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INGENIEROS CONSULTORES

TEGUCIGALPA. D.C., HONDURAS, C.A.

October 25, 1983

Mr. Rodolfo García López
Director General
General Directorate of Roads

Dear Mr. García:

We are pleased to hereby submit the Final Report for the Evaluation of the Access Road and Rural Trails Program financed by U.S. AID Loan Nº 522-T-035 and government funds.

We wish to express our appreciation for the collaboration given to us by the Executor Unit staff and from U.S. AID officials in the preparation of this document.

Yours truly,

SEI, S.A. - CCE, S. de R.L.

Marco A. Salgado

cc. File

MAS/nh.

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N O T E

THIS REPORT IS A TRANSLATION OF A REPORT ORIGINALLY WRITTEN IN SPANISH

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V

GLOSSARY

AHPROCAFE	Honduran Association of Coffe Producers
ANACH	National Association of Honduran Rural Laborers
BANADESA	National Bank of Agricultural Development
BANASUPRO	National Supplier of Basic Products
BCIE	Central American Bank of Economic Integration
BID	Interamerican Development Bank
BIRF	World Bank
CDI	Center for Industrial Development
COHDEFOR	Honduran Corporation for Forest Development
CONSUPLANE	Superior Council for Economic Planning
DGC	General Directorate of Roads (of the Ministry of Communications, Public Works and Transportation)
DGM	General Directorate of Maintenance (of the Ministry of Communications, Public Works, and Transportation)
G. de H.	Government of Honduras
IHCAFE	Honduran Coffee Institute
IHMA	Honduran Institute of Agricultural Marketing

INA	National Agrarian Institute
INFOP	Institute for Professional Development
JNBS	National Committee for Social Welfare
Min. R.N.	Ministry of Natural Resources
M.S.P.	Ministry of Public Health and Social Assistance
PRODERO	Development Program for the Western Region
PRODESBA	Development Program for Santa Bárbara
AID Executor Unit	DGC Office in Charge of Projects Financed by U.S. AID
U.S. AID	U.S. Agency for International Development

I EXECUTIVE SUMMARY

1.1 Summary

The Project consists of the restoration and reconstruction of 630 km. of access roads and 230 km. of rural trails. The objective is to expand and to improve the country's highway infrastrucutre in order to increase production and income and at the same time permit the access of technical and social services to small farmers and their families (18,000 as a target) in the rural areas of the country. The Project has been operating since 1981. To date 67% of the construction target has been reached in five departments of the south-western and western regions of the country (Ocotepeque, Copán, Santa Bárbara, Lempira and La Paz).

The Project is managed by an Executor Unit, a dependency of the General Directorate of Roads (DGC). The DGC coordinates all the operations within the Ministry of Communications, Public Works and Transportation (SECOPT), and in collaboration with U.S. AID supervises regional units and contractors. Work is carried out on a sub-project basis. A "sub-project" is defined as a group of roads (access and trails) which by their location can be executed by one supervisor and one contractor. The current project includes 16 construction contractors, duly qualified under the contracting procedure of combined equipment rental and unit price construction items.

The Project costs are covered by a U.S. AID loan in the amount of 22.4 million lempiras plus 7.5 million lempiras in Honduran government funds for a total of 29.0 million lempiras.

According to the loan agreement, the DGM is in charge of road maintenance which is guaranteed by a government commitment to

provide the required funds. As contemplated by the Project Formulation document, rural trails maintenance would be the responsability of the communities involved.

The DGC Executor United and the group of private contractors participating in the restoration process have satisfactorily achieved the physical targets. The only problems detected have been with maintenance. The role of social promotion in developing a more active community participation has not been correctly implemented and, due to DGM's present limitations, this maintenance is not being accomplished.

1.2 Evaluation Methodology

This evaluation is conceived as part of the normal evaluation procedure contemplated in the Project formulation. This first step corresponds to an intermediate evaluation to determine the main achievements and problems found during execution of the Project, through an assessment of the procedure employed during the time the Project has been in operation. Two main aspects have been considered: technical-administrative management and community participation. The evaluation design has been based upon two major considerations. executive capability and a general assessment of the possibility of occurrence of predicted results. These two major dimensions have been subject to review in all activities executed at a sub-project level.

Due to time and cost constraints, a significant sample of the particpants in the Project has been investigated. Data have been collected through two basic procedures. documental analysis and interviews. The subjects of these interviews were SECOPT and U.S. AID personnel, contractors, community officials and road users.

1.3 External Factors

A basic criterion for initial formulation of the Project was its execution in the same zone as the so-called PRODERO project (Development Program for the Western Region) as an effort toward promoting integrated development. However, PRODERO has not had a stable performance It started late and was poorly coordinated with other projects and programs in the area, even including this access road restoration program. the default of PRODERO has had a negative impact because benefits to the region supposedly should have been derived from other government agencies using the improved highway infrastructure, the subject of this evaluation.

In addition, this roads program responded to many community requests for road improvement. Some of these requests were dated four or five years back and, in some cases, were promoted by regional development committees and public and private organizations (IHCAFE, INA, AHPROCAFE and ANACH).

1.4 Project Materials

Due to the nature of the Project, there is no consequential material inventory involved that deserves extensive analysis. However contractors complain of the problems they face with local acquisition of spare parts In addition due to foreign exchange regulations, they face problems with direct imports of this same equipment. Although this is an internal problem of each contractor the situation has caused problems on several occasions with performance. Therefore solutions must be contemplated, such as partial payment to contractors in U.S. dollars.

1.5 Project Production

In terms of physical targets, 580 km of roads have been restored,

compared to 860 km proposed in the initial formulation. As mentioned earlier, the management capacility of the Executor Unit is unarguable. This capacity has been demonstrated during the management of previous programs such as the Sectorial I and reconstruction work precipitated by Hurricane Fifi.

1.6 Project Purposes

According to the Project Document the purposes are the following:

a) to extend the access road and rural trails network for "all weather in selected areas of the country"; and

b) To increase the number of kilometers of all weather gravel roads to be maintained by the DGM. Considering that this Project has been extended to other areas of the country, it may be stated that the purposes of the first phase will be achieved when the few pending sub-projects in the western zone are completed.

1.7 Project Objective

According to the Project Document, the objective is to assist the Honduran government in its effort to provide social and technical services and to improve the income of small rural families. As indicated previously, the improper coordination of the PRODERO Program had a negative impact on the possibilities that this Project had of providing support for other benefits. However, it is expected that once PRODERO is redirected, those socio-economic objectives originally formulated will be achieved.

1.8 Beneficiaries

According to the Project Document the direct beneficiaries are the small producers and rural settlers in the western zone who will

increase their productivity and improve the distribution of their income by reducing transportation costs. Since the construction industry is presently depressed, indirect benefits have accrued to contractors who have been able to survive mainly on the work generated by the Project.

Specifically, the Project directly benefits families in the zone and indirectly benefits contractors, their employees and an undetermined number of people in the business and transportation activities.

Most of the communities visited recognized, as a principal benefit resulting from the road improvement, better communication in terms of transportation, emergency benefits, provision of goods and services and the possibility that government assistance will be able to reach them. The communities also anticipate that just as the road was constructed maintenance would be forthcoming. Up to the moment when these evaluations were initiated, the problem of road maintenance had not been faced; therefore the subject is discussed in this report.

It is the Consultant s opinion that the communities could be easily motivated to provide a preventative and routine maintenance of the roads (culvert and gutter cleaning, pot-hole repairing, etc.) if adequate motivation is implemented, tools and assistance are provided and responsabilities are established for the communities in accordance with the distribution of benefits.

1.9 Unexpected Developments

The Project considered promoting community efforts by enlisting the aid of the Peace Corps and by hiring a social organizer. Peace Corps participation did not materialize for different reasons, among them being that promotion could not be coordinated with execution, supposedly for lack of an integrated criteria. Activities of the

social organizer primarily involve field visits of short duration. The principal objectives of this activity are to determine the availability of labor in the communities and the existing salary rates.

Community opinion of this Project, at least at the level of the interviews completed, varies according to the way the Project personnel related to local authorities, community organizations and local residents; and according to what was expected from road improvement.

1.10 Acquired Experience

The inclination of the communities to cooperate with road maintenance greatly depends upon the promotion mechanism. At this moment neither the decision nor the mechanism to achieve those results exists. On the one hand the communities have the feeling that they are not involved in the Project, although they do recognize that a need is being satisfied. On the other hand, the executing personnel is not very conscious of the need to face this important aspect of the Project. In other words, due to lack of understanding about social organization and work with rural communities, they tend to ignore the socio-economic, structural and demographic aspects. Through public relations (for example, distribution of information), promotion and motivation, a closer rapport could be developed and, consequently, the communities could become more involved in the Project.

Some rural integral development programs and local development policies are being studied to review the municipal system with the purpose of up-dating its functions. The main goal is to convert the municipal system into a dynamic organization with more capability to participate in development programs. The Project could eventually design a road maintenance system based on a local effort directed by

the municipalities.

1.11 Comments and Observations

The succeeding chapters contain the following information:

1. Chapter II - Conclusions and Recommendations as a Principal Result of the Evaluation.

2. Chapter III - Amplified Summary of the Project Characteristics.

3. Chapter IV - General Scope and Objectives of the Evaluation as a Methodological Summary.

II CONCLUSIONS AND RECOMMENDATIONS

(Principal Results of the Evaluation)

Based upon the investigations and the results obtained from the analysis of documents, meetings and interviews, the following conclusions have been established:

2.1 Effectiveness of the Methods Used for the Execution of Sub-Projects

2.1.1 Administration

The Executor Unit of this Project was also in charge of Sectorial Program I and the Reconstruction of Access Roads Damaged by Hurricane Fifi. The Executor Unit was reinforced by additional engineering and administrative personnel, reaching a total of 198 persons.

In terms of objectives accomplished, the DGC as an Executor Unit has demonstrated that it has sufficient capability to complete the sub-projects.

2.1.2 Government Funds

The Honduran government has complied with the requirements of providing the DGC with the ncessary funds to contract the administrative, technical and professional personnel needed to manage the Project correctly and the clear the rights of way.

2.1.3 Selection Process for Sub-Projects

The selection of sub-projects followed a geographical criteria with emphasis on the western region of the country. On each probable site a cost-benefit analysis

was utilized to determine economic feasibility in accordance with an index for each community or groups of communities. The Executor Unit has used a simple methodology suitable for this type of project which has been incorporated into the operative procedure of the Executor Unit. It has not been possible to coordinate activities with other institutions which work in different aspects of development. For this reason a degree of integration is lacking in the selection process and should be incorporated into the future phases of the Project.

2.1.4 Selection of Contractors

The process of selecting contractors is the same as that which has been approved and found to be adequate by other international financing institutions. Even though three of the 16 companies did not comply with their contracts, the rest did work satisfactorily and in accordance with the requirements stated in the contract.

2.1.5 Supervision of the DGC

The supervision of the Project by the DGC has been carried out through the Executor Unit, and the results have been totally satisfactory since the best practices were used for these types of roads.

2.1.6 Supervision by U.S. AID

The participation of administrative, technical and professional personnel of the U.S. AID has contributed significantly to the success of the Project. The relationship between the DGC and the AID has always been cordial. Administrative paperwork and technical decisions have always been carried out prompty and with efficiency.

2.1.7 Assistance Given to Communities by the DGC

The assistance given to communities by the DGC has been limited. This was due to time constraints and to unavailability of qualified labor within the community populations. As a result, the DGC and AID decided to execute the reconstruction operation by using mechanized equipment and construction firms instead of day labor.

In Appendix B of this document, several ideas are presented on this matter.

2.1.8 Design

Because the programs basically concern the restoration and improvement of roads, the designs have been kept to a minimum. In some cases it has been necessary to design bridges and fords, which required the cooperation of the Department of Studies and Projects of the DGC.

2.1.9 Environmental Effects

The Consultant considers that the necessary steps have been taken to reduce the environmental problems caused by construction and restoration of the roads. The size of the cuts, the embankment heights, the location of culverts and the use of borrow pits have been taken into consideration to alter as little as possible the natural terrain.

In addition, the fact that the roads are low velocity has usually allowed the trajectories to follow the natural contours.

2.1.10 The Formation of Road Groups Based on Their Location

To a certain degree the formation of groups has been based on their geographical location. This has permitted a centralization beneficial to the contractor as well as to the Executor Unit in terms of cost, time and supervision. These groupings mean "packages" of sub-projects when certain rural trails extend from one important community to others.

2.1.11 System Used in the Construction of Roads

The procedures of construction consisted of a combination of equipment rental for earth work and sub-base and unit price for drainage. Thanks to the strict supervision by AID and the Executor Unit, the results have been satisfactory. The Consultant is in agreement with AID engineers in that the results could be improved if the supervisors had construction drawings to allow them to study in more detail the characteristics of the Project, in order to execute it in a more technical manner and at lower cost.

2.1.12 Size of the Projects and Requirements of Capital by the Contractors

The amount of the estimated work and budget for the reconstruction of roads has delivered results, in most cases, proportionate to the nature and condition of the roads. The results could be much better if more funds were available but, in general, the reconstruction work has been completed satisfactorily.

In terms of the contractors, the size of the projects and the magnitude of their costs has proven satisfactory for a

considerable group of small contractors. These types of projects are within their performance and financial capacity and, under the present conditions of the construction industry, these projects have been a key factor for their survival.

2.1.13 Labor Utilization in the Project

Initially the Project was conceived as a program to generate jobs for unskilled labor for the reconstruction of rural trails; but in practice it turned out that the implementation of such a program required the creation of a special administrative organization. The road contractors were not accustomed to this arrangement because of their interest in using their own equipment. On the other hand, the construction period should be increased to allow for inadequate numbers of unskilled labor, much less, foremen for this type of work, in certain areas. Another inconvenience which also prolongs the construction periods is the availability of labor only after the harvest.

These and other considerations forced SECOPT and AID to depend heavily upon mechanized equipment to complete the projects within the contractual period. For this reason the labor only reached 20% for the total cost.

It is important to note that within the DGC there exists an annual program especially designed to complete this type of construction using intensive labour; nevertheless, the production has been low due to the low efficiency of this type of system.

2.1.14 Road Maintenance

The great majority of the Project roads satisfy the DGC minimum requirements to qualify for their inclusion in its work program. For this reason all finished projects are being considered for incorporation into the national netowrk for "all weather" roads.

2.1.15 The DGM Equipment Repair with Loan Funds

The funds designated for the DGM for the emergency repair of 50 units were well invested, since all the conditions of the loan agreement were satisfactorily met.

2.1.16 Use of DGM Equipment

Even though all the equipment was repaired, it is still not available for the maintenance of the recently constructed roads. This is due to the shortage of equipment in the DGM to attend the main roads, caused by late deliveries of equipment acquired with the funds of a loan from the World Bank. It is expected that this problem will be resolved in 1984.

2.1.17 Benefit to the DGM from Equipment Repairs

The component destined to the emergency repairs came at a critical moment for the DGM and, thanks to this, the main roads have been attended to. It is the Consultant's opinion that, considering the country's economic limitations and consequently those of the DGM, future projects should include equal or better funding destined not only for construction or reconstruction of roads, but also for guaranteed road maintenance.

2.1.18 Technical and Administrative Experience of the Contractors

There exists a difference concerning time in service, installed capacity and organizational level of contractors, but in general they have not experienced any major technical problems. Contractors are not inclined to use intensive labor except the minimum hired locally, because they want to maximize utilization of their own equipment.

Since they are all small firms, their organizational structures are informal and include only one or two engineers to provide technical assistance.

As indicated earlier, due to the work system the participation of the firms has shown that they perform well, and in this sense no problems have arison which have been counter-productive to the execution of the work.

2.1.19 Financing

Most contractors who participate in the program are companies that function with a low liquidity index and have a small working capital. Given their financial vulnerability, they greatly depend upon the timely payment of their monthly invoices

2.1.20 Installed Equipment Capacity

The contractors have equipment of aaadequate quality and quantity; their problems arise from the unavailability of sufficient bank financing, the unavailability of spare parts in the country and the lack of foreign exchange to import them.

2.1.21 Planning Capability

The level of planning of the contractors is minimal, as is the demand for plannings on these types of roads. This function is carried out by the Executor Unit. In rare, unforeseen cases when technical planning is required of the contractor, such ass in estimating unit prices, they use their own experiences and knowledge derived from visual inspection and intuition. The results up to now have been positive and no claims haave been made in this regard.

2.2 Community Participation

2.2.1 Community participation should be considered as a desired effect, resulting from a deliberate program of promotion, motivation and technical assistance in the three phases of each sub-project:

- Identification and formulation of needs;
- Execution of the sub-project; and
- Follow up, which includes: maintenance, promotion, organization, credit; technical and commercialization support, etc. for agricultural production; extension of Government services (health, education, housing, local organization, etc.)

2.2.2 Up to now the Project has not systemized the social organization because SECOPT constitutes an institution specialized in the execution of infrastructure; therefore, the majority of Project personnel is inclined to carry out physical goals. The social, cultural and economic areas are of little relevance in accordance to its function and principal task which is "construction".

2.2.3 Despite the fact that the Project was conceived within the framework of regional development (complementary to PRODERO), it lost the dimension of integral develop in its execution. Firstly, this is because PRODERO has had a difficult evolution and little impact due to the existing conditions of national development policy. Secondly, because the role assigned to CONSUPLANE in the promotion of coordinating institutional actions in the creation of infrastructure was not realistic; CONSUPLANE have very little decision-making power relative to budget assignments, amplification of the coverage of services, service destination, etc.

2.2.4 The Project has not been coordinated with other regional development activity because of circumstances attributed to:

- lack of institutional coordination, which leads to an absence of complementary programs of economic or social character; and.

- the absence of an adequate information mechanism.

2.2.5 The promotion mechanism for communities was designed in accordance with a distinction: rural trails and access roads. This distinction, established in the original Project formulation, was not observed in practice. The tendency, in terms of community promotion, was oriented towards its reduction or cancelation. The Peace Corpos, whose relationship with the Project was precisely the promotion of the Project in the communities, did not realize this function for many reasons. The social organization component in the Executor Unit has been converted to a simple consulting mechanism for the

communities to determine labor requirements and/or to attach the community to the Project in terms of collaboration from the municipalities and community associations.

2.2.6 The institutional efforts to obtain the participation of the communities has been minimal. Therefore, a sense of identification with the Project and the possibility of a follow-up through a maintenance system relying upon local action does not actually exist. Even though the Project has been supported with an agreement in which the Central Government (SECOPT) promised to provide maintenance, this commitment has not been complied with. Objectively considering the available DGM resources, it is clear that it would be very difficult for the personnel and equipment of the DGM to provide maintenance to these roads in addition to providing this service to the main highways of the country.

2.2.7 Local action could be easily motivated and organized if there is a quick and well-defined decision to execute tasks of promotion in the community to maintain the constructed, restored or improved roads.

There are several organizations which could facilitate organization and motivation; there is a previous community experience of road construction and maintenance; there is a community awareness of the benefits derived from this type of work. Even though some people believe that solutions to their problems should always come from government assistance or from international institutions, they are also aware that this perspective has its limitations. For such a reason this perception could easily be changed through orientation of

their work, giving them only those elements that are not within their reach. The communities know that if they do not maintain the roads, the ones who will be most affected will be they themselves.

Apparently, the communities are willing to contribute within their means and limited construction experience in accordance with the distribution of benefits.

2.3 Conclusions about Employment and Income Generated by the Project

2.3.1 Employment generated at a community level has been of little significance. The Project has generated jobs through contractors, especially for the middle-sized company which hires semi-skilled laborers directly or through sub-contractors.

2.3.2 The increase in production of the areas served by the improved road system could probably be obtained by an increase in the productivity of the land. This yield increment will be possible due to better access to fertilizers, pesticides, better seeds, etc. and the possibility of receiving frequent visits from agricultural extension agents.

2.3.3 The Project will increase greatly the highway infrastructure, but since this will be a secondary network, there still exists the question of how to effect its maintenance, a key factor in extending the usefulness of this investment.

2.3.4 It seems clear that production is oriented to the following:

a) The principal production consists of basic crops, especially as a food source; in other words, it is production essentially for consumption.

b) Normally there exists a key crop or ranching activity directed towards sales such as tobacco, rice, cattle raising, etc.

2.4 Recommendations

After studying, analizing and discussing all technical, economic and social aspects involved in the Project "Reconstruction of Access Roads and Rural Trails", financed with funds from the U.S. AID Loan 522 T-035 and from the government of Honduras, and after visiting the projects under construction as well as the communities involved, we submit the following recommendations:

2.4.1 Technical and Administrative Aspects

a) The DGC with its Executor Unit has shown sufficient technical and administrative capability, having completed 85% of the programmed targets within the time established in the Loan Agreement. For this reason this Unit should be maintained for future projects.

b) Participation of the U.S. AID Engineering Department has been a positive and key factor in the DGC achievements. It would be advisable that this collaboration and advice continue to be given by U.S AID in future projects.

c) In order to hire more experienced and capable engineers as Sub Project Chiefs, it would be advisable to offer contracts for the duration of the

sub-project rather than for one year. Similar social benefits should be given by the government as private companies give to their permanent employees, including vacation, life insurance, social security, living allowance and severance pay.

d) The Consultant agrees with U.S. AID Engineers criteria that some type of construction engineering drawings should be available for future projects at least preliminary drawings to provide contractors and supervisors with technical guides for preparing cost estimates, for understanding geometric and drainage characteristics on which development of the project is based; and at the same time for providing a framework of reference for probable field change.

e) It is necessary that the DGC provide a manual, Special Technical Specifications, for low volume traffic roads similar to the ones reconstructed with other U.S. AID loans. This manual should clearly define the design characteristics and construction specifications, with the aim of promoting a uniform criteria to be applied by the construction engineers of the Executor Unit and the DGC.

The present specifications of the DGC are for another type of road and are not applicable to the program under evaluation.

f) It would be advisable to study a means whereby the contractors could collect their payment estimates more expeditiously once certified by the supervisor and the DGC, without having to resort to private banks while waiting for the numerous and slow steps of public administration. This could result in cost

savings to contractors which would eventually be translated into construction cost reductions for the government. This procedure could be discussed with the Central Bank; its implementation, which we consider feasible, would help contractors in a significant way.

g) It would be desirable that contractors for these U.S. AID financed projects be given the same treatment as that given to contractors participating in projects financed by other international financing agencies, where part of their payment is paid in U.S. dollars. This would allow contractors to import their spare parts and equipment more expeditiously.

2.4.2 Socio economic Aspects and Organization

a) A review of the original formulation of the Project relative to the socio economic features is recommended with a view to updating them according to acquired experience. The original proposals contained in the document indicate that this activity will lead to a redefinition of the Project in terms of interinstitutional coordination, distinction between access roads and rural trails and the mechanisms of motivation, organization and support from the communities. This proposition is as valid for the new phase of the Project (extension to other zones) as for the follow-up of the Project already executed.

b) It is necessary to formulate a plan for promotion of community organization which coincides with the stages of the Project's development. Each sub-project is carried out in three principal stages.

- Identification and selection

- Execution

- Follow-up

The community promotion acquires different characteristics at each of the three stages; therefore, appropriate mechanisms should be designed for each stage.

c) In conjunction with other stage institutions and agencies for development, the Project must be established within a more general framework which considers the economic and social development of a sub-region or region. It is advisable that the Executor Unit select the sub-projects, giving due consideration to an integrated development effort. This means that as a previous step to construction the Executor Unit investigate which other public and private agencies are working in the area of the sub-project and act as a coordinating body, unless there is another organization already performing this function.

The objective of this activity will be to ensure that the communities involved receive the complementary social and economic assistance required. From this perspective those sub-projects that have characteristics of sub-poles of development around one or more development poles would have priority Their main link would probably be the primary road network.

d) It is necessary that the Executor Unit establish a mmechanism of information collection (data bank) to provide the following:

- Records of socio-economic data for each sub-project prior to its commencement, during its execution and upon its completion.

- The data bank likewise should include a component for interinstitutional information on location, characteristics, etc. It has been demonstrated that coordination at a basic level is effective and produces optimum results.

- A publicity campaign directed at other institutions and the general public should be generated by means of brochures or simple booklets designed to spread knowledge of the objectives and operational procedures of the Project, as well as the requirements that the Project has in joint programs at different political levels (national, regional, local and community) and different economic sectors (production and services) and/or areas of work.

- The mechanism for social organization could be used as a data source to verify the selection procedure. For this purpose it would be necessary that the Executor Unit review the requirements for collecting data. This procedure would permit an evaluation of the Project using measurements and comparisons. Such an activity could involve participation of trained personnel from other government agencies

(JNBS, INA, Ministry of Natural Resources, INFOP, etc.).

It is advisable that the personnel involved in the Project jointly discuss and redefine work procedures, introduction of new construction technologies, community relations, communications, etc. This will involve scheduling work meetings and training sessions to allow the personnel to become fully integrated into the Project and acquainted with the decision-making process. Such a requirement would encourage dialogue and exchange among personnel from the engineering, promotion and social services fields. The above activities would promote the creation of a dynamic group, capable of strengthening the socio-economic and technical aspects of the program.

