

REPORTE EVALUACION "PROYECTO CONSTRUCCION DE SIETE PUENTES SOBRE LAS CARRETERAS PRINCIPALES EN LA REPUBLICA DE HONDURAS"

SUMMARY

CONTEXT OF THE EVALUATION

Background: Late on October 1998, Honduras was lashed by Hurricane Mitch which brought heavy rains inflicting extreme damages due to flooding and land slides. Among the countries affected by this hurricane, Honduras was the one that suffered the highest loss of human lives and housing, infrastructure, and production damages. Under the coordination of the Ministry of the Presidency, the Honduran Government took emergency measures and, in the following year, adopted a National Plan for Reconstruction and Transformation. One of the main objectives of this Plan was to prioritize the rehabilitation of highways, because of its obvious importance to the people and its impact in the economy. The rehabilitation of roads and bridges, with high financial requirements, was considered of the utmost concern.

In this context, the government of Honduras applied for the financial cooperation from the government of Japan, in order to carry out project identified to solve the problem of the bridges on main highways. Due to the country's great need, the government also applied for the cooperation of other countries such as Sweden, the United Kingdom and others for the rehabilitation of highways and bridges on short and medium term. The building of the bridges hereupon being evaluated was made possible through the financial aid of the government of Japan through the Japan International Cooperation Agency (JICA) in a coordinated action with other donors. The funds provided were given as non refundable for the construction of seven permanent bridges in Tegucigalpa and on main highways. Other minor projects were also funded.

Purpose of the Evaluation: This evaluation is made to determine the results, mainly the intangible ones derived from the building and usage of these seven bridges. In other words, the measuring of the impact they have made, for example, the continued justification of the project, efficiency and effectiveness of the project, effects and impact of the project and the experienced gained.

Main Characters: The evaluation was carried out by request of the Embassy of Japan in Honduras to the consulting firm Gestion y Desarrollo, S. A. (GEDESA). Among the institutions and organizations involved (interviewed) are the following: Secretaria de Obras Publicas, Transporte y Vivienda – SOPTRAVI (Ministry of Public Works, Transportation and Housing), the Secretaria Tecnica de Cooperacion Internacional – SETCOP (Ministry of International Cooperation), municipalities, Chambers of Commerce of the affected areas, the Comité Permanente de Contingencias – COPECO (Committee for Disasters), transportation entrepreneurs, users of transports and people who benefited by the project. Interviews also took place with JICA, the construction companies KONOIKE and HAZAMA, the Swedish International Cooperation Agency (ASDI) and other donors.

Main Participants: At the request of the Embassy of Japan in Honduras, the evaluation was performed by the consulting firm “Gestión y Desarrollo, S. A. (GEDESA)”. For this study, the following institutions were involved (interviewed):

Ministry of Public Works, Transportation and Housing (SOPTRAVI, for its Spanish acronym)

(Secretaría de Estado en los Despachos de Obras Públicas, Transporte y Vivienda);

Technical and International Cooperation Ministry

Secretaría Técnica y de Cooperación Internacional (SETCO, for its Spanish acronym);

Permanent Committee for Disasters (COPECO, for its Spanish acronym)

Comité Permanente de Contingencias; and,

Municipalities, Chambers of Commerce, transportation companies and users of these services, and social sectors’ representatives of the affected areas.

Also, interviews took place with JICA, the construction companies KONOIKE and HAZAMA, the Swedish International Cooperation Agency (ASDI), and other donors.

Description of the Project: The object of the project was to “contribute to the execution of the Master Plan for National Reconstruction and Transformation, in relation to the reconstruction of the road network in order to facilitate the execution of the reconstruction work and counteract the negative effects brought about by Hurricane Mitch in Honduras”.

