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**UNCLASSIFIED**

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

HONDURAS

**PROJECT PAPER**

RURAL TRAILS AND ACCESS ROADS  
(AMENDMENT)

AID/LAC/P-043/1

Project Number: 522-0164  
Loan Number: 522-T-035

**UNCLASSIFIED**

**AGENCY FOR INTERNATIONAL DEVELOPMENT**  
**PROJECT DATA SHEET**

1. TRANSACTION CODE  
 A - Add  
 C - Change  
 D - Delete  
 Amendment Number: 1  
 DOCUMENT CODE: 3

COUNTRY/ENTITY: HONDURAS  
 3. PROJECT NUMBER: 522-0164

4. BUREAU/OFFICE: LAC 05  
 5. PROJECT TITLE (maximum 40 characters): Rural Trails and Access Roads

6. PROJECT ASSISTANCE COMPLETION DATE (PACD): MM DD YY 013 31 85  
 7. ESTIMATED DATE OF OBLIGATION (Under "B" for column 1, 2, 3, or 4)  
 A. Initial FY 80 B. Grant 2 C. Final FY 84

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

A. FUNDING SOURCE	FIRST FY			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AID Appropriated Total	190	8,040	8,230	190	21,010	21,200
(Grant)	190	40	230	190	40	230
(Loan)		8,000	8,000		20,970	20,970
Other: 1. U.S.						
2. Host Country	-0-	884	884	-0-	7,050	7,050
(Other Donors)						
<b>TOTALS</b>	<b>190</b>	<b>8,924</b>	<b>9,114</b>	<b>190</b>	<b>28,060</b>	<b>28,250</b>

9. SCHEDULE OF AID FUNDING (\$000)

A. AID PROGRAM RELATION	B. SECONDARY PURPOSE CODE	C. PRIMARY TECH. CODE		D. OBLIGATION 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. FN	223	061	061	230	10,970	-0-	10,000	230	20,970
(2)									
(3)									
(4)									
<b>TOTALS</b>				<b>230</b>	<b>10,970</b>	<b>-0-</b>	<b>10,000</b>	<b>230</b>	<b>20,970</b>

10. PRIMARY TECHNICAL CODES (maximum 6 characters)  
 11. SECONDARY PURPOSE CODE: 133

12. INTERNAL CONTROL CODES (from Tables of 4 pages)  
 A. Code: BS B. Percent: 100%  
 C. Code: LAB D. Percent: 30%

1. The expansion of the network of all weather rural trails and access roads in selected regions and  
 2. An increase in the number of kilometers of all weather dirt roads that are maintained by the GOH.

14. SOURCE ORIGIN OF GOODS AND SERVICES  
 Grant  Loan  Local  Other (Specify)

16. ALTERNATIVE AID (This is page 1 of a 16)

17. APPROVED BY: Anthony J. Cauterucci  
 Mission Director  
 DATE DOCUMENTED IN AID/W, OR FOR COMMENTS, DATE OF DISB: MM DD YY 07 29 83

PROJECT AUTHORIZATION  
(Amendment No. 1)

Name of Country: Honduras  
Name of Project: Rural Trails and Access Roads  
Number of Project: 522-0164  
Number of Loan: 522-T-035

1. Pursuant to Section 103 of the Foreign Assistance Act of 1961, as amended the Rural Trails and Access Roads Project for the Republic of Honduras was authorized on March 24, 1980. That authorization is hereby amended as follows:

a. Paragraph 1 of the authorization is hereby deleted in its entirety and the following substituted therefore:

"1. Pursuant to Section 103 of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Rural Trails and Access Roads Project for the Republic of Honduras (the "Cooperating Country") involving planned obligations of not to exceed TWENTY MILLION NINE HUNDRED AND SEVENTY THOUSAND U.S. DOLLARS (\$20,970,000) in Loan funds ("Loan") and TWO HUNDRED THIRTY THOUSAND U.S. DOLLARS (\$230,000) in Grant funds ("Grant") over a five year period from the 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."

b. Paragraph 2 of the authorization is hereby deleted in its entirety and the following substituted therefore:

"2. The project ("Project") consists of a rural trails and access roads rehabilitation and construction program to be administered by the Cooperating Country which will include the maintenance of those roadways, the repair and rehabilitation of selected items of road maintenance equipment and the reconstruction of the Higuito River bridge."

2. The authorization cited above remains in force except as hereby amended.

Signature: Anthony J. Gauterucci  
Anthony J. Gauterucci, Mission Director

Date: 7/29/82

Drafted by: PCR:ROwens, trm (0293C p. 30) <sup>MB</sup> R.B.  
Clearances: ENG:CMaxwell (in draft)  
ENG:RDudley (in draft)  
CONT:PAmos (in draft)  
PCR:EZallman [Signature]  
DMD:RNicholson [Signature]

PP AMENDMENT  
Rural Trails and Access Road  
(Project 522-OI64, Loan 522-T-035)

I. PURPOSE

The project goal remains the same as in the original Project with only the scope of the purpose changing as defined in the amendment.

"The Goal of the Project is to help the Government of Honduras in its efforts to increase the income of, and delivery of social and technical services to, small farm families in rural areas."

In the original project the purpose was to provide for the expansion of the network of all-weather rural trails and access roads in selected regions of the country and increase the number of kilometers of all-weather dirt roads that are maintained by the Directorate of Maintenance (DOM) of the Ministry of Communications, Public Works and Transportation (SECOPT).