Formal communication should be established with IHMA to incorporate this agency into the process of planning and selection of sub-projects. The objective would be that farmers in the area of the sub-projects improve their capability to sustain their prices at the farm by adequate storage and at the same time stabilize or depress their post-harvest losses.

This communication should be established by the Executor Unit within the framework of coordination previously described.

III SUMMARY OF PROJECT CHARACTERISTICS

3.1 According to the initial formulation of the Project, the objective of its execution is "to collaborate with the government of Honduras in its effort to increase the production, income and the provision of social and technical services to small farmers and their families in the rural areas of the country." The Project contributes to this objective by providing 630 km. of access roads and 230 km. of rural trails, enabling farmers in the areas selected to transport their products to market and enabling government agencies to reach those families with services. The Project envisions an increase in production and income of 18,000 families of small farmers in the area under development of the Project.

The Project initially contemplated as a priority execution zone the border area with El Salvador to complement the regional effort started by PRODERO. U.S. AID concentrated resources here for the agricultural sector program No. II and a significant portion in the PTR (Program for Rural Technologies).

In terms of results, the Project expects to expand the network of all-weather access roads and rural trails and to increase the number of roads of this type that can be included in the DGM system, provided that those roads satisfy their requirements.

The Project has three components:

- Restoration, improvement and/or construction of access roads

- Improvement and reconstruction of rural trails

- Improvement of the maintenance capability of the DGM through the repair of its equipment (target: 50 units)

For execution of the Project, the DGC established within its own organization a specific office with sufficient authority to manage with more efficiency the different aspects of the loan agreement (U.S. AID Loan No. 522-T-035) between U.S. AID and the Honduran government.

This office, designated as the Executor Unit, already had the opportunity of managing two previous loans: U.S. AID 522-T-025 and 522-T-030, corresponding to the Agricultural Sectorial I and The Reconstruction of Access Roads Damaged by Hurricane Fifi, respectively.

- The loan agreement was signed in 1980. Work started at the end of the same year under the supervision of the U.S. AID Engineering Department in Tegucigalpa

- According to the organization contemplated for the Project, the Executor Unit is in charge of coordination and administration of all Project activities including selection and priority classification of sub-projects, selection of supervisors and contractors and assistance to communities.

- The DGM is in charge of maintenance of all restored or reconstructed roads of the Project when they are classified as access roads. In the case of rural trails, the DGM is responsible for providing assistance to the communities for this maintenance.

- According to the Project Document the communities should organize maintenance committees through the community associations or the municipality. Also, when possible, communities should provide labor for road construction.

- The participation of CONSUPLANE was to have been the evaluation of environmental impact on the forest reserves. Also, it was

to coordinate and program activities of other government institutions and private agencies working in the Project area in order to incorporate these roads into the planning of such agencies.

As contemplated in the Project organization, the Peace Corps would participate in the identification and selection of sub-projects, motivate the communities to supply labor and work with community leaders.

In the construction 16 Honduran contractors have been involved, using the modality of equipment rental (including the sub-base placement) and unit prices for drainage (culverts, bridges and fords).

For the execution of this loan, the DGC hired additional engineering professionals qualified and with road construction experience.

During this year, employees of the Executor Unit numbers 198, including administrative personnel, construction engineers and technical-auxiliary field personnel for supervision.

IV GENERAL SCOPE AND OBJECTIVES OF THE EVALUATION
(Summary of Methodology)

According to the formulation of the Project and as an integral part of the same, a yearly evaluation should be carried out beginning the first year with the signing of the loan agreement.

The first evaluation was to concentrate on the following:

- Project execution problems, specifically the sub-project selection criteria

- The use of social organizers of the Peace Corps by the government of Honduras for the coordination of community involvement during the period of construction

- The maintenance system and the availability of funds from SECOPT to implement the planned tasks.

This evaluation has been executed within the framework defined in the Loan/Donation Agreement between the government of Honduras and AID, Section 6.1. Lying within the scope of the progress evaluation of the Project are the identification of problems that interfere with the achievement of Project objectives and the collection of information that can be used to elaborate diagnostics to solve such problems in this or any other project of this general type.

According to the specifications of this contract and the present evaluation program, this evaluation is intended to propose a qualitative judgement of the achievement of objectives by comparison of the technical, administrative, organizational and social promotion processes as they were contemplated in the original formulation of the Project with respect to the form in which they are executed, indicating the principal problems in its development during the period of execution.

Preparation of this evaluation has been accomplished through a systematic study of the above indicated processes, considering two main components:

a) Analysis of the Project's executive capability (technical-administrative responsabilities and social organization), considering the two different but complementary elements: the Executor Unit and the contractors.

b) A general analysis of the possibilities of occurrence of "expected effects" (capacity and possibility of response) according to:

- Willingness and availability of the communities to participate in the Project and integrate it into their way of life.

- Availability and capability of government agencies to increase their services according to Project requirements, including schemes for maintenance and optimum use of the infrastructure.

The general scope of the evaluation consists of a realistic review of activities executed in the Project with the purpose of determining the following:

- The identification of those sub-projects executed at an efficient level.

- Recommendations for those that have a negative balance or that require adjustment to increase their levels of efficiency.

4.1 Objectives of the Evaluation

According to the general scope of the evaluation and specifications of the Consultant's contract, four operational objectives have been established:

- To appraise the problems that contractors may confront in the execution of the sub-projects, emphasizing the use of combined capital and labor.

- To appraise the willingness and availability of the inhabitants of the area where the roads are built to participate in the construction and maintenance of the roads.

- To appraise to what degree the government has included in its programs the provision of services to new areas connected by this road network.

- To appraise the level of efficiency of the Executor Unit in coordinating and administrating the Project.

4.2 Procedure for Sample Selection and Collection of Data

a) Institutions

The collection of information responds to the scope and objectives of the evaluation. As units of analysis that at the same time correspond to subjects of inquiry, the following components were established:

Executor Unit at 2 levels
DGC at central level
DGC at a level of personell of the sub-project
DGM at central level

Contractors
General organization level (company)
Resident engineer and other personnel directly involved in the construction

- Communities

  At local authority level

  At community organization level

  Indirect and direct beneficiaries of the work (truckers, laborers, farmers, etc.)

- Government Institutions and Development Agencies

  Government officials at central, regional and local level.

  Private development organization officials at regional and local levels.

Collection of information was completed as follows:

- Through the compilation of documents: initial formulation of the Project, progress reports, loan agreement, sub-project reports, etc.

- Interviews with contractors.

- Interviews with SECOPT personnel (DGC Executor Unit, DGM and Resident Engineers).

- Interviews with U.S. AID personnel (Engineering Department)

- Interviews with municipal authorities, officials of the central government at national, regional and local levels.

- Interviews with users (truckers and merchants).

- Interviews with local and regional officials of private and public development organizations.

- General inspection of the sub-projects.

To systematize the information, interview guides and questionnaires were prepared. Copies of these are includeded in Annex No. 2.

The interviews and general collection of data were compiled by three qualified professionals who were contracted for the appropriateness of their fields.

b) Contractors

The interviews were conducted with pre-selected contractors who were chosen for the size of their sub-projects and their continuous longterm involvement with this Project. The three companies selected had two or more sub-projects, participated in the first sub-project and were terminating their work. These companies were Ticamaya, ECO, and REGINA. In order to have comparative elements in relation to the criteria used, three other new contractors in the Project with different characteristics were selected (one well-organized and efficient, one intermediate and one with performance problems). This group included Constructora Victoria, Constructora Congolón and the Grupo de Ingenieros y Arquitectos. To complement the selected group, two more companies with special characteristics were included in the investigation, Colindres y Asociados for specializing in bridges, and ICCASA for being one of the largest contractors in the country. A summary table showing the selected group characteristics is included in this report (see pages 34 and 35).

The selection of sub-projects corresponded to the group of contractors selected. For inspection purposes, nevertheless, some sections and/or sub-projects corresponding to other

contractors were visited. This procedure allowed the study of specific problems from the perspective of the supervisor engineer, the contractor, the community and the general work system.

CONTRACTORS SELECTED FOR EVALUATION PURPOSES

CONTRACTORS WITH LONGER EXPERIENCE IN THE PROJECT

TICAMAYA

Sub-Project 1982-83 Gracias-La Campa
San Manuel Colohete
Detour to Caiquín and Corante

Sub-Project Detour to Vivistorio
Detour to San José de Copán, Detour to Quezailica and santa Elena

ECO

Sub-Project 1980-81 Detour to Sensenti
Azacualpa, Gualtoya
Mesitas La Loma San Fco. de Cones

Sub-Project Detour Trinidad-Naranjito, Santiago de Posta

REGINA

Sub-Project Marcala-Sabanetas
Santa Elena-Yaruła
Cabañas

Sub-Project 1982-83 Azacualpa-La Laguna Verde, Access to La Loma

CONTRACTORS WITH LESS EXPERIENCE IN THE PROJECT

VICTORIA

Sub-Project 1982-83 Pnalejo Tierra Amarilla
San Juán del Sitio

CONGOLON

Sub-Project 1981-83 Detour to Santa Cruz
Mina
La Lima

GRUPO DE ARQUITECTOS E INGENIEROS

Sub-Project 1982-83 Pinalejo-Correderos
El Venado

COMPLEMENTARY GROUPS

COLINDRES Y ASOCIADOS

Puente Higuito

Puente Sensenti

ICASSA

Sub-Project La Esperanza Azacualpa,
1980-81 Monquecagua Togolapa,
Quebrada Honda, La Esperanza-San Juan

c) Communities

To accomplish the operational objectives of the evaluation, the selection of the communities followed a general sampling procedure: the principal population centers connected by the sub-projects were visited and meetings with community associations, mayors, producers, housewife clubs, parent leagues, etc. were convened. The success of those meetings often depended upon the time of day. During afternoons, for example, group sessions were not always possible; in those cases informal interviews with residents were conducted. Productive and informative meetings lasted an average of two hours with community organizations and municipal authorities when dealing with the promotion of a road maintenance scheme. A list of the communities visited for the purpose of conducting interviews is included in pages No. 37 and 38.

COMMUNITIES VISITED

DEPARTMENT	COMMUNITY	STATUS	PERSONS OR ORGANIZATIONS INTERVIEWED
La Paz	Santa Barbara	Municipality	Mayor, Municipal Secretary, Community Association leaders
	Yaruila	Municipality	No meetings (residents not available)
Intibucá	Qda. Honda	Village	Producers Cooperative Housewife clubs
	Azacualpa	Village	Producers Weaver Group Cooperative Housewife club
	Chiligatoro	Village	Producers Housewife club Community Association Board
Lempira	San Manuel Colohete	Municipality	Municipal Secretary Community Association leaders Merchants
	La Campa	Municipality	Mayor Municipal Secretary Community Association leaders Cooperative producer (clay artefacts) Trucking operation Resin cooperative
Ocotepeque	Sensentí	Municipality	Municipal Secretary Community Association leaders School teachers Justice of the Peace
	Azacualpa	Village	Community Association leaders CEDEN ex-extension agent
	Sn.Francisco de Cones	Village	No meetings (residents not available)
Copán	Vivistorio	Village	Truckers Merchants Residents
	Sn. José de Copán	Municipality	Mayor Municipal Secretary Residents

DEPARTMENT	COMMUNITY	STATUS	PERSONS OR ORGANIZATIONS INTERVIEWED
	Quezailica	Village	Community associations Religious organizations Auxilliary Mayor
	Santa Elena	Village	Community Association Residents Community Association leaders
	Naranjito	Municipality	Community Association Municipality Residents
Santa Bárbara	Laguna Verde	Village	Community Association Coffee producers Mayor
	Correderos	Village	Community Association Truckers Merchants Residents
	San Juán Sito	Village	Community Association Producers Auxilliary Mayor Residents Parents' Association
	Santa Cruz Mina	Village	Community Association Parents' Association Residents School teachers

4.3 Hypothesis of the Work

1. The capability for execution of the work is conditioned by:

   a) The quality of the contractor relative to:

      Technical and administrative experience in this field (construction)

      - Financial capability
      - Amount, condition and quality of the equipment
      - Planning capacity

   b) - The operational procedure of the Executor Unit:
      - Selection of contractors and contract award
      - Design methods
      - Construction methods
      - Technical specifications
      - Maintenance schemes
      - Construction supervision

2. Expected effects would be conditioned by

   a) Level of communities involved:

      - The degree to which the Project represents a solution to their needs
      - Experience in this field of action
      - The interest of local authorities and community organizations
      - The productions system and commercialization of these products
      - Political connection
      - Identification with the Project

b) The level of coverage for services of the government or other development organizations:

- In relation to the Project in its internal planning
- Amount and distribution of resources
- National development policies and their perspectives for institutional growth
- Geo-political conditions
- Inter-institutional coordination

APPENDIX A - RESULTS

A.1 Administrative Characteristics

A.1.1 Project Administration

Execution of the Reconstruction of Access Roads and Rural Trails Program financed by U.S. AID Loan No. 522-T-035 is the responsibility of the Executor Unit of the General Directorate of Roads which formerly was in charge of all SECOPT projects constructed with U.S. AID financing.

This Executor Unit already had the successful experience of managing two previous Loans, 522-T-025 and 522-T-030, corresponding to the Agricultural Sectorial Program I and the Reconstruction of Access Roads Damaged by Hurricane Fifi.

For the realization of this new Loan Agreement, the General Directorate of Roads had to contract additional personnel. For that purpose, professional engineers with construction experience were invited to submit their qualifications.

Characteristics of Field Personnel and Working Conditions

Due to the lack of a sufficient number of professional personnel with the road construction experience, it was necessary to hire engineers recently graduated, but with adequate qualifications and aptitudes necessary to work with the experienced professionals in the restoration programs of different sub-projects.

The results obtained through the work executed by the Executor Unit engineers are positive in the majority of cases. It is expected that with the experience gained in this type of work, work at future targets will be surpassed in terms of quality as well as in cost benefits.

Executor Unit Personnel

- Engineering Personnel

1 Chief Engineer

1 Assistant Engineer

1 Analyst Engineer

1 General Supervisory Engineer (pending assignment)

- Administration

1 Chief Accountant

1 Assistant Accountant

1 Purchasing Agent

1 Expeditor

2 Secretaries

1 Office Boy

1 Janitor

2 Drivers

1 Laboratory Technician

- Force Account Personnel

The personnel involved with force account work handle local funds, reparation of construction equipment and construction of some access roads.

These personnel include the following:

3 Bulldozer Operators

1 Grader Operator

4 Operator Helpers

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2 Mechanics

2 Mechanics Helpers

6 Watchmen

The Regional Supervision Units normally include the following personnel:

1 Supervisory Engineer

1 Assistant Engineer (depending upon the size of the sub-project)

1 Earthwork Foreman

1 Office Clerk

2 Drivers

1 Drainage Inspector

3 Time Keepers (for equipment-hours)

1 Surveyor (when changes are needed)

2 Chainmen (when changes are needed)

2 Laborers

During the present year, the personnel of the Executor Unit reached 198.

Based upon conversations and interviews with personnel of the Central Office, supervisors and field personnel as well as visits to most of the sub-projects to observe the quality of work being carried out, it is the Consultant's opinion that the Executor Unit has an adequate organization with sufficiently qualified administrative, technical and professional personnel to correctly execute the program.

The above conclusion implies that the Honduran government is satisfactorily complying with its contractual commitment to provide sufficient personnel. However, road maintenance by the DGM and the communities has not been implemented. Some faults have been detected and are discussed in detail in Appendix B.

A.1.2 Selection of Contractors

The DGC has been using the same procedure for selecting contractors as in those other projects financed by international agencies such as the World Bank, Interamerican Bank and Central American Bank. Therefore, the Consultant is of the opinion that the same are adequate for the present Project.

In the execution of the Project, the Consultant found that three of the 16 contractors, despite meeting qualification criteria, did not perform adequately. This indicates that in the future care should be taken during the prequalification process to eliminate those contractors with poor performance records and those who do not submit the guarantees required in the documents prepared by the DGC.

A.1.3 Supervision of the Project

Supervision of the Project is the responsability of the Executor Unit which, at the same time, supervises contractors and is responsible for the overall execution of the sub-projects. The reason for this is the particular manner of contracting in which the contractor, besides performing some work (drainage and sub-base) also rents equipment to the Executor Unit for clearing and earthwork activities which are directed by an Executor Unit engineer. Therefore, the

functions of the supervisor have a double purpose: that of direct specific supervision and that of the execution and management of the work in general.

In this regard, it is important to indicate that despite the acceptable results, there has been some lack of supervision from the central office of their own field supervisors. Closer supervision from the central office would help solve problems created by differences of opinion of a technical character, not only between the resident engineer and the supervisor of AID, but also with suggestions from the communities which, under certain circumstances, deserve to be taken into consideration.

It is the Consultant's opinion that in the majority of cases, the supervision has acted with sound technical criteria, and as the field personnel acquire more experience, the Executor Unit will be in a better position to carry out projects with more technical expertise and higher cost benefits. This is true, not only from the perspective of the initial investment, but also for longterm project duration, considering the application of solutions to avoid continuous and costly maintenance.

In some cases, due to the lack of defined specifications, differences of opinion of a technical character have arisen. But these have been satisfactorily solved by applying the criteria of the U.S. AID Supervisor and the Executor Unit Chief.

It is the Consultant's opinion that minimum technical specifications be prepared by the DGC and U.S. AID to standardize supervision criteria and to facilitate the work of the supervisor engineers. These specifications should include not only the road width, but also horizontal and vertical alignment requirements.

During the Consultant's visits to the field, it could be observed that all SECOPT engineers were at their jobs and work was proceeding satisfactorily. If problems did arise with the contractors, they were not traceable to the supervisor.

A.1.4 Assistance of the DGC to the Communities

During the selection process of sub-projects, the Executor Unit visited all the communities that submitted applications or requests for reconstruction of roads, interviewing residents, truckers and municipal authorities; nevertheless, according to the investigations completed by the Consultant, the officials of tha DGC did not provide them with guidelines to organize the labor force of the localities for participation in the phases of construction and maintenance. The officials that visited these communities only collected data which allowed SECOPT and U.S. AID to appraise the economic potential of the zone and the feasibility of investing in the reconstruction of the roads. This approach was due mainly to anticipated problems involving the availability of local labor and the limited capability of execution with a heavy dependency on unskilled labor. Therefore, preference was given to the use of equipment and contractors. A more detailed explanation of this development is given in Section A.3.6, "Labor Utilization", in this Appendix.

Some recommendations are presented with regard to community assistance on the subject of maintenance, Appendix B, Section B.1.4, "Possibility of Maintenance by the Communities." We think that good will exists in the communities and if adequate motivation is implemented, they would participate in the construction and maintenance of the roads.

A.2 Selection of Sub-Projects

A.2.1 The Process

As stipulated in the initial formulation, the principle of a sub-project scheme was maintained where possible. The selections process was as follows:

1. A tentative list of roads to be financed was examined (See Annex L, Project Paper). This list was the result of the compilation of requests received by the Secretary of Communications and Public Works through the General Directorate of Roads and the DGM.

2. The following step consisted of screening the roads using geographic criteria, excluding those that were not located in the western zone (PRODERO). This in itself constituted the first effort for selection. This was an office task completed by personnel of the Executor Unit using cartographic maps.

3. Next, a cost-benefit analysis was prepared for those roads in the zone. This analysis was initially executed using the Guttman Methodology, an approach more oriented to the assignment of priorites. This methodology was later modified, and in September 1981 assumed its final form which has been in use up to now, since October 1981. The purpose of the cost-benefit analysis has essentially been to determine which road constructions are feasible considering a weighted index. When the index is greater than one, it is concluded that the road is economically feasible; if the index is less than one, construction is not feasible and therefore the road is not selected.

4. The procedure used was the following:

   a) Work was initiated in the Department of La Paz. A cost-benefit analysis was prepared whether they were access roads or rural trails. No segments were determined, just the communications between population centers and/or producer zones. The roads that had an index greater than one were included in the bidding and construction phase.

b) While construction was carried out in La Paz, the Executor Unit proceeded to evaluate in more detail roads in other departments. Once construction in La Paz was completed, work continued in Intibucá, Lempira, Copán, Ocotepeque and Santa Bárbara. This geographical sequence of study-construction was conceived to facilitate supervision and evaluation of subsequent constructions while roads of the previous department were being built.

The above is indicative of the importance given to the cost-benefit analysis as a selection criteria. According to U.S. AID instructions, the procedure to determine benefits and costs may be summarized as follows:

a) Data Collection

An agronomist with field experience made a reconnaissance of the prospective roads to collect information related to the following variables:

- Types of crops
- Cultivated area
- Yields
- Sale prices
- Production costs
- Production potential

These data were collected directly be interviewing residents of the area, sampling and averaging results as experience indicated.

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b) Computations

Data were processed according to the following procedure:

- Estimation of commercialized crops based on weighted average of the zone under study.

- Estimation of savings in transportation costs based on the current difference existing between the cost of transportation on roads not improved (under study) and those improved.

- Estimation of benefits relative to sale proceeds at the farm with roads (under study) and improved roads of the same zone.

- Estimation of construction cost per kilometer prepared by engineers in accordance with restoration and construction requirements.

c) An enconomist prepared the cost-benefit anaylisis. Data were tabulated jointly with the agronomist and the engineers, and those sub-projects having a cost-benefit ratio greater than one were selected.

A.2.2 Comments on the Procedure

The selection procedure used is simpler than the method proposed in the Project Document. Since there exist a great number of communities demanding projects of this nature, it seems practical to continue using this procedure. In addition, the Executor Unit is well acquainted with this method which is now part of its working system.

A.2.3 Additional Considerations

Some of the premises were established at the beginning of the Project, and this analysis is indicated next.

a) One of the first conditions determined for the economic analysis was the use of basic data[1/] (Pre-Project Data) which would serve as a reference in the comparison of the effects expected once the roads were improved. There is no evidence that such data were registered. For this reason it will be difficult to make a quantitative evaluation once the sub-projects are finished. However, in the following phases of the Project this measure has been taken.

b) The data collection for the microeconomic analysis was basically completed through the testimony of community residents. These data were obtained by a highly qualified professional who later estimated weighted averages for the zone based upon his experience. Since it was an explicit intention of U.S. AID to make these estimates on unimproved roads and roads recently improved, there is no guarantee of obtaining an average truly representative in those sub-project areas where this double condition does not exist.

c) Consideration of the Scope

Besides considerations related to the cost-benefit analysis, there are other criteria worth while examing. For one the roads have not been selected as a function of

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1/ "Baseline Data", according to the Project Document

- an integrated development scheme because of external problems of the Project and because of the lack of inter-institutional coordination. Under these circumstances it is obvious that once having been selected, a road does not acquire priority. It seems that this is the principal negative consequence from a general perspective. The process utilized may seem methodologically acceptable, but from a macroeconomic point of view, better guidelines existed in the Project Document which focused on a more general development scheme rather than on mere growth. Even so, this was only superficially mentioned in that document.

A.3 Design, Construction, Supervision and Maintenance

A.3.1 Design

In the U.S. AID Loan Document no engineering construction drawings have been included since the program is for reconstruction. For this reason, the supervisory engineer has limited his work to restoring the roads, conforming their surfaces, completing drainage and placing sub-base material for the protection of the embankments to create all-weather roads.

In some cases, one-way bridges have been constructed. Fords and concrete and metal pipes have also been installed in permanent streams. For these types of structures, and especially for bridge construction, it has been necessary to prepare detailed engineering construction drawings. The design has been the responsability of the Department of Studies and Projects of the DGC.

There have been situations in which the supervisor had to consider several solutions when the need to introduce changes

in some roads appeared. In these cases, studies and designs were prepared. Once approved, the drawings were used as construction drawings.

Despite the apparent fact that the use of construction drawings for restoration work has not been indispensable, they are an element that allow the contractor a better and more technical conception of the task. At the same time they permit estimation of work items with a greater degree of accuracy and the consequate preparation of more realistic cost estimates. For this reason, it is the Consultant's opinion that to promote proficient projects, it is necessary to prepare some type of construction drawings, at least preliminary ones. These drawings will facilitate the execution of operation for contractors and supervisors alike.

A.3.2 Environmental Effects

Environmental problems have not significantly influenced the design and construction of the roads because the vertical and horizontal alignments have been laid out following the natural contours, while avoiding deep cuts and fills that might result in slope instability and erosion problems.

Many of the sub-projects traverse forest areas. However, deforestation has not been a direct result of road construction, but of exploitation by lumber dealers. Once the roads are completed, these operators obtain from COHDEFOR forest exploitation licenses to work in these specified areas. Besides being the ones responsible for most of the damage to forests, these operators are the principal beneficiaries of the roads and the ones who cause their deterioration through the use of overweight trucks and handling of logs directly on the road surface prior to loading.

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Drainage structures are built in such a way that streams are not altered. This results in shorter and less costly structures and fewer changes in the environment.

