

Country Name	The Project for the Study of National Transport Plan in the Republic of Nicaragua
Republic of Nicaragua	

I. Project Outline

Background	<p>In Nicaragua, the transport sector including international and domestic transport was composed of the land transport (68% of cargo transport, 98% of passenger transport), maritime transport (31% of cargo, 0.3% of passenger), and air transport (0.2 % of cargo, 0.8% of passenger). As for the road network, while it has been extended for 22,111 km nationwide, only 12% of them have been paved. Passable roads in rainy season were limited to 68% of them. In terms of the maritime transport in the country, although the Corinto Port, the only one international container port in the country, did not have enough facilities, it has been hardly rehabilitated due to geographical constraints. Weak transport infrastructure was thus the bottleneck of economic development and poverty reduction in the country. The Nicaraguan government formulated the National Transport Plan (2000-2019) in 2000 under the support of the Inter-American Development Bank (IDB). However, there were some issues for implementation of the plan including unrealistic demand forecast and investment plan without financial resource availability.</p>										
Objectives of the Project	<p>Through preparing an updated National Transport Plan in line with the National Human Development Plan (Plan Nacional de Desarrollo Humano: PNDH), the project aimed at prioritization of the transport infrastructure projects for domestic economic infrastructure development and implementation of the prioritized projects based on the investment plans, thereby contributing to establishment of the transport network with economic efficiency, reliability and safety.</p> <ol style="list-style-type: none"> Expected Goals through the proposed plan¹: Economically efficient, reliable and safe transport network will be established based on the National Transport Plan. Expected utilization of the proposed plan: <ol style="list-style-type: none"> The National Transport Plan updated in line with PNDH will be approved by the government of Nicaragua. The transport infrastructure development plans for domestic economic infrastructure development will be prioritized based on the updated plan according to the transport policies. The prioritized projects based on the investment plans will be implemented. 										
Activities of the Project	<ol style="list-style-type: none"> Project Site: whole region of Nicaragua Main Activities: <ol style="list-style-type: none"> Review and analysis of current status and issues of the transport sector. Review and analysis of current status and issues of public private partnership (PPP) projects in the transport sector. Screening of candidate PPP road projects and selection of the priority PPP road projects. Preparation of the roadmap for PPP projects implementation and the demarcation of responsibilities and roles of the related organizations. Assessment of the needs of technical supports and recommendations. Inputs (to carry out above activities) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Japanese Side</td> <td style="width: 50%;">Nicaraguan Side</td> </tr> <tr> <td>(1) Mission members: 22 persons</td> <td>(1) Staff Allocated: 12 persons</td> </tr> <tr> <td>(2) Equipment: equipment necessary for the survey</td> <td>(2) Facilities and equipment: project office</td> </tr> <tr> <td></td> <td>(3) Operation cost for utility of offices (electricity, water and telephone) and operational cost</td> </tr> </table> 			Japanese Side	Nicaraguan Side	(1) Mission members: 22 persons	(1) Staff Allocated: 12 persons	(2) Equipment: equipment necessary for the survey	(2) Facilities and equipment: project office		(3) Operation cost for utility of offices (electricity, water and telephone) and operational cost
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Project Period	December 2012 – July 2014 (Extension: March 2014 – July 2014)	Project Cost	(ex-ante) 350 million yen, (actual) 351 million yen								
Implementing Agency	Ministry of Transport Infrastructure (MTI)										
Cooperation Agency in Japan	CTI Engineering International Co., Ltd., Yachiyo Engineering Co., Ltd.										

II. Result of the Evaluation

1 Relevance
<p><Consistency with the Development Policy of Nicaragua at the Time of Ex-Ante Evaluation and Project Completion></p> <p>The project was consistent with the national highest level development plan, PNDH (2009-2011) at the time of ex-ante evaluation and with PNDH (2012-2016) at the time of project completion, which have placed high priority on the infrastructure development in social and industrial sectors focusing on the improvement of inter- and intra-regional trunk road networks.</p> <p><Consistency with the Development Needs of Nicaragua at the Time of Ex-Ante Evaluation and Project Completion></p> <p>The project was consistent with the development needs of Nicaragua to update the national transport plan for increasing job opportunities thereby eradicating poverty in rural areas at the time of ex-ante evaluation and the time of project completion.</p> <p><Consistency with Japan's ODA Policy at the Time of Ex-Ante Evaluation></p>

¹ The degree of achievement of expected goals is not to be assessed in principle at the time of ex-post evaluation, since it is defined as the medium-to-long-term goals which will be attained as a result of crystallizing the proposed plan ("output" of the project).