The purpose of this amendment is to expand the Rural Trails and Access Roads project to include other regions of high agricultural potential within Honduras. This will result in carrying out the delivery of social and technical services to other areas of Honduras in a very positive and direct way by enhancing the implementation of on-going A.I.D. and other donor supported programs such as National Agrarian Institute (INA) activities, Rural Water and Sanitation projects and other Rural Agricultural Infrastructure projects by virtue of having adequate access to meet their objectives.

The timing of the provision of additional inputs is also important. It has taken some time and considerable effort to develop the coordinating unit in SECOPT into the smoothly functioning organization it now is. The familiarization of all parties, both public and private, with the contracting process and the need to adhere in implementation to all the requirements thereof has not been easy. A competent and well functioning collection of some 16 productive, private contractors are now employed under the Project. Given the deteriorating economic situation in the country, any break in funding could easily cause the demise of any or all of these private contractors.

II. BACKGROUND

A. Status of Current Project

The existing Project Agreement for the Rural Trails and Access Roads Project was executed on March 31, 1980. The Project was designed to help facilitate increases in the incomes of, and delivery of services to, the small scale agricultural families in the Western areas of Honduras. The project is currently limited to the Departments of Lempira, Intibucá, La Paz, Ocotepeque, Copán, Santa Bárbara and Cortés. This area was selected because of the high density of population, limited amount of land suitable for farming, and the general lack of attention to this area by both the GOH and donor agencies.

Envisioned under the Project was the rehabilitation of a total of 900 kilometers of roads and trails (250 kms of trails and 650 kms of roads), serving some 110,000 people in the project area. These targets were adjusted in May of 1982 to 860 kms total by a Project Agreement Amendment. It now appears these amended targets will be reached by the new PACD. As of December 31, 1982, 475 kms. have been completed, 156 kms. are under construction, and contracts for an additional 96 kms were recently awarded.

The original PACD for the 3 year project was March 31, 1983. However, the project started slowly with no contracts completed during the first year, and only 3 contracts during the subsequent six month period. Nonetheless, steady acceleration occurred in construction activities and by the end of CY 1982 there were 12 active contracts and expenditures are expected to average \$400,000 per month during the second and third quarters of FY83. The existing project is now expected to be essentially completed by December 1983, with a few contracts continuing on until the current PACD of March 31, 1984.

Also financed under the Project was the rehabilitation of 44 units of maintenance equipment to be used for the maintenance of access roads. On May 20, 1982 the Project Agreement was amended to include the reconstruction of the bridge over the Higuito river on the Western Highway, the main North-South road in the Western part of Honduras and the principal access route to Guatemala and El Salvador, which was destroyed by floods in late 1981. The bridge was included in the Project because users of about 30% of the roads scheduled for rehabilitation depended on this bridge for connecting access to the major markets in Honduras.

#### B. Construction Methods

To date the Project has had few serious problems. Construction activities began following the system established for the rehabilitation of roads under Loan 522-T-030, Hurricane (Fifi) Reconstruction and Rehabilitation, utilizing equipment rented from contractors. Because of various problems encountered in the 030 Project system of contracting, the contracting system now being employed under this Project emphasizes unit prices and contractor responsibility for completed work. As the cost of complete engineering plans is quite high, earthwork for the subgrade is still done by paying the contractor an established hourly rental rate for use of his equipment, with the remaining work paid for on the basis of unit prices for completed work in place. Because of the increased risk and responsibility of the contractors, the cost per kilometer has increased somewhat, but the additional profit motive for the contractors has generated a much higher quality end product while the time required for construction has decreased between 25% and 50%, resulting in a shorter pipeline and accelerated project implementation.

#### C. Other Donor Activities

Three types of road construction/rehabilitation are currently underway in Honduras: labor intensive rural roads, capital intensive rural roads, and major highway work.

A number of international donors are financing labor intensive road construction projects at the present time, including the Swiss Development Cooperation (COSUDE), InterAmerican Development Bank (IDB), European Economic Community (EEC), Honduran-German Food for Work Cooperation (COHAAT), World Food Program (WFP), and the United Nations Development Program (UNDP). These labor intensive activities are concentrated in economically depressed areas with high unemployment and emphasize the work program aspect, rather than economic viability. The SECOPT Department of Hand Labor now estimates that it has the capacity to build, on the average, a total of only 150 km per year using labor intensive methods. During the period 1976 to 1980, the average costs of the labor intensive roads were \$16,000.00/km for new construction and \$11,000.00/km for reconstruction.

The three principle donors financing construction of major roads are the World Bank (IBRD), the InterAmerican Development Bank (IDB), and the Central American Bank for Economic Integration (CABEI). The IBRD has provided approximately US\$19.4 million during the period 1980-1983 for construction/rehabilitation of approximately 480 kms of unpaved primary and 23 kms of paved roads, which are concentrated in developing valleys. The IBRD project also includes a maintenance component of US\$11.95 million. Of the total maintenance component, \$1.94 million is budgeted for technical assistance contracts and \$10.01 million for increasing the operating capacity of the Directorate General of Highway and Airport Maintenance (DGMCA).

The IDB is financing construction of paved and unpaved primary roads throughout Honduras in the amount of US\$49.65 million. Of that total, \$25.15 million is budgeted for the construction of 490 kms of unpaved roads. Fifty-three kms of paved roads have been completed at a cost of \$15.2 million, and an additional 96 kms are under construction at a projected cost of \$9.3 million.