Bridges are one lane (4.50 m), sufficient for all vehicle traffic, including lumber trucks; it is government policy not to impede lumber transport and to allow year round traffic. HOwever, it would be desirable that reparation of damage caused to the roads be shared by the liable parties.

Bridge construction has been located where the structures are shorter, without changing the stream course, and consequently with minimum environmental impact.

A.3.3 Structuring of Road Groups Based Upon their Locations

The DGC as much as possible tries to group the sub-projects according to their geographic location while also considering cost of the work. This policy results in the structuring of sub-projects as a "package". This term is used when radial roads or roads that connect communities within the area of influence of an important town originate from a single community. If the amount of the construction package does not exceed one million lempiras, the group of roads is awarded to one contractor; when it is more, the group is awarded to two or more contractors, as in the case of Pinalejo in the Department of Santa Bárbara. This policy has been advantageous for the DGC and for contractors because it allows centralization of personnel and material. In addition, supervision by the DGC and the contractors has been more effective and costs have been reducted. It is not possible to quantify the cost reduction resulting from such a policy, but the Consultant could observe that the supervisor engineers and contractors agreed on the convenience of such a policy.

A.3.4 Systems Used in Road Construction

The DGC has been constructing and reconstructing low volume traffic roads during the last 10 years. The experience acquired in relation to construction methods has been diverse and, in the case of roads to be executed with funds from U.S. AID Loan No. 522-T-035, the following construction procedure has been employed:

The Executor Unit and the contractors are jointly responsible for the execution of the sub-projects. For this purpose it is necessary to use machinery, tools and materials provided by the contractor. In those cases that additional equipment is needed for access roads, this also is rented by the contractor. The supervisor is responsible for management of machinery and labor.

The contractor has the obligation to maintain at the site all the machinery stipulated in the contract as well as the labor required by the supervisor.

Contractors are also responsible for the work items contracted on a unit price basis, providing, in this case, not only material, but also technical direction. For this type of work the supervisor's functions are limited to verifying that materials are adequate and construction procedures are acceptable. This is usually the case for work items such as culverts, right-of-way clearing or sub-base placing.

Based upon the experience of the DGC, this procedure that uses a combination of machinery rental and unit prices has proven advantageous when the supervisor is qualified to use the equipment efficiently. In which case the results are more economical than using the system of unit prices.

On this subject there are different opinions as to efficiency because the possibility exists that if the rented equipment is not properly used, it could prove to be more expensive. Also, this system requires a very strict control of equipment-hours because excess rentals could be inappropriately charged to the government's account. Nevertheless, according to the Consultant's observations during visits to the sub-projects, the supervision is satisfactorily complying with its responsabilities. For this reason the resulting construction costs have been low.

In summary, we can conclude that the procedure has rendered positive results, although we consider that it would be advisable for future sub-projects to have some type of construction drawings to improve cost control and construction quality, thereby reducing maintenance problems.

A.3.5 Size of the Projects and Contractor's Capital Requirements

Interviews with contractors have yielded different opinions as to the size of the projects and their requirements of capital. For large companies, the sub-projects included in this program are not attractive. Because of the low values involved, they are not supporters of rental equipment procedure for construction since their operation costs are higher in comparison to companies with less personnel and equipment.

Small companies have benefited more under this program. For their size and capital needs they operate with some margin of profit, but in spite of this, they always have problems with guarantees, advance payments and spare parts acquisition. These points were teated earlier in the specific recommendations of this report.

As a result of the size of the projects and the needs of capital, we may conclude that there is interest from local contractors to participate in this type of project, and in some way this work is contributing to the consolidation of several small companies.

A.3.6 Labor Utilization

We have observed that for several reasons the DGC and U.S. AID have preferred the utilization of machinery instead of labor as a principal component in the construction of "Rural Trails". The most important are the following:

a) Time of execution is less using equipment.

b) Contractor and supervisor administration is simpler and less costly.

c) In many of the sub-project areas labour is not sufficient and, when it is available, it depends on the crop sason. This does not allow uniform execution because the laborers quit construction work, which is only occasional, to return to agricultural work which assures their subsistence.

d) Contractors are not interested in using intensive labour because their main objective is to obtain the most profit from their machinery in which they have invested most of their capital.

e) Intensive labor utilization originates a high number of labor conflicts.

These and other factors have resulted in a labor utilization of no more than 20% of the total cost of the rural trails and not

60% as estimated. As for the utilization of labor in the construction of the access roads that constitute 80% of the total cost of the program, utilization has been within the estimated limits; that is, between 10 to 15% of the construction costs.

It is important to clarify that in spite of suggestions in the Loan Agreement to use as much labor as possible, the basic purpose of the program was to construct and to improve access roads to isolated communities in areas of high economic potential. In this sense, the proposed objectives have been largely accomplished and, although it was hoped to use a large number of people in the construction of the trails, the results from the perspective of improved access to the communities have been fully accomplished.

The problem of the use of labor from a social point of view is discussed in Appendix B, "Community Participation."

A.3.7 U.S. AID Supervision

For the execution of the program, U.S. AID assigned specialized personnel from its Enginering Department dedicated specifically to the Project. This team consists of a Chief Engineer and two Assistant Engineers who remain permanently in the field with SECOPT supervisors, jointly making decisions and serving as direct liaisons between the two organizations. Relations between U.S. AID and SECOPT officials have always been cordial and problems have always been faced in a technical way.

The Consultant could observe that in only a few cases changes improving the roads could have been affected. However, since the budget for each road is fixed within limits, those changes that produce high cost increases are not considered; more

economic solutions are found to keep costs within established limits.

It is the Consultant's opinion that the sub-project budgets should have reasonable margins of variation that will allow supervisors to make changes without resorting to lengthy procedures for approval of cost amplifications. When estimates are prepared, a sufficient contingency factor should be considered.

The Consultant considers that the present U.S. AID organization is greatly facilitating the execution of the Project. Through its direct participation, U.S. AID has a clear understanding of Project problems and is able to attend SECOPT requests at short notice. Consequently, we think that for future projects this type of organization should be maintained with an adequate number of experienced engineers. This scheme will avoid delays in the execution due to lack of decisions.

A.3.8 Standards Required by the DGM

The Loan Agreement establishes that once the roads are completed, maintenance of same will be under DGM jurisdiction. The Project Document also indicates that all roads reconstructed under loans U.S. AID 025 and 030 be included in the DGM maintenance program as well as those completed under the present loan. The government commitment is to obtain the necessary funds to maintain these access roads and rural trails and to provide supervision to the communities participating in their restoration.

On this subject, it is important to mention that the DGM has its own special rules for the reception and inclusion of roads in its road maintenance network. This document was approved by

Executive Decree No.0720, dated 17 December 1979. In order to fulfill its maintenance commitments, the Minister of SECOPT in letter No. S-331-83, dated 23 March 1983, formally transferred all roads included in the program to DGM, bypassing the process indicated by the regulations. However, some sections of some Project roads do not comply with the minimum specifications of the DGM.

For the reason stated above, we consider it necessary that the supervisors of U.S. AID and the Executor Unit try to keep their work within the established DGM standards, not only to comply with a requirement. These specifications have been the product of studies and previous experience which have permitted people in charge of such tasks to define parameters beyond which maintenance, due to local conditions of topography and runoff, proves extremely costly. It should be kept in mind that DGM does not possess sufficient equipment and personnel to provide adequate maintenance. Therefore, the fewer problems they have, the more possibilities there will be for maintaining the roads with a minimum effort.

A.3.9 Maintenance Equipment Repaired with Loan Funds

The mission that evaluated the financing request for the present program accepted the SECOPT proposal to assign U.S.$750,000.00 for emergency repair of 50 units that would be assigned to the maintenance of the roads. The objective was to provide the DGM with temporary assistance while the equipment financed by the World Bank, amounting to U.S.$ 7.2, million was acquired. Repairs were completed satisfactorily, including equipment from all eight districts that comprise the DGM. Nevertheless, due to an insufficient amount of equipment, the repaired units were assigned to the most urgent needs and not to this access road project.

The Consultant had the opportunity of talking with DGM officials who explained the reason for assigning the equipment to take care of urgent needs in the main highway network. They demonstrated their present equipment availability and their resources for repairs. The Consultant could observe that, indeed, those resources are insufficient because, as of this date, machinery financed by the World Bank has not been delivered.

A.3.10 DGM Equipment Utilization

Regardless of the above, the Consultant considers that although the equipment repaired with loan funds was not used in the direct maintenance of the "Access Roads", it has greatly contributed to mitigate the lack of equipment and resources of the DGM and has served to attend vital highways of the country. The DGM Director stated that DGM has a firm intention to honor its maintenance commitment as soon as the new machinery arrives.

A.3.11 Maintenance of Rural Trails

Before discussing the maintenance of roads designated as rural trails, it should be mentioned that the only geometric difference between access roads and rural trails, according to the Project Document, is the width. For the former, it is 5.50 m; for the latter, it is 4.00 m. In addition, rural trails were supposed to employ 60% of their total cost through labor and be maintained by the communities with DGM supervision.

Despite the specifications above, that difference was not enforced in practice due to the following:

1. Reconstruction of both types of roads was completed using machinery, and labor was reduced to 20%.

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2. The width of roads constructed was often dictated by the existing road width, but in general the decision of what width would be used was based on the estimates of traffic volumes.

3. The criteria used for the selection of the sub-projects was that of providing "accesses" to rural communities, but without differentiating between the types of access (i.e. roads or rural trails).

4. It was not necessary to differentiate between access roads and rural trails because such a distinction should be a result of the economic analysis of the communities which, according to their relative importance, might require a wider or narrower road. However, for small communities where it is difficult to estimate traffic, an analysis of that type is very subjective and care should be taken by the evaluator to rely upon his own criteria. As a consequence of the above, reconstruction and maintenance of rural trails did not follow the procedure indicated in the Project Document.

The reason given by SECOPT and U.S. AID for using machinery instead of labor has been specifically discussed in the section covering labor utilization and in Appendix B, "Community Participation in the Maintenance." Consequently, these procedures suffered changes mainly due to the fact discussed below.

According to the Loan Agreement, the DGC before starting the sub-project should have proceeded to organize the community labor forces for use during construction of the roads. Once these were finished, the DGM could have used that labor for maintenance as a contribution from the communities. However,

this was not carried out. Therefore, to maintain not only the rural trails but also the access roads, it is now necessary to proceed to organize the labor force of those communities benefited by the Program. This subject is discussed in more detail in Appendix B. It is of utmost importance to enlist community participation. To achieve this goal, the DGM should immediately proceed to send promoters to organize, within the community associations and committees, persons in charge of the road maintenance.

The Consultant had the opportunity to talk to mayors and community leaders of different towns. It could be observed that the communities were willing to collaborate in the maintenance of roads. We were able to detect that the people are conscious of the needs of the country, and that the government is not in a position to provide for all. But, a continuous promotion effort for community collaboration would be necessary to carry out this commitment. For this it is necessary to create a department devoted exclusively to promotion.

The communities are willing to collaborate, but need tools, technical assistance and in some cases equipment support. SECOPT and U.S. AID must proceed to take advantage of the good will that exists now that the roads are recently finished and in good condition. This opportunity must not be ignored.

Promotion is discussed in more detail in Appendix B, "Community Participation."

A.4 Contractor's Execution Capability

Based on the results of interviews with contractors, the following can be stated:

A.4.1. Technical and Administrative Experience

In spite of the differences in experience, installed capacity and level of organization, it is evident that no major problems of a technical order surfaced during execution of the work. In other words, since the Executor Unit had the technical responsibility for supervision of the work, specifically the Resident Engineer, it is logical to expect that contractors did not have technical problems.

Concerning the hiring of labor in the communities, the contractors have a predisposition not to use local labor except for simple tasks. The prevalent attitude is that the hiring of local labor is difficult and inconvenient. Besides, it is proposed as a fundamental criteria that the speed and results of execution using machinery yields a maximum return.

Contractors are not very interested in hiring unskilled labor. The usual lack of discipline in these individuals may later cause labor problems. As companies they have their own personnel with which they have developed special relationships, and therefore try to keep them all year round.

The only local hiring, mostly at a municipal level, is for certain work that is paid as a sub-contract (for example, construction of culverts). This is also a way to relate to known personnel that does not form part of the company and does not follow the company from project to project. Therefore, we may repeat that the hiring of local labor is not of great interest to contractors. In addition, demand for unskilled labor is not on a regular basis. This creates inconveniences as far as the rate of task/day is concerned, since payment for work is claimed on a regular basis, directly affecting the cash flow.

From the administrative point of view, the typical company profile is reduced to an informal structure dominated by the engineer who generally is the manager of the company and controls two aspects: operation and administration. Operation is controlled through a line of direct command to a foreman upon whom depend the operators, semi-skilled labor, masons, carpenters, mechanics, etc. (permanent personnel) and eventually unskilled labor (laborers), non-permanent and locally hired. The administrative aspect includes purchasing, logistics, book-keeping and financial matters. These activities are performed personally or with the assistance of one or more accountants.

As was observed, the existing structure for technical and administrative services is adequate to satisfy Project needs, since the contract calls for mechanized services plus unit prices for the placing of the sub-base.

A.4.2 Financing

Observations revealed companies without sound financial structure. For the majority of them liquidity only lasts for a couple of months. After this time they have to rely on bank credits, to which all the visited companies seem to have access. This seems logical since, judging from the lists of equipment, they have sufficient guarantees.

Excluding the largest company interviewed, the availability of working capital for the contractors is a function of bank financing, and their current income is based on payment estimates. As observed, it can be stated that the financial characteristics of this group of companies is approximately the same, with the exception noted. In general liquidity is low and bank credit is a vital factor for their survival.

A.4.3 Equipment Installed Capacity

In general there is sufficient equipment in amount and quality to perform this work. However, the main problems are the lack of spare parts and the difficulty in obtaining foreign exchange for their importation. Apparently, the Project has led to an increase of equipment for this type of contractor. This could also generate problems with idle equipment once the Project is completed.

A.4.4 Planning Capability

The level of planning of the contractors is minimal. Their basic criteria is intuition, knowledge being derived from visual inspection and cost estimates quite vulnerable to unforeseen changes.

Execution time is critical. If extended, it creates crises for which there are no provisions. The practical reality is that over-all project planning is the responsibility of the Executor Unit's Resident Engineer.

A.4.5 Contractor Summary

In summary, results of the interviews show that the most frequent considerations mentioned by contractors are the following:

1. The importance of having a good supervisor engineer, upon whom the project depends for being completed on time and in good form.

2. No predisposition for the use of intensive labor.

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3. Dependence on bank financing and payment of monthly invoices to keep operations going and to maintain minor investments.

4. Difficulty of proper machinery maintenance due to the lack of sufficient spare parts available locally.

5. Relative simplicity of the work due to the fact that most of the responsability is assumed by Executor Unit.

Based upon the observed characteristics and contractors' statements, it seems that the financial element is one of the most important in the contractors' installed capacity.

Apparently there are two principal elements to differentiate between contractors: size and strength. Both were observed as determining in the operation of contractors that have participated in the Project. On one extreme there are large and well organized companies and on the other, small and poorly organized ones. In between are the majority of the companies whose composition of capital and organization place them in an ideal position to participate in the Project, but which press the critical limit of liquidity. In terms of the Project, the question which arises is if their participation will allow them to consolidate or, once given their installed capacities, they could be lead to other types of markets or to bankruptcy for not using their capacities when demand decreases.

Even though construction is restricted only to the improvement of existing roads and that the technical management is the responsability of the Resident Engineer, it is nevertheless clear that the contractors are capable. Some apparently have developed around this Project while acquiring a degree of specialization. This could lead to two conclusions:

a) The Project has generated a volume of work within the construction sector for this type of company. Since there has not really existed a difference between access roads and rural trails, this has been the most significant business rather than the employment of local labor.

b) There is execution capacity for the construction or improvement of roads, based upon the mixed system adopted.

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APPENDIX B - COMMUNITY PARTICIPATION

B.1.1 General Aspects

Initial formulation of the Project clearly identified the level of community participation by distinguishing between the construction activities on the access roads and rural trails. It was expected that such roads should have been completed through appropriate combinations of machinery and labor in such a way that the established construction periods were observed in the case of access roads and that, through construction of rural trails, an adequate feeling of participation, achievement and local investment were developed.

Previous to and during construction participation of the residents, local organizations and municipal government were expected to collaborate. On one hand collaboration was expected with the removal of fences, provision of field warehouses, equipment yards, etc.; and on the other, participation was expected in the form of paid construction labor.

In the case of rural trails, community participation was planned for maintenance operations through the integration of local maintenance committees. For example, Annex G of the Project Document provides a format for the community agreement to take charge of the Project maintenance.

The Consultant's evaluation of this subject has been carried out according to the terms of reference presented above. However, the following general comments will help to place these specific considerations in a wider frame of reference:

1. From the social point of view, a project such as this should be considered from a more general perspective and not solely from the simple discussion of the disposition of a community to participate or not participate in the construction and maintenance activities.

The motivations and justifications within the community's way of life should be studied, to understand the implications of this type of work.

2. On the other hand, one must bear in mind the preconceived notions and attitudes that the executors have for these types of projects when they analyze them from their own perspective, the social implications and relationships with rural communities (socio-economic variables). Consider, for example, the type of institution (SECOPT in this case) and the type of personnel (most of them engineers) involved in the development of this program.

An analysis of the community participation generated from a more general perspective, as indicated above, would differ from one derived from the responses to questions such as: Are you willing to participate? Did the road bring you any benefits? Are you willing to maintain it? That difference evolves because the answers to the above are the results of an interrogation process originated by an interviewer whose primary interest is only to perform his tasks . On this subject, this evaluation has made an attempt to obtain the thinking of the community and the executors. This process implies interpretations of community motivation which could not be systematized for social promotion and further serve as the evaluator's recommendations for continuity of the Project and achievement of objectives in this field.

This appendix deals mainly with proposed bases for establishing a social promotion mechanism. Firstly, an interpretation of the previous historic-population data of the roads is presented, followed by a description of the general characteristics and the nature of the community organization and local government. Next, an analysis of the promotion of social organization used by the Executor Unit is submitted. In conclusion, general considerations for a possible design of a social promotion system are offered.

B.1.2 Roads' Origin

It is useful to understand the history of the roads that have been improved by this Project.

a) Origen of the Roads

In the cases that were investigated during this evaluation, the origin of the roads was conditioned by four types of initiatives:

- Individuals with enough resources to open access trails to their properties (for example, a rancher).

- Institutions and/or cooperative organizations with resources for this type of project (IHCAFE, ENEE, FEHCOCAL, AHPROCAFE).

- Sawmill operators and lumber dealers.

- Community organizations.

The quality of the trails was clearly conditioned by technical capability and available resources.

Many of these roads were not maintained in optimum condition, but were used until recently. Some of these roads date to the 1940's and, in many cases, involved community participation in their construction and maintenance (minimum) by cash and labor contributions. Due to historic, economic, conquest/colonization and ecological considerations, the rural populations have been characterized by disperse settlement patterns along

watersheds. The focal points are small towns that are no more than clusters of dwellings where some types of services (church, local government, police, etc.) are located. These typical settlements cover intermediate and sparsely inhabited mountain areas towards which demographic and land pressures are now oriented. A high percentage of the population is mobilized according to crop alternatives, crop harvesting, cattle raising, lumber exploitation, seasonal employment, etc. Because of the fluctuations of the economic activities which sustain these settlements, the need to organize them toward more stable production has been recognized since colonial times. Even important cities have been affected by these variations in population which are provoked by changes in the main economic activities (mining, export market oriented products such as indigo in colonial times, bananas in recent times).

Besides the instability of the main rural towns, they also have been characterized by a scarce "urban function"[1/].

At the same time, the highway infrastructure and its relative location importance has varied historically as a function of the economic importance of specific economic activity and the location of the main points of export. At the end of the last century all the road system was oriented toward communication of the

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1/ By "urban function" it should be understood as the categorization of human settlements in relation to a specialized economic, social or intellectual activity in a determined geographical area (sub-region, region, etc.)

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central and southern valleys to the Port of Amapala and to El Salvador, Nicaragua and Guatamala. This situation changed at the beginning of this century when bananas became the main export product. Subsequent infrastructure was developed in the areas of banana production and in access routes to foreign markets.

In the last decades construction of the northern and southern corridors and those to the east and west basically completed the national highway network. There still exists a need to communicate isolated towns with these corridors.

The rural population, by virtue of its dispersed character and its system of exploitation of agriculture, cattle and forests products, is generating needs for communications. The rural roads are a consequence which have developed sui generis, not necessarily as a result of a settlement or development policy.

Migrant agriculture characterizes the main activities of rural families. This procedure, clearing and burning, requires the continued use of new land and the abandonment of previously used land to allow it to recuperate, as is the case when lumber is cut. The land is then cultivated with corn and beans for two or three years and finally used for cattle grazing. The need for roads may occur before or after this process.

Until a few years ago the institutional answer to satisfy the needs of roads or the improvement of trails was that

of government agencies[1/] and private agencies[2/] for community development. According to the needs of the communities and based upon community organizations, the construction of light infrastructure was promoted, such as narrow trails or road improvement. Some of this work had the support of SECOPT and food donation programs. The process was characterized by small investment, plenty of community participation and little construction supervision (a social promoter supervised local residents). These activities resulted in SECOPT's labor road construction program.

b) Community Organization

In order to assess community willingness and availability to participate in the Project according to its original formulation, some comments on the community organization must be made.

Two types of social organizations were considered as possible co-executors of the Project: the municipal governments and community associations. For the municipal government the maintenance of roads or other work of this type was, and in some cases still is, traditionally carried out through summons to the residents. Nevertheless, the municipal government is subjected to a 1906 law which is obsolete. The latest national policy is moving toward a constant centralization of municipal functions, but there are no defined policies for municipal administration nor an economic base to allow municipalities to function adequately. The majority

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1/ As, for example: Social Welfare Committee (JNBS)

2/ Caritas, Concorde

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produce little economic activity and are, therefore, burdened by budget deficits. Some receive government subsidies. However, government subsidies do not imply a policy of municipal strengthening or local development. Still, the municipality continues to be the local authority of most importance in the isolated areas and, to a certain degree, in recent years has recovered some importance due to the political climate.

Community associations are for some localities their most important experience in community activities. Sometimes these associations are more relevant than the municipal government because of their external relations and ability to obtain funds from different sources. In addition, they are constituted to define interests and needs and have a capability to respond at short notice. The problem with these organizations is their provisional character which coincides with specific projects. However, there is a recent tendency to make their function more permanent, sometimes as a result of institutional policies directed toward their promotion and strengthening.

B.1.3 Promotion in the Communities

a) Before the Project

As a result of the visits to communities in the Project areas, it has been observed that all have an organization of some sort. Some have only one association for civic improvement; others (the majority) have more than one association (agricultural associations, cooperatives, housewives clubs, etc.). Many of these organizations were original promoters of the highway improvement and restoration who sent requests or delegations to local,

regional or national authorities. What is more, many had previously participated in the organization and realization of road maintenance. It is interesting to note that these community requests and activities are four or more years old and that the first steps were taken through military authorities or by promotion of same. In the case of communities in the municipality of Intibucá, the residents stated that an INA promoter and a joint community association identified the needs for roads for all villages, and the respective request was sent to local and regional authorities. The organization base was an association, but the initiative had an economic character (production cooperatives). In another case studied, the promotion was by an ANACH activist; AHPROCAFE and IHCAFE also had initiatives of this type.

As previously mentioned, the roads that have been restored or improved were mostly constructed as trails at least ten years ago[1/]. These trails were repaired and/or maintained by a summons system if the initiative was from the municipality, or by voluntary donations of some ranchers, truckers and lumber dealers, merchants, etc. Occasionally, individuals completed that work directly (as in the cases of the sawmill owner at La Campa, a rancher in Santa Cruz Minas, etc.). Some of the work was completed by DGM, answering a resident's request. This individual also collected funds for the payment of equipment operators, fuel and food for the necessary personnel. The work was, of course restricted to availability of the funds collected, and the results limited in quality and duration. However, this initiative kept the roads at a level for minimum traffic until this

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1/ Some are from the 1940's and others from the 1950's (according to residents)

- Project materialized.

These observations on previous experiences in the Project areas illustrate emphatically the possibilities of the community response to organized action for future road maintenance.

b) Promotion Within the Project

Project formulation proposes the direct participation of the communities as the alternative to rural trails construction, according to the methodology of sub-project selection. Following the selection procedure for sub-projects, once a road is selected as a rural trail, this decision should be confirmed by establishing the arrangements with the community involved. Afterwards, a committee from the community composed of the major associations and groups of cooperatives or producers' associations should have the responsability of participating in the construction and maintenance of the road.

