the remaining \$5,397,000 (29%) will be local currency expenditures.

BUDGET SUMMARY
High Level
(US \$ Million)

A. Road Construction /Rehabilitation Component

	USAID	GOH	
		<u>Title I</u>	<u>Treasury</u>
Construction Operations	5.335	16.005	
Light Equipment	2.228		
Support Equipment	2.500		
Repair of Exist. Pool Equipment	0.412		
Secondary Road Service Central Office*			1.900
Minor Building Construction	0.250		
<u>B. Maintenance (SEPRRN) Component**</u>			
Hand Tools	0.680		
Community Action Maintenance Program		3.000	1.468
Road Maintenance		1.000	2.118
SEPRRN Central/Office			5.551
SEPRRN Garage			3.363
Training Program			2.454
<u>C. Technical Assistance</u>	5.700		
<u>D. Data Collection</u>	0.060		
<u>E. Project Evaluation (3)</u>	0.160		
<u>F. Contingency 15%</u>	1.275	1.995	
TOTAL	\$18.600	22.000	16.854

* This is an estimation of the SRS budget which can be attributed to this AID-financed project. The total SRS budget is undetermined at this time.

** The figures in this component are an estimation of the GOH contribution to those items directly attributable to activities under this AID-financed project. The total SEPRRN budget for the period in question will be about \$44 million, almost all of which is funded from the GOH treasury.

Summary of Project Expenditures by Fiscal Year
(U.S. \$000)

ANNEX K

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LOP

Category	FY 83		FY 84		FY 85		FY 86		FY 87		AID	GOH
	AID	GOH	AID	GOH								
Technical Assistance	1,000	-	1,317	-	1,380	-	1,251	-	752	-	5,700	-0-
Construction/ Rehabilitation	543	1,629	676	2,030	964	2,891	1,350	4,049	1,802	5,406	5,335	16,005
Light Equipment	480	-	778	-	581	-	389	-	-	-	2,228	-0-
Equipment Pool	900	-	1,600	-	-	-	-	-	-	-	2,500	-0-
CAMP Hand Tools	200	-	200	-	280	-	-	-	-	-	680	-0-
Equipment Repair	412	-	-	-	-	-	-	-	-	-	412	-0-
Minor Building	250	-	-	-	-	-	-	-	-	-	250	-0-
SRS Central Office	-	200	-	400	-	400	-	400	-	500	-0-	1,900
Road Maintenance	-	510	-	560	-	620	-	680	-	748	-0-	3,118
Community Action Maint. Program (CAMP)	-	730	-	800	-	880	-	980	-	1,078	-0-	4,468
SEPPON Central Office	-	910	-	1,000	-	1,100	-	1,210	-	1,331	-0-	5,551
SEPPON Train. Program	-	400	-	440	-	480	-	540	-	594	-0-	2,454
SEPPON Garage	-	550	-	610	-	670	-	730	-	803	-0-	3,363
Data Collection	60	-	-	-	-	-	-	-	-	-	60	-0-
Project Eval.	40	-	-	-	60	-	-	-	60	-	160	-0-
Contingency	15	-0-	179	300	269	500	379	590	433	605	1,275	1,995
TOTAL	3,900	4,929	4,750	6,140	3,534	7,541	3,369	9,179	3,047	11,065	18,600	38,854

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L.O.P TECHNICAL ASSISTANCE COST ESTIMATE

<u>Man/Months</u>	<u>Position</u>	<u>FY 83</u>	<u>FY 84</u>	<u>FY 85</u>	<u>FY 86</u>	<u>FY 87</u>
56	Senior Advisor \$12,900	103,200	154,800	154,800	154,800	170,300
80	Short Term Advisor \$11,000	176,000	176,000	176,000	176,000	176,000
96	(2) Construction Eng Advisors \$11,000	88,000	176,000	264,000	264,000	290,400
56	Equipment Advisor \$10,500	63,000	126,000	126,000	126,000	138,600
116	(3) Instructor/ Train Advisor \$10,500	63,000	378,000	315,000	272,000	207,900
52	Equipment/Garage Advisor \$11,000	88,000	132,000	132,000	132,000	145,200
	Special Home Office Support	25,000	25,000	25,000	25,000	25,000
	Management Training Seminar (2)	-	50,000	-	50,000	-
	Total	606,200	1,217,800	1,192,800	1,200,800	1,153,400
54	TPTC Management Advisor	72,000	72,000	72,000	72,000	36,000
		678,200	1,289,800	1,264,800	1,272,800	1,189,400

TOTAL Technical Assistance **\$5,695,000**
Rounded to **\$5,700,000**

CONSTRUCTION SCHEDULE

<u>Year</u>	<u>No. of Brigade*</u>	<u>Km/Year</u>	<u>Cost/Km**</u>	<u>Cost/Year</u>
FY 83	5	60	\$36,200	\$2,172,000
FY 84	6	68	39,800	2,706,400
FY 85	8	88	43,800	3,854,400
FY 86	10	112	48,200	5,398,400
FY 87	12	136	53,000	7,208,000
	Total	<u>464</u>		<u>\$21,339,200</u>

* The annual programs will be reviewed at the end of each year and adjusted for the following year.

** Cost/Km has been inflated at a rate of 10% per year.

Summary of Foreign Exchange and Local
Currency Expenditures for AID Financial Activities
(U.S. \$000)

	Funding Source				Total		Project
	AID Grant		OOB				
	FX	LC	AID	LC	FX	LC	
Technical Assistance	5,700	-	5,700	-	5,700	-	5,700
Construction/Rehabilitation	1,600	3,735	5,335	16,005	1,600	19,740	21,340
Equipment	4,492	236	4,728	-	4,492	236	4,728
Repairs to Exist. Equip Fleet	371	41	412	-	371	41	412
OMF Hand Tools	680	-	680	-	680	-	680
Minor Build Construction	50	200	250	-	50	200	250
Baseline & Criteria Select.							
Data Collection	-	60	60	-	-	60	60
Project Evaluation	160	-	160	-	160	-	160
Contingency	150	1,125	1,275	-	150	1,125	1,275
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
	13,203	5,397	18,600	16,005	13,203	21,402	34,605

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NOV 30 1981

ANNEX L - 1. TPTC Request for Assistance in Development of SRS

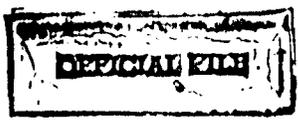
REPUBLIQUE D'HAITI

SECRETARIE D'ETAT
DES TRAVAUX PUBLICS
DES TRANSPORTS
ET COMMUNICATIONS

RECEIVED
Nov 30 2 00 PM '81
U.S.A.I.D./HAI

No. RO-11-81/00003

Port-au-Prince, le 25 Novembre 1981



Mrs. Phyllis DICHTER
Directeur Adjoint de l'USAID
En Haiti.-

DATE REC'D	
USAID ROUTER	
OFFICE	ACT
DIR	
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Madame le Directeur,

Faisant suite à nos rencontres du 24 et du 25 Novembre en cours, nous avons l'avantage de vous confirmer par la présente notre demande pour la mise à disposition du Ministère des Travaux Publics d'un Consultant pour une durée limitée.

Il demeure entendu que les termes de référence de ce Consultant seront préparés conjointement avec les Services compétents de votre Administration et les nôtres dans le cadre de la mise sur pied d'un Service de construction de Routes Secondaires au sein des T.P.T.C.

Nous vous prions de croire, Madame le Directeur, en l'assurance de notre considération distinguée.