CABEI is financing two paved highways totalling 91 kms at a projected cost of US\$23.9 million. An additional 68.7 kms of paved roads are expected to be bid during 1983 at an estimated cost of US\$22.0 million.

Other than the limited donor financing of labor intensive construction noted above, A.I.D is the only donor placing emphasis directly on the construction or reconstruction of rural roads and trails in Honduras.

#### D. Roads Vs. Trails

The original Project calls for the reconstruction of 250 kms of rural trails and 650 kms of access roads. The distinction between the two categories has proven to be somewhat vague; i.e. trails will be constructed to lesser standards than those used for roads, and construction of trails should be more labor intensive than access roads. Several trails were constructed early in the project attempting to utilize these standards, generally with poor results.

Problems encountered in stressing labor intensive efforts included the lack of available manpower when required (low roadside density and agricultural demands), the reluctance of contractors to undertake labor intensive contracts and the reluctance on the part of the Ministry of Communications, Public Work and Transportation (SECOPT) to pursue a more labor intensive method of operation than that already employed.

Almost all of the roads rehabilitated under the project are very low volume roads, serving widely dispersed population clusters, so there is little real basis to determine what should be an access road and what should be a rural trail; the basic characteristics are very similar. And, given the low population density and daily traffic along all these roads, it is extremely difficult to locate sufficient available labor to construct the lesser used roads by intensive labor. These are the roads that, by selection, traverse the most sparsely populated areas. As a result of the lack of success in attempts to construct labor intensive trails, A.I.D. and SECOPT have agreed to define trails only in terms of reduced design standards on roads that are expected to have a very low volume of traffic, with SECOPT to undertake a study of the area in general to determine the availability of hand labor. This study indicated that, in general, sufficient labor was not available due to sparsity of population in the rural areas and conflicting agricultural labor requirements. In spite of the foregoing, and in order to assure that the intent of the Project Agreement is met, A.I.D. has requested that the initial studies done by SECOPT to determine project feasibility, i.e., economic, social, environmental and technical analyses, also include a separate analysis on the availability of hand labor in the areas where the lesser volume roads (trails) may be built. This study is now required prior to A.I.D. acceptance of each road for rehabilitation.

#### E. Unit Cost

The cost per kilometer of rehabilitation of the roads has increased over the life of the project. In the PP, trails are estimated to cost \$6000/km and roads at \$12,400/km, or a combined average cost of approximately \$11,000/km. The average unit cost of construction bid in early 1981 was approximately \$8,000/km. It appears that these prices were unreasonably low, which is supported by the fact that two contractors from this early period could not meet their financial obligations, resulting in bankruptcy and action by SECOPT to rescind their contracts.

As the project progressed, unit costs increased to about \$15,000 per kilometer, or about \$4,000 (35%) per km over the cost estimated in the PP. This is a reasonable and entirely acceptable increase considering the improved standards of the roads imposed by SECOPT, inflation and a better end product resulting from the changes in procedures mentioned in Section IB (Construction Methods). A review of cost per kilometer construction in other countries and in previous and current projects in Honduras indicates that this is still a reasonable cost for the work performed.

### III. STATUS OF COVENANTS

A. Section 6.2 (a) of the Project Agreement specifies that SECOPT "will include all access roads rehabilitated under this project in the system of roads maintained by the Directorate of Maintenance (DOM) and cause them to be maintained on a regular basis ...." Thus, each road, as it is completed, is supposed to be automatically included in the maintained road system of the DOM district where it is located. However, on checking the status of roads completed, the Mission determined that the DOM was not in fact automatically including the roads in their maintenance plans. They were requested to do so, and they have complied.

As only three contracts (totalling 160 kms) had been completed for a year or more under this Project, there was little basis on which to determine the quality and regularity of maintenance provided. Accordingly, A.I.D. and SECOPT personnel inspected a large sample of the roads reconstructed under the recently completed Hurricane (Fifi) Reconstruction and Rehabilitation Project (A.I.D. Loan 522-T-030). The review of those roads previously constructed indicated that the maintenance pattern changed from district to district, and that, overall, only about one third of the roads inspected (completed between mid-1979 and mid-1981) had received the desired maintenance. Of the remaining two thirds, about half was found to be in need of regular maintenance while the remainder were in need of only touch up work. All roads inspected were still fully passable year round. Most of the maintenance required was from damages caused by water, and it should be noted that the design standards of the roads on the current Project have emphasized the improvement of drainage over that provided on the previous project (522-T-030), and it is believed that if the current standards had been used under 522-T-030, the damage would have been much less. The Minister of Communications, Transportation and Public Works has issued a directive to the DOM that all roads constructed under both projects are to be formally included in the maintenance schedule for 1983.

Much of the difficulty in scheduling maintenance is the lack of operating equipment in the DOM. This lack was recognized in the PP, but it was anticipated that a scheduled loan by the IBRD for road maintenance would have come on line in early 1981. In fact, the IBRD supported activities were not begun until late 1982. The IBRD loan is financing maintenance equipment, training and repair of existing maintenance equipment (see Other Donor Status for details).

The DOM maintenance schedule will be monitored closely by the Mission to assure compliance. This schedule is subject to the arrival of the new equipment purchased under the IBRD Project, as well as the repair of equipment under the same project. Although maintenance has not reached the goals agreed to in this covenant, it is the Mission's belief that SECOPT truly recognizes the need for maintenance, and has been doing a credible job given the lack of operational equipment and the priorities of the arterial road system.