Promotion within the communities was supposed to be a Peace Corps effort. However, their participation is not evident in the execution of the Project. This evaluation has attempted to analyze at all levels how the volunteers participated and what was the procedure designed for this purpose. According to information provided by the Executor Unit Chief, volunteers were assigned to the Project at the beginning, but during the execution process they found that the communities were interested in other types of assistance. For this reason volunteers asked to be assigned directly to community work. Other volunteers assure that the the promotion was completed before Project

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field execution. However, the selection process did not coincide with the promotion. Therefore frustration and discouragement developed within the communities which was reflected in the loss of credibility of the volunteers. Unfortunately, the people involved in this process are no longer in the country and it is not possible to obtain a more exact version of this episode.

At the beginning of the Project, a social promoter was hired. This individual had previously worked for many years as a promoter in the JNBS where he participated in road construction and improvement tasks. His hiring was the result of the suggestion of one of the project monitors who knew the promoter's work at JNBS. However, he indicated that he did not have the previous training necessary to carry out his work in this Project and was not acquainted with the general functioning of the Executor Unit nor the Project features. Until recently, the tasks performed by the economist doing the cost-benefit study were not known.

According to his statements and work reports, his task consists of visiting the field in areas designated by his superior. His visits last three to five days in those localities where the Project will be carried out. The purpose of the visit is to collect information about the inhabitants, available labor for construction work, main crops and community willingness to collaborate in the Project. In the last reports a form is used to collect the data in the community. This information is obtained through interviews with mayors and community association leaders. A letter directed to the promoter and signed by community representatives contains a description of the community, the possibilities of hiring labor, and includes

salary rates. In some cases the promoter has been able to share his tasks with resident engineers, which has created positive results toward a better relationship between the community and the engineer.

Whereas the procedure described above is a good start for a social organization effort, it is not a real promotion mechanism.

At times, some promotion was affected, mainly to identify the need for roads. Nevertheless, as far as the Project is concerned, most of the communities expressed that "they did not know anything about how the work was done." They only said that the company had come in, got installed, finished the road and left. As organizations, they did not participate in the Project.

However, these statements should be considered carefully. According to the report, many of the communities were, indeed, visited by the promoter. Since this activity was carried out with community representatives that might no longer be active, the new representatives might not be acquainted with the Project.

c) Assessment of the Community Organization Procedure

The existing promotion is, first of all, a mechanism to obtain a very superficial community commitment. The information contained in the letter-requests to the organizer look doubtful and induced and should not be used as a base for making decisions on the availability of labor and salary rates. Secondly, the time allotted for visits is short and the communities covered are many (eight in Intibucá in three days, 31 in Copán and

Ocotepeque in five days, 33 in Olancho in four days). This does not represent a real motivation program, much less a promotion for the community organizations. This situation was worsened by the fact that the organizer did not have his own means of transportation. Thirdly, it cannot be assured that a regular promotion procedure exists that is applicable to all cases. In pinalejo for example, this type of work was not attempted.

On the other hand, no methodology exists which defines how the activities are performed in any community. The reports do not have a standard format to allow comparison and follow-up of the sub-projects.

In summary, as far as the promotion is concerned, it can be concluded that this activity only partially gathers the data stipulated in the Project Proposal. The execution of this program only covers a minimum of what is considered as community participation in the Project.

The results obtained confirm the lack of an effective community organization procedure. Sporadic visits, made rapidly and without a defined follow-up purpose, cannot have positive effects in the motivation for community participation.

Finally, and as a result of the lack of organization, there is a community attitude that the work does not belong to them. This is an obstacle against developing a responsability for road maintenance. This is suggested by statements made such as, "If they (government) made the road, it is their duty to maintain it; "The government did it at its own cost. We think they should also maintain it."1/ This is the concept that many people have in relation to government services.

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B.1.4 Possibilities of Maintenance by the Community

Discussion of the results related to community participating has allowed the Consultant to assess the eventual capacity of response of the community for future road maintenance.

Two years after completion of the oldest sub-project (in the Marcala area) some sections of the roads have been deteriorating badly; their useful life might end next rainy season. This case illustrates that there are no concrete actions by the DGM to maintain these roads, not even for those roads of high priority. Conditions being as they are, it seems unlikely that much can be expected of the DGM in this regard. Therefore, if interest exists in protecting the investment made in the Project and in maintaining the roads in fair condition for at least a five-year term, it will be necessary to act immediately to create a promotion mechanism based on local participation to motivate and organize the communities and local governments to maintain the restored roads.

One should assume that it is feasible to enlist community participation if an adequate mechanism is established to generate within the community a mood of identification and proprietorship of the Project. At this moment there are no activities leading toward this objective; therefore they must be created. There are many accounts illustrative of community processes executed previously by these organizations for improvement, construction and restoration of roads. Even with their limited resources they have been able to carry out work with adequate results. The communities and local authorities recognize that under present economic conditions of the country

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1/ These statements do not invalidate recognition of the benefits derived from the Project.

and limitations of the DGM, the government cannot properly maintain the roads, at least during the short term. They are also aware that the most interested parties in maintaining the roads are the residents themselves, considering the "benefits" they receive, such as to merchants, truckers and, to a lesser degree, the average resident. In general, they do not believe that they can face the total maintenance there, but did take care of some preventative maintenance such as clearing side ditches and culverts and removing small slides. This type of work has been done by them on other occasions. However, they require tools and some supervision.

Community participation was contemplated in this Project to provide some level of training for the residents who could later be useful for future maintenance. However, in only exceptional cases was local labor used. The result is that there is no personnel that could assume those maintenance functions.

Although there is a sub-project final report detailing location of borrow pits, unfinished work items, areas of slide probability, etc., this document is not for community use. However, information of this type would be necessary to elaborate a maintenance program with a local organization.

It is worthwhile adding that in some cases there was some type of motivation in relation to community participation in the road maintenance. The evaluation program found a positive, but qualified, response from the residents. They continued the need for joint municipal-community association effort, although the municipalities indicated that they did not have resources to allocate to these works. They also indicated that resident labor could be solicited through municipal ordinances. In the beginning they demanded contributions or retributions of food rations for their labor. However, when explained that the

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Consultant did not know of any possibilities, they accepted that they could obtain the means. The organization representatives said that they could take care of motivating the residents, but made clear the necessity for a system of distribution of duties according to jurisdictions and according to distribution of benefits. They said it was not fair to summon neighbors, making minimum use of the roads, to collaborate with labor while others, such as truckers, ranchers, timber dealers and merchants receive more benefit and use from the road.

In summary, the necessary conditions required for a road maintenance activity based on a local effort imply an organized action between municipal government and community associations. This also requires a social promotion mechanism, technical assistance by the Executor Unit or some other government agencies, some logistic support and provision of tools (with a minimum of heavy equipment, also) for promotion to be effective. If this is not implemented, it can be expected that some sections of sub-projects might only last two years, in places where the geological features are poor due to soils with a high risk of erosion or very expansive clays in the mountain areas, where there is a need to keep the ditches free in such a way that a storm run-off can be easily evacuated from the road bed; if this does not happen, the road will be interrupted and the traffic will move with great difficulty or have to be stopped.

B.1.5 The Project in Relation to Population, Organization and Development Variables

One of the first observations in relation to the Project development is the need to improve the social promotion

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component[1/] in its systematization. The executing offices are aware that up to now the efforts have been understandably concentrated on completing the work in physical terms (number of road kilometers built) according to specifications within the least possible amount of time.

It has also been observed that the project does not define socio-economic objectives in an explicit manner. Nevertheless, some implications of this nature are stated in terms of achievements (increase of production as a result of access to market, increase in provision of services, increase of family income, etc.), but not in terms of operational objectives of the Project with sufficient precision. For example, there is no specification of the degree to which it is desired to provide employment, social development, local organization, etc. although there is a reference to aspects such as "adequate combination of labor and equipment and an increase in the provision of services to farmers." The general framework of the Project makes them a variable external to the execution itself.

Another observation has been the distinction between access roads and rural trails originally contemplated in the Project Formulation, which in practice has tended to be only a distinction of cost per kilometer and width of the road section. The term "rural trail" has been translated as "local road", and for some field and supervising personnel it is just a difference in names which is not clearly understood.

1/ Beginning of series of mechanisms with the objective of obtaining greater participation of the community to reach development goals.

An analysis of the Project execution from the perspective of social impact and the possibilities of community participation requires a discussion of the form in which it has influenced variables related to population, organization and development. In the first place, it could be expected that one of the results would be the generation of an urban function. Some communities would benefit from the Project by opening their hinterlands for the purpose of developing production, transportation and commercialization of their products. However, as has been mentioned, this intention was not very explicit.

It could be expected that the Project in some cases promote land settlement since some formulations are in this direction (increase of cultivated land plus more production). In other cases, such as when environmental impact studies indicate restrictions for the selection of sub-projects (for example, for reasons of deforestation) homesteading is discouraged and, as indicated previously, there are signs that major negative environmental impact was affected before Project execution. In any case, it is necessary to define policies to reduce this type of impact.

Since the Project is formulated to increase agricultural production, it would be appropriate to evaluate the percentage of land considered as arable in those sub-regions and analyze their present use in order to implement the provision of other services and projects.

In terms of development (local, regional and national), there is a provision for increasing services provided by the government or development agencies. However, it has been observed that this is not emphasized as a main part of the

execution. It will be advisable, therefore, that execution should incorporate control of other complenting variables in joint coordination with other development agencies. This could result in an amplification of the Executor Unit functions for coordinating activities with other service agencies in addition to the control of the physical execution of the Project.

It is a Project policy to reconstruct the roads allowing a minimum variation from the existing road. This use of the previous work consequently reduces construction costs. In some cases significant improvement and alignment changes have been made but in others the old alignment has been maintained. This sometimes creates negative comments from locals because, according to them, better alignments existed. However, it is probable that those local residents are not aware that in many cases the decision to use the old alignment was dictated by cost factors, in spite of the existence of better but more costly alignments.

In some of the interviews with residents they criticized the utilization of the existing roads, but it should be made clear that each local resident has his own opinion of how the road should be built. This opinion is a function of his own personal interest. Also, the local assessment of the work has been made after it was completed and is based upon the little information that the communities have relative to the Project and the notion of status given by the road to the benefited community.

For some of these communities the road category (size of roadway) is not consistent with their notion of the community status (for example, municipality).

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Community organizations represent the interests and needs of rural communities through group initiatives. Some observations can be made in relation to the Project responses to these community initiatives as identified by the sub-projects and their characteristics. In general terms, it has been assumed that all the benefited communities had identified the need of some road, which is valid for the level of the group interviewed. All of them had made requests to local and regional authorities, and some had written or visited the DGM. In this sense the Project responds to those requests. However, in some communities the answer was not the one expected. This was sometimes due to the road characteristics (of lower category than expected) and in other cases to the way in which the work was executed (outside the community). In addition, the concept held by most residents of how the Central Government functions in response to community needs, contributes to expectations related to work organization and remuneration that have a negative effect on efficiency levels, motivation, cost estimation, benefits determination, etc. For instance the estimated local wages according to responses to the social organizer was exaggerated (L 10 - L 15). In addition, local residents expressed no interest to this individual in contributing with labor to the maintenance program.

During the Consultant's interviews it was found that when community members were asked about this Project, their answers were contradictory to those given to the promoter. This illustrates the difference in perception that the rural resident might have of a government agent as opposed to that of an individual from outside that context.

TABLE 1.1 PROJECT CHARACTERISTICS

CONSTRUCTION AND IMPROVEMENT OF ACCESS ROADS AND RURAL TRAILS, U.S AID LOAN 522-T-035

PROJECT	NAME	LENGTH Km	CONTRACTOR	CONTRACT COST (LPS)	ORDER TO PROCEED	DURATION	TERMINATION DATE	COST EXECUTED	% EXECUTED	TIME ELAPSED (DAYS)	% TIME ELAPSED	MUNICIPALITIES CONNECTED	COMMENTS
LA PAZ GROUP Ø 1 C10-1-1	EL CERRON-STA. ANA-PLOMOS SAN MIGUELITO UPATORO ACCESS TO UPATORO	26.0	AISMA	818,800.00	20/10/81	240	22/ /82	220,222.40	35.7	615	256.0	MARCALA-SANTA ANA-UPATORO	CONTRACTOR WENT BANKRUPT. WORK STARTED AGAIN ON 20 APRIL 1982 BY "CODECO" ON BEHALF OF INSURER LA CONTINENTAL
LA PAZ GROUP Ø 2 C10-1-2	MARCALA-DESVIO TO YAMULA ACCESS TO YAMULA AND STA ELENA ACCESS TO CABAÑAS-LOS PLANES	46.5	REGINA	957,500.00	20/01/81	300	15/11/81	942,434.35	98.5	270	90.0	MARCALA, STA. ELENA, YAMULA, CABAÑAS	NO COMMENTS
INTIBUCA GROUP Ø 1 C10-2-1	LA ESPERANZA-SAN JUAN ACCESS TO TAULOG AND PLANES P. ROLS-PACAYA	63.0	ICCASA	993,000.00	17/12/80	300	12/10/81	949,881.70	97.7	240	82.0	LA ESPERANZA, WAMARAN-GUILA, SAN BRUNELITO, SAN JUAN	NO COMMENTS
INTIBUCA GROUP Ø 2 C10-2-2	LA ESPERANZA-WAMATERIQUE-LOS PLANES, CHILIZATONC-CON MONDA ACCESS TO MEMBRILLO AND PACAYA	48.5	SIMCO	761,500.00	4/10/81	330	3/09/81	530,466.51	71.0	670	201.0		
INTIBUCA GROUP Ø 3 C10-2-3	LA ESPERANZA-GUANOLOLO-CON MONDA CHINGULULO-AZACUALPA-LOS PLANES LA ESPERANZA-MAL LEBUARO	48.0	ICCASA	700,000.00	10/06/81	330	/06/82	700,996.10	90.0	330	100.0	LA ESPERANZA AND YAMARANGUILA	THERE IS CONTRADICTORY INFORMATION, EL MEMBRILLO AND PACAYA GALAMARA-EL ROBLE ARE NOT SHOWN
LA PAZ INTIBUCA GROUP Ø 1 C10-1-1-C10-2-1	LA ESPERANZA-MARCALA	30.0	SIMCO	250,000.00	26/01/81	180	26/07/81	200,000.00	100.0	120	72.0	LA ESPERANZA-SN JUAN	NO COMMENTS
LEMPIRA GROUP Ø 1 C10-3-1	GRACIAS-LA CAMPA-SAN MIGUEL ACCESS TO CERRONIN ACCESS TO CERRONIN	45.5	TICAMAYA	610,545.40	4/11/81	330	20/06/82	601,277.40	99.0	180	57.0	LA CAMPA AND SN MIGUEL	NO COMMENTS
CHIQUIMULA GROUP Ø 1 C10-4-1	EL CERRON-SENSENTI-AZACUALPA LA LOMA-SENSENTI-SANCTICA SENSENTI-SAN PEDRO CUNEO	26.0	ECO	405,614.10	31/12/81	300	16/10/82	431,512.06	97.0	315	105.0	SENSENTI	NO COMMENTS
COPAN GROUP Ø 1 C10-5-1	LOS ARBORES-LA UNION-EL CARRIZO CUCUYAGUA-SAN JOSE DE LAS PALMAS CUCUYAGUA-EL PORTILLO	30.0											
COPAN GROUP Ø 2	EL CERRON-DULCE NOMBRE CANDELARIA-SAN AGUSTIN LA LIMA-MONTELECA-DULCE NOMBRE CONCEPCION-SAN JUAN	46.5	ECO	831,704.46	21/12/81	330	10/11/82	701,873.71	80	330	100.0	DULCE NOMBRE, SAN AGUSTIN, CANDELARIA, CONCEPCION	TIME WAS EXTENDED TO 500 DAYS
COPAN GROUP Ø 3	PAVED HIGHWAY-CERRONIN PAVED HIGHWAY TO EL PORVENIR PAVED HIGHWAY TO PLANES DE SAN JUAN	31.0											
COPAN GROUP Ø 4 C10-5-4	ACCESS TO S. JOSE DE COPAN, LA ESPERANZA, STA ELENA-VIVIRICANO, BUENA VISTA	20.0	TICAMAYA	700,145.50	22/11/82	360	17/10/83	704,700.04	95.0	210	70.0	SAN JOSE, SN ESTANICA, SANTA ELENA	COMPLETED BEFORE CONTRACTUAL TIME
COPAN GROUP Ø 5 C10-5-5	SAN NICOLAS-EL CARMEN, SAN NICOLAS LA UNION, SAN NICOLAS PUEBLO NUEVO, PAVED HIGHWAY TO PUEBLO NUEVO	15.0	TUM-MAR Y PAREDES YADOCIADOS	300,037.20	13/12/83	210	10/7/83	340,041.70	90	110	52.0	SAN NICOLAS, PUEBLO NUEVO	COMPLETED BEFORE CONTRACTUAL TIME
COPAN GROUP Ø 6 C10-5-6	FLORIDA-SAN ANTONIO-EL PARAISO	25.0	TUM-MAR PAREDES YADOCIADOS	657,150.00	01/10/83	300	27/07/83	670,074.50	90	81	30.0	FLORIDA, SAN ANTONIO, EL PARAISO	COMPLETED BEFORE CONTRACTUAL TIME

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PROJECT	NAME	LENGTH Km	CONTRACTOR	CONTRACT COST	ORDER TO PROCEED	DURATION	TERMINATION DATE	COST EXECUTED	% EXECUTED	TIME ELAPSED (DAYS)	% TIME ELAPSED	MUNICIPALITIES CONNECTED	COMMENTS
[illegible]	LA LAGUNA - CHIPELARES, ACCESS TO SAN [illegible] DE PARTUPEACEBUS, ACCESS TO [illegible] CHIPELARES - LA TIGRA - NUEVA ALDEA	21.0	TITAN, S.A.	555,140.00	21/12/93	240	10/10/93	293,320.20	49.0	130	54.0	LA JIGUA AND FLORIDA	IN EXECUTION
[illegible]	CHIPELARES - EL [illegible] - EL PINEDO - PUTREBILLOS DE LA ESCUELITA	20.0	PRODECON	337,160.00	3/01/93	300	28/10/93	232,050.30	70.0	270	90.0	LA JIGUA AND FLORIDA	IN EXECUTION
[illegible]	ACCESS TO SANTA CRUZ MINAS A [illegible] LA MINA PINALEJO - MONTAÑITA	10.70	CONSOLON	540,200.00	22/8/93	270	01/06/94	540,010.31	99.7	210	81.0	GUIMISTAN	COMPLETED BEFORE CONTRACTUAL TIME
[illegible]	PINALEJO - TIERRA AMARILLA, SAN JUAN DEL NORTE, ACCESS TO BIG BLANCA	17.70	VICTORIA	654,202.00	10/09/93	240	11/06/94	654,240.94	100.0	196	81.0	GUIMISTAN	NO COMMENTS
[illegible]	AZACUALPA - LAGUNA VERDE ACCESS TO LOMA ALTA	10.00	REGINA	373,723.00	16/11/93	210	7/06/94	373,657.10	99.0	177	84.0	AZACUALPA	NO COMMENTS
[illegible]	PINALEJO - CORRESERRO - EL VERANO	33.30	GRUPO DE ING Y ARQUITECTOS	751,550.00	15/01/93	300	8/11/93	723,100.94	49.0	150	65.0	GUIMISTAN	IN EXECUTION
[illegible]	TAPAMETAS - SAN JOSE DE CAMPOS	33.20	TICAMAYA	701,402.00	30/09/93	300	30/06/93	701,300.00	100.0	45	15.0	MACUELIZO	IN EXECUTION
[illegible]	NARANJITO - SANTIAGO POSTA - ACCESS TO TOMIAD, COPAN	24.50	ECO	734,050.00	8/04/93	210	3/11/93	260,033.11	34.4	84	40.0	TRINIDAD AND NARANJITO	IN EXECUTION
[illegible]	CHINDA - CONCEPCION DEL NORTE - EL CERRON	25.0	MIRIDI	730,677.40	1/07/93	210						CHINDA - TOMIAD - CONCEPCION	IN EXECUTION
[illegible]	EL CERRON - LA ESPERANZA - VILLA NUEVA	27.0	SOINCO	745,300.00	1/08/93	210						CONCEPCION Y VILLANUEVA	IN EXECUTION
[illegible]	LAS COLUMNAS - LAS FLORES - PASO TIGRE	22.00	ETECOS	732,010.00	2/09/93	210	31/3/94	121,540.01	16.31	90	43.0	GUIMISTAN	IN EXECUTION
[illegible] - PUENTE	ARCILADA RIVER BRIDGE	20.24 mt	COLINGRES	92,072.03	28/09/91	210	08/08	92,072.03	100.0	200	95.0	GRACIAS - LA CAMPA	NO COMMENTS
[illegible] - PUENTE	ARCILAL RIVER BRIDGE	20.24 mt	COLINGRES	100,000.07	20/10/91	210	04/05	100,000.07	100.0	107	114.0	GRACIAS - LA CAMPA	NO COMMENTS
[illegible] - PUENTE	GRANDE RIVER BRIDGE	44.00 mt	COLINGRES	135,240.10	19/10/91	210	04/05	135,710.22	99.0	204	97.0	SENSENTI	NO COMMENTS
[illegible] - PUENTE	EL ZAPOTE BRIDGE BRIDGE	10.24 mt	COLINGRES	70,034.27	20/09/91	210	05/05	70,040.07	99.9	120	59.0	LA UNION	NO COMMENTS
COPAN - PUENTE	IDUITO RIVER BRIDGE	75.00 mt	COLINGRES	700,000.00	04/09/92	300	15/07/93	673,007.00	69.0	403	134.0	SANTA ROSA DE COPAN	IN EXECUTION, COST WAS INCREMENTED TO LPS 750,007.00, CONTRACTUAL TIME INCREMENTED TO 450 DAYS, TERMINATION DATE IS 10/09/93

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TABLE 1.2 PHYSICAL CHARACTERISTICS
CONSTRUCTION AND IMPROVEMENT OF ACCESS ROADS AND RURAL TRAILS, U.S AID LOAN 522-T-035