ACTION TAKEN
DATE: 7 Dec 81
BY: [Signature]

[Signature]
Alix N. CHEAB, Ing.
Secrétaire d'Etat

12/1/81
[Signature]

MINISTERE DES AFFAIRES SOCIALES

SECRETARIERIE DETAT

No. 1039

28 MAI 1982

Monsieur Harlan H. Hobgood
Directeur
Agency for International
Development.

Monsieur le Directeur,

Le 6/11/82

J'ai l'avantage d'accuser réception de votre lettre datée du 21 mai 1982 relative à l'application du décret du 19 septembre 1980 sur le salaire minimum dans le cadre des activités des Projets du GH - USAID dans les aires rurales.

Si dans sa généralité ce décret fixant à treize gourdes et vingt centimes (gdes 13.20) par jour les salaires minima des ouvriers des entreprises industrielles, commerciales et agricoles, ne semble viser que les sus-dites entreprises travaillent pour l'exportation, il est établi néanmoins que ce salaire minimum est actuellement appliqué à tous les secteurs privés et publics y compris le Département des Travaux Publics, Transports et Communications, comme il est de coutume pour toutes les augmentations antérieures du salaire minimum. On ne saurait ne pas prendre en considération que face à une inflation galopante, ce salaire minimum déjà largement dépassé par les salaires mis en vigueur par les Conventions collectives de travail ne correspond même plus au salaire minimum vital requis par le Code du Travail.

A partir de ce constat et en se référant aux dispositions de l'article 22 du Code du Travail, toutes les entreprises s'adonnant à des activités similaires sont tenues d'adopter le même quantum salarial:

JUN 1 1982
USAID ROUTER

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ACTION TAKEN			
Date:			
By:			

~~62~~ 62

Annex 1. pg. 3

X -

4.3

Article 22.-"A défaut de stipulation sur le salaire ou de preuve du montant stipulé, le salarié aura droit à un salaire égal à celui des salariés qui exécutent une tâche similaire ou au salaire habituellement payé pour une tâche similaire ou au salaire fixé en l'occurrence par le Conseil Supérieur des Salaires".

Pour renforcer le point de vue légal l'article 13 du Code du Travail alinéas 1 et 4 stipule ce qui suit:

Article 13.-"Toutes les fois qu'il n'existera pas de textes, exactement applicables à l'espèce en litige, seront appliqués:

- 1) Les principes découlant du présent Code
- 4) La coutume ou l'usage

Tout en soulignant le principe internationalement reconnu à travail égal, salaire égal, il est nécessaire de rappeler en conclusion, les dispositions de l'art. 57 du Code du Travail établissant que sur l'initiative du Secrétaire d'Etat du Travail les dispositions d'un contrat collectif de travail peuvent être rendues obligatoires pour des employeurs et salariés non visés..."

En conséquence, cette Secrétairerie d'Etat estime que le salaire minimum de gdes 13.20 pour une journée de huit heures de travail devra être payé à la main d'oeuvre employée dans les Projets du GH - USAID.

Veillez agréer, Monsieur le Directeur, l'assurance de ma parfaite considération.


~~Me Bertholand Edouard~~
~~Secrétaire d'Etat~~

Translation

Mr. Director:

I am in receipt of your letter dated May 21, 1982 concerning the applicability of the September 19, 1980, decree to the minimum wage paid under USAID/GOH project activities in rural areas.

That decrees sets at ₡ 13.20 the minimum daily wage to be paid to industrial, commercial and agricultural enterprise workers. The decree appears to concern only enterprises oriented toward the export market. However, it is established that the minimum wage is now applied to all private and public sector entities including TPIC, as has been the custom for all previous increases in the minimum wage. It should be noted that, considering the rapidly rising inflation we are currently faced with, the current minimum wage does not correspond with the minimum living wage required by the Work Code and has long ago been outstripped by salary rates actually paid under collective wage agreements.

On the basis of the above and with reference to the terms of Article 22 of the Work Code, all enterprises working in similar activities have the obligation to pay salaries according to the same wage rates, i. e. :

Article 22 - "In cases when salaries are not stipulated or when there is no evidence of the stipulated amount, the worker is entitled to a salary equivalent to the one paid to someone working on a similar task or to the salary usually paid for a similar task or to the salary set by the Superior Council for salaries."

To strengthen the legal opinion, paragraphs, 1 and 4 of Article 13 of the Work Code specify the following, i.e.:

Article 13 - In the absence of texts strictly applicable to the point at issue, the following should be applied:

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- 1) Principles proceeding from this Code
- 2) Common practice and usage

While emphasizing the international principle that similar pay must be received for similar work, it is necessary to recall, in conclusion, the terms of Article 57 of the Work Code which states that the Secretary of State for Work may rule that the terms of a collective contract be made obligatory for employers and workers not alluded to..."

Consequently this Ministry opines that the minimum wage of ₣ 13.20 for an eight hour day work should be paid to workers employed under GOH/USAID projects.

Sincerely,

Me. Bertholan Edouard
Minister of Social Affairs



Parlement
Le Lundi et Le Jeudi

JOURNAL OFFICIEL DE LA REPUBLIQUE D'HAÏTI

Directeur
Siège DESVARIÈRE

133ème. Année No. 53

AN XXIème. DE LA REVOLUTION DUVALIERISTE

Jeudi 9 Août 1975

SOMMAIRE

- Loi organique du Département des Travaux Publics, Transports et Communications.
- Arrêté autorisant le fonctionnement de la Société anonyme dénommée SAIT (CON MANUFACTURING OF HAÏTI, S. A.) - Statuts et acte constitutif approuvés.

LOI

JEAN-CLAUDE DUVALIER
Président à Vie de la République

Vu les articles 48, 49, 68, 93, 105, 108, 100 de la Constitution,
Vu les Lois des 2 Juin 1929 et 25 Novembre 1940 organisant le Département des Travaux Publics;
Vu la Loi du 31 Octobre 1957 donnant de nouvelles appellations à certains Départements Ministériels;
Vu la Loi du 21 Février 1963, le Décret du 30 Mai 1963 et la Loi du 3 Juin 1971 réorganisant le Département des Travaux Publics, Transports et Communications;
Vu le Décret du 18 Novembre 1960 créant le Service de l'Aéronautique Civile (SAC);
Vu la Loi du 1er Juillet 1963 créant le Conseil National de Développement et de Planification, faisant obligation à tous les Départements Ministériels et Organismes autonomes d'intégrer dans leur plan une Unité de Programmation;
Vu le Décret du 13 Mai 1964 créant la Centrale Autonome Métropolitaine d'Eau Potable (CAMEP);
Vu le Décret du 20 Août 1964 créant l'Administration de l'Aéroport International de Port-au-Prince (AAIPP);
Vu le Décret du 27 Septembre 1969 créant le Conseil National des Télécommunications (CONATEL);
Vu le Décret du 3 Mars 1972 créant le Service d'Entretien et d'Entretien du Réseau Routier National (SERREN);
Vu le Décret du 5 Octobre 1972 modifiant le statut et le mandat du Conseil National des Télécommunications;
Vu la Loi du 29 Août 1972 fixant les attributions de l'AAIPP et déterminant son mode de fonctionnement;
Vu la Loi du 18 Juin 1974 créant l'Administration Portuaire de Port-au-Prince (APP);
Vu le Décret du 11 Mars 1974 créant sous la tutelle de la Secrétairerie d'Etat des Travaux Publics, Transports et Communications, le Laboratoire National du Bâtiment et des Travaux Publics (LNBTTP);
Vu le Décret du 12 Mars 1974 instituant le Centre des Travaux Publics, Transports et Communications, le Laboratoire National du Bâtiment et des Travaux Publics;
Vu le Décret du 25 Mars 1974 instituant le Collège National des Ingénieurs et Architectes Haïtiens.

