MINISTRY OF LOCAL GOVERNMENT RURAL DEVELOPMENT
AND CO-OPERATIVE
THE PEOPLE'S REPUBLIC OF BANGLADESH

NO.

BASIC DESIGN STUDY ON THE PROJECT FOR PROCUREMENT OF PORTABLE STEEL BRIDGE (PHASE II) IN THE PEOPLE'S REPUBLIC OF BANGLADESH

MARCH 2000

JAPAN INTERNATIONAL COOPERATION AGENCY
KATAHIRA & ENGINEERS INTERNATIONAL

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PREFACE

In response to a request from the Government of the People's Republic of Bangladesh, the Government of Japan decided to conduct a basic design study on the Project for Procurement of Portable Steel Bridge (Phase II) and entrusted the study to the Japan International Cooperation Agency (JICA).

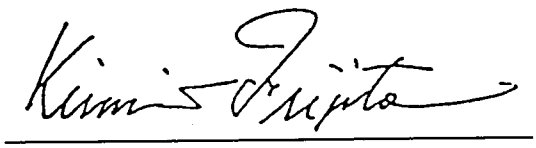
JICA sent to Bangladesh a study team from September 2 to October 24, 1999 and from November 21, 1999 to January 9, 2000.

The team held discussions with the officials concerned of the Government of the People's Republic of Bangladesh, and conducted field studies at the study area. After the team returned to Japan, further studies were made. Then, a mission was sent to Bangladesh from March 6 to 14, 2000 in order to discuss a draft basic design, and as this result, the present report was finalized.

I hope that this report will contribute to the promotion of the project and to the enhancement of friendly relations between our two countries.

I wish to express my sincere appreciation to the officials concerned of the Government of the People's Republic of Bangladesh for their close cooperation extended to the team.

March, 2000



Kimio Fujita
President
Japan International Cooperation Agency

March, 2000

Letter of Transmittal

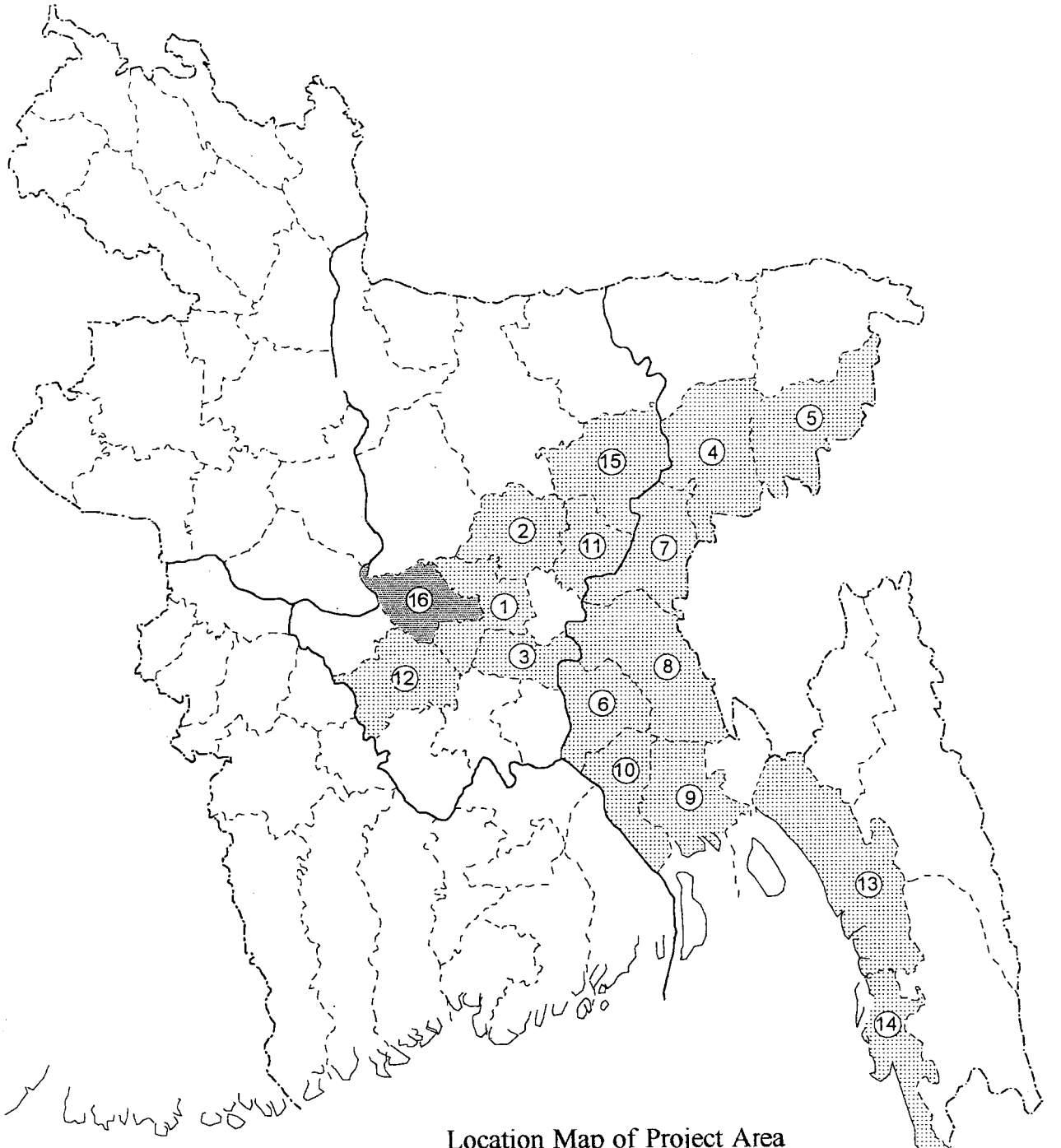
We are pleased to submit to you the basic design study report on the Project for Procurement of Portable Steel Bridge (Phase II) in the People's Republic of Bangladesh.