PROJECT NAME	LENGTH km	CONTRACTOR	TOPOGRAPHY	ADT	HORIZONTAL ALIGNMENT	VERTICAL ALIGNMENT	ROAD WIDTH (meters)	WEARING SURFACE	BORROW PIT	DRAINAGE	COMMENTS
[illegible]	[illegible]	CONSOLUN	HEAVY ROLLING	10	ACCEPTABLE	ACCEPTABLE	[illegible] TO [illegible]	GOOD	SEVERAL, GOOD	SUFFICIENT	NEEDS TO IMPROVE FORD AND TOWN ENTRANCE
[illegible]	[illegible]		HEAVY ROLLING	0	ACCEPTABLE	ACCEPTABLE	[illegible] TO [illegible]	GOOD	SEVERAL, GOOD	SUFFICIENT	
[illegible]	[illegible]	VILTONIA	MOUNTAINOUS	3	SINUOUS	BAD	[illegible] TO [illegible]	GOOD	SEVERAL, SCARCE	INSUFFICIENT	IN BOTH PROJECTS, BUT MOSTLY IN SAN JUAN, GRADES IN LONG SECTIONS EXCEED 15% AND IN SOME 20%. SUB-BASE WILL BE EROSIONED
[illegible]	[illegible]		MOUNTAINEOUS	4	VERY SINUOUS	VERY BAD	[illegible] TO [illegible]	GOOD	SEVERAL, SCARCE	INSUFFICIENT	
[illegible]	16.0	[illegible] ARQUITECTOS	MOUNTAIN AND LIGHT ROLLING	20	SINUOUS AND IN SOME TRACED SECT.	ACCEPTABLE	[illegible] TO [illegible]	GOOD	VERY GOOD, SCARCE	ACCEPTABLE	FLAT TERRAIN, NEED MORE DRAINAGE
[illegible]	[illegible]		LIGHT ROLLING	3	SINUOUS	VERY GOOD	[illegible]	UNDER CONSTRUCTION	SEVERAL	UNDER CONSTRUCTION	
[illegible]	[illegible]	TICAMAYA	HEAVY ROLLING	0	SINUOUS	ACCEPTABLE	[illegible]	GOOD	GOOD	VERY GOOD	NEEDS 2 RELIEF CULVERTS IN FINAL SECTION
[illegible]	[illegible]	TICAMAYA	FLAT AND LIGHT ROLLING	20	GOOD	ACCEPTABLE	[illegible] TO [illegible]	VERY GOOD	SEVERAL, GOOD	VERY GOOD	NEEDS SOME HEADWALLS
[illegible]	[illegible]	TICAMAYA	HEAVY ROLLING	20	SINUOUS AND VERY SINUOUS IN SOME SECTIONS	IMPROVEMENTS VERY FEASIBLE	[illegible] TO [illegible]	GOOD	GOOD	ACCEPTABLE	SOME SECTIONS NEED WIDENING, HORIZONTAL AND VERTICAL ALIGNMENT COULD HAVE BEEN IMPROVED
[illegible]	[illegible]	TICAMAYA	HEAVY ROLLING	3	SINUOUS	ACCEPTABLE	[illegible]	GOOD	GOOD	ACCEPTABLE	
[illegible]	[illegible]		FLAT	30	VERY GOOD	VERY GOOD	[illegible] TO [illegible]	VERY GOOD	SEVERAL, GOOD	VERY GOOD	NO PROBLEMS
[illegible]	[illegible]	BED	LIGHT ROLLING	10	GOOD	ACCEPTABLE	[illegible] TO [illegible]	VERY GOOD	GOOD	GOOD	NO PROBLEMS
[illegible]	[illegible]		LIGHT ROLLING	0	GOOD	ACCEPTABLE	[illegible]	GOOD	GOOD	ACCEPTABLE	SUB-BASE REQUIRED MORE COMPACTION
[illegible]	[illegible]		HEAVY ROLLING	30	VERY GOOD	VERY GOOD	[illegible] TO [illegible]	VERY GOOD	SEVERAL	VERY GOOD	NO PROBLEMS
[illegible]	[illegible]		HEAVY ROLLING AND MOUNTAINEOUS	10	GOOD	ACCEPTABLE, TWO GRADES SHOULD BE IMPROVED	[illegible] TO [illegible]	UNDER CONSTRUCTION	GOOD	UNDER CONSTRUCTION	NEED TO IMPROVE SECTIONS WITH GRADES MORE THAN [illegible]% (LIKE 300m AND OTHER 500m) KNOWN AS ESES AN TETONA
[illegible]	[illegible]	TUN AND PAREDES	LIGHT ROLLING	[illegible]	VERY GOOD	VERY GOOD	[illegible] TO [illegible]				
[illegible]	[illegible]		LIGHT ROLLING	[illegible]	VERY GOOD	VERY GOOD	[illegible] TO [illegible]	VERY GOOD	VERY GOOD, NEAR	GOOD	NO PROBLEMS
[illegible]	[illegible]	REGINA	FLAT	[illegible]	VERY GOOD	VERY GOOD	[illegible]				
[illegible]	[illegible]		LIGHT ROLLING		VERY GOOD	VERY GOOD	[illegible]	VERY GOOD	VERY GOOD	GOOD	A 300m GRADE BEFORE LAGUNA VERDE WHERE EARTHWORK IS UNFINISHED
[illegible]	[illegible]	DINCO	LIGHT ROLLING	[illegible]	GOOD	VERY GOOD	[illegible]		VERY SCARCE	GOOD	WEARING SURFACE IS TOO THIN
[illegible]	[illegible]	ICCASA	LIGHT ROLLING	[illegible]	VERY GOOD	VERY GOOD	[illegible]	GOOD	VERY GOOD, FAR	GOOD	WEARING SURFACE IS TOO THIN
[illegible]	[illegible]	ICCASA	LIGHT ROLLING	[illegible]	VERY GOOD	VERY GOOD	[illegible]				
[illegible]	[illegible]	REGINA	MOUNTAIN AND HEAVY ROLLING	10	GOOD	GOOD	[illegible] TO [illegible]	GOOD	VERY GOOD, FAR	GOOD	WEARING SURFACE IS TOO THIN
[illegible]	[illegible]	REGINA	LIGHT ROLLING		GOOD	GOOD	[illegible] TO [illegible]	GOOD	VERY GOOD, FAR	GOOD	WEARING SURFACE IS TOO THIN
[illegible]	[illegible]	AIGNS	MOUNTAINEOUS	10	ACCEPTABLE	ACCEPTABLE	[illegible] TO [illegible]	GOOD	SCARCE	GOOD	MOUNT ON WITH ROAD TO [illegible] THERE IS A 300m GRADE TO STEEP
[illegible]	[illegible]		HEAVY ROLLING		GOOD						
[illegible]	[illegible]	TICAMAYA	HEAVY ROLLING		GOOD	GOOD	[illegible] TO [illegible]	VERY GOOD	SEVERAL, GOOD	GOOD	NO PROBLEMS, EXCEPT FOR CAIGUIN ACCESS THAT NEEDS MORE DRAINAGE AND SUB-BASE
ACCESS TO CLAVATE	[illegible]										
ACCESS TO CAIGUIN	[illegible]										

TABLE 1.3

DESCRIPTION OF ROADS ORIGIN

SUB-PROJECT AND CONTRACTOR	YEAR OF TRAILS OPENING	INITIATIVE	MAINTENANCE AND COMMUNITY PARTICIPATION
Marcala-Sabanetas-Sta.Elena-Yarula (REGINA)	1957	A direct trail to Marcala Road was restored in 1960 to transport cereals.	Wearing surface work 6 or 7 years ago:material of low quality. There was no maintenance and road deteriorated. Community protested to Regional committee and to Engineer; Municipality has repaired some bridges.
La Esperanza-Azacualpa Monquecagua-Togopala.Detour to Chiligatoro-Quebrada Honda (ICCASA)	1971	There was a trail in 1974-75; work with JNBS for improvements in 1979 (Quebrada Honda) Community paid for a bulldozer time.	Community improved and maintained road with hand tools; in 1978-79 central community organization prepared a layout of road needs for the influence area of the municipality of Intibucá (Lenca ethnic Requests to Regional Committees provided other aid Problems with bridges.
Gracias-La Campa-San Manuel de Colohete Detour to Corante and Caiquín (TICAMAYA)	1960-61	1962, San Manuel completed trail to La Campa; La Campa did trail to Gracias.	Municipality had timber industry (used bulldozer); sometimes DGM gave equipment and community provided other aid. Problem with bridges.
Western Highway-Sensenti-Azacualpa. Las Mesetas-La Loma Detour to San Francisco (ECO)	1965 (Azacualpa)	Residents with hand tools attempted to build suspension bridge. Requested assistance in 1973	In 1973 a bulldozer was brought in; residents contributed with labor.Community received a loan of Lps. 5000 for bridge. AHPROCAFE promoted road improvement for all roads in the municipal boundaries.

TABLE 1.3 (Cont.)

SUB-PROJECT AND CONTRACTOR	YEAR OF TRAILS OPENING	INITIATIVE	MAINTENANCE AND COMMUNITY PARTICIPATION
Western Highway-Detour to Vivistorio-Detour to San José de Copán, Buena Vista-Detour to Quezailica-Santa Elena (TIGAMAYA)	No data	Changes to Quezailica and road to Santa Elena has been Project decision. Quezailica wanted a bridge on the old road (lumber trail).	Municipality did maintenance (direct detour). Expected extension of detour to San José Copán.
Western Highway-Trinidad de Copán-Naranjito-Santiago de Posta (ECO)	1974-75	ENEE trail to reach La Laulapa	Maintenance up to Naranjito, Municipality and residents requested repairs and bridge.
Azacualpa-Laguna Verde Detour Detour to La Lima	1955	Community and Municipality did first trail	In 1960 equipment was provided to widen the trail; in 1964 another expansion was provided.
Pinalejo-Tierra Amarilla-San Juan del Sitio (VICTORIA)	No data	A rural trail was promoted by ANACH activist. IHCAFE improved road with collaboration of residents.	Minimum maintenance by coffee growers and community
Pinalejo-Correderos.-El Venado (Grupo de Ingenieros y Arquitectos)	1944-45-46	Unknown person built it; a rancher extended it to Pinalejo and El Venado	1977-79 repair work was done jointly by community association and IHCAFE and coffee growers. Requests for repair have been made since 1970. Request made to Commander of SPS zone.
Western Highway-Santa Cruz Minas-La Mina	No data	A direct road to La Lima already existed; military officer with properties in the area did repairs.	Same person did maintenance.

TABLE 1.4

AWARDS AND COSTS OF CONTRACTS

CONTRACTOR'S NAME	DATE OF CONTRACT	CONTRACT COST	TOTALS
1. AISHA	5/6/1981	L. 612,000.00	L. 612,000.00
2. REGINA	11/11/80	957,500.00	
		373,722.00	L.1,331,222.00
3. ICCASA	10/11/80	992,000.00	
	9/5/81	766,000.00	L.1,758,000.00
4.SINCO	5/11/80	288,000.00	
	3/6/81		L. 288,000.00
5. TICAMAYA	30/9/81	681,943.40	
	11/9/82	701,402.00	
		796,141.90	L.2,179,487.30
6. ECO	22/10/81	495,414.30	
	22/10/81	831,794.46	
		736,480.00	L.2,063,688.76
7. YUN-KAX PAREDES	11/11/82	356,037.50	
	13/8/82	679,150.00	L.1,036,087.50

CONTRACTOR'S NAME	DATE OF CONTRACT	CONTRACT COST	TOTALS
8. TITAN	11/11/82	592,140.00	L. 592,140.00
9. PRODECON	3/11/82	837,160.00	837,160.00
10. CONGOLON	5/11/82	582,228.00	582,228.00
11. LA VICTORIA	18/8/82	594,252.00	594,252.00
12. HIRISI	9/3/83	736,477.50	736,477.50
13. SOINCO	29/3/83	783,303.00	783,303.00
14. GRUPO DE ING. Y ARQ.	3/3/82	751,850.00	751,850.00
15. ETECOS	2/3/83	792,510.00	792,510.00
16. COLINDRES Y ASOC.	28/9/81	404,954.29	
		799,997.68	L. 1,204,951.97

TOTAL :::::::::::::::::::::::: L. 16,143,358.03

PROYECTO TERMINADO

NOMBRE DEL PROYECTO : Caminos de Acceso y Vecinales en la zona de Marcala (La Paz Grupo 2)

LOCALIZACION : Departamento de La Paz

CONTRATISTA : Constructora "REGINA, S. de R. L. "

SUPERVISOR : Ing. Adrian Alvarado Pacheco

LONGITUD CONTRACTUAL : 65.5 kms. LONGITUD FINAL : 59.70 kms.

COSTO CONTRACTUAL : Lps. 957,500.00 COSTO FINAL : Lps. 942,434.35

PLAZO CONTRACTUAL : 300 días PLAZO EJECUTADO : 270 días

F E C H A S

APROBACION DEL ESTUDIO SOCIO-ECONOMICO: 02 de septiembre de 1980

LICITACION DEL PROYECTO : 05 de septiembre de 1980

FIRMA DEL CONTRATO : 11 de noviembre de 1980

FIRMA DEL ACUERDO PRESIDENCIAL : 14 de noviembre de 1980

FIRMA DE APROBACION DEL FINANCIAMIENTO: 21 de noviembre de 1980

ORDEN DE INICIO: 20 de enero de 1981 TERMINACION OFICIAL: 15 de noviembre de 1981

INICIO REAL : 13 de noviembre de 1980 TERMINACION REAL : 16 de octubre de 1981

Descripción	Longitud Terminada (Kms)	Costo Final (Lps.)
Marcala-Desvío a Yarula	25.5	384,699.30
Acceso a Yarula y Santa Elena	13.9	257,006.50
Acceso a Cabañas-Los Planes y Tierra Colorada	7.2	114,698.75
Marcala-Musula	3.6	52,897.55
Marcala-San Francisco	5.5	75,062.50
Marcala-Santa Cruz	4.0	58,069.75
TOTAL	59.70	942,434.35

C O M E N T A R I O

Los trabajos consistieron en el mejoramiento de cunetas y taludes, instalación de alcantarillas, conformado y balastado de la superficie de rodadura y el mejoramiento de puentes de madera.
Los bancos de préstamo de donde se extrajo el material de sub-base, se encontraban a distancias considerables del proyecto, motivo por el cual aumentó el costo de los proyectos.

NOMBRE DEL PROYECTO : Camino de Acceso Marcala - La Esperanza (La Paz - Intibucá, Grupo 1)

LOCALIZACION : Departamento de La Paz e Intibucá.

CONTRATISTA : Constructora " SINCO, S. de R.L. "

SUPERVISOR : Ing. Adrian Alvarado Pacheco.

LONGITUD CONTRACTUAL : 36.0 kms. LONGITUD FINAL : 36.o kms.

COSTO CONTRACTUAL : Lps. 288,000.00 COSTO FINAL : Lps. 288,000.00

PLAZO CONTRACTUAL : 180 días PLAZO EJECUTADO : 129 días

F E C H A S

APROBACION DEL ESTUDIO SOCIO-ECONOMICO : 02 de septiembre de 1980

LICITACION DEL PROYECTO : 05 de septiembre de 1980

FIRMA DEL CONTRATO : 05 de noviembre de 1980

FIRMA DEL ACUERDO PRESIDENCIAL : 10 de noviembre de 1980

FIRMA DE APROBACION DEL FINANCIAMIENTO : 21 de noviembre de 1980

ORDEN DE INICIO : 28 de enero de 1981 TERMINACION OFICIAL : 26 de julio de 1981

INICIO REAL : 01 de diciembre de 1980 TERMINACION REAL : 05 de junio de 1981

D e s c r i p c i ó n	Longitud Terminada (Kms)	C o s t o Final (Lps.)
Marcala - La Esperanza	36.0	288,000.00

C O M E N T A R I O

Los trabajos consistieron en el mejoramiento de cunetas, conformación y balastado de la superficie de rodadura.

Se utilizó menos volumen de material (para sub-base) del programado, por la razón de que el material que salió de la conformación del terreno natural era adecuado para el mismo balastado, colocándole desde luego un espesor mínimo de material selecto.

MBRE DEL PROYECTO : Caminos de Acceso y Vecinales en la zona de La Esperanza.
(INTIBUCA, Grupo 1)

LOCALIZACION : Departamento de Intibucá

CONTRATISTA : Constructora " ICCASA

SUPERVISOR : Ing. Renán Rivera Flores

LONGITUD CONTRACTUAL : 63.0 kms. LONGITUD FINAL : 62.0 kms.

COSTO CONTRACTUAL : Lps 992,000.00 COSTO FINAL : Lps. 969,501.70

PLAZO CONTRACTUAL : 300 días PLAZO EJECUTADO : 245 días

F E C H A S

APROBACION DEL ESTUDIO SOCIO-ECONOMICO : 02 de septiembre de 1980

LICITACION DEL PROYECTO : 05 de septiembre de 1980

FIRMA DEL CONTRATO : 10 de noviembre de 1980

FIRMA DEL ACUERDO PRESIDENCIAL : 14 de noviembre de 1980

FIRMA DE APROBACION DEL FINANCIAMIENTO : 21 de noviembre de 1980

ORDEN DE INICIO : 17 de diciembre de 1980 TERMINACION OFICIAL : 12 de octubre de 1981

INICIO REAL : 21 de noviembre de 1980 TERMINACION REAL : 18 de septiembre de 1981

Descripción	Longitud Terminada (Kms)	Costo Final (Lps.)
La Esperanza - San Juan	43.00	690,374.54
Acceso al Tablón - Planes	6.00	175,863.00
Prolongación Planes - Pacaya	3.00	42,047.25
Acceso al Membrillo	3.00	15,065.00
Acceso al Pelón - Quiterique	7.00	46,151.91
TOTAL	62.00	969,501.70

C O M E N T A R I O

Los trabajos consistieron en el mejoramiento de cunetas, conformación y balastado de la superficie de rodadura, instalación de alcantarillas, limpieza del derecho de vía y construcción de puentes de madera. En los proyectos Accesos a Pacaya, El Membrillo y al Pelón, solamente se amplió y conformó la calzada.

NOMBRE DEL PROYECTO : Caminos de Acceso y Vecinales en la zona de Guangololo. (INTIBUCA, Grupo 3).

LOCALIZACION : Departamento de Intibucá.

CONTRATISTA : Constructora " ICCASA "

SUPERVISOR : Ing. Ricardo Larios

LONGITUD CONTRACTUAL : 48.0 kms. LONGITUD FINAL : 43.90 kms.

COSTO CONTRACTUAL : Lps. 766,000.00 COSTO FINAL : Lps. 765,998.18

PLAZO CONTRACTUAL : 330 días PLAZO EJECUTADO : 330 días

F E C H A S

APROBACION DEL ESTUDIO SOCIO-ECONOMICO : 10 de abril de 1980

LICITACION DEL PROYECTO : 25 de noviembre de 1980

FIRMA DEL CONTRATO : 19 de mayo de 1981

FIRMA DEL ACUERDO PRESIDENCIAL : 20 de mayo de 1981

FIRMA DE APROBACION DEL FINANCIAMIENTO : 09 de julio de 1981

ORDEN DE INICIO : 15 de junio de 1981 TERMINACION OFICIAL : 10 de mayo de 1982

INICIO REAL : 25 de mayo de 1981 TERMINACION REAL : 10 de mayo de 1982

Descripción	Longitud Terminada (Kms)	Costo Final (Lps.)
La Esperanza-Guangololo-Chiligatoro-Quebrada Honda-Boca del Monte-Los Planes, Guangololo-Azacuálpa de Intibucá.	22.30	496,019.47
La Esperanza-Pueblo Viejo-Malguara.	16.00	242,976.71
Malguara-El Rodeo.	5.60	27,002.00
TOTAL	43.90	765,998.18

C O M E N T A R I O

Los trabajos consistieron en la ampliación de la calzada, mejoramiento del alineamiento vertical y horizontal, construcción de cunetas, instalación de alcantarillas, construcción de puentes de madera, construcción y balasteo de la superficie de rodadura.

A solicitud de los campesinos de El Rodeo donde existe producción de papa, y con la aprobación de la AID, se prolongó la reconstrucción hasta el cruce con el camino que conduce a El Rodeo, en este Proyecto solamente fué ampliada y conformada la calzada.

NOMBRE DEL PROYECTO : Caminos de Acceso y Vecinales en la zona de Gracias. (Lempira, Grupo 1)

LOCALIZACION : Departamento de Lempira.

CONTRATISTA : Constructora " TICAMAYA, S. de R. L. de C. V. "

SUPERVISOR : Ing. Douglas Jimenez

LONGITUD CONTRACTUAL : 45.5 kms. LONGITUD FINAL : 43.55 kms.

COSTO CONTRACTUAL : Lps. 681,943.40 COSTO FINAL : Lps. 681,777.50

PLAZO CONTRACTUAL : 330 días PLAZO EJECUTADO : 190 días

F E C H A S

APROBACION DEL ESTUDIO SOCIO-ECONOMICO : 21 de noviembre de 1980

LICITACION DEL PROYECTO : 02 de marzo de 1981

FIRMA DEL CONTRATO : 30 de septiembre de 1981

FIRMA DEL ACUERDO PRESIDENCIAL : 30 de septiembre de 1981

FIRMA DE APROBACION DEL FINANCIAMIENTO : 24 de noviembre de 1981

ORDEN DE INICIO : 04 de noviembre de 1981 TERMINACION OFICIAL : 29 de septiembre de 1982

INICIO REAL : 18 de septiembre de 1981 TERMINACION REAL : 12 de mayo de 1982

D e s c r i p c i ó n	Longitud Terminada (Kms)	C o s t o Final (Lps.)
Gracias - La Campa	16.00	300,228.50
La Campa - San Manuel	17.55	257,073.50
Acceso a Corante	4.75	63,879.00
Acceso a Caiquín	5.25	60,596.50
T O T A L	43.55	681,777.50

C O M E N T A R I O

Los trabajos consistieron en ampliación de la calzada, mejoramiento del alineamiento horizontal y vertical, construcción de cunetas y vados, instalación de alcantarillas y construcción de cabezales, balastado y compactado de la superficie de rodadura, limpieza y cercado del derecho de vía.

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NOMBRE DEL PROYECTO : Caminos de Acceso y Vecinales en las zonas de Sensenti y La Unión (Ocotepeque y Copán, Grupo 1)

LOCALIZACION : Departamentos de Ocotepeque y Copán.

CONTRATISTA : Constructora " EQUIPOS DE CONSTRUCCION, S. de R. L. de C. V. "

SUPERVISOR : Ing. Melvil Luis López Rivers

LONGITUD CONTRACTUAL : 39.40 kms. LONGITUD FINAL : 37.60 kms.

COSTO CONTRACTUAL : Lps. 495,414.30 COSTO FINAL : Lps. 432,512.56

PLAZO CONTRACTUAL : 300 días PLAZO EJECUTADO : 315 días

F E C H A S

APROBACION DEL ESTUDIO SOCIO-ECONOMICO : 16 de enero de 1981

LICITACION DEL PROYECTO : 13 de marzo de 1981

FIRMA DEL CONTRATO : 22 de octubre de 1981

FIRMA DEL ACUERDO PRESIDENCIAL : 22 de octubre de 1981

FIRMA DE APROBACION DEL FINANCIAMIENTO : 24 de noviembre de 1981

ORDEN DE INICIO : 21 de diciembre de 1981 TERMINACION OFICIAL : 16 de octubre de 1982

INICIO REAL : 21 de diciembre de 1981 TERMINACION REAL : 31 de octubre de 1982

D e s c r i p c i ó n	Longitud Terminada (Kms)	C o s t o Final (Lps.)
Carretera de Occidente-Sensenti-Azacualpa	8.0	73,874.94
Azacualpa-Las Mesitas-La Loma	4.0	51,397.15
Sensenti-Gualtaya	3.2	38,190.47
Sensenti-San Francisco de Cones	5.6	78,135.29
Los Arroyos-La Unión-El Corpus	8.5	128,982.59
Carretera de Occidente-El Portillo	2.0	13,108.09
Carretera de Occidente-San José de las Palmas	6.3	51,824.03
M u l t a		(-) 3,000.00
T O T A L	37.60	432,512.56

C O M E N T A R I O

Los trabajos consistieron en el mejoramiento de los caminos mediante la ampliación, conformación y balasteo de la calzada, que incluye toda la obra de arte (alcantarillas y vados de concreto).

En el camino Sensenti-Gualtaya se hizo un paso natural por el río Touxa, dejando construidas las aproximaciones en un sitio donde deberá instalarse un puente de concreto de aproximadamente 15 metros.

PROYECTO TERMINADO

NOMBRE DEL PROYECTO : Caminos de Acceso y Vecinales en la zona de Dulce Nombre de Copán (Copán, Grupos 2 y 3).

LOCALIZACION : Departamento de Copán.

CONTRATISTA : Constructora " EQUIPOS DE CONSTRUCCION, S. de R. L. de C. V.

SUPERVISOR : Ing. Marco Tulio Canales

LONGITUD CONTRACTUAL : 61.60 mts. LONGITUD FINAL : 51.50 kms.

COSTO CONTRACTUAL : Lps. 831,794.46 COSTO FINAL : Lps. 791,973.31

PLAZO CONTRACTUAL : 330 días PLAZO EJECUTADO : 360 días (*)

F E C H A S

APROBACION DEL ESTUDIO SOCIO-ECONOMICO : 16 de Enero de 1981

LICITACION DEL PROYECTO : 13 de Marzo de 1981

FIRMA DEL CONTRATO : 22 de Octubre de 1981

FIRMA DEL ACUERDO PRESIDENCIAL : 22 de Octubre de 1981

FIRMA DE APROBACION DEL FINANCIAMIENTO : 24 de Noviembre de 1981

ORDEN DE INICIO : 21 de diciembre de 1981 TERMINACION OFICIAL : 15 de noviembre de 1982

INICIO REAL : 21 de diciembre de 1981 TERMINACION REAL : 15 de diciembre de 1982

Descripción	Longitud Terminada (Kms)	Costo Final (Lps.)
Carretera de Occidente-Dulce Nombre -San Agustín	27.9	500,766.99
La Lima Oromilaca	6.0	44,395.57
Dulce Nombre-Concepción-San Juan	3.9	26,580.00
Acceso a Dolores	1.7	20,395.95
Acceso a Prado de la Cruz	6.8	140,341.65
Carretera de Occidente-El Porvenir	1.8	34,383.24
Carretera de Occidente-Veracruz	1.8	15,237.40
Carretera de Occidente-Planes de San Juan	1.6	9,872.51
TOTAL	51.5	791,973.31

C O M E N T A R I O

(*) Se amplió el plazo a 360 días según modificación de contrato de fecha 14 de diciembre de 1982.

Los trabajos consistieron en el mejoramiento de los caminos mediante la ampliación, conformación y balastado de la calzada, que incluye toda la obra de arte (alcantarillas y vados de concreto).

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NOMBRE DEL PROYECTO : Caminos de Acceso en la zona de Quesailica (Copán, Grupo 4)

LOCALIZACION : Departamento de Copán

CONTRATISTA : Constructora " TICAMAYA, S. de R. L. de C. V. "

SUPERVISOR : Ing. Melvil Luis López

LONGITUD CONTRACTUAL : 28.5 kms. LONGITUD FINAL : 25.52 kms.