Vu le Décret du 23 Mars 1976 créant le Service de Signalisation Routière d'Haïti (SSR);
Vu le Décret du 14 Octobre 1976 réorganisant le Conseil National de Développement et de Planification (CONADEP);
Vu le Décret du 2 Décembre 1976 instituant au sein du Département des Travaux Publics, Transports et Communications, l'Unité de Coordination (U.C.);
Vu le Décret du 9 Décembre 1976 créant au sein du Département des Travaux Publics, Transports et Communications, le Service de Contrôle du Poids des Véhicules;
Vu le Décret du 20 Janvier 1977 créant et réglementant le fonctionnement du Service Autonome des Transports (SAT);
Vu le Décret du 25 Mars 1977 créant sous la tutelle du Département des Travaux Publics, Transports et Communications, le Service de Location d'Équipement Lourde de Construction (SLELC);
Vu le Décret du 9 Avril 1977 créant l'Électricité d'Haïti (EPH);
Vu le Décret du 9 Avril 1977 créant le Conseil National de l'Environnement et de Lutte contre l'Érosion (CONAELZE);
Vu la Loi du 20 Août 1977 créant le Service National d'Eau Potable (SNEP);
Vu le Décret du 7 Avril 1977 créant l'Autorité Portuaire Nationale (APN);
Vu le Décret du 31 Mars 1978 créant le Conseil National des Transports (CNT);
Vu le Décret du 31 Mars 1978 instituant sous l'Autorité du Département des Travaux Publics, Transports et Communications le Service de l'Aéronautique Civile (SAC);
"Considérant que les développements enregistrés dans les différents secteurs économiques du Pays rendent nécessaire une nouvelle orientation du Département des Travaux Publics, Transports et Communications (TPTC) en vue de la réévaluation des besoins de l'établissement de normes appropriées en matière de Développement urbain de Port-au-Prince, de la construction et de tout ce qui s'y rapporte;
"Considérant qu'il convient d'améliorer et de rendre plus efficace le fonctionnement du Département en les dotant de responsabilité et en créant une structure des liaisons conduisant à une organisation fonctionnelle qui permette une gestion unique en fonction des objectifs à atteindre;
"Considérant que la multiplicité des fonctions de planification, de suivi de la construction, d'entretien et de gestion du Département des Travaux Publics, Transports et Communications dans différents départements ministériels, a entraîné un retard des infrastructures des transports et des communications, nécessitant des changements tant au niveau de l'organisation qu'au niveau de l'organisation elle-même;
"Considérant que pour répondre aux exigences de la Nation haïtienne, il est nécessaire de procéder à la Division de l'Administration des Travaux Publics, Transports et Communications en plusieurs départements ministériels, en vue de permettre que le Département des TPTC soit doté d'une structure organisée en personnel et en équipements, et que soient effectivement les limites du Territoire National de Port-au-Prince de la Secrétairerie d'Etat des Travaux Publics, Transports et Communications.

17 après délibération en Conseil des Secrétaires d'Etat;

A. PROPOSE

Et la Chambre Législative a voté la Loi suivante :

Article Premier.— Le Département des Travaux Publics, Transports et Communications est placé sous le haut contrôle d'un Secrétaire d'Etat qui est responsable de tous ses actes et a la supervision de toutes ses activités. Il peut lui être adjoint par le Président à Vie de la République, quand il le juge nécessaire, un Sous-Secrétaire d'Etat à qui pourront être confiées certaines tâches relatives à l'expédition des affaires courantes en cas d'absence du Secrétaire d'Etat.

Article 2.— Le Département des Travaux Publics, Transports et Communications comprend :

- a) La Secrétairerie d'Etat
- b) L'Unité de Programmation
- c) Des Services d'Organisation dont :
 - 1. Le Service Autonome des Transports (SAT)
 - 2. Le Service de Contrôle Financier
 - 3. Le Service de Contrôle des Centrales Electriques
 - 4. Le Service de Contrôle de l'Alimentation en Eau Potable
 - 5. Le Service d'Organisation et Méthode
 - 6. Le Service de Planification Urbaine
- d) Des Services d'Exécution dont :
 - 1. Le Service de Construction et de Supervision
 - 2. Le Service de Génie Urbain
 - 3. Le Service d'Entretien Permanent du Réseau Routier National (SEPRRN)
- e) Des Services de Soutien dont :
 - 1. Le Service de Contrôle du Poids des Véhicules
 - 2. Le Service d'Administration et de Comptabilité
 - 3. Le Laboratoire National du Bâtiment et des Travaux Publics (L.N.B.T.P.)
 - 4. Le Service du Garage
 - 5. Le Service de Géodésie, Cartographie et Topographie
 - 6. Le Service de Location d'Equipement Lourd de Construction (SLELC)
- f) Des Services Régionaux ou Départementaux dont la juridiction couvre les divisions politiques consacrées par la loi. Ce sont :
 - 1. Le Département du Nord (Ayant pour siège Cap-Haïtien)
 - 2. Le Département du Nord-Est (Ayant pour siège Fort-Liberté)
 - 3. Le Département de l'Artibonite (Ayant pour siège Gonaïves)
 - 4. Le Département du Centre (Ayant pour siège Hinche)
 - 5. Le Département du Nord-Ouest (Ayant pour siège Port-de-Paix)
 - 6. Le Département du Sud-Est (Ayant pour siège Jacmel)
 - 7. Le Département du Sud (Ayant pour siège Les Cayes)
 - 8. Le Département de la Grand'Anse (Ayant pour siège Jérémie)
 - 9. Le Département de l'Ouest (Ayant pour siège Port-au-Prince)

Article 3.— La Secrétairerie d'Etat comprend d'une part : le Cabinet Particulier du Secrétaire d'Etat, chargé de sa correspondance et aussi de toutes tâches spéciales de relations et de représentation qui peuvent lui être confiées. Il réunit les services du Secrétariat Général, de la Presse et des Archives spéciales. Le Cabinet Particulier est dirigé par le Secrétaire Général qui emploie tout un personnel de support : journalistes, photographe, archivist, dactylographe, réceptionniste et messagers;

D'autre part la Direction Générale ou Bureau de l'Ingénieur en Chef qui dirige toutes les activités techniques et administratives du Département. Elle est chargée d'études, de contrôle et de superviser tous les travaux de Génie Civil, d'Urbanisme et d'Architecture entrepris à travers le Territoire National par le Secteur Public. De même elle évalue les projets du Secteur Privé et autorise leur exécution.