The purpose of the project is to “recover the damaged bridges on the main highways by building permanent bridges to re-establish the functioning of main highways and promote social and economic activities”. The non refundable financial cooperation provided by the government of Japan to the Republic of Honduras is justified because of the great need and urgency to attack the negative effects of the hurricane that destroyed, almost completely, the road and productive infrastructure of the country, bringing about important benefits to the community, the region and the country. Therefore, the project answered the priorities defined by the government of Honduras in the Master Plan for National Reconstruction and Transformation and has also contributed to the priorities defined in the current government work plan and in the strategy for the reduction of poverty.

The execution consisted of the construction of seven bridges through three projects:

Project 1: Sol Naciente Bridge and Ixtoca Bridge in Choluteca

Project 2: Juan Ramon Molina Bridge in Comayagua, El Chile Bridge in Tegucigalpa and Rio Hondo Bridge in Tegucigalpa-Talanga

Project 3: Democracia Bridge in El Progreso and Ilama Bridge in Santa Barbara.

The whole process of application and negotiation between the governments of Honduras and Japan was done appropriately, thus facilitating the elaboration and execution of the project defined in the program. During the entire implementation of the three projects (seven bridges), the program proved to complement with the support given (other projects) through other modalities by the Japanese government (non-project/fondo

contralor) and an adequate coordination and alignment was given with the other projects of other donors that aided Honduras on the Mitch emergency.

Execution Period: The construction of the bridges started on October 2000, ending on April 2003. It is important to note that the construction work of the project “Siete Puentes” was recognized as highly efficient and of great quality.

Other Related Projects: Besides Japan, other donors contributed with the efforts of Honduras for restoring its road infrastructure (bridges); among these other donors are Sweden, the United Kingdom, the United States of America, and the international institutions CABEI and IADB. During the execution process of the projects, the Government of Japan kept a permanent open dialogue with other donors, thus helping Honduras to adequately coordinate efforts. This allowed an alignment with other modalities of cooperation from Japan and other donors, while implementing the program. Also, the coordination of the international aid among donors and the Government as well, constituted a historical mile-stone for international cooperation in Honduras.

Evaluation Methodology: The methodology used in the development of the evaluation responds to the requirements contained in the working guide provided by the Embassy of Japan. Interviews were conducted with officials of government institutions, municipalities, Chambers of Commerce and users in order to obtain information about the operation and maintenance of the project. Field trips were made to verify the physical status of the structure of the bridges, verify their performance, identify existing problems, take photographs and make an estimate of daily traffic of vehicles.

Sources of Information: Main sources of information used were: documents relating to the application for the projects filed at SETCO; information relating to management and execution of projects files at SOPTRAVI (request for financing, reports of advancement); information from construction companies KONOIKE and HAZAMA (technical specifications, design and plans); information, mainly verbal, from other sources such as: municipalities, Chambers of Commerce, COPECO, Fondo Vial (road authorities), JICA, transportation entrepreneurs and transport users.

Working Team: The responsible consulting team (evaluation) is conformed by a Civil Engineer, Mr. Alberto Gutiérrez; an Environmental Economist, Mr. Fausto Lazo Castillo; a Planning-Evaluating Economist, Mr. Manuel Euceda; and, a Technical Assistant, Mr. Javier Francisco Chávez.

Organization of the Report: The organization of the report was based on the contents of the guide given by the Embassy of Japan as part of the Terms of Reference with some adaptations to ensure the coherence of the information. The team performed their tasks jointly which allowed an adequate integration of the report.

PHYSICAL INSPECTION OF BRIDGES

Sol Naciente Bridge in Choluteca

Physical Description: The bridge is made up of two types of structural designs: reinforced concrete trapezoid pillars and superstructure with post-tensed box beams, and pillars of oval shaped sections made with concrete poured on the site and superstructure of slab/beam with reinforced concrete elements of consecutive sections. Fixed supports on the stirrups and piles. The stirrups are walls of reinforced concrete with slopes under the stirrups and approaches protected with plates of cyclopean concrete and gabions. Walkways, a combination of concrete parapet on the lower section and hand rails made of metal tubing, some and others made completely of metal, fixed on the bridge by plates and bolts. The causeway is made of asphalt pavement and it has expansion joints.

