資　　料

資料１　実施細則、協議議事録、要請書（Terms of Reference）

資料２　主要面談者リスト

資料３　質問書

資料４　収集資料リスト

資料５　ローカルコンサルタントリスト

SCOPE OF WORK

FOR

THE FEASIBILITY STUDY

ON

THE CONSTRUCTION OF KATHMANDU-NAUBISE ALTERNATE ROAD

IN

THE KINGDOM OF NEPAL

AGREED UPON BY

DEPARTMENT OF ROADS

MINISTRY OF WORKS AND TRANSPORT

AND

JAPAN INTERNATIONAL COOPERATION AGENCY

KATHMANDU, 17 DECEMBER, 1999

His Majesty's Government
Ministry of Works & Transport
Department of Roads
Babar Mahal, Kathmandu

Ananda Khanal

Mr. Ananda Prasad Khanal
Director General
Department of Roads
Ministry of Works and Transport
The Kingdom of Nepal

Director General

岡村秀樹

Mr. Hideki Okamura
Leader
Preparatory Study Team
Japan International
Cooperation Agency (JICA)

I. INTRODUCTION

In response to the request of the His Majesty's Government of Nepal (hereinafter referred to as "HMG/N"), the Government of Japan (hereinafter referred to as "GOJ") decided to conduct the Feasibility Study on the Construction of Kathmandu-Naubise Alternate Road in the Kingdom of Nepal (hereinafter referred to as "the Study") in accordance with the relevant laws and regulations in force in Japan.

Accordingly, the Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of the technical cooperation programmes of GOJ, will undertake the Study in close cooperation with the authorities concerned of Nepal.

The present document sets forth the scope of work with regard to the Study.

II. OBJECTIVES OF THE STUDY

The objectives of the Study are:

1. to conduct a feasibility study on the new road construction from Kathmandu to Naubise; and
2. to pursue technology transfer in the course of implementation of the Study.

III. STUDY AREA

The study area shall cover the influence area of the new road construction between Kathmandu and Naubise.

IV. SCOPE OF THE STUDY

In order to achieve the objectives mentioned above, the study shall cover following items.

1. Present Condition Survey and Analysis
    1) Analysis of Existing Data and Review of Relevant Transport Project
    2) Present Condition Survey of Traffic
        (Road Condition, Network, Traffic volume, etc.)
    3) Site Survey, Natural Disasters and Environment Analysis
    4) Standards and Guidelines
    5) Road Maintenance

2. Traffic Forecast up to Year 2020
    1) Traffic Survey (Road-side OD interview survey, Traffic counting survey)
    2) Socio-economic framework
    3) Future Traffic Demand Forecast

3. Alternative Study
    1) Route Alignment Alternatives
    2) Road Design Alternatives
    3) Initial Environmental Examination
    4) Overall Evaluation and Selection of the Best Alternative

4. Preliminary Design and Cost Estimate
    1) Engineering Survey and Analysis
        (a) Topographic Survey and Analysis
        (b) Soil and Geological Survey and Analysis
        (c) Hydrological Survey and Analysis
    2) Preliminary Design
    3) Construction Plan
    4) Quantity and Cost Estimate
    5) Maintenance Plan

5. Study for Environmental Impact Assessment

6. Project Evaluation
    1) Benefit Estimate
    2) Economic Evaluation
    3) Financial Evaluation
    4) Overall Project Evaluation

7. Project Implementation Programme
    1) Implementation Schedule
    2) Annual Fund Requirements

8. Recommendations

V. STUDY SCHEDULE

The Study will be carried out in accordance with the attached tentative schedule. (Appendix 1)

VI. REPORTS

JICA shall prepare and submit the following reports in English to HMG/N.

1. Inception Report
   Twenty (20) copies at the beginning of the study in Nepal

2. Progress Report
   Twenty (20) copies within 4 months after the beginning of the study.

3. Interim Report
   Twenty (20) copies within 6 months after the beginning of the study.

4. Draft Final Report
   Twenty (20) copies within 9 months after the beginning of the study.
   HMG/N shall provide JICA with its comments in English within one (1) month after the submission of Draft Final Report.