La Direction Générale exerce des fonctions :

1. La DIRECTION relativement à l'interprétation de la Politique Gouvernementale dans ses implications techniques et administrati-

ves, suivant les directives du Secrétaire d'Etat, et à la distribution des responsabilités dans l'exécution des tâches;

2. Le CONTROLE de l'efficacité des décisions techniques et administratives, financières et aussi des dépenses encourues;

3. Le COORDONNEMENT au niveau des gestionnaires et administrateurs du Département.

Article 4.— L'Unité de Programmation du Département des Travaux Publics, Transports et Communications (UP/TPTC) a pour rôle d'harmoniser les objectifs des différents Services du Département et des Organismes autonomes qui sont sous sa tutelle en vue de rendre plus efficiente leur participation au Développement national. En outre elle forme une sphère d'appui au CONADEP. Les responsabilités de l'UP/TPTC couvrent les secteurs: Travaux Publics et Urbanisme, Transports, Energie, Eau Potable et Communications. L'UP/TPTC est composée de deux structures: Le Conseil de Planification et de Programmation et l'Unité Technique de Programmation. Pour les secteurs précités l'UP/TPTC élabore suivant les instructions de la Secrétairerie d'Etat et dans le cadre global de référence fourni par le CONADEP, les plans à moyen et à court terme du secteur, c'est-à-dire le plan quinquennal et le plan annuel. Elle recommande aussi les mesures et les instruments de politique sectorielle à appliquer dans le court terme pour la mise en œuvre des plans du secteur.

ARTICLE 5.— DES SERVICES D'ORGANISATION

i) Le Service Autonome des Transports (SAT) embrassant les différents systèmes de transport: terrestre, maritime et aérien, a la responsabilité de la formulation de toutes les recommandations à adresser tant au Secrétaire d'Etat des Travaux Publics, Transports et Communications, qu'au Conseil National des Transports, et au Conseil National de Développement et de Planification (CONADEP) en ce qui concerne les objectifs et les stratégies de développement des Transports à adopter en accord avec le Programme National de Développement.

Il fonctionnera comme personnel d'appoint pour le Département dans toutes les matières relatives à l'établissement de normes techniques et qualitatives; la planification physique et économique; la préparation de projets; la prospection et l'évaluation des offres de service de divers contractants pour la construction des infrastructures de Transport.

ii. Le Service de Contrôle Financier se prononce sur toutes les questions intéressant les finances du Département. Il procède à la vérification des comptes, veille à ce qu'ils soient tenus conformément aux lois qui les instituent et aux règlements internes du Département. Il prépare des analyses financières, revu et consolide tous les rapports financiers préparés par d'autres Services du Département.

iii. Le Service de Contrôle des Centrales Electriques est chargé de la supervision des études de travaux électriques entrepris par le Gouvernement; de la vérification des Projets soumis par les Entreprises privées; du contrôle du fonctionnement des Centrales Electriques de l'Etat et de celles appartenant à des particuliers.

iv. Le Service de Contrôle de l'Alimentation en Eau Potable établit les spécifications techniques et les normes quantitatives d'Alimentation par capita à adopter dans les études et la construction des systèmes d'éducation et de distribution d'eau potable, tant par le secteur public que par le secteur privé, et veillera à leur mise en application.

Il encouragera l'attention de cette infrastructure de base à tout le Territoire National. Il s'efforcera à faire dresser l'inventaire des ressources hydrauliques souterraines et de surface disponibles à cet effet.

v. Le Service d'Organisation et Méthode s'occupera de l'organisation interne du Département, de la qualité du recrutement du personnel des opérations de routine, de l'établissement des procédures administratives diverses, de la normalisation des formes et formulaires utilisés et de la pertinence des méthodes de formation du personnel. Il éprouvera l'efficacité des structures organisationnelles mises en place, fera toutes recommandations quant à la classification des tâches, à la création de nouveaux postes et d'une façon générale veillera à une parfaite coordination de toutes les activités connexes. Sa fonction essentielle sera d'aider la Secrétairerie d'Etat en toute

matière intéressant l'efficacité des opérations internes des différents Services du Département ainsi que de la discipline du personnel. Ce Service aura pour tâches additionnelles de recommander la promotion des membres du personnel du Département, ainsi que, le cas échéant, les sanctions à appliquer.

vi. Le Service de Planification Urbaine agira dans toute matière concernant la planification physique et économique des centres urbains; et sera chargé de la préparation de projets, leur programmation et le contrôle de leur avancement; la révision des budgets et des dépenses; l'élaboration de normes pour les infrastructures urbaines et pour l'utilisation du sol.

Il sera responsable de la formulation des objectifs et des stratégies en rapport avec le plan de Développement National, en étroite collaboration avec la Division d'Aménagement du Territoire du CO NADEP; il suivra les études de planification économique et physique; établira les normes techniques pour la construction de tous bâtiments commerciaux, industriels et résidentiels, de même que les normes techniques et modalités de contrôle relatives au ramassage des ordures, à la constitution des dépotoirs, à l'érection des égouts et de tout système de drainage. Il aura la responsabilité de la préparation de tous documents contractuels relatifs à l'exécution de toutes études et de tous travaux d'amélioration ou de construction y afférents.

ARTICLE 6 - DES SERVICES D'EXECUTION

Les Services d'Exécution veillent à l'exécution efficace et compétente des tâches qui leur sont dévolues.

1. Le Service de Construction et de Supervision aura la responsabilité de l'exécution de tous travaux d'infrastructure de Transport de quelque type que ce soit et qu'ils soient exécutés en régie ou par des contractants. Dans ce dernier cas il aura la charge exclusive de la supervision des travaux sous leurs différents aspects techniques et interviendra dans la préparation, l'évaluation des appels d'offres et dans les adjudications. Il coordonnera les travaux d'amélioration des routes effectués soit sous forme de projets spéciaux, qu'elles que soient les sources de financement, soit directement par les brigades du Département.

Il veillera à l'adoption de mesures appropriées pour éviter toute congestion de la circulation à l'occasion de la réalisation d'un ouvrage de Génie et veillera en plus à l'application sur les chantiers de toutes les règles de sécurité.

2. Le Service de Génie Urbain est chargé du contrôle de l'urbanisation, de la construction, de la conservation et de l'entretien des bâtiments et des structures publiques, des rues, parcs et de tout système de drainage y compris des égouts domestiques, que ces travaux soient exécutés en régie ou par des contractants. Dans ce dernier cas il aura la charge exclusive de la supervision des travaux sous leurs différents aspects techniques et interviendra dans la préparation, l'évaluation des appels d'offres et dans les adjudications.

Il aura en plus la charge du contrôle de la construction, de la réparation des bâtiments et monuments publics ainsi que du contrôle de la construction, de la réparation et de l'entretien de tous immeubles privés dans les zones résidentielles, que commerciales et industrielles.

3. Le Service d'Entretien Permanent du Réseau Routier National (SEPRON), régi par des lois spéciales, assure l'entretien et la réparation du réseau routier national (ponts et viaducs). Il collabore également à l'entretien des routes d'atterrissage d'aéroports de Province.

Article 7 - DES SERVICES DE SOUTIEN

Les Services de Soutien fournissent aux autres Services du Département lorsqu'ils en sont requis, les aides techniques, logistiques et administratives et même des spécialistes, en certains cas pouvant leur faire appel.

1. Le Service de Contrôle du Poids des Véhicules est chargé d'assurer l'application des normes minimales quant aux caractéristiques des véhicules circulant sur les axes routiers, dans le but de prévenir la dégradation prématurée du revêtement des chaussées.

2. Le Service d'Administration et de Comptabilité assure de l'engagement et de la formation du personnel ainsi qu'il distribue à l'ensemble des Services, en tenant compte des projets approuvés, le personnel approprié pour le classement des dossiers, les travaux

de dactylographie et de secrétariat. Il sera responsable des dossiers de service des différents fonctionnaires et employés du Département, des archives ordinaires; de la réception, de l'enregistrement et de la distribution du courrier; de l'opération des services téléphoniques et éventuellement des communications par radio. Il s'occupera de fournir au Département les services de messagers, concierges, gardiens pour la surveillance et la sécurité, ainsi qu'un service d'entretien et de nettoyage des locaux. Il exécutera toutes tâches spéciales de caractère administratif qui lui seront confiées, notamment les achats courants ainsi que le suivi de la procédure d'achats par voie de licitation prévue à l'Article 78.