B. Section 6.2 (f) of the Project Agreement provides "that road maintenance equipment rehabilitated and financed under the Project will be used in access roads currently needing maintenance." The project included \$750,000 (increased to \$795,000) to overhaul selected DOM equipment. USAID has spot checked the use of 36% of the equipment and determined that it has been utilized 94.1 % of the time, or a total 12,131 hours on the maintenance of access roads. We have no reason to believe the remaining 64% of the equipment is not also so employed.

C. Section 6.2 (g) of the Project Agreement states "that it (GOH) will evaluate through SECOPT, the rural trail maintenance system on a regular basis and establish alternate maintenance procedures for the trails in the event that rural communities do not provide regular, effective maintenance service under the system proposed in the Project Paper".

As noted under Section II-D of this PP Amendment, labor intensive road construction has not really been attempted under this project. Because of that, the concept of providing road monitors for the rural trails as proposed in the PP has never been initiated, nor is the idea any longer applicable as SECOPT has agreed to include, along with roads, all trails reconstructed under the Project in its maintenance program.

D. Other Covenants. Section 6.1 specifies the requirement for evaluations, which is addressed in Section IV of this PP Amendment. All other covenants have been complied with.

#### IV. EVALUATIONS

Section 6.1 of the Project Agreement requires that, at a minimum, one evaluation be done during implementation of the project, and perhaps an impact evaluation after Project completion. These evaluations will cover: a) evaluation of progress toward attainment of the objectives of the Project, b) identification and evaluation of constraints and problem areas which may inhibit such attainment; c) assessment of how such information may be used to help overcome such problems; and d) an evaluation, to the degree feasible, of the overall impact of the Project.

As of this writing an evaluation is underway to review the procedures used in implementing the Project and progress made to date, thereby addressing points a) through c) above. A final report of this evaluation is expected in July, 1983. In addition, a scope of work has been developed to obtain, in the very near future, base line data for an impact evaluation tentatively scheduled to occur in 1985 or 1986. The data from this study should be available by September 1983.

The Mission evaluation officer recently examined several roads projects financed under this Project which have been completed for approximately one year (from the first group of roads completed) in an attempt to obtain an indication of any changes in the trend of development in the areas affected by the roads. Although accepting that one year is really too short of a period on which to base a true impact evaluation, he nevertheless offers the following observations:

- (1) Farmers have increased the area cultivated with traditional subsistence crops, particularly corn. Previously, yields were low because of the corn variety cultivated and the environmental and ecological characteristics of the area (e.g., eroded soils and lower temperatures). The reconstruction of roads has made possible the transportation of agricultural inputs directly to the farmer at affordable prices. Using fertilizer has now become common practice, thereby increasing the possibility of higher yields. This has motivated farmers to expand their milpas. These farmers no longer buy corn for their own consumption. They are cultivating enough to satisfy their family needs, and some have even begun to sell portions of their harvest.
- (2) Farmers in the areas visited have adopted a new cash crop: potatoes. This crop was introduced in the area some 25 years ago. However, many farmers were reluctant to go into potato cultivation because of the lack of the necessary storage facilities and were generally afraid of post-harvest losses, particularly in the rainy season when the previous roads were hardly passable. Potatoes would easily rot before arriving at the market. Since roads were reconstructed, small cargo trucks now circulate year-round and production can be easily transported into the regional marketplace at more affordable prices. Thus, farmers that did not cultivate potatoes before have now begun to do so, and a significant proportion of those that did have increased their potato cultivation area. Based on the price of potatoes during the last agricultural cycle, a farmer on a reconstructed road could expect a net earning of \$1,856 per manzana in the dry season and \$731 in the wet season.
- (3) Since roads were reconstructed, Government agencies have become interested in determining the socio-economic needs of the rural populations. A CONSUPLANE commission has already visited the area to collect information needed for the definition of service delivery programs. In other cases, existing service programs have been implemented more efficiently since roads were rebuilt. This is particularly the case of an integrated rural development project developed for the Marcala-Goascoran area.
- (4) Farmers recognize the importance of access roads. Community members in the area not benefitting from the project continuously visit the SECOPT Office in town requesting that the access roads and trails linking their communities to secondary roads or market towns also be repaired.

A final project evaluation (PES) was completed on the roads rehabilitated under Loan 522-T-030, and although this project focused on the North Coast area, we anticipate that many of the social and economic impacts that occurred in that area will also be reflected in this project. The evaluation was based on a sample covering 50% of the roads completed under the project. Although various inconsistencies are involved as the evaluation covered roads that had been completed from periods of one month to two years, some of the more salient points of the evaluation worth noting are as follow:

**Economic Indicators**

a) Income from Agriculture	+48.35%
b) Daily Salaries (non farm)	+36.92%
c) Tax Collection	+56.05%
d) Migration to Areas (families)	+ 7.2 %

**Social Indicators**

- a) 79% believed more consumer items available
- b) 75% had improved their homes
- c) Motor vehicles as principal method of transportation increased by 500%

These figures are simply indicators of changes in the communities and are recognized as not being statistically valid because of the wide range of periods since road completion. However, they undoubtedly indicate notable social and economic improvements in the living standards of the population. As noted above, the baseline data that will be collected under the existing project will provide a solid basis for an impact evaluation to be undertaken after an interval of three or more years.

In January 1981 a four man interdisciplinary team concluded an impact evaluation (Report No. 17) of Honduran access roads constructed with A.I.D. support between 1965 and 1974. The team's findings were by and large consistent with the above.