5. Final Report
   Thirty (30) copies within one (1) month after the receipt of the written comments on the Draft Final Report from HMG/N.

VII. UNDERTAKING OF HMG/N

1. To facilitate the smooth conduct of the Study, HMG/N shall take necessary measures:
   (1) To secure the safety of the Japanese study team;
   (2) To permit the members of the Japanese study team to enter, leave and sojourn in Nepal for the duration of their assignment therein, and exempt them from foreign registration requirements and consular fees;
   (3) To exempt the members of the Japanese study team from taxes, duties, fees and other charges on equipment, machinery and other materials brought into Nepal for the implementation of the Study;
   (4) To exempt the members of the Japanese study team from income tax and charges of any kind imposed on or in connection with any emoluments or allowances paid to the members of the Japanese study team for their services in connection with the implementation of the Study;
   (5) To provide necessary facilities to the Japanese study team for remittance as well as utilization of the funds introduced into Nepal from Japan in connection with the implementation of the Study;
   (6) To secure permission for entry into private properties or restricted areas for the conduct of the Study;
   (7) To secure permission to take all data and documents including aerial photographs related to the Study out of Nepal to Japan by the Japanese study team; and
   (8) To provide medical services as needed, and its expenses will be chargeable on the members of the Japanese study team.

2. HMG/N shall bear claims, if any arise against the members of the Japanese study team resulting from, occurring in the course of, or otherwise connected with the discharge of their duties in the implementation of the Study, except when such claims arise from gross negligence or willful misconduct on the part the members of the Japanese study team.

3. Department of Roads (DoR), Ministry of Works and Transport (MoWT) on the part of HMG/N shall act as the counterpart agency to the Japanese study team, and also as a coordinating body in relations with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.

4. DoR, MoWT of HMG/N shall, at its own expense, provide the Japanese study team with the following in cooperation with other agencies concerned:
   1) Available data and information related to the Study, including aerial photographs and maps;
   2) Counterpart personnel;
   3) Suitable office space with necessary equipment in Kathmandu; and
   4) Credentials or identification cards to the Japanese study team members.

VIII. UNDERTAKING OF JICA

For the implementation of the Study, JICA shall take the following measures:

1. To dispatch, at its own expense, the Japanese Study teams to Nepal; and
2. To pursue technology transfer to the Nepalese counterpart personnel in the course of the Study.

IX. CONSULTATION

JICA, HMG/N shall consult with each other in respect to any matter that may arise from or in connection with the Study.

Appendix 1

Tentative Study Schedule

Month	1	2	3	4	5	6	7	8	9	10	11	12
Work in Nepal												
Work in Japan												
Report Presentation	△ IC/R			△ PR/R		△ IT/R			△ DF/R			△ F/R

IC/R : Inception Report
PR/R : Progress Report
IT/R : Interim Report
DF/R : Draft Final Report
F/R : Final Report

MINUTES OF MEETING

ON

SCOPE OF WORK

FOR

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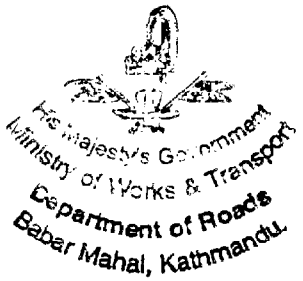


KATHMANDU, 17 DECEMBER, 1999

Ananda Khanal

Mr. Ananda Prasad Khanal
Director General
Department of Roads
Ministry of Works and Transport
The Kingdom of Nepal

Director General

Mr. Hideki Okamura
Leader
Preparatory Study Team
Japan International
Cooperation Agency (JICA)

The preparatory study team (hereinafter referred to as "the Team"), for the Feasibility Study on the Construction of Kathmandu-Naubise Alternate Road in the Kingdom of Nepal (hereinafter referred to as "the Study") organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA") headed by Mr. Hideki Okamura visited the Kingdom of Nepal from December 13 to 20, 1999.

The Team held a series of meetings on the Scope of Work for the Study with relevant authorities of the His Majesty's Government of Nepal (hereinafter referred to as HMG/N). List of participants is shown in Attachment 1. The Team also carried out field surveys in the project area in Kathmandu to Naubise.