Il aura la responsabilité de la comptabilité générale du Département; assurera la supervision et le contrôle des comptes des différents Services, ainsi que leur acquiescement à l'exception de ceux des Services Autonomes auxquels il pourra cependant et sur demande fournir un personnel entraîné.

Il aura sous sa responsabilité une Section Juridique qui sera saisie, par tous les Services, de toutes questions intéressant le Département pouvant revêtir un caractère juridique. Cette Section fournira au Département pour l'ensemble du Territoire National, toute consultation relevant de sa compétence. Elle aura notamment la charge de l'examen de tous titres de propriété; de l'établissement de tout droit de la mise en branle de toutes procédures d'expropriation pour cause d'utilité publique, et sur requête, de la vérification de tout contrat d'exécution d'ouvrage. Elle apportera son assistance à la réalisation de toute adjudication et agira comme conseiller juridique de la Secrétairerie d'Etat. Enfin elle assurera la défense des intérêts du Département auprès des Tribunaux.

3. Le Laboratoire National du Bâtiment et des Travaux Publics conformément aux termes de sa constitution, se livre à tous travaux de recherche et fournira aux Services du Département, et moyennant paiement, à toute personne qui en ferait la demande, des services de laboratoire et des services techniques spécialisés, pour les analyses de sol, de matériaux de construction.

Il fera tout assai sur la qualité des sols, entraînera le personnel qualifié dans les contrôles utiles et fournira le personnel technique pour l'élaboration de tout code de construction, l'établissement de tout système ou méthode de préparation de spécifications concernant le contrôle de la qualité et la normalisation des plans et devis.

4. Le Service de Garage est chargé de l'entreposage, de la répartition, du contrôle, de l'entretien et du fonctionnement de l'équipement lourd et du matériel roulant du Département.

5. Le Service de Géodésie, Cartographie et Topographie est chargé d'assurer la production cartographique du Pays; d'organiser un réseau de documentation cartographique; de délimiter les sections rurales; de réaliser la carte cadastrale du Pays; d'assurer la liaison avec les Organismes Internationaux de même nature. D'une manière générale, il est chargé de l'exécution de tous levés topographiques, à grande et à petite échelle.

6. Le Service de location d'Équipement lourd de Construction (SELEC) a pour fonction essentielle de mettre à la disposition des entrepreneurs privés de construction et éventuellement du Département tout équipement pouvant faciliter les opérations préliminaires des projets ou chantiers de construction. Il satisfera à toute demande d'extension de travail conforme à son objectif et à ses possibilités matérielles et techniques. A cet effet, il leur louera toute machine, matériel, dont il pourra disposer et qui sera capable d'aider les entrepreneurs dans l'exécution de leurs travaux.

ARTICLE 8 - DES SERVICES REGIONAUX OU DEPARTEMENTAUX

Les Services Régionaux ou Départementaux aideront au possible par la création, surveilleront l'avancement des travaux d'entretien et de réparation des routes, des axes, des systèmes de drainage des ponts et des atterrissements. Ils faciliteront la localisation des chantiers; des responsables de la gestion et de la supervision des travaux de construction ou d'entretien.

Les Services Régionaux entreprendront la collecte et la classification des données topographiques; l'entretien de la circulation des données; la collecte, à la classification, au traitement des données provenant des stations alimétriques, géométriques et de jauge des cours d'eau contrôlés par les Services compétents du DARNON.

L'Ingénieur Départemental en charge d'un Service Régional dans ses limites juridictionnelles, agit comme représentant immédiat de la Secrétairerie d'Etat dans tous les domaines de la compétence du Département. Il relève directement de l'Ingénieur en Chef et peut être assisté au besoin d'un ou de plusieurs Ingénieurs de districts.

Il anime, planifie, coordonne et supervise tous les travaux entrepris dans sa juridiction, veille à ce qu'ils soient exécutés en accord avec les programmes de travail approuvés y compris les budgets établis et fournit à leur exécution tout le support administratif nécessaire.

Article 9.— Suivant les nécessités, des districts pourront être créés comme subdivisions administratives ou techniques d'un service régional. Comme le Service Régional, le bureau de district sera doté du personnel technique et administratif nécessaire à l'exécution de tâches spécifiques.

Article 10.— L'Ingénieur Exécutif, outre ses attributions propres d'Assistant de l'Ingénieur en Chef, est Ingénieur Départemental de l'Ouest; son Bureau est à Port-au-Prince.

Article 11.— Des règlements administratifs rendus exécutoires par Arrêté du Président à Vie de la République, détermineront les détails et modes de fonctionnement des différents Services ainsi que les liaisons existant entre eux et leurs rapports avec toute entité extérieure au Département.

Les manuels d'instruction actuellement en vigueur, les formulaires ordinairement utilisés seront amendés et complétés au fur et à mesure des nécessités, sur recommandation du Service d'Organisation et Méthode avec l'assistance des Services intéressés. Toutefois, selon les exigences du Département et à l'occasion de tout cas non expressément prévu, l'Ingénieur en chef pourra émettre tous ordres de bureau.

Article 12.— Les Ingénieurs et Architectes qui auront parcouru le cycle complet des études d'une Ecole Technique reconnue, haïtienne ou étrangère et qui sont détenteurs d'un Diplôme régulier de cette Ecole, pourront être commissionnés Ingénieurs ou Architectes de 4ème, 3ème, 2ème ou 1ère classe, selon leurs qualifications personnelles et après recommandation de l'Ingénieur en chef. A l'exception des Services Régionaux, les services seront placés sous la responsabilité d'un Ingénieur ou d'un Architecte de première classe.

Article 13.— Les Techniciens et Conducteurs de travaux qui auront reçu un entraînement pratique dans le Génie Civil, l'Architecture, l'Electricité ou dans les Sciences Techniques s'y rapportant et qui pourront justifier de vingt (20) années d'expérience pratique dans un quelconque des divers domaines pourront bénéficier des avantages et prérogatives accordés aux Ingénieurs de 3ème et 2ème classe après avoir été examinés après selon les résultats d'un examen professionnel appliqué par une commission réunissant les représentants de la Direction Générale, du Service d'Organisation et Méthode, de la Faculté des Sciences.

Article 14.— Le Corps des Ingénieurs et Architectes commissionnés par le Président à Vie de la République est divisé en classes suivantes:

- Ingénieurs Chefs (Ingénieurs et Architectes de 1ère classe)
- Ingénieurs et Architectes de 1ère classe: ceux qui comptent au moins 15 à 20 ans d'expérience professionnelle;
- Ingénieurs et Architectes de 2ème classe: ceux qui comptent au moins 10 à 15 ans d'expérience professionnelle;
- Ingénieurs et Architectes de 3ème classe: ceux qui comptent au moins 5 à 10 ans d'expérience professionnelle;
- Ingénieurs et Architectes de 4ème classe: ceux qui comptent au moins de 5 ans d'expérience professionnelle.

Le même et le même professionnel devront constituer un tiers complémentaire de promotion.

L'échelle de salaires et les attributions sera fixée par le Président de la Secrétairerie d'Etat.

Article 15.— La classification et la rémunération des Fonctionnaires et Employés administratifs du Département seront fixés par les règlements généraux.

En aucun cas, les appointements des Fonctionnaires de première classe ne pourront être supérieurs à ceux des Ingénieurs et Architectes de première classe.