COSTO CONTRACTUAL : Lps.796,141.90 COSTO FINAL : Lps.794,785.04

PLAZO CONTRACTUAL : 300 días PLAZO EJECUTADO : 215 días

F E C H A S

APROBACION DEL ESTUDIO SOCIO-ECONOMICO : 20 de agosto de 1981

LICITACION DEL PROYECTO : 11 de agosto de 1982

FIRMA DEL CONTRATO : 04 de noviembre de 1982

FIRMA DEL ACUERDO PRESIDENCIAL : 04 de noviembre de 1982

FIRMA DE APROBACION DEL FINANCIAMIENTO : 07 de enero de 1983

ORDEN DE INICIO : 22 de noviembre de 1982 TERMINACION OFICIAL : 17 de septiembre de 1983

INICIO REAL : 22 de noviembre de 1982 TERMINACION REAL : 24 de junio de 1983

D e s c r i p c i ó n	Longitud Terminada (Kms)	C o s t o Final (Lps.)
Acceso a San José de Copán	5.20	93,405.05
Acceso a Vivistorio y Buena Vista	3.64	111,261.82
Acceso a La Esperanza	3.63	156,983.40
Acceso a Quesailica y Santa Elena	13.05	433,134.77
T O T A L	25.52	794,785.04

C O M E N T A R I O

Los trabajos consistieron en el mejoramiento de los caminos mediante la ampliación, conformación y balastado de la calzada, que incluye toda la obra de Arte (alcantarillas y vados de concreto). En el sector de Vivistorio en lugar de construir el camino de este lugar a Buena Vista, se mejoró el acceso que conduce de San José de Copán a Buena Vista; en el sector Quesailica se hizo un mejor trazo del camino que conduce hacia La Esperanza en una longitud de 3 5 kms., evitando el acceso existente que pasa a través de tabaqueras y terrenos pantanosos.

NOMBRE DEL PROYECTO : Caminos de Acceso en la zona de San Nicolás (Copán, Grupo 5)

LOCALIZACION : Departamento de Copán.

CONTRATISTA : Consorcio " YUM KAX, PAREDES Y ASOCIADOS "

SUPERVISOR : Ing. Raúl Arturo Soto

LONGITUD CONTRACTUAL : 12.0 kms. LONGITUD FINAL : 13.0 kms.

COSTO CONTRACTUAL : Lps. 356,937.50 COSTO FINAL : Lps. 349,541.76

PLAZO CONTRACTUAL : 210 días PLAZO EJECUTADO : 116 días

F E C H A S

APROBACION DEL ESTUDIO SOCIO-ECONOMICO : 20 de agosto de 1981

LICITACION DEL PROYECTO : 11 de agosto de 1982

FIRMA DEL CONTRATO : 11 de noviembre de 1982

FIRMA DEL ACUERDO PRESIDENCIAL : 30 de noviembre de 1982

FIRMA DE APROBACION DEL FINANCIAMIENTO : 07 de enero de 1983

ORDEN DE INICIO : 13 de diciembre, 1982 TERMINACION OFICIAL : 10 de julio de 1983

INICIO REAL : 27 de diciembre de 1982 TERMINACION REAL : 07 de abril de 1983

Descripción	Longitud Terminada (Kms)	Costo Final (Lps.)
Carretera de Occidente-San Nicolás-El Carmen	9.5	259,645.96
Carretera de Occidente-Nueva Arcadia	1.5	42,849.10
San Nicolás-Pueblo Nuevo	0.5	12,767.50
San Nicolás-La Unión	1.5	34,279.20
TOTAL	13.0	349,541.76

C O M E N T A R I O

Los trabajos consistieron en mejoramiento de los caminos, instalación de alcantarillas, construcción de vados, cajas y colocación de sub-base en todo el tramo a mejorarse.

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NOMBRE DEL PROYECTO : Caminos de Acceso en la zona de Florida (Copán, Grupo 6)

LOCALIZACION : Departamento de Copán

CONTRATISTA : Consorcio " YUM-KAX, PAREDES Y ASOCIADOS "

SUPERVISOR : Ing. Raúl Arturo Soto

LONGITUD CONTRACTUAL : 25.00 kms. LONGITUD FINAL : 25.00 kms.

COSTO CONTRACTUAL : Lps. 679,150.00 COSTO FINAL : Lps. 678,474.60

PLAZO CONTRACTUAL : 300 días PLAZO EJECUTADO : 91 días

F E C H A S

APROBACION DEL ESTUDIO SOCIO-ECONOMICO : 20 de agosto de 1981

LICITACION DEL PROYECTO : 31 de marzo de 1982

FIRMA DEL CONTRATO : 13 de agosto de 1982

FIRMA DEL ACUERDO PRESIDENCIAL : 17 de agosto de 1982

FIRMA DE APROBACION DEL FINANCIAMIENTO : 23 de septiembre de 1982

ORDEN DE INICIO : 01 de octubre de 1982 TERMINACION OFICIAL : 27 de julio de 1983

INICIO REAL : 16 de julio de 1982 TERMINACION REAL : 30 de diciembre de 1982

Descripción	Longitud Terminada (Kms)	Costo Final (Lps.)
Florida-San Antonio-El Paraíso	25.5	678,474.60

C O M E N T A R I O

Los trabajos consistieron en el mejoramiento del camino, construcción de alcantarillas y vados y la colocación de material para sub-base a lo largo del camino.

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NOMBRE DEL PROYECTO : Caminos de Acceso en la zona de Pinalejo (Santa Bárbara, Grupo 1

LOCALIZACION : Departamento de Santa Bárbara.

CONTRATISTA : Constructora " CONGOLON, S. de R. L. de C. V. "

SUPERVISOR : Ing. Mario Rafael Martínez

LONGITUD CONTRACTUAL : 19.70 kms. LONGITUD FINAL : 20.04 kms.

COSTO CONTRACTUAL : Lps. 585,228. COSTO FINAL : Lps. 542,519.21

PLAZO CONTRACTUAL : 270 días PLAZO EJECUTADO : 218 días

F E C H A S

APROBACION DEL ESTUDIO SOCIO-ECONOMICO : 20 de agosto de 1981

LICITACION DEL PROYECTO : 11 de agosto de 1982

FIRMA DEL CONTRATO : 05 de noviembre de 1982

FIRMA DEL ACUERDO PRESIDENCIAL : 05 de noviembre de 1982

FIRMA DE APROBACION DEL FINANCIAMIENTO : 07 de enero de 1983

ORDEN DE INICIO : 25 de noviembre de 1982 TERMINACION OFICIAL : 21 de agosto de 1983

INICIO REAL : 25 de noviembre de 1982 TERMINACION REAL : 30 de junio de 1983

D e s c r i p c i ó n	Longitud Terminada (Kms)	C o s t o Final (Lps.)
Pinalejo-Montañitas	10.48	299,587.58
Carretera de Occidente-Santa Cruz Minas	5.78	139,128.15
Acceso a la Mina	3.78	103,803.65
T O T A L	20.04	542,519.21

C O M E N T A R I O

Los trabajos consistieron en ampliación de la brecha existente, construcción de alcantarillas, cabezales y vados y recubrimiento de la calzada con material selecto.

MBRE DEL PROYECTO : Caminos de Acceso en la zona de Pinalejo (Santa Bárbara, Grupo 2)

LOCALIZACION : Departamento de Santa Bárbara.

CONTRATISTA : Constructora " LA VICTORIA, S.A. "

SUPERVISOR : Ing. Mario Rafael Martínez

LONGITUD CONTRACTUAL : 17.40 kms. LONGITUD FINAL : 21.24 kms.

COSTO CONTRACTUAL : Lps. 594,252.00 COSTO FINAL : Lps. 594,246.94

PLAZO CONTRACTUAL : 240 días PLAZO EJECUTADO : 199 días

F E C H A S

APROBACION DEL ESTUDIO SOCIO-ECONOMICO : 20 de agosto de 1981

LICITACION DEL PROYECTO : 31 de marzo de 1982

FIRMA DEL CONTRATO : 18 de agosto de 1982

FIRMA DEL ACUERDO PRESIDENCIAL : 19 de agosto de 1982

FIRMA DE APROBACION DEL FINANCIAMIENTO : 23 de septiembre de 1982

ORDEN DE INICIO : 14 de septiembre de 1982 TERMINACION OFICIAL : 11 de mayo de 1983

INICIO REAL : 21 de septiembre de 1982 TERMINACION REAL : 31 de marzo de 1983

Descripción	Longitud Terminada (Kms)	Costo Final (Lps.)
Pinalejo-Tierra Amarilla-San Juan del Sitio	17.15	487,925.02
Acceso a Río Blanco	4.09	106,321.92
TOTAL	21.24	594,246.94

C O M E N T A R I O

Los trabajos consistieron en la ampliación de la trocha, construcción de alcantarillas, vados, muros y colocación de material selecto.

NOMBRE DEL PROYECTO : Caminos de Acceso en la zona de Azacualpa (Santa Bárbara, Grupo 3)

LOCALIZACION : Departamento de Santa Bárbara

CONTRATISTA : Constructora " REGINA, S. de R. L. de C. V. "

SUPERVISOR : Ing. Antonio Abad Fontecha

LONGITUD CONTRACTUAL : 14.20 kms. LONGITUD FINAL : 13.60 kms.

COSTO CONTRACTUAL : Lps. 373,722.00 COSTO FINAL : Lps. 373,657.10

PLAZO CONTRACTUAL : 210 días PLAZO EJECUTADO : 177 días

F E C H A S

APROBACION DEL ESTUDIO SOCIO-ECONOMICO : 20 de agosto de 1981

LICITACION DEL PROYECTO : 31 de marzo de 1982

FIRMA DEL CONTRATO : 18 de agosto de 1982

FIRMA DEL ACUERDO PRESIDENCIAL : 24 de agosto de 1982

FIRMA DE APROBACION DEL FINANCIAMIENTO : 23 de septiembre de 1982

ORDEN DE INICIO : 10 de noviembre de 1982 TERMINACION OFICIAL . 07 de junio de 1983

INICIO REAL : 13 de noviembre de 1982 TERMINACION REAL : 05 de mayo de 1983

D e s c r i p c i ó n	Longitud Terminada (Kms)	C o s t o Final (Lps.)
Azacualpa-Laguna Verde	8.6	252,796.00
Acceso a Loma Alta	5.0	120,861.10
T O T A L	13.6	373,657.10

C O M E N T A R I O

Los trabajos consistieron en la reconstrucción de los caminos, mejoramiento del alineamiento horizontal y vertical, construcción de alcantarillas y colocación de material selecto.

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MBRE DEL PROYECTO : Camino de Acceso en la zona de Sabanetas (Santa Bárbara, Grupo 5)

LOCALIZACION : Departamento de Santa Bárbara

CONTRATISTA : Constructora " TICAMAYA, S. DE R.L. DE C.V.

SUPERVISOR : Ing. Antonio Abad Fontecha

LONGITUD CONTRACTUAL : 23.80 kms. LONGITUD FINAL : 23.20 kms.

COSTO CONTRACTUAL : Lps.701,402.00 COSTO FINAL : Lps.701,390.50

PLAZO CONTRACTUAL : 300 días PLAZO EJECUTADO : 46 días

F E C H A S

APROBACION DEL ESTUDIO SOCIO-ECONOMICO : 20 de agosto de 1981

LICITACION DEL PROYECTO : 31 de marzo de 1982

FIRMA DEL CONTRATO : 11 de agosto de 1982

FIRMA DEL ACUERDO PRESIDENCIAL : 17 de agosto de 1982

FIRMA DE APROBACION DEL FINANCIAMIENTO : 23 de septiembre de 1982

ORDEN DE INICIO : 31 de agosto de 1982 TERMINACION OFICIAL : 26 de junio de 1983

INICIO REAL : 23 de junio de 1982 TERMINACION REAL : 15 de octubre de 1982

Descripción	Longitud Terminada (Kms)	Costo Final (Lps.)
Sabanetas-San José de Tarros	23.20	701,390.50

C O M E N T A R I O

Los trabajos consistieron en conformación de la calzada, limpieza del derecho de vía, instalación de alcantarillas, balasteo y compactación de la superficie de rodadura con material selecto.

PROYECTO TERMINADO

NOMBRE DEL PROYECTO : Puente sobre el río Arcílaca (Camino Gracias-La Campa)

LOCALIZACION : Departamento de Lempira

CONTRATISTA : Constructora " COLINDRES Y ASOCIADOS, S. de R. L. "

SUPERVISOR : Ing. Douglas Jimenez

LONGITUD CONTRACTUAL: 20.24 mts. LONGITUD FINAL : 20.24 mts.

COSTO CONTRACTUAL : Lps. 92,572.83 COSTO FINAL : Lps. 92,572.83

PLAZO CONTRACTUAL : 210 días PLAZO EJECUTADO: 200 días

F E C H A S

APROBACION DEL ESTUDIO SOCIO-ECONOMICO: 16 de enero de 1981

LICITACION DEL PROYECTO : 08 de abril de 1981

FIRMA DEL CONTRATO : 24 de agosto de 1981

FIRMA DEL ACUERDO PRESIDENCIAL : 27 de agosto de 1981

FIRMA DE APROBACION DEL FINANCIAMIENTO: 19 de octubre de 1981

ORDEN DE INICIO: 28 de septiembre de 1981 TERMINACION OFICIAL: 25 de abril de 1982

INICIO REAL : 28 de septiembre de 1981 TERMINACION REAL : 15 de abril de 1982

C O M E N T A R I O

El puente consta de dos estribos de hormigón ciclópeo, dos vigas de concreto reforzado, una losa de concreto reforzado con sus respectivos bordillos y pretiles.

PROYECTO TERMINADO

NOMBRE DEL PROYECTO	: Puente sobre el río Arcagual (Camino Gracias-La Campa)		
LOCALIZACION	: Departamento de Lempira.		
CONTRATISTA	: Constructora " COLINDRES Y ASOCIADOS, S. de R. L. "		
SUPERVISOR	: Ing. Douglas Jimenez		
LONGITUD CONTRACTUAL	: 20.24 mts.	LONGITUD FINAL	: 20.24 mts.
COSTO CONTRACTUAL	: Lps. 102,685.07	COSTO FINAL	: Lps. 102,685.07
PLAZO CONTRACTUAL	: 210 días	PLAZO EJECUTADO	: 197 días

F E C H A S

APROBACION DEL ESTUDIO SOCIO-ECONOMICO	: 16 de enero de 1981		
LICITACION DEL PROYECTO	: 08 de abril de 1981		
FIRMA DEL CONTRATO	: 24 de agosto de 1981		
FIRMA DEL ACUERDO PRESIDENCIAL	: 27 de agosto de 1981		
FIRMA DE APROBACION DEL FINANCIAMIENTO	: 19 de octubre de 1981		
ORDEN DE INICIO	: 28 de septiembre de 1981	TERMINACION OFICIAL	: 25 de abril de 1981
INICIO REAL	: 28 de septiembre de 1981	TERMINACION REAL	: 12 de abril de 1982

C O M E N T A R I O

El puente consta de dos estribos de hormigón ciclópeo, dos vigas de concreto reforzado, una losa de concreto reforzado con sus respectivos bordillos y pretiles.

PROYECTO TERMINADO

NOMBRE DEL PROYECTO	: Puente sobre el río Grande (Camino de Occidente-Sensenti)		
LOCALIZACION	: Departamento de Ocotepeque		
CONTRATISTA	: Constructora " COLINDRES Y ASOCIADOS, S. de R. L.		
SUPERVISOR	: Ing. Melvil Luis López		
LONGITUD CONTRACTUAL	: 44.68 mts.	LONGITUD FINAL	: 44.68 mts.
COSTO CONTRACTUAL	: Lps. 133,742.12	COSTO FINAL	: Lps. 133,716.22
PLAZO CONTRACTUAL	: 210 días	PLAZO EJECUTADO	: 204 días

F E C H A S

APROBACION DEL ESTUDIO SOCIO-ECONOMICO	: 16 de enero de 1981		
LICITACION DEL PROYECTO	: 08 de abril de 1981		
FIRMA DEL CONTRATO	: 24 de agosto de 1981		
FIRMA DEL ACUERDO PRESIDENCIAL	: 27 de agosto de 1981		
FIRMA DE APROBACION DEL FINANCIAMIENTO	: 19 de octubre de 1981		
ORDEN DE INICIO	: 28 de septiembre de 1981	TERMINACION OFICIAL	: 25 de abril de 1982
INICIO REAL	: 24 de agosto de 1981	TERMINACION REAL	: 19 de abril de 1982

C O M E N T A R I O

El puente consta de 2 estribos de concreto ciclópeo, dos pilastras de concreto armado, cuatro vigas de 10.20 m. y 2 vigas de 24.20 m., para completar tres luces, la losa con sus bordillos y pretiles de concreto armado.

PROYECTO TERMINADO

NOMBRE DEL PROYECTO : Puente sobre la quebrada El Zapote (Camino Los Arroyos - La Unión - El Corpus)

LOCALIZACION : Departamento de Copán

CONTRATISTA : Constructora " COLINDRES Y ASOCIADOS, S. de R. L. "

SUPERVISOR : Ing. Melvil Luis López

LONGITUD CONTRACTUAL : 18.24 mts. LONGITUD FINAL : 18.74 mts. (*)

COSTO CONTRACTUAL : Lps. 75,954.27 COSTO FINAL : Lps. 75,842.27

PLAZO CONTRACTUAL : 210 días PLAZO EJECUTADO : 124 días

F E C H A S

APROBACION DEL ESTUDIO SOCIO-ECONOMICO: 16 de enero de 1981

LICITACION DEL PROYECTO : 08 de abril de 1981

FIRMA DEL CONTRATO : 24 de agosto de 1981

FIRMA DEL ACUERDO PRESIDENCIAL : 27 de agosto de 1981

FIRMA DE APROBACION DEL FINANCIAMIENTO: 19 de octubre de 1981

ORDEN DE INICIO : 28 de septiembre de 1981 TERMINACION OFICIAL: 25 de abril de 1982

INICIO REAL : 20 de agosto de 1981 TERMINACION REAL : 29 de enero de 1982

C O M E N T A R I O

El puente consta de dos estribos de hormigón ciclópeo, dos vigas de concreto reforzado, una losa de concreto reforzado con sus respectivos bordillos y pretiles.

(*) La longitud fué ampliada para darle mayor seguridad al puente.

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PROJECT OBSERVATION GUIDE

Project Name _____

Contractor _____

Supervisor Engineer _____

Length Inspected _____

Place visited _____

Interviews or assessments executed _____

1. General Topography
2. Predominant Vegetation
3. Forest Exploitation
4. Crops
5. Protection and use of right-of-way
6. Cattle herding
7. Pedestrian and vehicular traffic
8. Services
9. Concentration/dispersion of population
10. General work conditions in the project
11. Origin of labor
12. Location of road
13. Width of road
14. Grades
15. Curvature
16. Type of road surface
17. Transverse slopes

18. Drainage

19. Borrow pits

20. Construction Procedures

    a. Embankment Reconstruction

    b. Compaction

    c. Slide removal

    d. Rock

    e. Earthwork

    f. Masonry work

RESIDENT ENGINEER INTERVIEW GUIDE

PROJECT ENGINEER

Sub-Project _____

1. General

Name of person interviewed _____Age_____Sex M_____ F_____

1.1 Professional qualification _____Years of professional experience_____

1.2 Length of time in the Project _____

Length of time working with SECOPT _____

1.3 Construction experience (detail) _____

_____

_____

1.4 Have you had any special training for managing this type of Project?

YES _____ NO _____

If answer is yes, specify training _____

_____

Duration? _____

1.5 What is your job status?

Civil service _____ Contract ____Duration of contract___

Social security benefits _____

_____

_____

2. Management of Information

2.1 Are you or were you involved in the process of selecting the sub-project? YES _____ NO _____

If answer is yes, what was your involvement?

2.2 What are your responsabilities as Project engineer in each phase of the project?

1) Review of previous documents (contracts, questionnaires)

2) Preliminary inspection

3) Planning and design of the work

4) Direction and supervision of work and contractor

5) Budget administration and control

6) Progress reports

2.3 In terms of your experience in this type of project, what problems have presented obstacles to the execution and fulfillment of your responsabilities?(Refer to activities indicated above in 2.2)

2.4 How has your working relationship with the following functioned?

- The Central Executor Unit
- With the U.S. AID Monitor
- With the Contractor
- With the Contractor Resident Engineer
- With the community
- With local authorities
- With other government Agencies
- With private development organizations

2.5 What procedure has been used to contract labor in this project? What criteria have been used?

2.6 What is the percentage of total cost for labor?

2.7 Are labor foremen contracted locally and trained on the job, or are they from the outside?

2.8 As project supervisor, do you consider that you have sufficient time to design and construct, or do you prefer to have a previous design which can be developed and implemented during construction?

2.9 Why, in the case of sub-base, you do not prefer to pay by cubic meter rather than rent equipment?

2.10 Do you have all the necessary data for drainage design?

2.11 Do you consider that the selection of field personnel is adequate?

2.12 Are there particular specifications for this type of project that should be complied with by all Resident Engineers and Supervisors

2.13 Do you consider your salary and that of your personnel to be adequate and compatible with those in similar projects?

2.14 Do you consider that the objectives of these roads are being fulfilled?

INTERVIEW GUIDE WITH TRUCKERS AND MERCHANTS

Place _____

Person Interviewed _____

Date _____

Type of vehicle: Use:

Full body truck _____ _____ Passenger

Pickup _____ _____ Freight

Bus _____ _____ Mixed

Truck modified to transport passengers _____ _____ Capacity freight

Route from _____ to _____

Intermediate destinations _____

Schedule _____

Travel time _____

Prices _____

Have there been any variations in the above items? please detail.

What advantages (or disadvantages) have you had in your business as a result of the improvement/opening of these roads?

In general how is your business doing relative to the cost of transportation? (Try to estimate this is in terms of the influence of the Project).

Are you or is your family engaged in other commercial activity? Does this activity have any relationship to the transportation business?

During what time of year do you have more business?

Less business? _____ Why? Is there any connection with the Project?

In what respect do you contribute to the maintenance of the roads?

[illegible]

Regional

Local

Institution _____

Place and date of interview _____

Person interviewed _____

Do you know the Reconstruction of Access Roads and Rural Projects? YES _____ NO _____

What previous connections do you or your organization have with the Project? What is your source of the information? PLANE, U.S. AID, Central Office, etc.)

Have you participated in any project activity?

YES _____ NO _____

If the answer is yes, in which activity? What has been the nature of this participation?

What are your impressions of the Project? Can you make comparisons with other similar projects? (For example, in terms of the use of labor).

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[illegible] Project had an influence on the activities of your organization?

Has the execution of the Project had any influence on the decisions to extend services to the communities involved?

YES _____ NO _____. If yes, please indicate what types of services.

If the answer is no, why not?

QUESTIONNAIRE FOR MAYORS, FOUNDATIONS AND COMMUNITY ORGANIZATIONS

Identification

Place name _____ Municipality _____ Zone _____

Project _____ Contractor _____

Status of Project _____ In progress _____ Stopped __ Other __

Date of interview _____ interviewer _____

Lenght of interview _____ Position, function or status of person interviewed _____

Participants _____ _____

_____ _____

_____ _____

_____ _____

Theme I: Origin? and Records of Project

Whose Project is it? What is the role of the community with this Project?

What do you think the Project is all about?

General notions.

New road _____ Improvement _____ Maintenance _____

What used to be your impression of the Project?

Whose idea was it to build or to restore the road?

How did the people of this community participate in this road work?

- Requests
- Funds collection
- Visits to officials
- Visits to Tegucigalpa
- Lobbying of politicians

Why did the people of the community want this road?

What objectives did they hope to reach?
(What they specifically wanted the road for)

In what way did you think the community was going to benefit from the Project?

Now that the road is completed, what do you think of the Project?

Theme II: Benefits

How has this community benefited from the Project?

In what respect do you see that benefit?

Who has benfited and to what degree?

Was there any participation of the residents in the construction and improvement of the road?

If any, what type? What were the results?

If none, why not?

Theme III: Willingness to Participate in Maintenance

In your opinion, who should maintain the road? Why?

What inconvenience would you be caused if you had to maintain the road?

What do you think of when you hear the phrase, maintenance of the road?
What activities do you think maintenance includes?

How do you think a system of maintenance could be organized in which you and the community assisted and/or took control?

What role could the municipality play? How about community organizations? Other organizations?

Theme IV: New Government Services

Since the Project was completed, have there been any improvements or extensions of government services? YES _____ NO _____

If yes, which services and to what degree?

What is the nature of these services?

Institution	Type of Service	Type of Improvement
JNBS. Prom		
MIN. R.N. Ext.		
INA Prom.		
M. TRP Prom.		
BANADESA		
IHMA		
CDI		
M.S.P.		
COHDEFOR		

Other institutions?

Theme V: Improvements

Has there been any increase in economic activity (agriculture, commerce, transportation, labor, etc.) with the execution of the Project? What type?

Has the road had any effect on the mobility of people in the community? (Have people arrived? What type? Did they stay? Etc.)

What changes have appeared in the prices of imported goods, house rentals, etc.?

Have new products, new activities or new capabilities emerged since the Project was opened? What types?

How have relations with neighboring communities changed? (Improved, worsened, remained the same, etc.)