As a result of the series of discussions, HMG/N and the Team came to the agreement on the Scope of Work (hereinafter referred as "S/W") of the Study, and signed it on December 17,1999.

This document summarizes major items discussed between both sides and is meant to supplement the S/W for the smooth conduct of the Study.

This document summarizes major items discussed between HMG/N and the Team, and is meant to supplement the S/W for the smooth conduct of the Study.

1. Scope of Work proposed by the Team, with modifications resulting from discussions, was agreed upon by the both sides.

2. Department of Roads (DoR), Ministry of Works and Transport (MoWT) proposed to modify the project title ' The Feasibility Study on the Construction of Kathmandu-Naubise Road Link' which is mentioned in the application for the technical cooperation by the Government of Japan.
   Both sides agreed the project title to be changed to 'The Feasibility Study on the Construction of Kathmandu-Naubise Alternate Road'.

3. DoR is responsible to coordinate other relevant departments within MoWT and other authorities such as Ministry of Finance (MoF), National Planning Commission (NPC), Ministry of Population and Environment (MoPE), District Development Committee (DDC) and Kathmandu Metropolitan City (KMC) according to the necessity during the Study.

4. The Nepalese side shall assign at least two (2) engineers each as counterpart personnel for the Study.

5. The technical criteria for the new road design shall be determined in the Study through discussions between the DoR, MoWT and the Japanese feasibility study team.

6. Both sides agreed that target year for the traffic forecast for the Study is set in the year 2020, considering the 20-year Transport Policy.

7. Both sides confirmed that Initial Environmental Examination (IEE) and the study for Environmental Impact Assessment (EIA) should be conducted, respecting the laws and regulations in force in Nepal.

8. The Study team should carry out the study for Environmental Impact Assessment (EIA) and prepare the draft documents for application for EIA during the Study.

9. DoR is responsible to take actual procedures for application of EIA, including modification of draft documents, provision of final application documents and additional study.

10. The Study team will be allowed to take out aerial photographs related to the area of Study out of Nepal.

11. The both sides agreed upon the following items on sub-contracting:
    i. Procedure of the sub-contracting shall be in full accordance with the rules of JICA.
    ii. Local or international sub-contractors shall be allowed to conduct business in Nepal

12. The Nepalese side shall issue multiple visas for the Study Team and subcontractors to enable smooth implementation of the Study as par the government rules and regulations.

13. DoR requested the counterpart training in Japan in order to pursue effective technology transfer. The Team promised to convey this request to JICA Headquarters in Tokyo.

14. DoR earnestly requested JICA to arrange the office space with necessary equipment in Kathmandu and vehicles with drivers for the Feasibility Study Team. Japanese side promised to convey this request to JICA Headquarters in Tokyo.

Attachment 1 Attendant List

Mr. A. P. Khanal	Director General, DoR, MoWT, HMG/N
Mr. M. G. Maleku	Deputy Director General (Foreign Cooperation Branch), DoR, MoWT, HMG/N
Mr. K. B. Thapa	Senior Divisional Engineer, DoR, MoWT, HMG/N
Mr. B. S. Rana	Project Manager, DoR, MoWT, HMG/N
Mr. Hideki Okamura	Member of JICA Preparatory Study Team
Ms. Yoshie Muramatsu	Member of JICA Preparatory Study Team
Mr. Shigeji Yoshida	Member of JICA Preparatory Study Team
Mr. Tsutomu Kudo	Member of JICA Preparatory Study Team
Mr. Yasuhiro Okubo	Member of JICA Preparatory Study Team
Dr. Takanori Hayashida	Member of JICA Preparatory Study Team
Mr. Tadanori Ishizuka	First Secretary, Embassy of Japan in Nepal
Mr. Toshio Kimata	JICA Advisor for DoR, MoWT
Mr. Kazuhisa Arai	JICA Nepal Office

Application for the Technical Cooperation (Development Study) by the Government of Japan

I. BACKGROUND INFORMATION

1.1 Project Title

The Feasibility Study on the Construction of Kathmandu-Naubise Road Link (L;20.65Km)

1.2 Location

Bagmati Zone, Central Development Region, His Majesty's Government of Nepal
The location map of the Project Site is shown in Attachment 1 .