This study was conducted by Katahira & Engineers International, under a contract to JICA, during the period from March 19, 1999 to March 31, 2000. In conducting the study, we have examined the feasibility and rationale of the project, with due consideration to the present situation of Bangladesh, and formulated the most appropriate basic design for the project under Japan's grant aid scheme.

Finally, we hope that this report will contribute to further promotion of the Project.

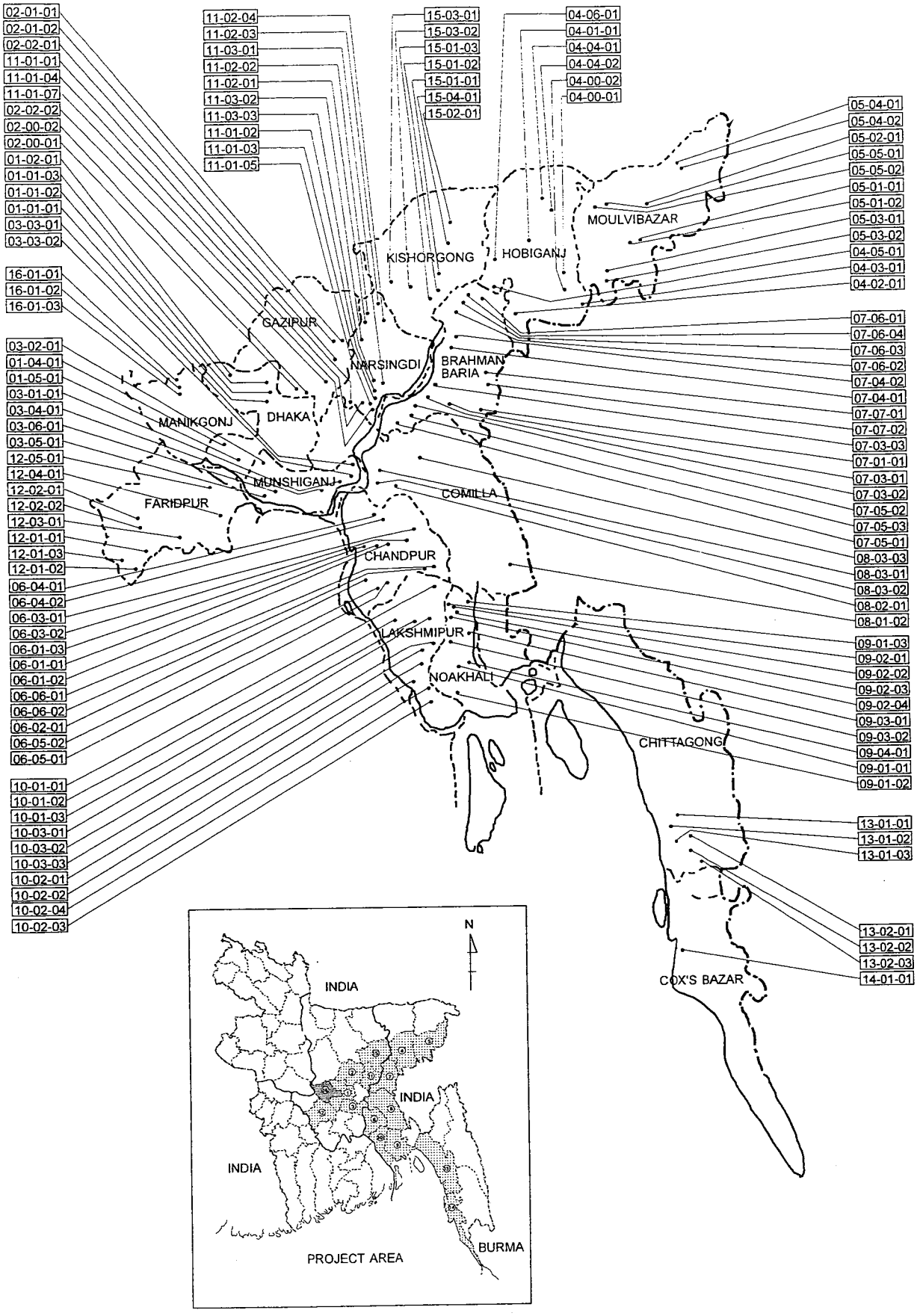
Very truly yours,

Minoru Miura
Project Manager,
Basic Design Study Team on the Project for
Procurement of Portable Steel Bridge (Phase II)
in the People's Republic of Bangladesh
Katahira & Engineers International



Location Map of Project Area

① DHAKA	⑨ NOAKHALI
② GAZIPUR	⑩ LAKSHMIPUR
③ MUNSHIGANJ	⑪ NARSINGDI
④ HOBIGANJI	⑫ FARIDPUR
⑤ MOULVIBAZAR	⑬ CHITTAGONG
⑥ CHANDPUR	⑭ COX'S BAZAR
⑦ BRAHMAN BARIA	⑮ KISHORGONG
⑧ COMILLA	⑯ MANIKGONJ



Location Map of Requested Bridge Sites

PERSPECTIVE

B.Baria BridgeNo.07-06-03

Abbreviation

AASHTO	:	The American Association of State Highway and Transport Officials
B W D B	:	Bangladesh Water Development Board
H.W.L	:	High Water Level
N.H.W.L	:	Normal High Water Level
L G E D	:	Local Government Engineering Department
P C P	:	Project Concept Paper
P I O	:	Project Implementation Office
P P	:	Project Proforma
R D P	:	Rural Development Project
R H D	:	Road and Highway Department

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CHAPTER 1 BACKGROUND OF THE PROJECT

1. Background of the Project

Bangladesh is one of the most densely populated countries in the world. Over 85% of the people live in rural area. The majority of rural people remain unemployed for at least some months of the year with as many as unemployed most of the time.

The Fifth Five Year Plan addresses special focus on rural development to promote greater opportunities for the rural poor for productive employment.

Road transport has been playing an increasingly dominant role in the socio-economic development of Bangladesh and turns out to be the largest mode (more than 60% of freight) for inland transport of the country.