Article 16.— A l'occasion de tout achat important de biens et services par voie d'appel d'offres, la Secrétairerie d'Etat sera tenue à un comité consultatif des responsables des Services spécialisés intéressés au travail à entreprendre, à la planification, à son exécution et à son contrôle.

Le dit comité examinera les documents qui lui sont présentés par la Secrétairerie d'Etat, en contrôlera les références et lui soumettra avec ses recommandations un rapport de vérification et d'évaluation des propositions reçues. La Secrétairerie d'Etat se prononcera sur le choix de l'adjudicataire.

Article 17.— La présente Loi abroge toutes Lois ou dispositions de Lois, tous Décrets ou dispositions de Décrets, tous Décrets-Lois ou dispositions de Décrets-Lois qui lui sont contraires et sera publiée et exécutée à la diligence des Secrétaires d'Etat des Travaux Publics, Transports et Communications, des Finances et des Affaires Economiques, chacun en ce qui le concerne.

Donné à la Chambre Législative, à Port-au-Prince, le 13 juillet 1978, An 175e. de l'Indépendance.

Le Président:
Victor Nèvers CONSTANT

Les Secrétaires:

LE SENATUS

Antoine V. LAUTAUD

AU NOM DE LA REPUBLIQUE

Le Président à Vie de la République ordonne que la Loi ci-dessus soit revêtue du Scœu de la République, imprimée, publiée et exécutée.

Donné au Palais National, à Port-au-Prince, le 19 juillet 1978, An 175ème de l'Indépendance.

JEAN-CLAUDE DUVALIER

Par le Président:

- Le Secrétaire d'Etat des Travaux Publics, des Transports et Communications: Pierre SAINT-COME
- Le Secrétaire d'Etat des Finances et des Affaires Economiques: Emmanuel BROS
- Le Secrétaire d'Etat de l'Intérieur et de la Défense Nationale: M. Aurélien C. JEANTY
- Le Secrétaire d'Etat de l'Agriculture, des Ressources Naturelles et du Développement Rural: Edmond BERROUET
- Le Secrétaire d'Etat des Affaires Etrangères et des Cultes: Edner BRUTUS
- Le Secrétaire d'Etat du Commerce et de l'Industrie: Albert CHARLOT
- Le Secrétaire d'Etat des Affaires Sociales: Achille SALVANT
- Le Secrétaire d'Etat de l'Education Nationale: Dr. Raul PIERRE-LOUIS
- Le Secrétaire d'Etat de la Santé Publique et de la Population: Dr. Willy VERRIER
- Le Secrétaire d'Etat de la Coordination et de l'Information: Pierre GOUSSE
- Le Secrétaire d'Etat de la Justice: Michel FIEVRE
- Le Secrétaire d'Etat sans Portefeuille: Henri P. BAYARD

ARRETE

JEAN-CLAUDE DUVALIER
Président à Vie de la République

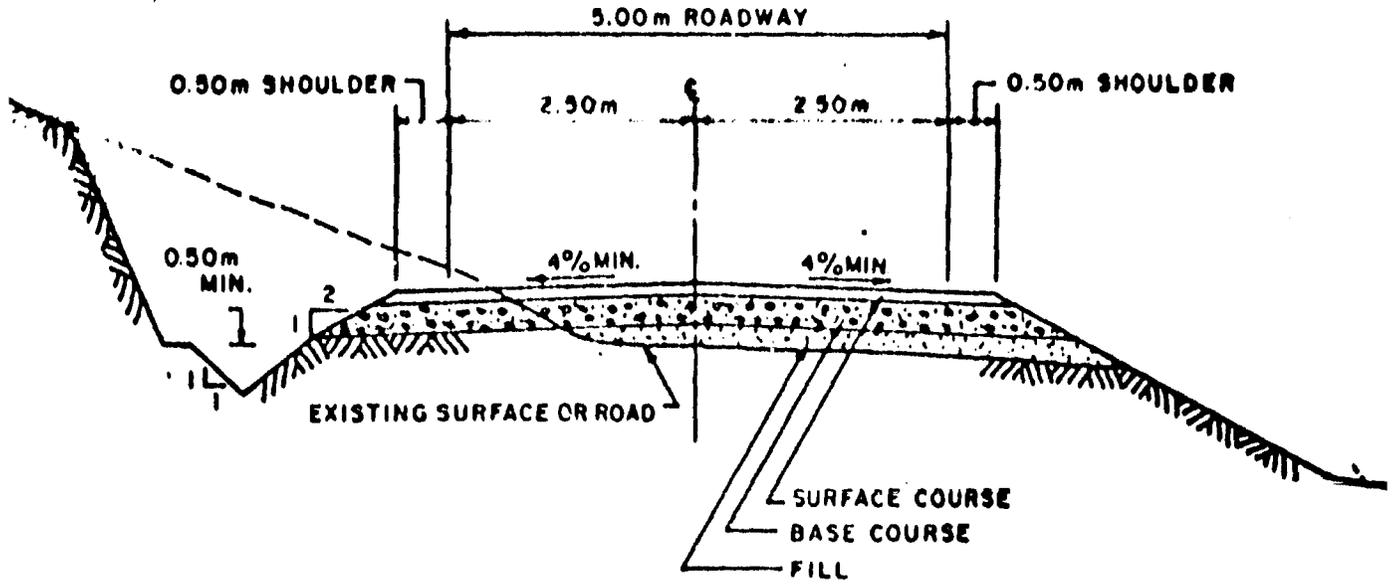
- Vu l'article 93 de la Constitution;
- Vu les articles 27 et suivants du Code de Commerce;
- Vu le Décret du 28 août 1960 organisant un régime spécial en faveur des sociétés anonymes;
- Vu l'acte constitutif et les statuts de la société anonyme dénommée "RINCON MFG OF HAITI, S.A.;"
- Sur le rapport du Secrétaire d'Etat du Commerce et de l'Industrie;

ARRETE

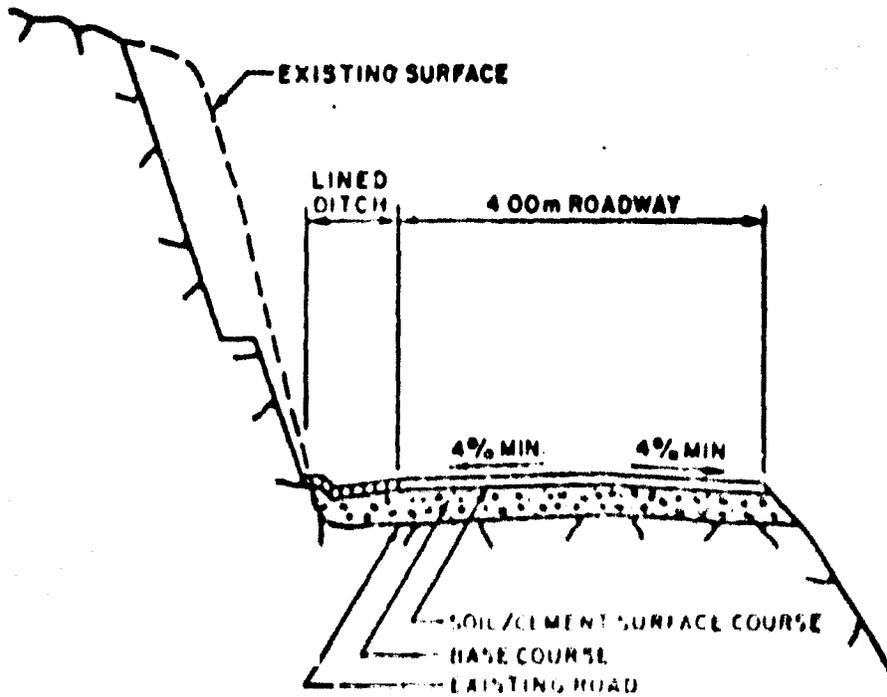
Article 1er.— Est autorisée la société anonyme dénommée: "RINCON MFG OF HAITI, S.A.", au capital social de vingt mille dollars (\$ 20 000 00), formée à Port-au-Prince le 12 mai 1978.