1.3 Executing Agency

1) **Name of Agency :**
Department of Road (DOR), Ministry of Works and Transport (MOWT)

2) **Organization and Staff of Agency :**
DOR is responsible for planning, operation, management, maintenance and repair of roads and bridges in the Kingdom of Nepal. DOR has 3018 employees of which 327 are official level in the Engineering Section. The organization chart of the DOR is shown in Attachment 2.

3) **Budget Allocated to Agency :**
The budgets of DOR in fiscal year 1998/99 is as follows :

Administration :	US$ 2.3 million (Nrs.156.5 million)
Development :	US$ 68.7 million (Nrs.4,646.3 million)
	Exchange Rate $1 = Nrs. 67.6

1.4 Project justification

1) **Sectoral Background :**
The capital city of Nepal, Kathmandu Valley, is situated behind difficult transportation links. The lack of road links connecting the capital city and the rest of the nation and India causes many problems such as high transport costs of commodities and obstacles for integrated industrial activities .

At present, most of the essential commodities including food, petroleum, clothes, machinery and construction materials, from other parts of Nepal, India and overseas are being transported via Kathmandu- Naubise Sector of the HO2- the Tribhuvan Rajpath (TRP), part of the Asian Highway A42 and the main road link connecting Kathmandu Valley with the rest of the nation. However, this section of road is a bottleneck of traffic flow due to alignment and substandard structure of the road as against the growing traffic demand thereon. Furthermore, because of geographical constraint of the area, there is practically no possibility to improve the existing road section. Therefore, a necessity of substitutional route to improve the transport condition of the corridor through the construction of new road link is being felt in all planning level.

2) Sectoral Development Policy :

In the Priority Investment Plan (PIP) prepared by the Government of Nepal in 1997, the emphasis of road development has been placed on the following points :

- to facilitate existing road network through maintaing, improving and strengthening planning / budgeting capability.
- to establish strategic road links both at national highway and feeder road levels.

The captioned project conforms to the above sectoral development policy.

3) Problems to be solved :

Due to substandard alignment and geometric condition such as longitudinal gradient, road capacity of existing Kathmandu-Naubise sector of the HO2 is very limited, which has resulted in traffic congestion, high vehicle operation cost, long travel time, increase of traffic accidents, and degradation of enviroment.

4) Short - term and Long-term Objectives of the Project :

(a) Short- term Object

The project aims at improving the vehicle operating condition on this section of corridor where saturation of road capacity in near future is expected of. Improved vehicle operating condition on this section of route would reduce vehicle operation cost and travel time as well as traffic accidents caused by the sharp gradient and curvature of the existing road.

(b) **Long-term Object**

The project would induce suburbanisation along the corridor as it is located on the periphery of Kathmandu city where potentiality of future development is great. Further, the project would give incentive to the improvement of the rest of the sections of Kathamadu-Muglin-Hetauda-Birganj route, which is one on the most important corridor for the national economy.

5) **Project Outline :**

The project aims at construction of new road link between Kathmandu and Naubise (L;20.65Km)in pararel with the existing HO2-Tribhuvan Rajpath (TRP), after selection of the optimal route and confirmation of technical and economical / financial viability of the project.

6) **Prospective Beneficiaries :**

All the population of the nation will receive benefits from the project. Especially, vehicle users on the Kathmandu-Hetauda-Terai route and people living along the corridor will receive great benefits both in tangible and intangible forms from the project.

7) **Project's Priority in National Development Plan :**

The Government of Nepal is placing the highest priority on the development of transport sector in the Ninth Plan (1999-2007) of the nation's development. Road is the most important sub-sector along with air aviation and bridge.

1.5 Desirable Implementation Schedule

The feasibility study is recommended to be conducted along the tentative schedule as shown in Attachment 3. The period of the study will be about twelve months and will be succeeded by the implementation after a detail desigh study.

1.6 Expected Funding Source

The study will be covered by the Technical Assistance of Japanese Government. Japan International Cooperation Agency (JICA) will be executing agency of the study. The implementation of the project will be undertaken by the Overseas Economic Coorperation

Fund (OECF) of Japan, after the confirmation of the viability of the project and financial arrangement between the two Governments.