Observations: There are two different types of structures, one is the bridge that withstood the passing of Hurricane Mitch and the other is the extension of the bridge and reconstruction of the damaged approaching paths. The causeway (asphalt coating) of the bridge is in regular condition but there are potholes in the extension section. The bridge has five expansion joints, two of them double, located at the union of the new and the old sections. There are all in good condition and so are the concrete sidewalks and metal railings. The strainers for rain water on the causeway built with metal grills and connected to superficial PVC drains at the lower level are also in good condition. There is some accumulated sediment and trash at the mouths of the strainers and curbing. There is horizontal signalling in good condition. At the piles and approaching paths there are gutters for rain water and contention gabions. The areas surrounding the bridge are clean and clear of vegetation.

In general, Sol Naciente Bridge is in good condition and shows evidence of regular maintenance.

Recommendations: Check up and repair the potholes. Clean up accumulated sediment at strainers and gutters. Apply anticorrosive paint on bolts for the anchoring of light posts.

Iztoca Bridge in Choluteca

Physical Description: The structure of the bridge is of the slab/beam type with elements of reinforced concrete simply supported and consecutive sections. Solid pile with superior beam of reinforced concrete. The stirrups are of two types, one solid with integrated fins and the other a concrete wall reinforced by slopes under the stirrup protected by a layer of cyclopean concrete or ball stone. The parapets or railings are a combination of reinforced concrete on the lower portion and hand rails of metal tubing on the upper part with a height of 90 centimetres anchored with plates and bolts. The causeway is made of asphalt pavement and it has expansion joints. The supports are fixed at the stirrups and at the piles.

Observations: The causeway seems in good condition, showing a slight transversal fissure on one of the pilasters. The bridge has two visible expansion joints: one at the head/concrete wall, and another at the pilaster; there is no visible joint in the other pilaster where the fissure is. The team could not ascertain if there is a joint under the asphalt layer. The concrete sidewalks and metal railings are in good condition. The strainers on the causeway for rain water are in regular condition, some built with metal grills, others without grills, connected to PVC superficial drains, some of them broken at the lower end. It has horizontal signalling in good condition. At the slopes there are gutters to channel rain water and prevent erosion. The land around it was clean and free of vegetation.

In general, Iztoca Bridge is in good condition and shows evidence of good maintenance.

Recommendations: Check up the fissure of the asphalt layer to determine the existence or not of the joint and make the necessary repairs. Clean up of sediments and trash accumulated in the strainers and repair the broken PVC drains. Make periodic check ups and maintenance of the bridge to prevent corrosion of metal plates at the main beams.

Juan Ramon Molina Bridge in Tegucigalpa

Physical Description: The structure of the bridge is slab/beam type with elements of reinforced concrete simply supported (in piles and stirrups) and consecutive sections. Reinforced concrete trough with oval sections poured on the site. The stirrups on both sides of the trough of the bridge are reinforced concrete and the slope under the stirrups are protected with a layer of cyclopean concrete of ball rock. The hand rails are metal fixed to the structure of the bridge by plates anchored with bolts. The causeway is made of asphalt pavement and it has expansion joints at the supports.

Observations: The asphalt layer of the bridge has slight damage with small potholes on one end near one of the accesses. The expansion joints on the causeway are in good condition but not on the sidewalks where they have become loose. The sidewalks made of concrete overlaid with granite are in good condition as well as the curbing. The hand rails are metal fixed to the structure of the bridge through plates and bolts and they are in good condition. The strainers for rain water on the causeway are also in working order; they were made with metal grills connected to superficial drains. On the access streets there is a rain water drainage system that together with the strainers prevent the accumulation of water on the bridge. The horizontal signalling is in regular condition. The metal posts and the sodium vapour lamps (public lighting) are in good condition.
In general, Juan Ramon Molina Bridge is in good condition and shows evidence of good maintenance.