The project was consistent with the Japan's ODA policy for Nicaragua at the time of ex-ante evaluation. The "Country Assistance Program for the Republic of Nicaragua" (October 2002) prioritized the development of transportation infrastructures as one of the six priority areas focusing on the improvement of roads and bridges needed in relation to poverty reduction and road disaster prevention.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Objectives at the time of Project Completion>

The objectives of the project were achieved by formulating the National Transport Plan (2014-2033) including the Capacity Development Plan by the time of project completion.

<Utilization Status of the Proposed Plan at the time of Ex-post Evaluation>

The National Transport Plan prepared by the project was approved by MTI in September 2014 and has been highly utilized at the time of ex-post evaluation (Indicator 1). MTI has partially changed the priorities of the projects proposed by the National Transport Plan responding to the changes of situations including natural disasters of tropical storms and floods which affected transportation facilities, and the progress of other projects executed under other policy frameworks such as the Regional Framework Policy in Mobility and Logistic in Central America. As a result, out of the 35 prioritized projects for the short-term implementation plan (2014-2018), 24 projects have been implemented and 17 of them have been completed; out of the 118 projects scheduled for the mid-term and long-term implementation plans (2019-2033), 37 projects have been commenced (Indicator 2). While the institutional improvement proposed by the project has been delayed, the coordination of related organizations for implementing the projects has been conducted by the inter-institutional coordination mechanisms created by MTI (Indicator 3). MTI has flexibly changed the plans responding to changes of environments and promoted implementation of the project. Consequently, including the mid-term and long-term planned projects, the total number of the projects implemented exceeded the number of the short-term planned projects. Besides, MTI financed budget for the projects by raising the reliability of the plans by showing the National Transport Plan. The National Transport Plan prepared by the project has thus been highly utilized.

<Status of Achievement for Expected Goals through the Proposed Plan at the time of Ex-post Evaluation>

Out of the 647 km extension of paved roads in Nicaragua constructed in 3 years from 2014 to 2017, 480 km (74%) has been extended by the implementation of the projects proposed by the National Transport Plan. Due to this extension and pavement constructions of existing roads, the pavement ratio of the national road network has been increased from 15% to nearly 18%. As a result of the improvement of road connections and conditions, traveling time and cost have been largely reduced.

<Other Impacts at the time of Ex-post Evaluation>

The strategic environmental assessment for the National Transport Plan was undertaken in line with Nicaraguan environmental laws and regulations and the JICA Guidelines for Environmental and Social Considerations 2010. The project was classified as Category B according to the JICA's Environmental and Social Considerations. In the implementation stage of the Plan, there were inevitable negative natural and social impacts such as soil erosion, tree cuts, dust, noise, land acquisition and resettlements caused by the construction works. However, MTI applied appropriate measures to mitigate the magnitude of impacts complying with related laws and regulations such as the Decree No.20-2017 which accommodates the strategic environmental assessment. Operation and maintenance including environmental monitoring is managed by sector-wise organizations such as the Road Maintenance Fund for road facilities, and no particular environmental issues have been reported.

<Evaluation Result>

In light of the above, the objectives of the project were achieved at the time of project completion. Through flexible utilization of the plans, the larger number of projects have been implemented than the original plan, and the plans are also used as a means of funding for the projects. The utilization status of the National Transport Plan prepared by the project is thus high. Negative impacts associated with the construction works have been properly managed. Therefore, the effectiveness/impact of the project is high.

Status of Achievement of Utilization Status of the Proposed Plan and Expected Goals through the Proposed Plan

Aim	Indicators	Results
Utilization Status of the Proposed Plan	Indicator 1: The draft of National Transport Plan prepared by the project will be approved by the government of Nicaragua as its national plan.	(Ex-post Evaluation) Achieved The National Transport Plan was prepared by the project, and officially approved by the acting Minister of MTI in September 2014 and has been published on the official website of the Ministry.
	Indicator 2: The prioritized projects and investment plans proposed by the draft of National Transport Plan are implemented by the government of Nicaragua according to the action plan.	(Ex-post Evaluation) Achieved <ul style="list-style-type: none"> Implementation of the short-term implementation plan (2014-2018) for 35 projects, <ul style="list-style-type: none"> Completed: 17 projects Under construction or under preparation: 7 projects Not started: 11 projects Implementation of the mid-term and long-term implementation plans (2019-2033) for 118 projects, <ul style="list-style-type: none"> Completed: 13 projects Under construction or under preparation: 24 projects Late executions of some short-term planned projects and early executions of some mid-term and long-term planned projects were caused by the changes of projects' priorities made by MTI. Including the mid-term and long-term planned projects executed, the total number of projects implemented is 61 which is over the number of 35 of the projects planned to be implemented in short-term.
	Indicator 3: Institutional structures and operation systems of concerned organizations in transport sector including	(Ex-post Evaluation) Partially Achieved <ul style="list-style-type: none"> Since the inter-institutional coordination mechanisms created by MTI have been functioning, the National Transport Implementation Committee and the Coordination and Research Section recommended by the capacity