Theme VI: Nature of the Community

1.a Category

_____Hamlet

_____Village

_____Municipality

b Lay out

_____Dispersed

_____Nucleated, but random community pattern

_____Nucleated with organized community pattern no paved streets

_____Nucleated, organized; some paved streets

2. Topography

_____Plain, valley or river terrace

_____Mountain slope (lower slope)

_____Isolated peak

_____Sierra

_____Mountain range

3. Area of Confluence

Communities which are connected by

Improved roads	Unimproved roads
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

4. Markets

Where do the people from this cormunity usually go to buy and sell

a. Place _____ Distance: Km. _____ H. _____

Types of Products

Sale	Purchase
_____	_____
_____	_____
_____	_____
_____	_____

b. Place _____ Distance: Km. _____ H. _____

Types of Products

Sale	Purchase
_____	_____
_____	_____
_____	_____

c. Place _____ Distance Km. _____ H. _____

Types of Products

Sale	Purchase
_____	_____
_____	_____
_____	_____

Observations

5. Services

a. Infrastructure

Water system _____ Wells ____ Power: Public ____ Private _____

Market _____ Health Center ____ Public slaughterhouse _____

Cemetery _____ Park _____ Sports facilities _____

Irrigation system _____

b. Commerce

Neighborhood shops _____ Stores ____ BANASUPRO ____ Consumer Coop ___

Wholesale storage _____ Silos ___ Drug store ____ Bank _____

Sale of agricultural supplier _____ Hotel _____

Bars _____ Moviehouse _____ Pool room _____

c. Industry or craft

Brick/tile manufacture _____ Grain processing _____

Fruit canning _____ Textile manufacture _____

Sugar milling _____

Carpentry _____ Shoemaking _____ Tailoring _____

d. Personal Services

Physician _____ Barber _____

e. Government Services

BANADESA _____ Agricultura Extension office _____

Community training center _____

School: Kindergarten _____

Primary _____

Secondary _____

Vocational _____

Telepraph _____ Telephone _____ Mail _____ COHDEFOR _____

ANNEX No 3 PROPOSED COMMUNITY PROMOTION SCHEME

ANNEX Nº 3

Proposed General Plan for Community Promotion by Sub-Project Stages.

1. First Stage
(Identification and selection of the sub-Project)

a. Activities of the Project in which the promoter should par tipate:

- Determination of the geographical area to be benefited
- Determination of the highway segments to be reconstructed or restored
- Determination of the communities to be involved
- Coordination with local government and community organizations
- Motivation and Project promotion
- Collection of data

b. Role of the promoter

The promoter's role consists of promoting the Project and motivating the residents within the communities to be benefited. His function is that of informant and data collector for the Executor Unit. This role should emphasize two objectives: organization of the community through distribution of information and organization of the local representatives of public and private development agencies for participation in the Project activities. When possible, he should assume the responsability of coordinator if no other person or institution is in charge of such functions.

c. Possible method of execution

- Investigation and participation (the investigation should be designed specifically to motivate and help the communities to express their needs. The data are produced ty the commu-

nities themselves as subjects of the investigation).

d. Personnel that could collaborate with the Project in the execution of these tasks

- JNBS promoters
- INA promoters
- Extension agents of the Min. R.N.

e. Expected results of this stage

- Community registry
- Data bank
- Mechanism for distributing information
- Dissemination of the information in the communities

2. Second State

(Execution)

a. Activities of the Project in which the promoter should participate:

- Determination of the sub-project work program (starting date, phase, stages, etc.)
- Location of personnel in the Project area
- Work organization
- Organization of the community for participation in the Project:
  - Local labor
  - Outside labor
  - Supervision and control of the Project
  - Termination of the sub-project

b. Role of the promoter

The promoter is part of the executing personnel of the Project. His main function is to maintain contact between project

personnel and the community and to ensure an open communication and understanding. The promoter must organize the labor force to participate in the Project and educate the communities to avoid problems of misconceptions of the Project. He should ensure that training of local residents be effective enough for the communities to face future maintenance of the roads.

c. Possible method of execution

- Community organizations (training and education of the organization members)
- Course training exercises in construction
- General orientation of the local government in relation to project planning

d. Personnel that could collaborate with the Project in the execution of these tasks.

- Executor Unit promoter
- An instructor or promoter from INFOP
- Resident Engineer
- Sub-project personnel

e. Expected results of this stage

- Work plan
- A sound relationship between the engineer and the community
- A productive relationship between labor and the construction program
- Qualification of labor

3. Third Stage
(Follow-up)

a. Activities of the Project in which the promoter should participate.

[illegible] maintenance committee

- Organization of local institutions for extension of their services
- Planning of maintenance
- Training of community inhabitants
- Supervision of [illegible]

b. Role of the promoter

The promoter is an organizer; he encourages local institutions to provide the necessary assistance in their own working areas (health, education, etc.); he elaborates a plan for road maintenance and also serves as a liaison between the DGM and the community to obtain tools and other types of equipment.

c. Possible methods of execution

- Organization of labor (payroll lists, task distribution time schedules, work methods, etc.)
- Interinstitutional coordination and implementation

d. Personnel that could collaborate with the Project in the execution of these tasks

- Executing Unit promoter
- Development agency promoter (World Vision, Meals for Mill, FEIEJCO, etc.)
- Promoters that have been with the Project from the start (UNBS, INA, R.N., CDI, INFOP, etc.)

e. Expected results of this stage

- Extension of services
- Training of maintenance personnel from the community
- Permanent evaluation of services rendered
- DGM/Community contact.

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ANNEX No 4 DOCUMENTS AND ACTUAL PROCEDURES

4.1 SUMMARY OF COST ESTIMATES AND FINANCING PLAN (1000)

	U.S.AID					
	DONATION		LOAN		G de H	TOTAL
	U.S.$	LPS	U.S.$	LPS	LPS	
CONSTRUCTION						
a) Access roads				7,150	876	8,026
b) Rural trails				1,500	507	2,007
c) Equipment, vehicles and hand tools					140	140
d) Administration	160	40			633	833
e) Right-of-way					300	300
MAINTENANCE						
a) Equipment repairs				750	193	943
b) Routine maintenance					628	628
EVALUATION				150		150
Inflation and contingencies(10%)	30			1,420	473	1,923
TOTAL	190.	40.		10,970.	3 ,750.	14,950.

4.2 ANNUAL DISBURSEMENT PROGRAM

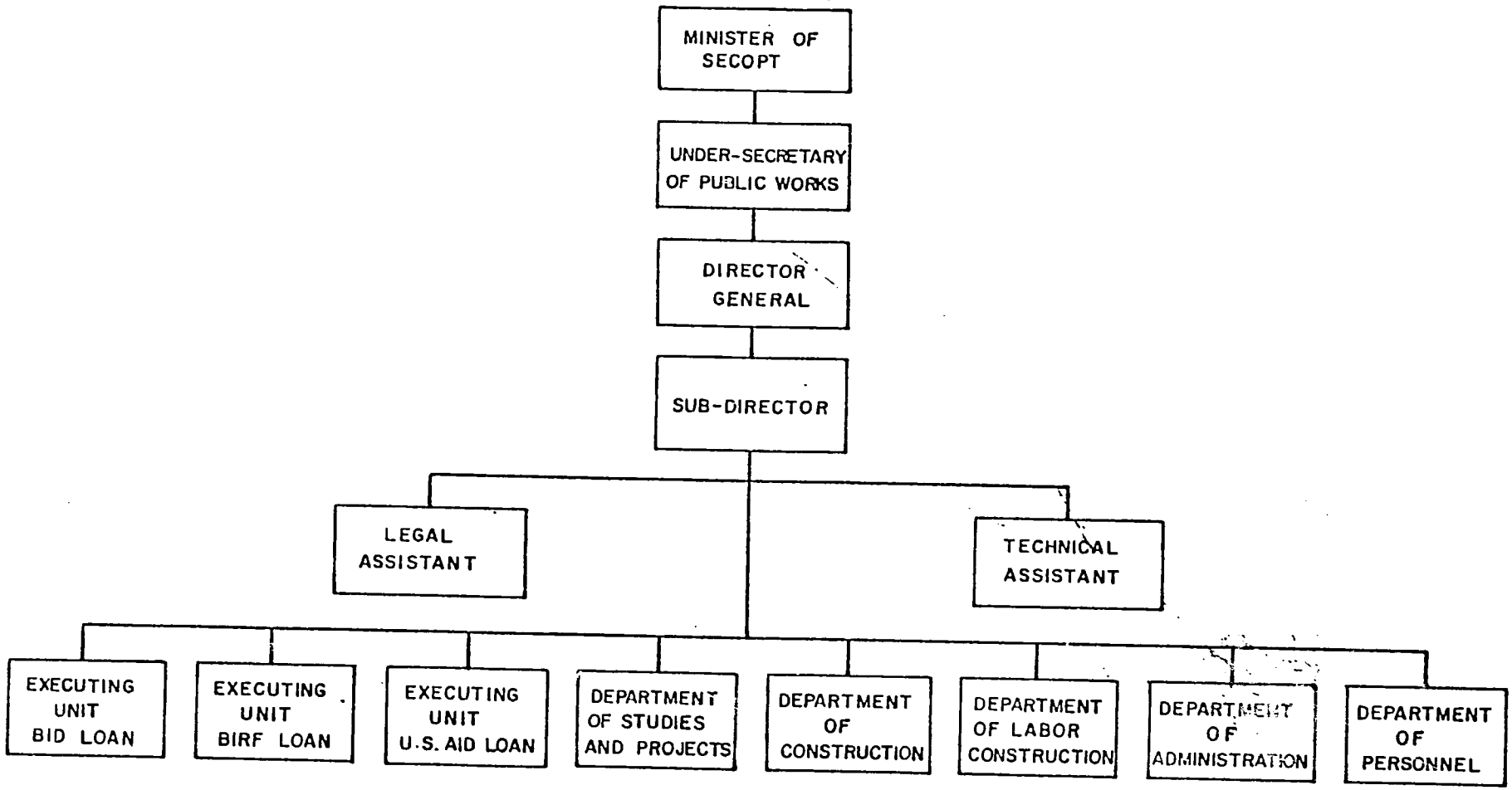
SOURCE	YEARS PROJECTED 1	2	3	TOTAL
U.S.AID				
Construction	1,419	3,502	3,924	8,845
Maintenance	750	- -	- -	750
Evaluation	50	50	50	150
TOTAL U.S. AID	2,219	3,552	3,974	9,745.
G.de H.				
Construction	823	818	815	2,456
Maintenance	214	142	465	821
TOTAL G.de H.	1,037	960	1,280	3,277
TOTAL	3,256	4,512	5,259	13,027
Inflation and contingencies (10%)	74	538	2,311	1,923
TOTAL	3,330	5,050	7,570	14,950

Analysis of recurrent budget

As result of this project, the recurrent estimated costs of $ 812,500 (Lps.1,625,000) per year will be assumed by the Honduran goverment to maintain the access roads. This figure has been based upon the cost estimates of SECOPT equivalent to a marginal cost of $1,250(L.2,500) per kilometer per year.

The purpose of this analysis is to determine if it is reasonable to assume that committed Honduran government funds will be sufficient to maintain the access roads and rural trails.

4.3 ORGANIZATION CHART GENERAL DIRECTORATE OF ROADS



GENERAL DIRECTORATE OF ROADS
Evaluation of the Access Road Project
U. S. AID LOAN No. 522-T-035

SEI, S. A — CCE
September, 1983

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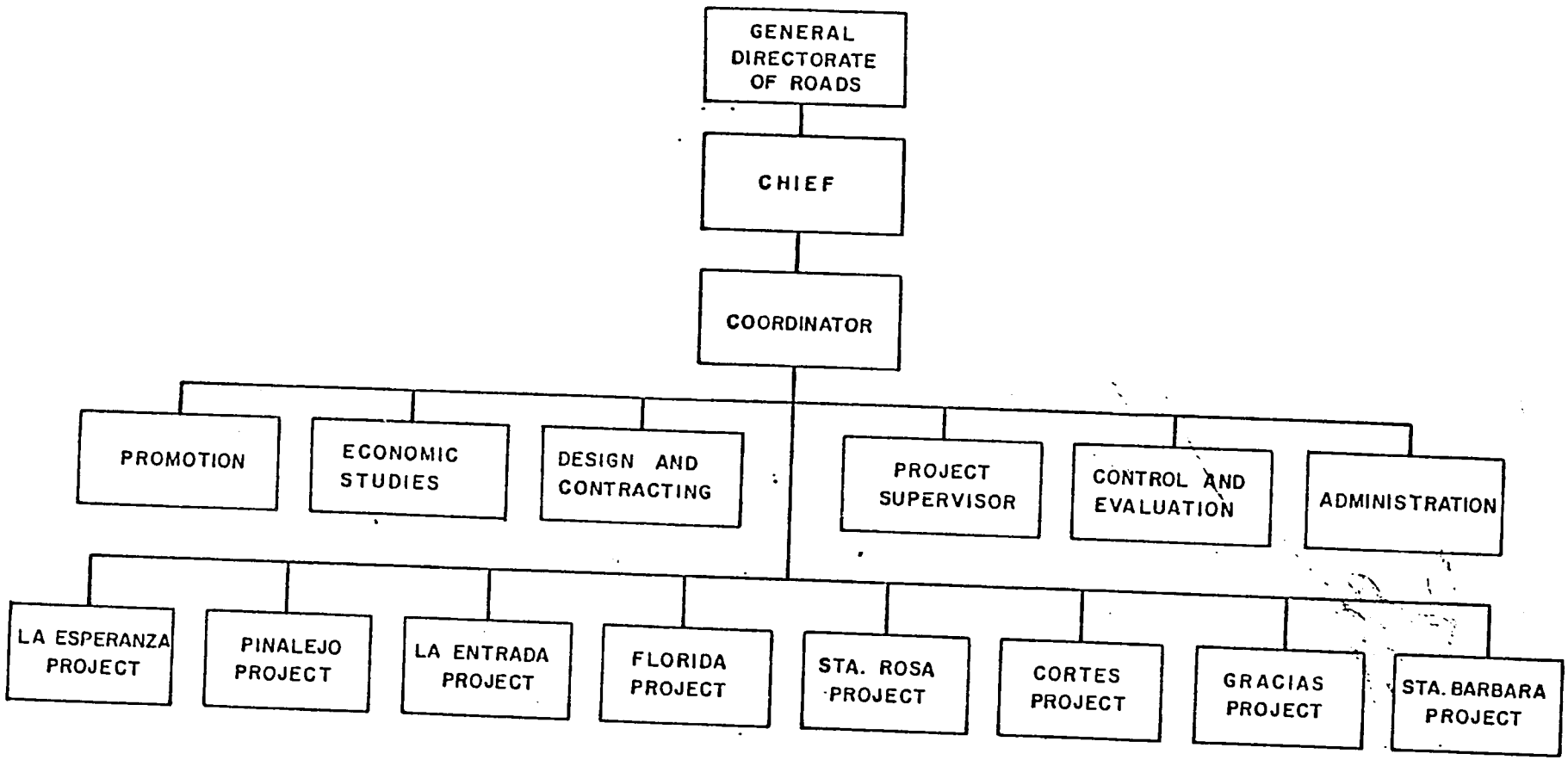
4.4 EXECUTOR UNIT ORGANIZATION CHART



GENERAL DIRECTORATE OF ROADS
Evaluation of the Access Road Project
U. S. AID LOAN No. 522–T–035

SEI, S. A – CCE

September, 1983

Oficio No. S-337-83

...E ESTADO
...L DESPACHO DE
...UNICACIONES,
...AS PUBLICAS Y
TRANSPORTE
S.E.C.O.P.T.

23 de marzo de 1983.

Ingeniero
EDWIN LEIVA
Director General de Mantenimiento
de Caminos y Aeropuertos
P r e s e n t e.

Estimado Ingeniero:

Con el propósito de dar cumplimiento a lo establecido en los Artículos V, Sección 5.02 (1), (2) y (3), Artículos VI, Sección 6.2 (b) correspondiente a los convenios de Préstamos 522-T-030 y 522-T-035 respectivamente, los cuales han sido otorgados al Gobierno por la Agencia para el Desarrollo Internacional (AID), para la rehabilitación de Caminos de acceso en todo el país, ruegole incluir en sus programas de mantenimiento los siguientes caminos que han sido rehabilitados con dichos fondos:

ZONA DE COMAYAGUA Y CORTES

1.	CA-13 Cuyamel	1.5 Kms.
2.	Cuyamel-Buena Vista.	6.0 "
3.	CA-13 Masca	1.2 "
4.	CA-13 Pueblo Nuevo.	1.5 "
5.	CA-13 Veracruz	0.5 "
6.	CA-13 El Paraíso.	0.5 "
7.	CA-13 Mochito	0.5 "
8.	CA-13 Muchilena	1.0 "
9.	CA-13 Chachagua la.	2.0 "
10.	Tegucigalpita-Cuyamelito-Corinto.	18.0 "
11.	Chivana-La Camisa Las Brisas.	2.0 "
12.	CA-13 La Pita-Agua Caliente.	9.5 "

.....2/

13.	Acceso a El Balsamo	3.0	Kms.
14.	Puerto Cortés-Barra del Chamelecón	17.0	"
15.	CA-13 Medina Arriba	2.0	"
16.	Medina Arriba-Zapadril.	3.7	"
17.	Baracoa-Calán	5.9	"
18.	Calán-Finca Paleto	3.7	"
19.	Calán-Desvío a El Nispero.	5.0	"
20.	Finca Paleto-Finca Cedro.	2.0	"
21.	Finca Cedro-Finca-Caoba.	1.2	"
22.	Finca Caoba-Finca-Roble.	3.2	"
23.	Finca Paleto-El Nispero.	2.0	"
24.	Finca Paleto-Guanacastales.	3.8	"
25.	Guanacastales-Tibombo.	24.0	"
26.	Desvío a Estación Botija.	1.0	"
27.	Finca Roble-Boqueron	3.0	"
28.	Montañuela-Colonia-Montañuela-Boquita	7.0	"
29.	Galves-Dávis	4.2	"
30.	Davis-Waler	3.0	"
31.	Waler-Bueso	6.0	"
32.	Bueso-Fúnes	1.6	"
33.	Desvío a La Danta	2.5	"
34.	Monterrey-Fúnes	3.2	"
35.	Desvío a Guanacaste	1.2	"
36.	Desvío a Banderas	4.5	"
37.	Desvío al Higuero	3.7	"
38.	Desvío a La Ceiba	3.2	"
39.	Desvío a Flor del Valle.	3.4	"
40.	Desvío a la Venta	2.0	"

.....3/

41. Desvio a Campin 2.0 Kms
172.6 Kms

ZONA DE TELA

1.	CA-13	Santiago-La Esperanza	7.6 Kms
2.	CA-13	Buenos Aires	2.0 "
3.	CA-13	Triunfo de La Cruz	2.0 "
4.	CA-13	Las Palmas	0.3 "
5.	CA-13	Hicaque	0.5 "
6.	CA-13	Planes de Hicaque	5.7 "
7.	CA-13	San Francisco de Saco	0.7 "
8.	CA-13	El Porton-Santa María	4.0 "
9.	CA-13	Ceibita Way-El Sitio-Nueva Go	23.0 "
10.	Flores-Esparta		12.0 "
11.	San Francisco de Saco-Tiburón		4.9 "
12.	Desvío a Sisama y Nevada		8.7 "
13.	Atenas de San Cristobal-Arizona.		7.5 "
14.	Hicaque-Río Coloradito		4.5 "
15.	Prolongación-Las Plamas		1.7 "
16.	Río Hilland-Piedras Gordas-Cabeza de Indio.		5.0 "
17.	La Pita-Santa María		5.9 "
18.	Carretera Vieja de Tela-Ceiba-Jilamito.		5.0 "
19.	Santa Maria-El Coco		5.7 "
20.	El Coco-Cangeliquita Abajo.		8.5 "
21.	Cangeliquita Abajo-El Zapote-Las Delicias.		4.7 "
22.	El Zapote-Morazán-El Dorado		7.9 "
23.	Cangeliquita Abajo-Cangeliquita Arriba.		1.0 "
24.	Penman-Agua Blanca-La Fortuna-Agua Chiquita.		11.6 "
			140.4 Kms

.....4/

ZONA DE CEIBA Y EL AGUAN

1.	CA-13 Santiago Arriba	4,2	Kms.
2.	CA-13 La Unión-Ceiba Mocha.	6.0	"
3.	CA-13 El Perú	1.4	"
4.	CA-13 Corozal	1.1	"
5.	CA-13 El Cacao	3.8	"
6.	CA-13 Jutiapa-Nueva Armenia	8,7	"
7.	Jutiapa-Lis Lis-Balfate	16.7	"
8.	Balfate-Lucinda-Río Esteban.	11.0	"
9.	Guanijiquilapa-Tanga	7,0	"
10.	Sonaguera-El Sastre	5,0	"
11.	Monte-Abajo-Buenos Aires-Chacalapa Spar	7.0	"
12.	Carretera a Trujillo-Chapagua.	5.3	"
13.	Km 35-Santa Rosa de Aguán	20.5	"
14.	Sonaguera-Río de Piedras.	1.9	"
		99.6	Kms

ZONA DE MARCALA Y LA ESPERANZA

1.	El Cerrón-Santa Ana-Florida	24.0	Kms
2.	San Miguelito-Opatoro	19.2	"
3.	Marcala-Yarula-Santa Elena	39,4	"
4.	Acceso a Cabañas-Planes-Tierra Colorada.	7.2	"
5.	Marcala-Musula-San Francisco-Santa Cruz.	13.1	"
6.	Marcala-La Esperanza	36.0	"
7.	La Esperanza-San Juán	43.0	"
8.	Accesos al Tablón, Planes, Pacaya y Membrillo.	12.0	"

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9.	Acceso al Pelón y Quiaterique	6.0	Kms.
10.	La Esperanza-Quiaterique-Monquecagua-Llano Redondo-Togopala.	22.5	"
11.	Acceso a Manazapa	8.0	"
12.	La Esperanza-Guangololo-Quebrada Honda-Planes-Azacualpa de Intibucá.	22.3	"
13.	La Esperanza-Pueblo Viejo-Malguara-El Rodeo.	22.5	"
		275.2	Kms.

ZONA DE LEMPIRA

1.	Gracias-La Campa-San Manuel	34.5	Kms.
2.	Acceso a Corante y Caiquin	11.0	"
		45.5	Kms.

ZONA DE OCOTEPEQUE

1.	Desvío a Sensentí-Azacualpa-Gualtaya-Las Mesitas-La Loma Los Espinos-San Francisco de Cones.	20.4	Kms
		20.4	Kms

ZONA DE COPAN

1.	Los Arroyos-La Unión-El Córpus	9.0	Kms
2.	Acceso a San José de Las Palmas y El Portillo.	10.0	"
3.	Dulce Nombre-Candelaria-San Agustín.	27.0	"
4.	La Lima-Oromilaca	6.0	"
5.	Dulce Nombre-Concepción-San Juán	6.6	"

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6.	Accesos a Dolores, Prado de la Cruz, Veracruz-El Porvenir.	12.0 Kms
7.	Planes de San Juán-Quebraditas-La Cumbre.	10.0 "
8.	Florida-San Antonio-Paraíso	25.0 "
9.	Accesos a Nueva Arcadia, San Nicolas, El Carmen-La Unión y Pueblo Nuevo.	12.0 "
10.	Accesos a Vivistorio, Buena Vista, San José de Copán, La Esperanza, Quesailica y Santa Elena.	23.0 "
		140.6 Kms

ZONA DE SANTA BARBARA

1.	Azacualpa-Laguna Verde, Acceso a - Loma Alta.	14.2 Kms
2.	Pinalejo-San Juán del Sitio, Acceso a Río Blanco.	17.3 "
3.	Sabanetas-San José de Tarros	23.8 "
4.	Pinalejo-Correderos-El Venado	23.0 "
5.	Pinalejo-Montañita-Santa Cruz Minas y Acceso a la Mina.	19.7 "
		98.0 Kms.

Adjuntole copia, tanto de los artículos V y VI de los convenios de - Préstamo, así como de los croquis de la ubicación de dichos caminos.

Atentamente,

SECRETARIA DE ESTADO EN LOS DESPACHOS DE COMUNICACIONES, OBRAS PUBLICAS Y TRANSPORTE

E S. AZCONA H.
MINISTRO

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ESPACHO DE
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S PUBLICAS Y
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S.E.C.O.P.T.

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cc: Sub-Secretario de Obras Públicas
cc: Director General de Caminos
cc: Ing. Richard D. Dudley, Oficina de Ingeniería de la AID.
cc: Unidad Ejecutora de la AID
cc: Arch.

/sandra*.

4.6. SELECTION PROCEDURE OF SUB-PROJECTS ACCORDING TO THE PROJECT DOCUMENT.

In the terms of the Project Document, a "sub-project" is a group of relatively close access roads or rural trails proposed for financing under this Project. It was hoped that the construction of the roads of each sub-project be completed through a single contract for reasons of economy and efficiency. According to the document, the procedure for selecting the sub-projects would be based upon requests received from rural communities and from subsequent feasibility studies.

The procedure would consist of 5 stages:

1) Compilation of possibilities

   The preparation of a list of possible road projects based upon submitted requests and necessities as identified by SECOPT in collaboration with other government agencies.

2) Application of the following basic criteria in the pre-selection of sub-projects:

   a. That the proposed sub-projects be connected to other all-weather roads that lead to regional markets.

   b. That the proposed roads have in their areas of influence an average of ten families per kilometer, according to available census data.