Recommendations: Periodic cleaning of strainers and drains from sediments and trash. Repair of expansion joint on the sidewalk. Since it is a bridge with high degree of vehicle traffic, constant check ups and maintenance of the asphalt layer (filling potholes) is recommended.

El Chile Bridge in Tegucigalpa

Physical Description: The structure of the bridge is slab/beam type with elements of reinforced concrete simply supported (in piles and stirrups) and consecutive sections. Reinforced concrete pilasters of oval sections poured on site. Stirrups at both ends of the slab of the bridge are reinforced concrete. The hand rails are metal fixed on the structure of the bridge through plates anchored with bolts. The causeway is asphalt pavement and has expansion joints at the supports.

Observations: The causeway is in good condition with no fissures, cracks or damage to the structure. The expansion joints are in good condition on the causeway and slightly moved over one of the sidewalks near the stirrup. The sidewalks are concrete overlaid with granite and they are in good condition as well as the curbing. There are gutters, drains and drain boxes on the access streets to the bridge to control rain water. On one

of the sides, on the slope of the stirrup, there is rubble work deflecting the water towards the river. All is in good condition. There is horizontal and vertical signalling in good condition. It has public lights on metal posts and sodium vapour lamps, all in working condition.

In general, El Chile Bridge is in good condition and shows evidence of good maintenance.

Recommendations: Periodic cleaning of drainage systems and areas under stirrups to avoid accumulation of sediment and trash. Repair extension joints on the sidewalk.

Rio Hondo Bridge in Tegucigalpa-Talanga

Physical Description: The structure of the bridge is slab/beam with elements of reinforced concrete simply supported and consecutive sections. Pilasters of reinforced concrete of oval sections cast on site. The stirrups are reinforced concrete with superficial foundation and slopes under protected stirrups with cyclopean concrete overlay, gabions and rubble work (sawed stone). The railings are made of metal measuring 1.10 meters high fixed to the bridge through plates anchored with bolts. The causeway is asphalt pavement and had expansion joints. The supports are fixed on the stirrups and piles.

Observations: The causeway on the bridge seems in good condition without cracks, fissures or any damage in the structure. The expansion joints are in good condition in the causeway. Sidewalks, concrete curbing and metal rails are in good condition. The slopes have protective overlays in each of the stirrups with cyclopean concrete (ball stone) and in the other stirrup a combination of gabions, cyclopean concrete and rubble work. Strainers for rain water on the causeway are in good condition.. There are gutters in the slopes and approaches for the drainage of rain water in good condition. The horizontal and vertical signalling on the bridge is in good condition. The bridge has two recognition plates duly installed.

In general, Rio Hondo Bridge is in good condition and shows evidence of good maintenance.

Recommendations: Periodic cleaning of drainage systems, cutting grass in the slopes and areas under the stirrups.

Democracia Bridge in El Progreso

Physical Description: The structure consists of oval pillars of reinforced concrete similar to the ones in the adjacent bridge. The superstructure is pre-tensed box beams similar to the ones on the adjacent bridge. The stirrups or bolsters on both sides of the structure are reinforced concrete cast on site. The rails are metal with a height of 1.10 m. on the side of the sidewalk fixed to the bridge through plates anchored with bolts. The causeway is asphalt pavement and has expansion joints with elastomeric material.

Observations: The causeway seems in good condition with no cracks, fissures or damage to the structure. The expansion joints on the causeway are fine but have become loose on the left curbing or rail. Concrete sidewalks, curbing and metal railings are in good shape, except for a small portion of the handrail and a light post that suffered some damage when a vehicle crashed on them. The slopes on the stirrups do not have

protective overlays as other bridges have and they look dirty and full of weeds. The strainers on the causeway for rain water are in good condition; they have metal grills that connect with PVC superficial drains. There are gutters on the proximity of the rain water drains and they seen in good condition. The horizontal and vertical signalling seem to be fine. There is some corrosion on the anchoring plates and bolts on the light posts. The electricity registries on the post have no lids so that the cables are exposed. One of the acknowledgement plaques is missing.