1.7 Other Related Projects

(a) The Priority Investment Plan (PIP)

The Government of Nepal prepared the Priority Investment Plan (PIP), Master Plan for Strategic Road Network and Rural Transport in 1997, in which the strategies and goals for the road development in the nation is cleary advocated. The Kathmandu-Naubise new road link construction is ranked as one of the highest priority projects to be implemented in the short and medium term periods.

(b) The Direct Link between Kathmandu and Hetauda

The project aims at connecting Kathmandu and Hetauda through two long tunnels under the hilly area lying in between. It is expected that the new link will reduce journey distance from present 200 km to 70 Km. However, the cost required for the project is estimated at US$ 160 million, which is the equivalent of two years of total road budget of the nation. Because of this high financial cost, early realization of the project is not expected of. Pre-feasibility study of the project has been done by Finish International Development Agency (FINNIDA) in 1993.

(c) The Second Ring Road Construction Project

The project aims at construction of another ring shaped road outside the existing ring road in Kathmandu. The project is expected to reduce the traffic density in the urban area and induce urbanization in the periphery of the city. However, the project is at conceptional stage and early realization is not expected of .

II. TERMS OF REFERENCE

2.1 Background and Justification of the study

The Kathmandu Valley, the capital of Nepal and located in the basin surrounded with Himalaya and Mahabharat mountains, has long been isolated from other parts of the nation due to steep geographic condition which made it difficult to construct road links. The first motorable road was constructed as late as 1950. The connection of Kathmandu Valley with the other parts of the nation by stable road links had been the nations long envisaged undertaking to secure constant supply of daily commodities from outside areas. At present, transportation of commodities to and from the Valley are made mainly via section of Tribhuvan Highway (Kathmandu-Naubise) and Muglin Bypass. However, the present road condition of Kathmandu-Naubise section is extremely substandard due to geographic condition and is a bottleneck of the corridor. This fact has resulted in severe traffic congestion at certain sections of the road and increse of traffic accidents.

With the increase of population in the Valley and enhanced economic acitivities therein, the function of the road section is becoming very important. The project has been ranked as one of the high priority projects in the forementiond PIP scheme for road sector development in Nepal.

2.2 Justification of Japanese Technical Cooperation

The Japanese Government has been the leading donor of Official Development Assistance to the Government of Nepal. The Government of Nepal considers that the Government of Japan to be major financer in the road development project including the cost for the development study. Further, the technical capability of the Japanese, especiallly in the fields of road construction and transport planning, justifies the technical coorperation by Japan.

2.3 Objective of the study

The objectives of the study are as follows :

(a) to identify the issues and problems of road transport along the Kathmandu-Naubise corridor
(b) to identify optimal route
(c) to carry out engineering design
(d) to estimate project cost
(e) to evalute technical feasbility
(f) to analyse environmental impact

(g) to evalute economic / financial viability
(h) to formulate implementation program

2.4 Study Area

The study area covers the areas surrounding the existing Kathmandu-Naubise sector of the HO2 - the Tribhuvan Rajpath (TRP), located in Bagmati Zone, Central Region of His Majesty's Government of Nepal.

2.5 Scope of the Study

The scope of the services will comprise the following:

(a) Field investigation
(b) Traffic survey and analysis
(c) Identification of present road traffic issues
(d) Geotechnical / hydrological survey
(e) Selection of optimal route
(f) Traffic demand forecast
(g) Determination of road design criteria
(h) Preliminary road designing
(i) Construction plan / cost estimate
(j) Environmental analysis
(k) Economic/financial evaluation
(l) Formulation of implementation program

2.6 Study Schedule

The study shall be proceeded along the tentative schedule as shown in Attachment 3.

2.7 Expected Inputs of Expertize

The study team shall be composed of the following experts:

(a) Team Leader (Transport Planner)
(b) Highway Planner
(c) Highway Engineer
(d) Tunnel/Bridge Engineer
(e) Construction Planner/Cost Estimator
(f) Geologist/Hydrologist

(g) Environment Specialist
(h) Economist

2.8 Expected Major Outputs

The major outputs of the study will be the optimal route of the project road, drawings of preliminary desigh, estimated costs of the project, result of economic financial / evaluation and implementation schedule for the construction.