**V. MODIFICATIONS TO EXISTING PROJECT**

**A. Project Focus**

This amendment removes the geographic limitations from the current Project to permit rehabilitation and reconstruction of trails and roads in areas of the country other than specified in the original project, increasing the total kilometers to be treated under the Project from 860 to 1,550. Removal of the geographic restriction is necessary to permit financing of the most needed and more viable of the remaining untreated roads in the more remote areas of the country. The project will also change slightly in regard to beneficiaries, now emphasizing, but not limiting selection to, those associated with agrarian reform activities in Honduras as administered by the National Agrarian Institute (INA). The roads and trails selection procedures currently used would not change, but INA sponsored settlements would receive

special consideration in order to increase the beneficial effects of projects financed by A.I.D. and other donors which support INA. Roads and trails constructed in areas outside the Western region will be proposed by SECOPT after consultations with the Ministry of Natural Resources and the National Agrarian Institute to determine the areas of the country with the greatest need from an agricultural development perspective.

Once the areas needing improved roads have been determined the DGC will carry out a three phase process to select the roads to be worked on:

1. The first phase is to develop a preliminary list of all proposed roads and trails in each project area based upon the requests for projects submitted by the different patronatos, municipalities and Government agencies of Honduras and select from these requests the roads which require improvement and/or reconstruction:

● 2. The second phase is to visit the areas in which the roads and trails are located and gather more specific information as follows:

- a) If the population density is sufficient to include a road or trail with project financing;
- b) Agricultural production;
- c) Per capita income;
- d) Hand labor availability;
- e) Price of agricultural products at the site;
- f) Transportation costs of the agricultural products;
- g) Agricultural yields per surface area and per product; and
- h) For roads outside the Western region, the presence of agrarian reform beneficiaries and of A.I.D. financed activities in agricultural development, health and education.

3. The final phase is to select the roads and trails that will be included in the project for reconstruction as follows:

- a) Apply weighted criteria and perform cost/benefit analyses; and,
- b) Arrange the selected roads and trails into economically contractual packages.

While there is no intent to play down cost/benefit analyses as a crucial criteria in road selection, it is quite possible additional criteria will need to be developed to accommodate the requirements of special interest programs, e.g., land titling and subsequent small farmer support activities. Should that prove to be the case, USAID will develop the new criteria in cooperation with SECOPT and MNR/INA and they will be addressed in a follow-up Implementation Letter.

Added to the project amplification will be a training program to train and update the Honduran engineers on the planning, construction, maintenance and management of an ever increasing transportation system. The training will be implemented based on a needs assessment, and focus on maintaining current skills and upgrading skills to a state of the art level. Through these periodic training sessions, current practices and problems can be addressed and changing needs identified.

The exchange of technology, techniques and opinions will enhance the professional abilities of the Honduran engineers. This training will include all aspects of road, highway and bridge pre-construction and construction activities as well as road system management and maintenance. The training can take the form of sessions, seminars or conferences held within Honduras or in other countries.

VI. FINANCIAL PLAN

This amendment proposes to add \$10,000,000 in loan funds to the existing project, bringing the total project funding to \$20,970,000 in loan funds and \$230,000 in grant. A breakdown of project costs follows. GOH counterpart contribution will be increased by \$3,300,000 from \$3,750,000 to a new total of \$7,050,000.

TABLE 1  
Summary Cost Estimate and Financial Plan  
U.S. \$ 000

	A. I. D.				G O H <u>LC</u>	<u>TOTALS</u>
	<u>G R A N T</u>		<u>L O A N</u>			
	<u>FX</u>	<u>LC</u>	<u>FX</u>	<u>LC</u>		
<u>Construction</u>						
a) Access Roads and Rural Trails			18,205		4,133	22,338
b) Vehicles, Equipment and Hand Tools					240	240
c) Administration	160	40			1,000	1,200
d) Right of Way					300	300
e) Higuito Bridge			400		83	483
<u>Maintenance</u>						
a) Equipment Repair			795		193	988
b) Road Maintenance					628	628
<u>Evaluation</u>						
			150			150
<u>Inflation and Contingency</u>						
	<u>30</u>		<u>1,420</u>		<u>473</u>	<u>1,923</u>
<u>T O T A L S</u>	<u>190</u>	<u>40</u>	<u>20,970</u>		<u>7,050</u>	<u>28,250</u>

## VII. REVIEW OF PROJECT ANALYSES

### A. ECONOMIC ANALYSIS

The project paper established well thought out guidelines to be utilized in developing a simple methodology to determine the feasibility of each road under consideration for rehabilitation. A methodology was proposed by the GOH and accepted by the Mission in 1978. It was utilized to evaluate several of the projects. However, the procedures involved proved time consuming and beyond the technical capabilities of the implementing agency performing the studies. This situation raised the need to revise and simplify the methodology in 1981, without reducing the quality of its results. Briefly, the methodology now in practice consists of estimating a stream of benefits and costs derived from the construction of each road under consideration and calculating a benefit/cost ratio. Benefits include additional family income derived from lower transportation costs, higher farmgate prices resulting from increased competition among intermediaries operating in newly accessible areas, and higher production levels resulting from increases in area planted. Costs include construction and maintenance costs for the road and agricultural production costs. The period of time for the analysis is 10 years for which all values are discounted using a 12% rate. Given the diversity of areas covered under the project, economic feasibility studies for each road are carried out utilizing representative farm models from areas near the road under consideration.

A recent, albeit limited, survey in the La Esperanza and Marcala areas, where some of the first roads were rehabilitated, provided some evidence of the degree to which some of the key assumptions of the economic analysis utilized to determine the feasibility of road projects are still valid. These assumptions will be examined within the context of limited 1983 data gathered by the Mission's social science analyst.