In general, Democracia Bridge is in good condition but the maintenance is only regular.

Recommendations: Establish means and controls of vigilance to avoid damage to the physical installations and its users; interviews with residents on the area mentioned the existing high degree of vandalism. Erase and clean out the stains and graffiti on the concrete elements of the bolsters. Re-install the material of the expansion joints in the curbing. Metal grills should be installed on the holes at the lower section, near the stirrups to prevent access of particulars. Anticorrosive paint should be applied to plates, bolts and light pole bases that show any sign of corrosion. Metal lids should be installed on the registries on the light poles. Repair the damaged pole and curbing, which will include the straightening of the pole and replacement of the broken lamp. Reinstall the missing plaque. Regular clean up and cutting of weeds should be done on slopes and areas under the stirrups.

Ilama Bridge in Santa Barbara

Physical Description: The superstructure of the bridge consists of post-tensed box-type beams of reinforced concrete. The infrastructure is a pilaster (one column) of oval sections of reinforced concrete cast on site and stirrups or bolsters on both ends of the reinforced concrete slab. The railings are metal with a height of 90 centimetres fixed on the structure through plates anchored with bolts. The causeway is asphalt pavement and has expansion joints with elastomeric material.

Observations: The causeway shows no cracks, fissures or other damage to the structure. The expansion joints are fine on the causeway, but slightly cracked on the sidewalks. There is slight evidence of leakage near the stirrups. The concrete sidewalks and metal railings are in good condition. The slope under the stirrup is protected by a layer of cyclopean concrete (ball stone). Strainers for rain waters are fine; they have metal grills connected to 6 inch PVC pipes for drainage. Systems of channelling and draining rain water have been implemented, such as: gutters and drain boxes with concrete pipes. The horizontal and vertical signalling of the bridge is in good condition. The slopes, approaches and right of way are clean and free of weeds.

In general, Ilama Bridge is in good condition and receiving good maintenance.

Recommendations: Periodic cleaning of residues on drainage systems and strainers. Revision and repair of the fissure on the expansion joint on the sidewalk.

IMPACTS

The impacts identified by this evaluation were determined based on the analysis of the information gathered mainly on interviews made at the institutions and organisms involved, to the users and local communities of the areas influenced by the building of

the bridges. It was determined that these impacts were similar for all bridges. Among the most outstanding are the following:

Technological Impact

- The design used for the construction of the bridges is considered very modern. It guarantees the safety and sustainability of the structure when looking at special technical specifications to resist natural disasters.
- The technology and procedures used by the Japanese companies in the construction of the bridges is superior to that one used in the country: spearhead technology, modern equipment, good quality control, discipline and labour security.
- The construction contemplated structures against extraordinary floods, thus guaranteeing lesser damage due to natural events.
- The general opinion of the institutions and persons interviewed was that the structures were of excellent quality and performance. The technology used is an important innovative change for the development of road infrastructure in the country.

Institutional Impact:

- The project made an important contribution for the development of the strategy for the improvement of the highway network of the country.
- The execution of the project was a good opportunity to generate a strengthening of the technical capability of national institutions involved in the development of highway infrastructure.
- The construction process of the bridges helped the technological transfer to other institutions, especially SOPTRAVI, but it also facilitated a transfer of knowledge and experience to national construction companies and skilled labour.

Economic Impact:

- The construction of the bridges has had a highly positive effect on the reactivation of production processes, especially agricultural, the development of tourism activities and service rendering activities. All this has contributed significantly to the generation of employment and thus, an increase in family income.
- The execution of the projects meant a substantial support to the commerce of goods and services, facilitating the access to national and international markets.
- The elimination of high vehicular congestion has produced a significant reduction on time and cost of transport of passengers and goods, which means an important economic impact on the project areas.
- All these activities generate an important amount of economic benefits to families, communities and in general, the areas affected with more income, employment and merchandising of products.