2.9 Request to Other Donor Agencies

None

2.10 Other Relevant Information

The relevant information is described in Section III.

III. SPECIFIC ISSUES

3.1 Environmental Component

Environmental components expected in the project are as follows:

(a) Socioeconomic considerations
(b) Air quality impacts
(c) Noise and vibration impacts
(d) Soil impacts
(e) Water quality impacts
(f) Plant and animal impacts
(g) Historic and cultural impacts
(h) Aesthetic considerations
(i) Hazardous materials impacts
(j) Bridge and viaduct impacts
(k) Tunnel construction and operation impacts

3.2 Anticipated Environmental Impacts

The Government of Nepal has undertaken a comprehensive study of environmental impact in conjuction with PIP Project - Master Plan for Strategic Road Network and Rural Transport in 1997. In this study, Environmental Impact Assessment Guidelines for the Road Sector by DOR, was reviewed and refined. The environmental study will be carried out in line with the requirement of environmental assessment prescribed in the refined guideline.

3.3 Women as Main Beneficiaries

The improved traffic condition and roadside environment of the existing Kathmandu-Naubise Sector of H02 as well as new road link would produce benefit to all population especially to women living in the areas adjacent to the roads, through such effects as enhanced safety level, convenience in public transport usage, and reduction of travel time.

3.4 Project Components which require Special Consideration for Women

- Segregation of the places of daily activities from right-of-way
- Safety measures for pedestrians and users of public transport, especially for women of carrying children

3.5 Anticipated Impacts on Women

- Improvement of public transport services
- Enhancement of road safety level
- Improvement of roadside environment

3.6 Poverty Reduction Components

The induced land development and increased business opportunities along the roadsides would contribute to the enhancement of income level.

3.7 Any Constraints Against Low Income People

None.

IV. GOVERNMENT UNDERTAKINGS

4.1 Facilities and Information

1) Assignment of Counterpart Personnel
DOR can assign counterpart personnel in accordance with mutual agreement between two Governments.

2) Available Data, Information, Documents, etc.
   - Eighth National Plan, 1999
   - Priority Investment Plan : Master Plan for Strategic Road Network and Rural Transport, 1997
   - Annual Manual Traffic Volume & Vehicle Classification Survey on Strategic Road Network
   - Road Traffic Accident Data
   - Nepal Road Statistics
   - Alignment Study of Alternative Route to Kathmandu-Naubise Road Section, 1997
   - Topographic Maps
   - Soil / hydro data

3) Information on Security Conditions

The country is not so prone to political unrest and also security condition is reliable.

4.2 Undertaking of the Government

In order to facilitate a smooth and efficient conduct of the Study, the Government of Nepal shall take necessary measures:

(1) to secure the safety of the Study Team.

(2) to permit the members of the Study Team to enter, leave and sojourn in the country in connection with their assignment therein, and exempt them from alien registration requirement and consular fees.

(3) to exempt the Study Team from taxes, duties and any other charges on equipment, machinery and other materials brought into and out of the country for the conduct of the Study.

(4) to exempt the Study Team from income tax and charges of any kind imposed on or in connection with any emoluments or allowances paid to the members of the Study Team for their services in connection with the implementation of the Study.

(5) to provide necessary facilities to the Study Team for remittance as well as utilization of the funds introduced in the country from Japan in connection with the implementation of the Study.

(6) to secure permission or entry into private properties or resctricted areas for the conduct of the Study.

(7) to secure permission for the Study to take all data, documentes and necessary materials related to the Study out of the country to Japan.

(8) to provide medical services as needed. Its expenses will be chargeable to the member of the Study Team.

4.3 The Government shall bear claims, if any arises against members of the Japanese Study Team resulting from, occurring in the course of or otherwise connected with the discharge of their duties in the implementation of the Study, except when such claims arise from gross negligence or willfull misconduct on the part of the member of the Study Team.