#### Project Benefits

Projected benefits are estimated utilizing a farm model for the area in question. These are derived from 3 sources: i) Higher farmgate prices resulting from increased competition among middlemen; ii) lower transportation costs, and iii) increases in the area planted. Once estimated the benefits are discounted at 12% and divided by discounted cost in order to obtain a benefit/cost ratio.

The La Esperanza Zone comprises 9 road projects. The analysis showed benefit/cost ratios greater than 1 for each of these. Comparisons between some of the assumptions utilized in those analysis and survey results are presented in Tables 1, 2 and 3 below:

TABLE 1  
FARM MODEL - LA ESPERANZA AREA

CROPS	PRODUCTIVITY YIELDS		SHARE OF TOTAL PRODUCTION
	PRODUCTIVITY (ANALYSIS) QUINTALS PER MANZANA	PRODUCTIVITY (SURVEY) QUINTALS PER MANZANA	
Corn	17.9	50	.05
Potatoes	247.0	300	.45
Vegetables	593.7	-	.37
Coffee	10.1	-	.03
Fruits	120.3	-	.08
Livestock	6.6	-	.01
Beans	15.0	-	.01
			<u>1.00</u>

TABLE 2  
INCREASES IN AREAS PLANTED  
PERCENTAGE (%)

Projection (1977)	20%
Survey Results (Minifundios)	
Average	350%

TABLE 3  
AVERAGE TRANSPORTATION COST - FARM TO TEGUCIGALPA  
LPS/QUINTAL

Project Analysis (1977)	2.33
Current Costs (1983)	3.25
Difference	<u>0.92</u>

Table 1 shows a substantial difference between the assumed productivity yields and the current average for farms in the La Esperanza area. Corn productivity increased 200% while potatoes increased 22% over estimated levels. This change for 50% of area planted in the farm model will substantially increase the level of benefits derived from the farm, assuming everything else remains the same. If anything, increased marketability for cash crops would suggest a shift away from subsistence farming to cash crops.

Table 2 presents the change in another of the key parameters utilized in analyzing the road projects. The projected 20% average increase in areas planted has been surpassed by a substantial margin to 350% for the minifundistas surveyed. The newly planted areas consist of corn and potatoes for which a productivity increase has also been recorded. Thus, current project benefits will also increase substantially over projected levels as a result of greater than projected areas planted, even if the surveyed results are cut in half.

Table 3 presents the comparison between projected and actual average transportation costs per quintal between the farm and the principal market in Tegucigalpa. Current costs are L.0.92 greater than projected levels. Oil price hikes between 1979 and 1983 may account for the difference which still provided as much as a 50% decline in costs after the roads were rehabilitated.

The area has also benefited from the greater availability of services. Since the road was constructed several government agencies such as the National Training Institute (INFOP) have increased the level of services. For instance, INFOP has carried out agricultural training courses in the area and also assisted one of the communities to set up a training center. The received benefits are also reflected in community interest in maintaining the roads with their own labor and materials.

On the cost side of the analysis, the construction costs were underestimated by L.4,000 per kilometer. The one time nature of this type of cost is in all likelihood offset by the increased stream of benefits derived from greater productivity, and area planted which accrue over a long period of time.

While these results are derived from a limited survey, they provide an indication that the roads are having an important economic impact in the communities served. Considering the long gestation period of the project, it is reasonable to assume that more benefits are likely to be achieved than were projected. Therefore, we believe that the current methodology being used for the selection of roads adequately assures the economic return projected in the project paper. However more care will have to be executed by the implementing agency in updating farm model parameters which were downwardly biased in the previous studies. Also, the utilization of shadow pricing is recommended particularly with regard to transportation costs and tradeable items. The resulting analysis will provide a closer picture of the economic impact of the road project.

#### B. SOCIAL ANALYSIS

The social analysis as contained in the PP is considered to be still valid for the expanded Project area.

The financial viability of production for farmers in the area is evidence by the data obtained from the survey. Small farmers reported average net earnings from potatoes of about L.1,600 for the 1982-1983 agricultural cycle. While these figures are the perception of farmers and may not include costs such as family labor, the margin left over after accounting for these costs would still be large. The increase in potato production in the area also indicates the profitability of planting that crop.

#### C. TECHNICAL/ENVIRONMENTAL ANALYSIS

The technical and environmental analyses contained in the Project Paper are considered to be valid for the extended project area, except for minor modifications noted elsewhere in this paper.

**D. ADMINISTRATIVE/INSTITUTIONAL ANALYSIS**

Much of the success of this project to date is due to the excellent support given it by the Minister of SECOPT and to the "A.I.D. Implementing Unit" (AIU) within SECOPT. The project has benefited from the continuity of personnel within the AIU, including the chief of the unit who has been in his position for seven years and is thoroughly familiar with A.I.D.'s procedures and concerns. A commitment to continue this unit as established will be a covenant for the obligation of additional loan funds.

**E. FINANCIAL ANALYSIS**

The financial analysis contained in the Project Paper is considered to valid for this amendment.

**ANNEXES:**

- A: Authorization Cable
- B: Amended Log Frame
- C: GOH Letter of Request

**LAC/DR AND USAID/HONDURAS BULK FILES:**

1. Summary of Hand Labor Report
2. 1983 DCM Maintenance Schedule
3. Equipment Repair List
4. Social Science Analyst's Report on Benefits to Farmers in the La Esperanza area.