Political Impact:

- The execution of the project made an important contribution towards the strengthening of the mechanisms for regional integration and the commercial policies, both national and international.
- The project contributes as well to the execution of government policy related to highway infrastructure and the implementation of the Master Plan for National Reconstruction.
- The process of financial request and negotiation gave way to a greater conscience and commitment about the responsibility of considering the vulnerability of the

country and the handling of risks in the programming and execution of highway projects.

- The project also generated a greater conscience and responsibility at the municipal and local level as to the need of maintenance and vigilance of this type of structures, thus contributing to the decentralization policy.
- The execution of the project under the mode “turn key” made evident a greater efficiency and clarity in the administration of funds, thus contributing to the policy of government modernization.

Social and Cultural Impact:

- The process of the construction under the principles of discipline, efficiency and labour safety generated a positive effect on the conduct of workers under their employ, commercial establishments involved and communities.
- The bridges allow more safe transit of people and goods, and greatly reduces traffic accidents.
- The bridges give the population easy access to education and health centres.

Environmental Impact:

- The people interviewed considered the access the bridge gives them as an environmental benefit.
- The building of the bridges contributed in the reduction of pollution in some cities due to the excessive traffic of vehicles, thus improving the quality of life of the population.
- The construction of the bridges promoted, in the municipalities, the taking of measures to prevent the over exploitation of the rivers (removal of sand and stones).
- The municipalities involved are more concerned now about the preservation of natural resources to decrease the risks in case of natural disasters.
- The construction of the bridges has improved the “face” of the areas involved.

PURPOSE AND GOAL OF THE PROJECT

Accomplishment of the Purpose of the Project

The purpose of the projects executed with the non refundable financial cooperation of the Japanese government is in reference to the “recovery of the bridges affected by Hurricane Mitch on the main highways of Honduras through the construction of permanent bridges to re-establish the functions of the highway network and promote social and economic activities in the country”.

In accordance with the physical inspections of the bridges and the opinions of the individuals interviewed in government agencies, the private sector, municipalities, users of land transportation and residents of the communities on the zones influenced by the new bridges, the purpose of the program was completely and efficiently fulfilled.

The execution of the program allowed the confirmation of the urgent need and priority of the projects for Honduras, considered under the Reconstruction Plan and the alignment of the cooperation given with the prioritised areas of the higher policy of the government of Japan as described on the Letter of Official Assistance for Development.

This affirmation is backed up by the verifications carried out with the evaluation as far as type of design of the bridges, quality of construction, procedures used in the construction process, function of the structures, and the impacts generated by the projects. It has been validated that the execution of the program has generated important benefits to the Honduran population, especially in the zones influenced by the projects because they facilitate the reactivation of the adjacent productive sectors, the marketing processes and the access to different services.

Fulfilment of the End of the Project

The final end of the projects carried out with the non refundable financial cooperation of the government of Japan is said to be to “contribute with the execution of the Master Plan for the National Reconstruction and Transformation in relation to the reconstruction of the highway network in order to facilitate the recuperation endeavours, counteract the negative effects of Hurricane Mitch and impel the socio-economic development of Honduras”.

In accordance with the verification carried out by the evaluation, the end of the projects has been accomplished satisfactorily because the bridge infrastructure provided allowed the overcoming of serious problems caused by the natural disaster and has contributed a great deal towards the rehabilitation of the infrastructure and the reactivation of the productive capability of the country.