Article 2.— Est approuvée sous les réserves et dans les limites de la constitution et des lois de la République, l'acte constitutif et les statuts de ladite société constitués par acte public le 26 mai 1978 au

ANNEX L - 5. AFRP - Typical Road Design Cross Section



FLAT OR ROLLING TERRAIN
NOT TO SCALE



MOUNTAINOUS TERRAIN
NOT TO SCALE

SEP 26 1971

ACTION MEMORANDUM FOR THE ASSISTANT ADMINISTRATOR (LAC)

FROM: LAC/DR, Marshall D. Brown

Problem: Waiver of A.I.D. regulations to permit proprietary procurement of heavy equipment (i.e., tractors, graders and front-end loaders) required for the Haiti Agricultural Feeder Road Loan Project (Project No. 521-T-007).

Discussion: The purpose of the Agricultural Feeder Road Project is to provide all-weather access to presently isolated Haitian farming communities. In the process, major improvements in the Ministry of Public Works (TPTC) and local private contractor capabilities are expected.

The project will reconstruct approximately 940 kilometers of rural roads throughout Haiti over a five-year period. Reconstruction is being accomplished by U.S. Force Aides (620 km.) and private Haitian road contractors (320 km.). An Equipment Leasing Service is being established to facilitate private contractor participation, and a pilot project is being carried out to test various labor intensive methods of road reconstruction/maintenance and is nearing completion. Approximately 24 man years of Grant funded technical assistance is being provided TPTC to improve its capabilities to plan, design, and execute road reconstruction work and procure goods and services. Loan funds will finance the purchase of road construction equipment and spare parts for the Ministry of Public Works (TPTC) Construction Brigades (\$2.0 million).

According to the USAID Mission cable (Tab A), the Ministry of Public Works (TPTC) has requested a proprietary procurement waiver for the purchase of Caterpillar road construction equipment, at an estimated cost of \$400,000, to include:

2	X	CAT	D-6 with ripper;
1	X	CAT	1400 grader with scarifiers;
1	X	CAT	120 grader with scarifiers;
2	X	CAT	550 loaders.

All of TPTC's basic road construction equipment pool (tractors, graders, front-end loaders) is Caterpillar (see Tab B), except for two compaction rollers which are not manufactured by Caterpillar, and the waiver is justified in terms of the following factors:

- (1) TPTC construction brigades now use only Caterpillar road construction equipment, and this will enable the Ministry to standardize and allow the procurement of equipment compatible with that on hand.

12
X

- (2) Most skilled equipment operators and mechanics in Haiti have been trained in the operation and maintenance of Caterpillar equipment.
- (3) Caterpillar is the only heavy road construction equipment supplier in Haiti with an extensive and dependable inventory of spare parts and shop repair and maintenance facilities.
- (4) Experience/record of performance has proven Caterpillar most work durable and most work effective under local operating conditions.

In accordance with Handbook 15, A.I.D.-Financed Commodities, Section 3C4c, and Handbook 11, Country Contracting, Section 3C9, you may approve a waiver to permit proprietary equipment procurement for capital projects when justified in terms of one or more of seven listed waiver justification factors. The four basic conditions enumerated in the preceding paragraph encompass four of such factors listed as bases for waiver justification in Handbooks 15 and 11, namely, standardization, compatibility, service availability, and proven local performance.

Proprietary procurement means purchasing by a brand or trade name or by a restrictive specification which limits offers to a specific product. Frequently, but by no means always, this will mean that there is as a practical matter only one available supplier of the product. Where opportunities do exist to benefit from price competition on proprietary items, AID expects the buyer to take advantage of those opportunities. A.I.D. regulations require that the buyer not ignore the possibility for buying competitively. Experience has shown that benefits from price competition can be anticipated under this proprietary procurement and competitive bidding will be required.

SER/COM, originally assigned the action under Tab A, has reviewed the information provided by the USAID Mission with respect to this request and concurs in the following recommendation.

Recommendation: That you approve a waiver to authorize proprietary procurement of the heavy equipment needed for this project. A.I.D. procurement procedures pertaining to competitive bidding, however, will continue to apply.

Attachments: a/s

Approved: Bluesilde

Disapproved: _____

Date: Sept 27/1976

LAC/CAR: ENadebu:jwk: B/30/78

Clearance: SER/COM:PHagan (draft)

TELEGRAM

APR 25 1 55 PM '78

INDICATE
 COLLECT
 CHARGE TO

FROM AMEMBASSY PORT AU PRINCE	CLASSIFICATION UNCLASSIFIED
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E.O. 11652:

TAGS:

SUBJECT:

ACTION:

AID

sub/dcm
chron

N/A

Agricultural Feeder Roads, AID Loan No. 521-T-007
Proprietary Procurement Waiver

SecState WASHDC

UNCLASSIFIED PORT AU PRINCE 1589

AIDAC

The Ministry of Public Works (TPTC) has requested a
proprietary procurement waiver for purchase of road
equipment totalling \$400,000 from Caterpillar Tractor
Company, including: ~~(Many of the proposed items are)~~

~~Equipment:~~

- 2 x Cat D-6 with Ripper
- 1 x Cat 1409 Grader with Scarifiers
- 1 x Cat 129 " " "
- 2 x Cat 920 Loaders.

The waiver will enable the Ministry to standardize its
equipment pool and is justified for the following

reasons:

- 1) The majority of TPTC's construction equipment is
Caterpillar.

DRAFTER ENG:BNoying	DRAFTING DATE 4/24/78	TEL. EXT.	CONTENT AND CLASSIFICATION APPROVED BY DIR:LEHarrison
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CLEARANCES

C/ENG:TNagy (In draft)
CAP:SJacobson (In draft)
CONT:FSWeber (In draft)

UNCLASSIFIED
CLASSIFICATION

- 2) Caterpillar is the only supplier in the field with an extensive and dependable supply of spare parts and maintenance facilities.
- 3) Most skilled heavy equipment operators and mechanics has been trained in Caterpillar equipment.
- 4) TPTC Construction brigades now use only Caterpillar construction equipment.

As required by Handbook 15 Ch 3c4e request S1R/COM approve waiver to permit TPTC to purchase equipment from Caterpillar Tractor Company.

JONES

Sample Draft Scopes of Work

I. Description of the Project

The Project will assist the Government of Haiti (GOH) in the development of a Secondary Roads Service (SRS) responsible for the rehabilitation/construction of Secondary Roads and in the continued development of the National Highway Maintenance Organization (SEPRON) responsible for the maintenance of the complete network of roads in Haiti.

The SRS will be the sole GOH organization responsible for the coordination of all rehabilitation/construction work in Haiti regardless of the source of funds for the work. The Project will instrumental in the establishment of the organizational structure of the SRS, defining lines of authority, modes of operation and overall management systems to be implemented by the SRS. Emphasis will be placed on the use of the very successful capital-savings light brigade method of construction. The SRS will begin the operation with four fully operational light brigades, to be expanded to five the first year. This number will remain at five for the second year, expand to seven the third year and remain at seven the fourth and final year of the Project. Where the situation dictates the work will be accomplished through the reinforcing of these light brigades by the 2-3 pools of support equipment to be established.

