

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

MINISTRY OF ENVIRONMENT AND NATURAL RESOURCES (MARN)
THE REPUBLIC OF VENEZUELA

THE STUDY ON

INTEGRATED RIVER IMPROVEMENT OF THE ORINOCO RIVER
IN THE REPUBLIC OF VENEZUELA

MAIN REPORT

OCTOBER 2000

PACIFIC CONSULTANTS INTERNATIONAL
in association with
PASCO INTERNATIONAL INCORPORATED

The Project costs were estimated based on
the price level of October 1999.
The exchange rates are:

US\$ 1.00 = Bs. 630 = ¥ 105

PREFACE

In response to a request from the Government of the Republic of Venezuela, the Government of Japan decided to conduct the Study on Integrated River Improvement of the Orinoco River in the Republic of Venezuela and entrusted the study to Japan International Cooperation Agency (JICA).

JICA selected and dispatched a Study Team headed by Mr. Makoto Tanaka of Pacific Consultants International (PCI) to Venezuela, three times between October 1998 and June 2000. In this context, JICA set up an advisory committee which examined the Study from technical point of view.

The Team held series of interviews and discussions with officials of the Government of Venezuela and other agencies concerned, and conducted site investigations and data collection in the objective area. Upon returning to Japan, the Team executed the further studies based on the data/information obtained and prepared the final report.

I hope that this report will contribute to the improvement of operation and management for a reliable and safe waterway transportation system in the Orinoco River, and to the enhancement of friendly relationship between two countries.

Finally, I wish to express my sincere appreciation to the officials concerned of the Government of Venezuela for their close cooperation extended to the team.

October, 2000



Kunihiko Saito
President
Japan International Cooperation Agency

**THE STUDY ON INTEGRATED RIVER IMPROVEMENT
OF THE ORINOCO RIVER IN THE REPUBLIC OF VENEZUELA**

October, 2000

Mr. Kunihiko Saito
President
Japan International Cooperation Agency

LETTER OF TRANSMITTAL

Dear Sir,

We are pleased to submit herewith to you the final report entitled "The Study on Integrated River Improvement of the Orinoco River in the Republic of Venezuela". This report has been prepared by the Study Team in accordance with the contracts signed on 21 September 1998, 28 May 1999 and 05 June 2000 respectively, between Japan International Cooperation Agency and Pacific Consultants International in association with Pasco International Incorporated.

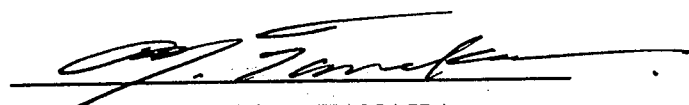
This report presents the results of Master Plan for integrated river improvement and Feasibility Study for selected priority projects to secure reliable and effective waterway transportation, in the downstream of the Orinoco River from Ciudad Guayana.

The report consists of four (4) components; Summary, Main Report, Supporting Report and Data Book. The Main Report contains the results of overall study including existing conditions, Master Plan, Feasibility Study of priority implementation programs, and conclusions and recommendations. The results are summarized in the Summary. The Supporting Report includes technical details of contents of the Main Report and the Data Book contains mainly survey drawings and data utilized for various analyses conducted in the Study.

The Study Team wishes to express grateful acknowledgement to the personnel of your Agency, Advisory Committee, Ministry of Foreign Affairs, Ministry of Construction, Ministry of Transportation and Embassy of Japan in Venezuela, and also to Venezuelan officials and individuals for their assistance extended to the Study Team.

The Study Team sincerely hopes that the results of the Study will contribute to the improvement of operation and management for reliable and safe waterway transportation in the Orinoco River, and that friendly relations of both countries will be promoted further by this occasion.

Yours faithfully,



Makoto TANAKA
Team Leader