3) Qualification of sub-projects as access roads or rural trails.

   The distinction between rural trails and access roads would be based upon a cost-benefit analysis with the exception of those already included as

economically feasible in the Highway Master Plan for Honduras. The remaining projects would be subjected to a cost-benefit analysis, first as access roads. Failing to qualify as such, they would then be analyzed as rural trails. Those selected by the cost-benefit analysis would be assigned priorities.

The benefits would derive from the following:

a. Savings to the users from the reduced costs of transporting products to markets.

b. Comparative savings, for the same reason on products imported to the communities

c. Half of the production stimulated by the new roads.

d. Non-quantifiable factors.

The costs would result from the following:

a. The expense of restoration and maintenance, basically of road surfaces, culverts and small bridges or fords.

b. Adjustments to such costs.

c. Residual values equivalent to 40 percent for access roads and 30 percent for rural trails.

4) Eligibility confirmation

Once the distinctions between "access roads" and "rural trails" were made, the following would be determined:

a. If the operational maintenance agreement for rural trails were confirmed by the SECOPT analysis of the community capability to maintain the trail.

b. If the environmental impact specifications were satisfied.

If both conditions were not satisfied, the proposed roads would be eliminated from consideration until the necessary changes were effected.

5) Priority assignments

By combining analyses of road segments of the sub-projects, a total cost-benefit index would be obtained for each complet sub-project. Based upon the absolute value of the combined index each sub-project would also be assigned a weighted factor, of 1 to 5 to reflect its relative economic importance. Additiona estimated factors would be used to classify the sub-projects in terms of average family income (derived from agricultural activities and other sources) and the average sizes of family farms. Therefore, the qualification that determines the priority of a sub-project would be influenced in two thirds by the cost-benefit index and in one-third by other factors. It is stipulated that if a large number of families with high incomes or big farms would be benefiting from the project, the weighted factors and the point system would be revised.

Once the roads have been selected, the following sequence would be followed:

a. SECOPT would notify CONSUPLANE to incorporate such roads into the regional planning effort and into the PRODERO program.

b. For planning and coordination, CONSUPLANE would be the center for information control, registering the progress of the Project and keeping PRODERO informed of the whereabouts and availability of the representatives of government agencies which provide various public services.

PROJECT LOCATION MAPS

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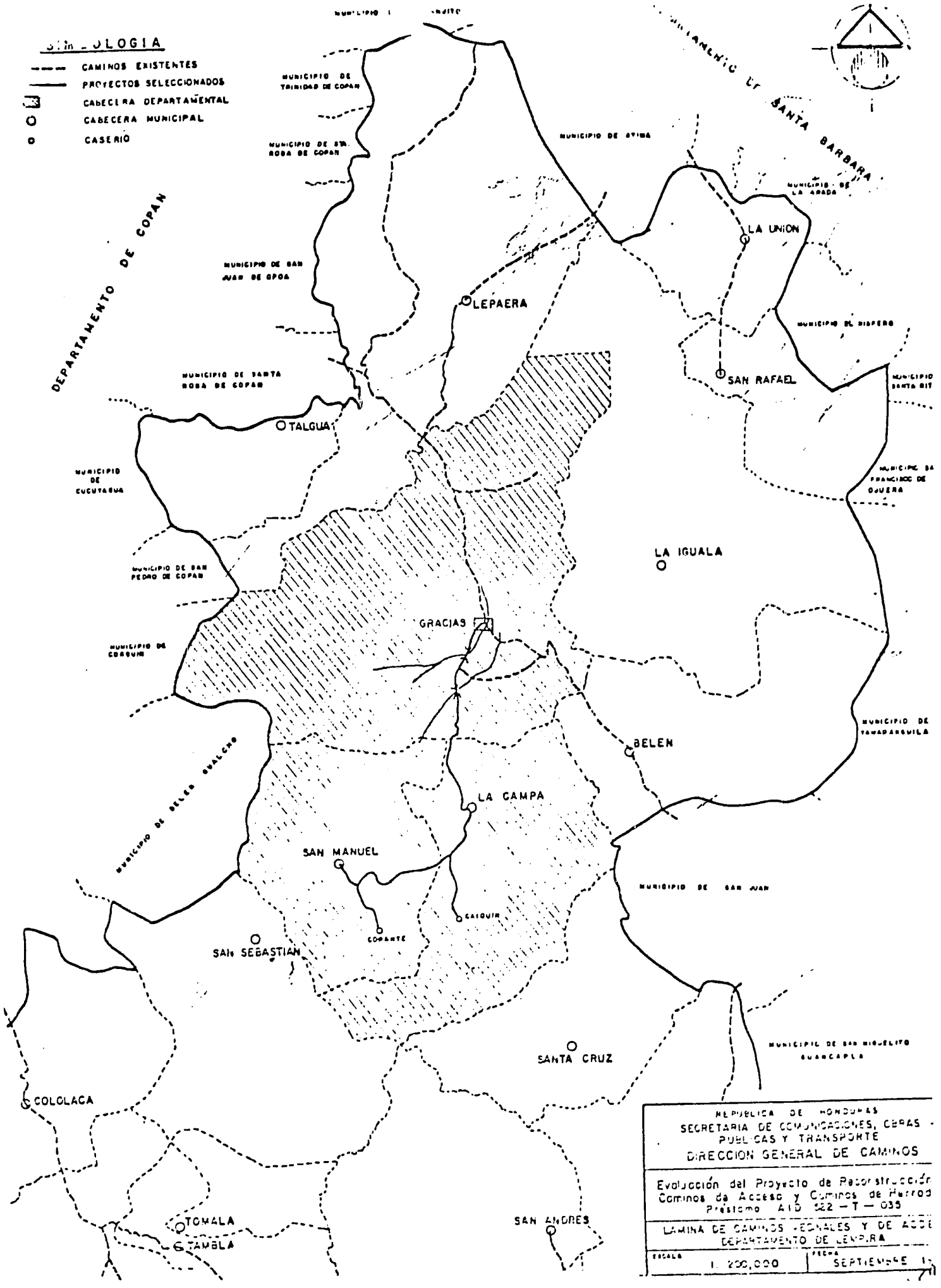
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DEPARTAMENTO DE LEMPIRA
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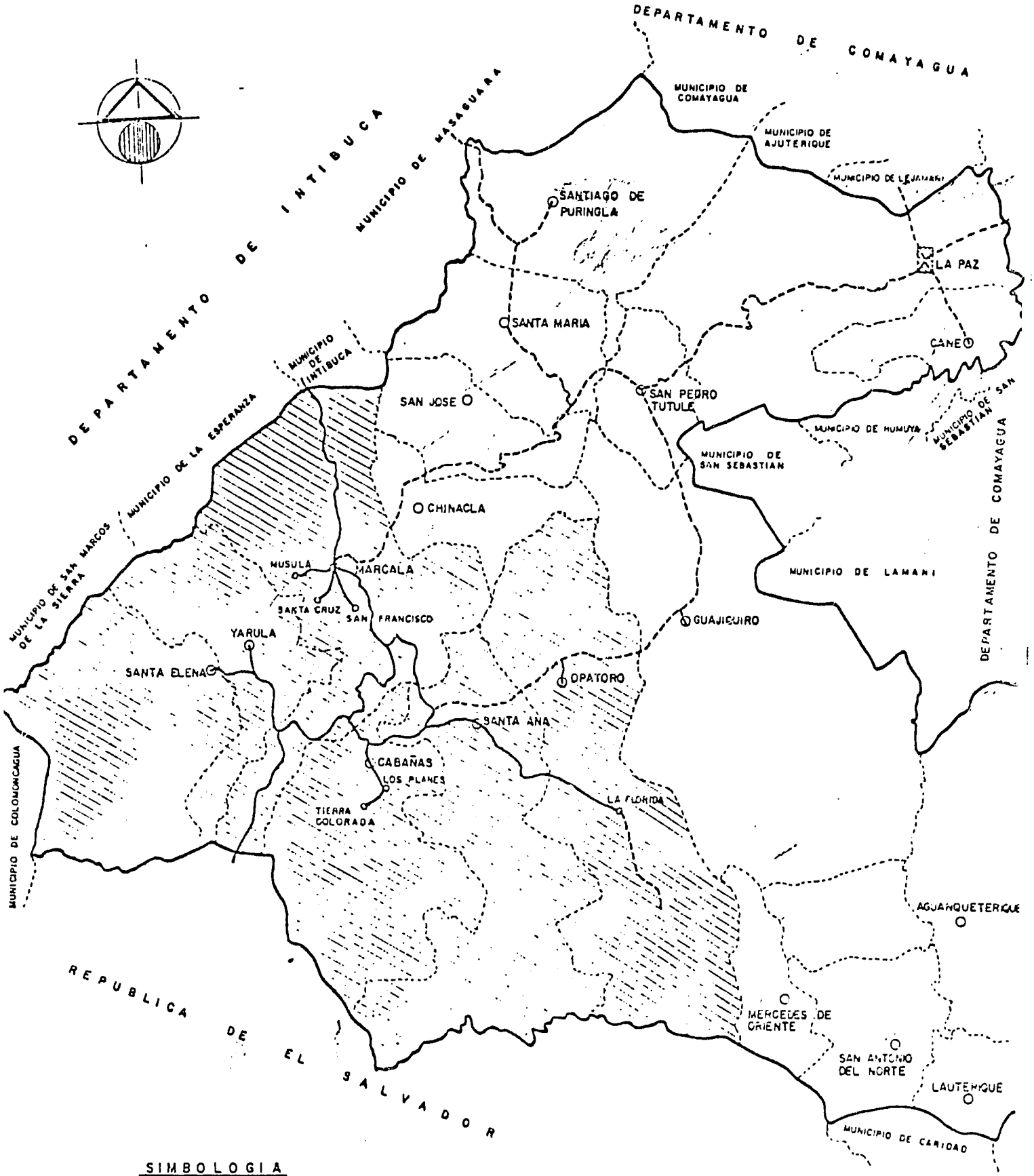

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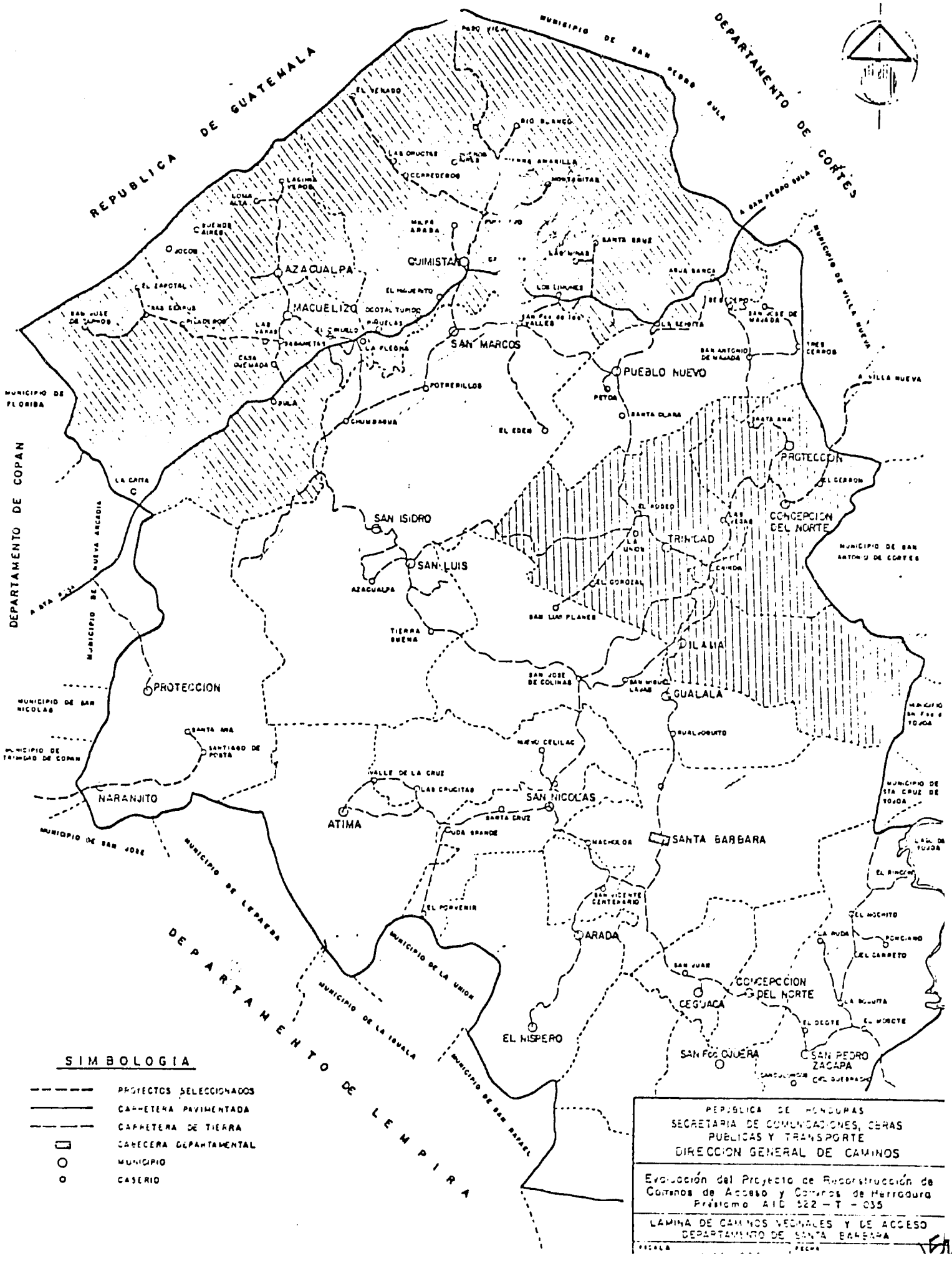
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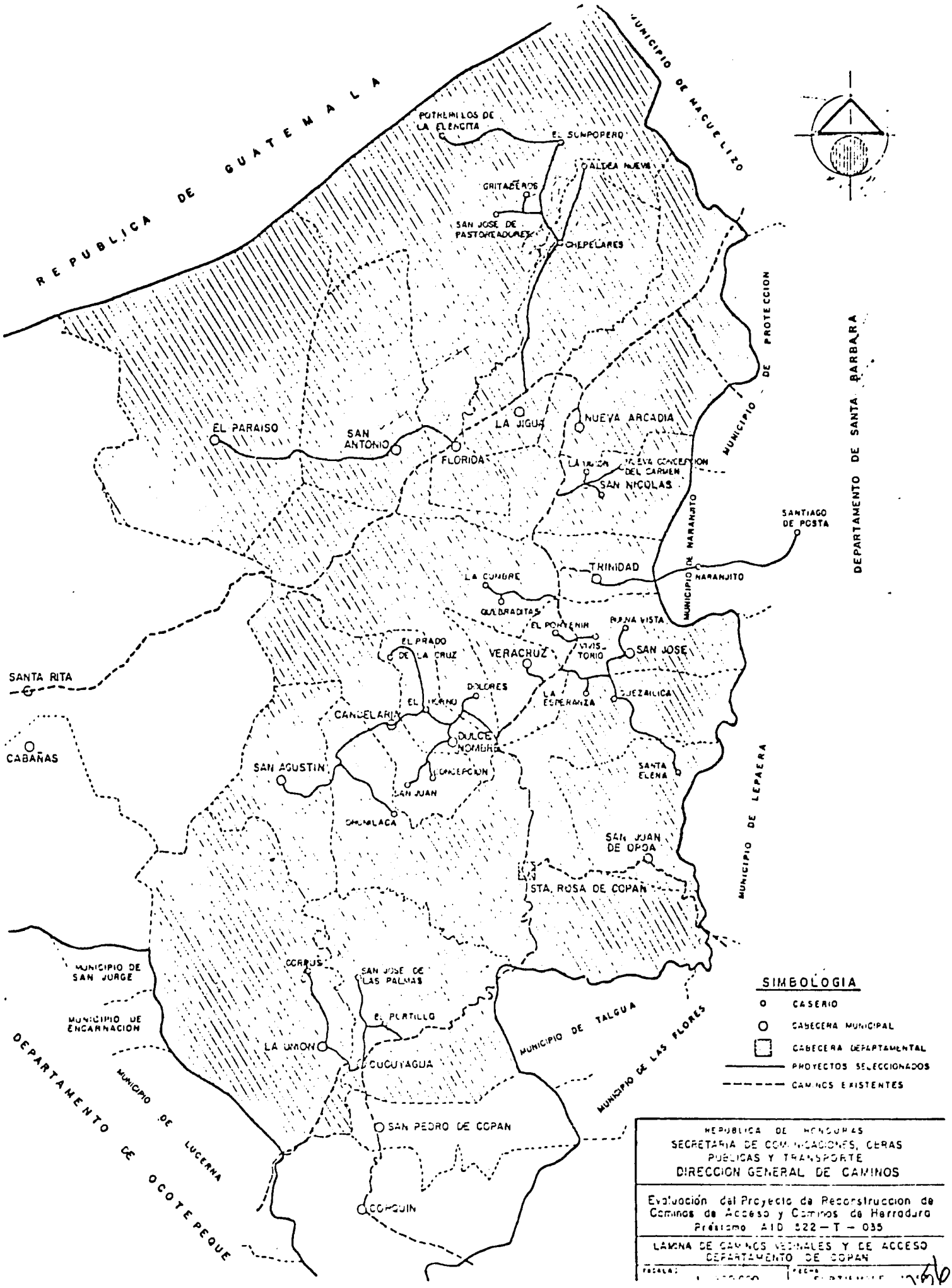
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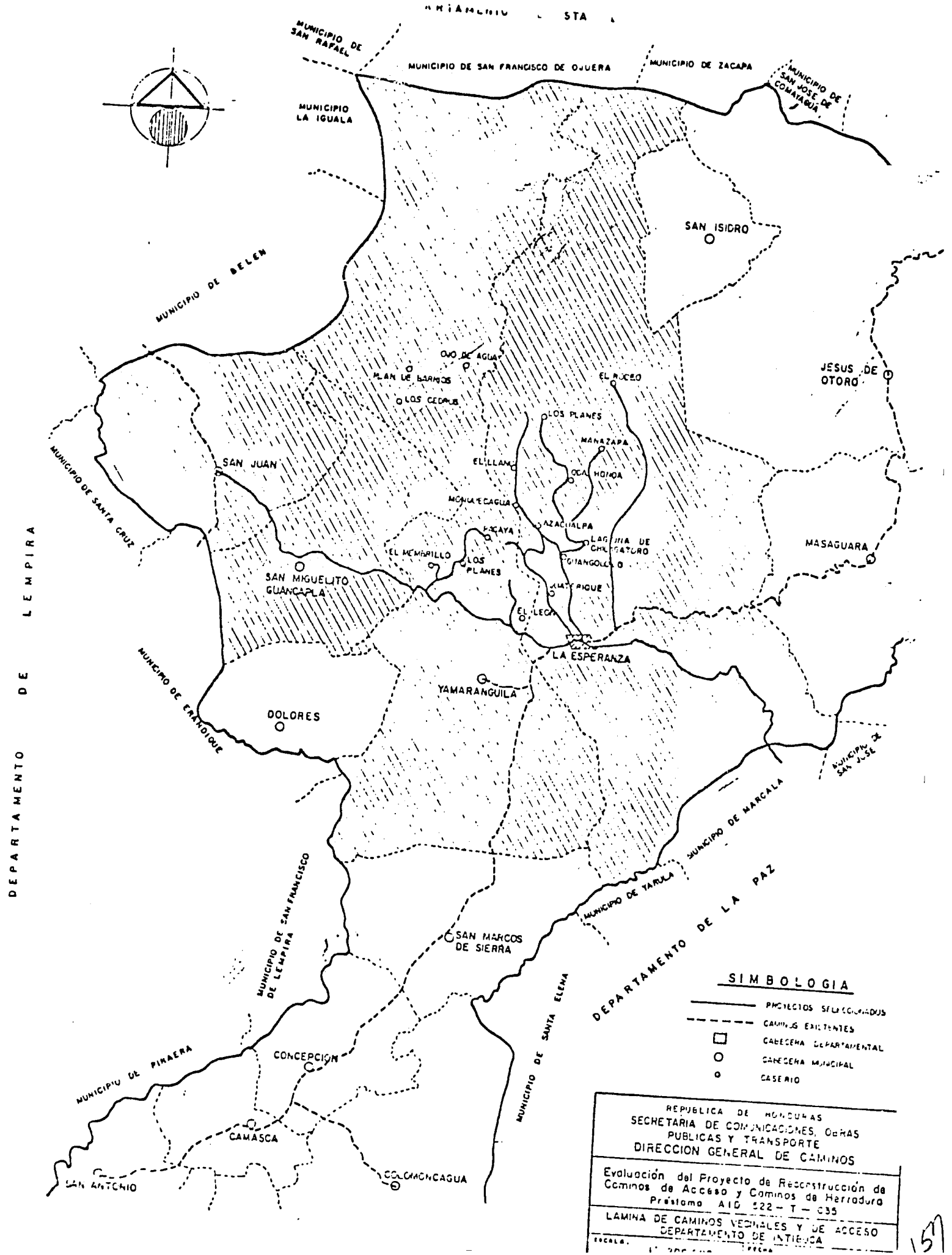
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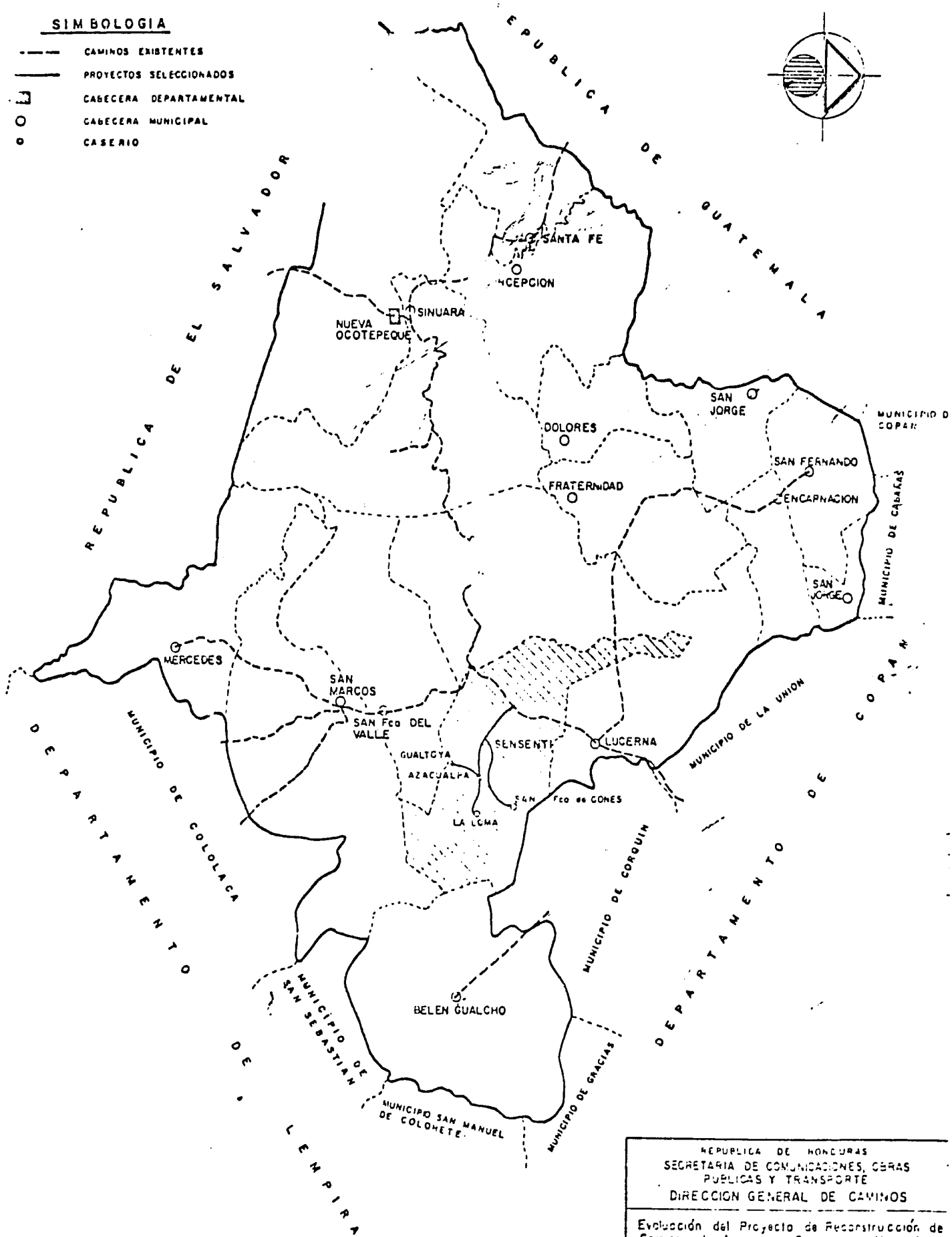

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