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TAGS:

SUBJECT: RURAL TRAILS AND ACCESS ROADS

REF: (A) TEGUCIGALPA 2632 (B) TEGUCIGALPA 1296

1. LAC BUREAU CONCURS IN MISSION REQUEST FOR AN AMENDMENT TO THE RURAL TRAILS AND ACCESS ROADS PROJECT. THE MISSION DIRECTOR, USAIC/HONDURAS IS HEREBY DELEGATED AUTHORITY TO APPROVE AND AUTHORIZE THE PP AMENDMENT, JUSTIFYING THE INCREASED FUNDING PROPOSED, AND TO AMEND THE PROJECT AUTHORIZATION. IN ORDER TO PREPARE A CN FOR THIS INCREASE IN FY 83 AND LOP FUNDING, LAC/DR WOULD APPRECIATE FURTHER INFORMATION ON ADDITIONAL OUTPUTS RESULTING FROM THE AMENDMENT, AND AN UPDATE ON OTHER DGNCR ACTIVITIES IN THIS AREA. LAC/DR WILL PREPARE CN UPON RECEIPT OF ADDITIONAL INFORMATION, AND NOTIFY MISSION OF DATE OF SUBMISSION TO CONGRESS. UPON EXPIRATION OF CN AND RECEIPT OF BUDGET ALLOWANCES, MISSION MAY PROCEED TO OBLIGATE THE FY 83 PROPOSED FUNDING LEVEL OF DOLS 4.2 MILLION.

2. PER REF. B, BUREAU EXPECTS THAT THIS DOLS 4.2 MILLION AMENDMENT WILL BE OBLIGATED IN THE THIRD QUARTER. WE WOULD APPRECIATE COPIES OF THE PP

AMENDMENT, THE AMENDED PROJECT AUTHORIZATION, AND AMENDMENT TO THE LOAN AGREEMENT WHEN EACH ARE COMPLETED.

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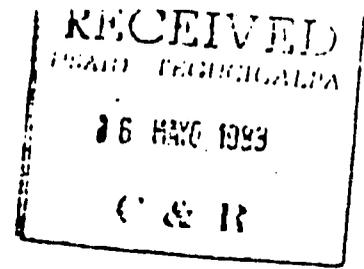
PROJECT DESIGN SUMMARY  
LOGICAL FRAMEWORK

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ANNEX B

NARRATIVE SUMMARY	Objectively Verifiable Indicators	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS														
<p>A.1. Goal</p> <p>To increase the income and production of, and delivery of social and technical services to the rural small farm family.</p>	<p>A.2. Measurement of Goal Achievement</p> <ul style="list-style-type: none"> <li>- Increase in productivity by rural families in Project areas as a result of improved access to markets and input supplies.</li> <li>- Expansion of GOH social and technical programs in Project areas due to improved access to rural areas.</li> <li>- Rural family incomes in the target areas increased by 15%</li> </ul>	<p>A.3.</p> <p>Village leaders; GOH and private service agencies; field observations.</p>	<p>Assumptions for achieving goal targets:(A-4)</p> <p>GOH Development effort is sustained for 5-10 years.</p> <p>GOH provides support to contemplated programs in Health, Education and Agriculture.</p>														
<p>B.1. Purpose</p> <p>1) To expand the network of all-weather rural trails and access roads serving rural Hondurans in selected regions of the country.</p> <p>2) To increase the number of kilometers of all-weather dirt roads that are maintained annually by SECOPT's Maintenance Directorate (DGM).</p>	<p>B.2. End of Project Status</p> <p>1) An additional 30,000 rural families provided with new or improved access roads or rural trails throughout Honduras, with the exception of the area between the Rio Patuca and the Nicaraguan border.</p> <p>2) An increase of 10% by the End-of-Project in the number of kilometers maintained by DGM.</p>	<p>B.3.</p> <p>Project Progress reports; DGM records; USAID field observations.</p>	<p>Assumptions for achieving purpose: (B-4)</p> <p>1) GOH continues to accord priority to construction and maintenance of access roads in its planning and budgeting activities.</p> <p>2) IBRD roads program with maintenance component successfully implemented.</p>														
<p>C.1. Outputs</p> <p>1) Construction Activity: Access roads and rural trails reconstructed or rehabilitated and Higuito Bridge reconstructed.</p> <p>2) Road Maintenance Activity: DGM possessing increased Pool of road maintenance equipment.</p>	<p>C.2. Output Indicators</p> <p>1) Approximately 1,550 Kms. of rural access roads and rural trails completed with appropriate bridges.</p> <p>2) Forty four (44) units of the DGM's down equipment operable.</p>	<p>C.3.</p> <ul style="list-style-type: none"> <li>- Executing Units' Progress reports and joint GOH/AID evaluations.</li> <li>- DGM budget, records, and reports USAID monitoring.</li> </ul>	<p>Assumptions for achieving outputs: (C-4)</p> <p>Weather, labor strikes, availability of cement and fuel, and cost increases do not interfere with construction.</p> <p>Communities organize to assist construction effort.</p> <p>Qualified personnel are available for training; commodities arrive in a timely manner.</p>														
<p>D.1. Inputs</p> <p>Project Administration Equipment Repair Construction Evaluation Maintenance Contingency</p>	<p>D.2. Budget/Schedule</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">\$ 200 for maintenance TA</td> <td style="width: 50%;"></td> </tr> <tr> <td>988 for repair of maintenance equipment</td> <td></td> </tr> <tr> <td>24,361 for materials, equipment &amp; contracts</td> <td></td> </tr> <tr> <td>150</td> <td></td> </tr> <tr> <td>628</td> <td></td> </tr> <tr> <td><u>1,923</u></td> <td></td> </tr> <tr> <td>28,250</td> <td></td> </tr> </table>	\$ 200 for maintenance TA		988 for repair of maintenance equipment		24,361 for materials, equipment & contracts		150		628		<u>1,923</u>		28,250		<p>D.3.</p> <p>Project Progress Reports A.I.D. records</p>	<p>Assumptions for providing inputs: (D-4)</p> <p>GOH provides adequate budget support for the SECOPT entities involved in this Project.</p>
\$ 200 for maintenance TA																	
988 for repair of maintenance equipment																	
24,361 for materials, equipment & contracts																	
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SECRETARIA DE ESTADO  
EN EL DESPACHO DE  
COMUNICACIONES  
OBRAS PUBLICAS Y  
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Señor  
ANTHONY CAUTERUCCI  
Director Agencia para el  
Desarrollo Internacional (AID)  
Su Oficina.