	the implementing agency are improved according to the capacity development plan proposed by the project.	<p>development plan in the National Transport Plan have not been established. The committee and the sections are in process of establishment in collaboration with related agencies.</p> <ul style="list-style-type: none"> The coordination of related organizations has been conducted by MTI involving the Ministry of Finance and Public Credit (MHCP) and the Presidency of the Republic for financial issues, the National Port Company for maritime transport issues, the International Airports Management Company for air transport issues, and others including private sectors. The logistics office proposed by the National Transport Plan to be established will be formally set up in 2019 as the Cargo and Logistics Office in MTI. Human resource development plans have been implemented by systematizing the on the job training (OJT) and mentoring system in MTI. 																																																										
Expected Goals through the Proposed Plan (not to be assessed)	<ul style="list-style-type: none"> The number of prioritized projects and investment plans proposed by the project implemented. Extension of the total length of the national road network. Increase of the pavement ratio of roads. Reduction of travel cost and time. 	<p>(Ex-post Evaluation) Partially achieved</p> <ul style="list-style-type: none"> Some of the mid-term and long-term planned projects have been implemented ahead of the schedule. The total length of the national road network has been extended 378 km from 24,137 km in 2014 to 24,515 km in 2017. Out of 378 km, 121 km (32%) has been extended by the implementation of the National Transport Plan. The total paved road length in the country has been extended 647 km from 3,653 km in 2014 to 4,300 km in 2017. Out of 647 km, 480 km (74%) has been extended by the implementation of the National Transport Plan. Due to this extension and pavement constructions of roads, the pavement ratio of the national road networks has been increased from 15% in 2014 to nearly 18% in 2017. Travel cost and time have been reduced. <p>Table 1: Reduction of travel time as a result of road improvement</p> <table border="1" data-bbox="774 851 1524 1310"> <thead> <tr> <th rowspan="2">Year of improvement</th> <th rowspan="2">Route</th> <th rowspan="2">Road length (km)</th> <th colspan="2">Travel time (hh:mm)</th> <th rowspan="2">Reduced travel time (min.)</th> </tr> <tr> <th>Before</th> <th>After</th> </tr> </thead> <tbody> <tr> <td rowspan="2">2014</td> <td>San Rafael del Norte - Managua</td> <td>163</td> <td>4:30</td> <td>3:10</td> <td>80</td> </tr> <tr> <td>Juigalpa - La Libertad - Santo Domingo - Los Chinamos - El Ayote</td> <td>230</td> <td>8:15</td> <td>6:10</td> <td>125</td> </tr> <tr> <td rowspan="2">2015</td> <td>Managua - León</td> <td>89</td> <td>3:30</td> <td>2:17</td> <td>73</td> </tr> <tr> <td>Puerto Morazán - Chinandega</td> <td>34</td> <td>1:55</td> <td>0:55</td> <td>60</td> </tr> <tr> <td rowspan="2">2016</td> <td>San Jose de Cusmapa - Somoto</td> <td>94</td> <td>2:15</td> <td>1:25</td> <td>50</td> </tr> <tr> <td>Estelí - Wiwili</td> <td>156</td> <td>7:50</td> <td>6:50</td> <td>60</td> </tr> <tr> <td rowspan="2">2017</td> <td>Managua - Siuna</td> <td>309</td> <td>11:15</td> <td>9:05</td> <td>130</td> </tr> <tr> <td>Santa Rita - Río Blanco</td> <td>73</td> <td>4:00</td> <td>2:20</td> <td>100</td> </tr> <tr> <td>2018</td> <td>Río Blanco - Mulukukú - Siuna</td> <td>115</td> <td>3:54</td> <td>1:54</td> <td>120</td> </tr> </tbody> </table> <p>Note: these are samples out of 40 cases surveyed.</p>	Year of improvement	Route	Road length (km)	Travel time (hh:mm)		Reduced travel time (min.)	Before	After	2014	San Rafael del Norte - Managua	163	4:30	3:10	80	Juigalpa - La Libertad - Santo Domingo - Los Chinamos - El Ayote	230	8:15	6:10	125	2015	Managua - León	89	3:30	2:17	73	Puerto Morazán - Chinandega	34	1:55	0:55	60	2016	San Jose de Cusmapa - Somoto	94	2:15	1:25	50	Estelí - Wiwili	156	7:50	6:50	60	2017	Managua - Siuna	309	11:15	9:05	130	Santa Rita - Río Blanco	73	4:00	2:20	100	2018	Río Blanco - Mulukukú - Siuna	115	3:54	1:54	120
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Source: The General Directorate of Planning, MTI