The Project will also provide management assistance to SEPRON in the form of T.A. to its equipment maintenance section and training division. This support will continue the organizational development begun by the USAID-funded Highway Maintenance projects, Phases I and II.

The implementation of the project will be accomplished through the following specific tasks.

- 1) Assist in the organizational development of the SRS (including policy and procedure manuals) both at the central and field levels.
- 2) Assist the SRS field engineers in the preparation of detailed cost estimates and rehabilitation/construction schedules for each proposed road network.
- 3) Assist SRS personnel in the implementation of a cost tracking system for the comparison of actual expenditures (versus budgeted amounts).
- 4) Provide an increased awareness of the primary and secondary effects of road rehabilitation/construction activities have on the environment.
- 5) Assist in the implementation of a well defined equipment maintenance system for the SRS equipment.
- 6) Assist in the continued development of the management capabilities of SEPRON to carry out the programmed road maintenance plans.

7) Assist in the implementation of both the preventive maintenance system for equipment maintenance and the component exchange system for major repairs.

8) Assist the SEPRRN training division by strengthening its capacity to develop training modules to meet the training needs of not only SEPRRN and the SRS but also other organizations.

9) Assist both the SRS and SEPRRN in the development of equipment specifications for the procurement of the equipment for the light brigades, the support pool and the CAMPs.

II. Technical Assistance Team

1. Senior Advisor: This advisor will be the technical assistance consultant group team leader and the responsible officer for all aspects of the consultant team in implementing the Project (521-0149), as stated in the Project Paper, Project Agreement, and overall/individual scopes of work. This advisor will be counterpart to the SEPRRN and the SRS Directors and will provide advice and written recommendations to TPTC in order to assist it to successfully implement the project. During the formative period of the SRS and thereafter this individual will put sufficient emphasis on this activity to enable it to become an integrated and functional part of TPTC. This individual will assist in the development of a coordinated GOH effort in efficient road maintenance and the rehabilitation/construction of the project secondary roads. He will provide advice on organizational development, operations, management systems, road selection, road standards, quality and budgetary control, equipment maintenance and training, inter alia, in order to help insure the successful implementation the project. The advisor will also provide advice to the GOH to assure an awareness of ongoing, planned, and programmed complementary activities in project areas, (44 man-months).

2. Field Engineer Advisor (two): These advisors will be field-oriented and will primarily be counterparts to the Regional and Brigade Engineers. They will have the mobility to provide advice and recommendations as necessary to a group of road construction brigades in assisting the successful implementation of the project. This advice and reporting will include, but not be limited to: efficient use of capital savings construction methods; efficient utilization of equipment support pools; planning construction activities so they will benefit the natural environment or insure minimal negative environmental disturbance; all aspects involved in establishing additional capital savings brigades; preparing work programs; training of personnel; managing and supervising construction of work; equipment operation and specifications; road survey and alignment; soil sampling and material selection; traffic counting; record keeping, reporting, and follow-up; field maintenance shop organization; spare parts management; and material and personnel accountability. These advisors will also provide advice and report on road maintenance activities in their area of responsibility. These advisors will thoroughly familiarize themselves with the project as described in AID Project Paper (521-0149), (72 man-months, two advisors for 44 and 28 man-months respectively).

3. Equipment Advisor: This advisor will be field oriented and will primarily be counterpart to the chief mechanics of the equipment pools, brigade mechanics, and other GOH mechanics providing support to the project equipment. He will have the mobility to provide advice and written recommendations as necessary on all project equipment maintenance activities in assisting the successful implementation of the project. This advice and reporting will include but not be limited to: efficient maintenance and repair of support pool and road construction brigade equipment; preventive maintenance procedures and their implementation; equipment scheduling; equipment operation; training of personnel; managing and supervising equipment maintenance; equipment specifications, spare parts management and warehousing; field maintenance shop organization; record keeping, reporting, and follow-up; and material and personnel accountability. The advisor will also provide advice and report on equipment maintenance activities performed at/by SEPRRN or other equipment maintenance facilities. The advisor will thoroughly familiarize himself with the Project Paper (521-0149), (36 man-months).

4. Equipment/Garage/Mechanic Advisor: This advisor will assist the SEPRRN garage director in the continued implementation of the equipment preventative maintenance system throughout the SEPRRN organization. The advisor will assist in the establishment of the component exchange requirements and further, will assist the purchasing section in the procurement of these components. He/she will coordinate with the training division to assure the continued adherence to the procedures and practices by trainees who have returned to their respective jobs, and for the assurance that the training division is providing training in areas to meet the needs of SEPRRN's fleet through technology/knowledge transfer to the garage director and the technical personnel who are responsible for equipment utilization.

5. Engineer Instructor Advisor: This advisor will supervise the training assistance component through the coordination of training activities in the training division, and serve as the counterpart to the head of the training division. Regarding training, the advisor will: assist in the overall management of training; reinforce the capability for SEPRRN's engineer instructors to develop new course modules as needs arise; assist in the adjustment of existing modules if and when required; promote continued use of non-SEPRRN training sources for various training needs; assist in the development of particular courses for the SRS and other organizations as required and assist in the continued management development.

6. Mechanic Instructor Advisor: This advisor will provide assistance to the various SEPRRN mechanic instructors to strengthen their capacity to develop new course modules, including audio visual aides and handouts. He/she will coordinate mechanic training activities with garage management for on-the-job training opportunities to assure continued use of the practices being taught by the training division and will provide guidance in the development of training opportunities for SRS personnel and will address the training needs of other organizations, where appropriate.

7. Operator Instructor Advisor: This advisor provide assistance to the SEPRRN operator instructors to strengthen their capacity to develop new course modules and for the continued presentation of the existing modules. He/she will assist the SEPRRN instructors with on the job activities using the training brigade and will provide assistance in the training of the various operators from the SRS and other organizations.

III. Host Country PSC

TPTC Management Advisor:

- 1) This advisor will place his initial emphasis on providing advice as necessary to TPTC to lay the ground work for the establishment and successful implementation of the Secondary Road Service (SRS) in TPTC. This advice and reporting will include, but not be limited to: Preparation of an organizational diagram showing SRS offices and internal relationships, description of office functions, staffing and job descriptions, and development of a decree legally establishing the SRS.
- 2) The advisor will continuously monitor and provide advice and written recommendations as necessary on improving the management of procurement, accounting and personnel systems, used by all project organizations at all levels. He will trouble-shoot problem areas, make recommendations to reduce bottle-necks and assist in expediting delivery of project inputs.
- 3) The advisor will review the interrelationships of all organizations affecting the implementation of the project and will advise and make written recommendations to the appropriate GOH officials to facilitate improved project management.
- 4) The advisor will provide advice to the GOH to assure an awareness of on-going, planned and programmed complementary activities in project areas.
- 5) The advisor will coordinate his activities with the technical assistance team and share information which will assist in improving project management.
- 6) The advisor will provide advice and written recommendations as necessary to TPTC concerning the planning, supervision and evaluation of the implementation of TPTC reorganization, both in Port-au-Prince and in the field.
- 7) The advisor will thoroughly familiarize himself with the project as described in AID Project Paper (521-0149) and the Project Agreement, (36 man-months).