Estimado Señor Director:

Por este medio le hacemos llegar un atento y cordial saludo y a la vez le expresamos que en el Plan Nacional de Desarrollo del Gobierno de Honduras, que es de su conocimiento, en una de sus partes, hace especial énfasis sobre la necesidad de construir carreteras que vengun a contribuir al desarrollo económico y social del país y en el mismo se recomienda que los recursos de que se disponga sean utilizados en la construcción de una vasta red de caminos de acceso que permitan conectar a la red vial principal del país con los valles y regiones de más alto desarrollo.

Para los efectos antes mencionados, la Secretaría de Hacienda y Crédito Público, en nombre y representación del Gobierno de Honduras, por su digno medio, se permite solicitar a esa Institución, el otorgamiento de un préstamo hasta por la cantidad de 10.000.000.00 (DIEZ MILLONES DE DOLARES) para ampliar el proyecto de rehabilitación o reconstrucción de diferentes caminos de acceso y de trocha.

La ampliación del proyecto antes mencionado, incluye la construcción de 650 kilómetros aproximadamente de este tipo de caminos y se le dá preferencia, pero no se limita, a los caminos que sirven de acceso a las Cooperativas Agrícolas que están siendo atendidas por el Instituto Nacional Agrario (INA); consideramos importante aclarar que el enfoque geográfico de la ampliación del proyecto que ocupa nuestra atención, será aplicado en todo el territorio nacional.

El costo de la ampliación del Proyecto para el cual estamos solicitando financiamiento a esa Institución, se estima en US\$. 13.300.000.00, de tal manera que la diferencia entre el monto del préstamo solicitado y el costo de la ampliación del proyecto será aportado por el Gobierno de Honduras durante el tiempo que dure la ejecución del mismo o sean, los tres años que se han recomendado.

La contraparte que aportará el Gobierno de Honduras para la ampliación de este proyecto está distribuida en el orden siguiente:



SECRETARIA DE ESTADO  
EN EL DESPACHO DE  
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OBRAS PUBLICAS Y  
TRANSPORTE  
S. C. O. P. T.

Page 2 of 2

Señor  
Anthony Cauterucci  
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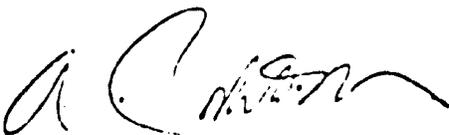
- a) El Gobierno de Honduras proporcionará el personal suficiente para manejar o supervisar la ejecución total del proyecto, incluyendo los trabajos de -- construcción en el campo y las tareas de administración del proyecto en Tegucigalpa, a través de la Unidad Ejecutora, Préstamos A.I.D. de la Dirección General de Caminos.
- b) El Gobierno proporcionará el local para que operen las oficinas, el equipo de la misma y los vehículos que sean necesarios para su ejecución.
- c) El Gobierno proporcionará equipo suficiente para el mantenimiento de caminos rurales (reparados usando fondos de ambos, Gobierno y AID.)
- d) El Gobierno proveerá el mantenimiento adecuado a los caminos de acceso reconstruídos bajo el proyecto.

El proyecto será ejecutado por la Secretaría de Comunicaciones, Obras Públicas y Transporte, por medio de la Dirección General de Caminos.

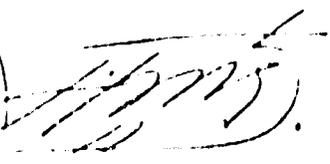
El Gobierno de la República de Honduras, solicita a la Agencia para el Desarrollo Internacional, que este financiamiento sea otorgado en los términos y condiciones más favorables que el A.I.D. pueda ofrecer, por ser este un proyecto que nos -- permitirá obtener beneficios sociales sumamente satisfactorios para la economía del país.

Si esa Institución requiere una mayor información sobre el proyecto para el cual el Gobierno de Honduras está solicitando financiamiento, respetuosamente recomendamos que ésta le sea solicitada a la Dirección General de Caminos, para que le sea suministrada de inmediato.

Hago propicia esta oportunidad para agradecerle anticipadamente todas las gestiones que usted pueda hacer sobre lo solicitado y a la vez expresarle toda mi consideración y aprecio

  
MINISTRO DE HACIENDA  
Y CREDITO PUBLICO.





MINISTRO DE COMUNICACIONES,  
OBRAS PUBLICAS Y TRANSPORTE