Experience Acquired and Emerging Lessons

- The hurricane that lashed Honduras in 1998 with very negative effects gave evidence of the country's high environmental vulnerability due mainly to the drastic degradation of its natural resources and the absence of preventive measures.
- In Honduras there are no serious and systematic efforts to apply laws and regulations for the adequate management of the natural resources and land decrees.
- The lack of vigilance and control at the extraction of construction materials (sand and stones) from river beds affected the bases of the existing bridges.
- The scarce development of infrastructure makes the country very fragile and therefore the destruction of its main highway network leaves the production and services systems almost paralysed.
- The absence of data related to the hydrological behaviour of the country makes it difficult to design adequate structures for the existing climatic conditions.
- When faced with a natural phenomenon like Hurricane Mitch, evidence showed the limited response capacity of the country to take care of the emergency and showed the country's high dependency on international financial cooperation.
- Seeing the efficiency, clarity and use of advanced technology during the process of construction of the bridges by the Japanese construction companies, there is evidence of the need form improvement in the technical and administrative capacity of the institutions responsible for the infrastructure sector when planning and executing projects.
- Due to the scarce definition of responsibility among the institutions involved in the vigilance and maintenance of the structures, it is necessary to strengthen the decentralization policy initiated by the government.

Conclusions:

- There was a great and urgent need to implement the program of the building of bridges; there was alignment between the priority of Honduras and the superior policy of the government of Japan.
- The negotiation process between Honduras and Japan as to the making and executing of the program was appropriate.
- It is important that Honduras increases its efforts in the handling of natural resources and in the application of measures for land decrees in order to reduce its ecological vulnerability and safeguard its highway and productive infrastructures.
- The solidarity showed by the government of Japan in the emergency was of vital importance for the rehabilitation of the highway infrastructure (bridges) and the recovery of the productive capacity of the country. It can be safely said that without the non refundable financial cooperation of Japan, the failure to rehabilitate the bridges would have caused a very difficult situation for the country.
- The financing of other projects with other modalities from Japan (for example: Fondo Contralor) and of other donors had a positive impact because it allowed complementary attention of the emergency.
- The design of the bridges used by the Japanese companies is excellent as it responds to the climatic conditions of the country guaranteeing the resistance of the structures facing extraordinary floods.
- Modern technology and efficient building procedures used by the Japanese companies are considered very valuable, allowing an innovative transfer of knowledge, leaving a valuable experience to the national institutions from which to adopt new technologies. In this respect, it can be said that the technological absorption on the part of the responsible institution was limited.
- The execution of the program helped Honduras to recover its capacity to produce and the access to social services and support services to the production.
- It is very important that the government agencies responsible for the maintenance and vigilance of the highway infrastructure of the country, increase their efforts to comply with their duties and that the municipal and local capacity for this same purpose be improved considering preventive maintenance and thus improving direction at all levels.
- It is necessary that the central and municipal governments assume greater commitment while assigning resources for the maintenance of the highway network of the country.
- It is important to strengthen the application of measures oriented towards the vigilance and control in order to reduce the extraction of construction materials and prevent thus the ruining of river beds.
- There is outstanding need in the country to improve its statistical information related to matters such as: condition of natural resources, behaviour of waters, human settlements, etc. This would facilitate the design of infrastructure and improve the efficiency when building bridges.

- The construction of the bridges subject to this evaluation has benefited a large portion of Honduran population, allowing them an easy access to production and service centres.
- In general, the physical state and functioning of the bridges subject to this evaluation is excellent, which shows the good quality of the designs and construction .
- It is readily recognized that the efficiency, discipline and responsibility shown by the Japanese companies, as well as the quality of the work, has imprinted in the general public, the workers, the national companies involved and participating institutions a positive influence for a change of attitude.
- The execution of the bridge building projects generated important impacts in such fields as: technological, institutional, political, social, cultural, economic and environmental.
- The construction of the bridges contemplated in the program was executed in accordance to planning and design.

Governmental Observations

SOPTRAVI and SETCO, both Ministries involved with this evaluation report, expressed the following observations and comments:

SOPTRAVI

The report given by this Ministry, through the Head of the Technical Support and Road Security Unit, Engineer Rosa María Vásquez, outlines the commitment to comply with the recommendations and suggestions of the evaluation document and the recognition of some of the limitations.

SETCO

The communication received from this Ministry emphasizes the limited maintenance of the mentioned infrastructures, adding that "...it is important to mention that this evaluation evidences that the non-refundable cooperation of Japan is effective, transparent, of high quality and complies with the established terms; thus, assuring the efficiency of the cooperation".