The Road and Highway Department (RHD) is responsible for construction and maintenance of three categories of road, namely, national highways, regional highways and Type-A feeder roads.

The Local Government Engineering Department (LGED) is responsible for construction and maintenance of Type-B feeder roads and rural roads, such as R1, R2 and R3.

The rural infrastructure situation in Bangladesh is in such a rudimentary state that it cannot ensure all weather year-round communication, since the lack of bridges crossing numerous creeks and small rivers cuts road sections.

The Government of Japan provided 74 steel portable bridge materials under Japan's Grant Aid Program necessary to reconstruct bridges destroyed by flood and to construct new bridges at river crossing along Type-B feeder road and rural roads and then whole bridges were already completed. These bridge constructions were part of Flood Rehabilitation Project which were implemented by LGED.

In 1998, destructive heavy flood affected almost the whole country in Bangladesh and destroyed infrastructures including bridges along feeder and rural roads.

To rehabilitate the roads and bridges damaged by floods and also to pursue the development of the feeder and rural road network in rural areas, the Government of Bangladesh formulated its Flood Rehabilitation Project. To construct bridges under that Project, the Government of Bangladesh requested Japan's Grant Aid for

the procurement of portable steel bridge materials necessary for constructing the bridges.

In response to the request of the Government of Bangladesh, the Government of Japan decided to conduct a basic design study on the Project for Procurement of Portable Steel Bridge (Phase II). Japan International Cooperation Agency (JICA) dispatched the Basic Design Study Team from September 2 to October 24, 1999, for the first field survey, and from November 21, 1999 to January 9, 2000 for the second field survey.

The Basic Design Study Team, during its stay in Bangladesh, confirmed the background, objectives and contents of the Project, collected relevant data, and surveyed the requested bridge site conditions.

After returning to Japan, the Team analyzed the collected data in respect of appropriateness, necessity, socio-economic effects and other factors based on the results of their investigations.