3 Efficiency

Although the project cost was within the plan (the ratio against the plan: 100%), the project period exceeded the plan (the ratio against the plan: 133%) because the time for reviewing the reports with site observations and translation works from English to Spanish took longer than planned. The outputs including the seminars and workshops added to the extension period of the project were produced as planned. Therefore, efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

PNDH (2012-2016) has been updated to the 2018-2022 version keeping the continuity of the infrastructure development policies focusing on the improvement of trunk road networks in the multi-modal transportation networks composed of land, sea and air transportation. MTI has developed new strategies and plans for short-term (yearly) and mid-term (5 years) incorporating the plans of the National Transport Plan prepared by the project.

<Institutional Aspect>

According to the questionnaire survey on MTI, there have been enough staff in MTI for carrying out the headquarters' business and in municipalities for conducting construction works at sites. While the National Transportation Implementation Committee and the Coordination and Research Section proposed by the National Transport Plan are not established yet, MTI has created the inter-institutional coordination mechanisms involving organizations related through the implementation of the Plan including MHCP, the Nicaraguan Agency for the Promotion of Investments, the National Port Authority (EPN), the Administrator Company of International Airports (EAAI) and others. Besides, committees and sections necessary for accelerating the water and air transport projects are in process of establishment in collaboration with MHCP, the Ministry of Development, Industry and Commerce, the General Directorate of Customs, and private sectors.

<Technical Aspect>

Out of 12 MTI counterparts, 8 counterparts are still in MTI and have sustained their skills and knowledge through day to day activities and by attending and conducting conferences and training programs in and out of the country. The skills and knowledge they learned through the project has been transferred to newly assigned staff members through on the job training (OJT) and mentoring system using the National Transport Plan as a guiding tool. In addition, the MTI's management staff of the General Directorates including Planning, Road,

and Land Transport participated in a training program on JICA System for Traffic Demand Analysis (JICA STRADA) which is a package of computerized systems for transport forecasting. This system has significantly helped planning of the projects for the national road networks including the project planned by the National Transport Plan.

<Financial Aspect>

The General Directorate of Planning of MTI has continuously negotiating financial issues with MHCP and development partners for securing public investment resources. Well-defined strategies and plans of the National Transport Plan have considerably supported the negotiations, and as a result, the annual budget for public investment for MTI has been steady increasing after completion of the project.

<Evaluation Result>

Therefore, the sustainability of the effectiveness through the project is high.

5 Summary of the Evaluation

The objectives of the project were achieved by the time of project completion by submitting the National Transport Plan including the Capacity Development Plan. The National Transport Plan was approved by MTI and has been highly utilized for implementing more projects than the original plans and for funding. As for efficiency, the project period exceeded the plan. Considering all the above points, this project is evaluated to be highly satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

- In order to facilitate the intersectoral coordination among MTI, EPN, EAAI, PPP related organizations, and other related institutions, and thus to accelerate the implementation of water and air transport projects, it is recommended for MTI to organize the National Transportation Implementation Committee and the Coordination and Research Section as proposed by the National Transport Plan.

Lessons Learned for JICA:

- A significant number of the projects planned by the project have been implemented by the implementing agency on and ahead of the schedule. This was because the project had conducted wide and comprehensive surveys on the social, institutional, technical, and financial states of the country, and produced well-focused and not-too-ambitious plans. High level of technical and financial management capacities of the implementing agency has also significantly contributed to the sound executions of the projects. From this, it can be said that a selection of a capable implementing agency, and down-to-earth plans based on the wide and comprehensive surveys are prerequisite for the success of a development planning project.

Table 2. Budget for Public Investment for MTI
unit: million Cordoba

Year	2014	2015	2016	2017	2018
National Resource	1,589	1,653	1,856	2,099	2,401
External Resource	2,291	2,786	3,700	3,847	4,349
Total	3,880	4,439	5,555	5,946	6,750

Source: “Public Investment Program” (2019), MHCP



Construction of Nueva Guinea-Bluefields road (135.7 kms)



Paso Real Bridge
constructed as a part of grant aid of Japan