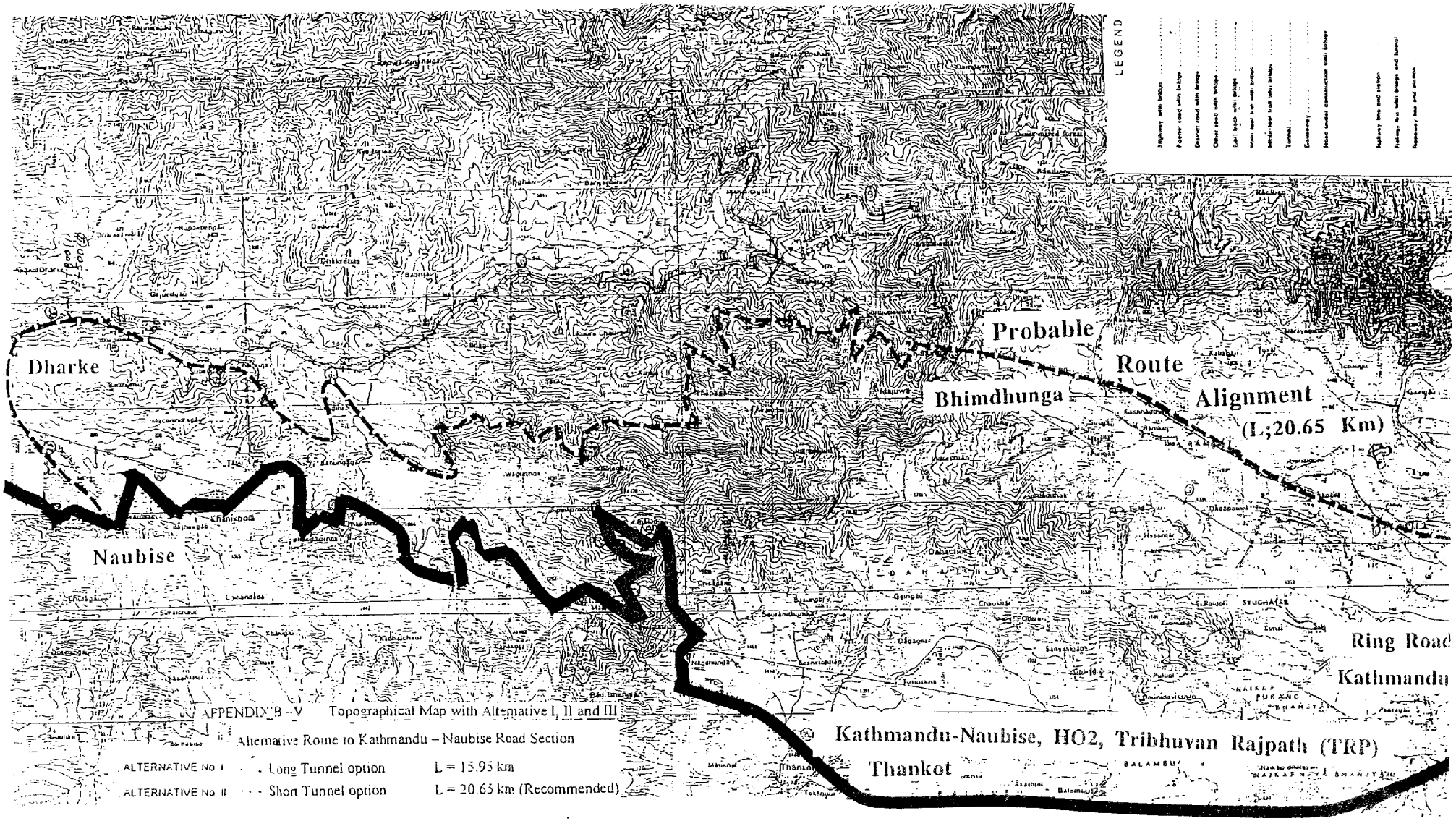
4.4 The Executing Agency shall act as counterpart agency to the Japanese Study Team and also as coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.

The Government of Nepal assured that the matters reffered in this form will be ensured for a smooth conduct of the Development Study by the Japanese Study Team.

Nirajan Prasad Chalise
Director General
Department of Roads
Ministry of Works and Transport
His Majesty's Government of Nepal
Babar Mahal, Kathmandu, Nepal

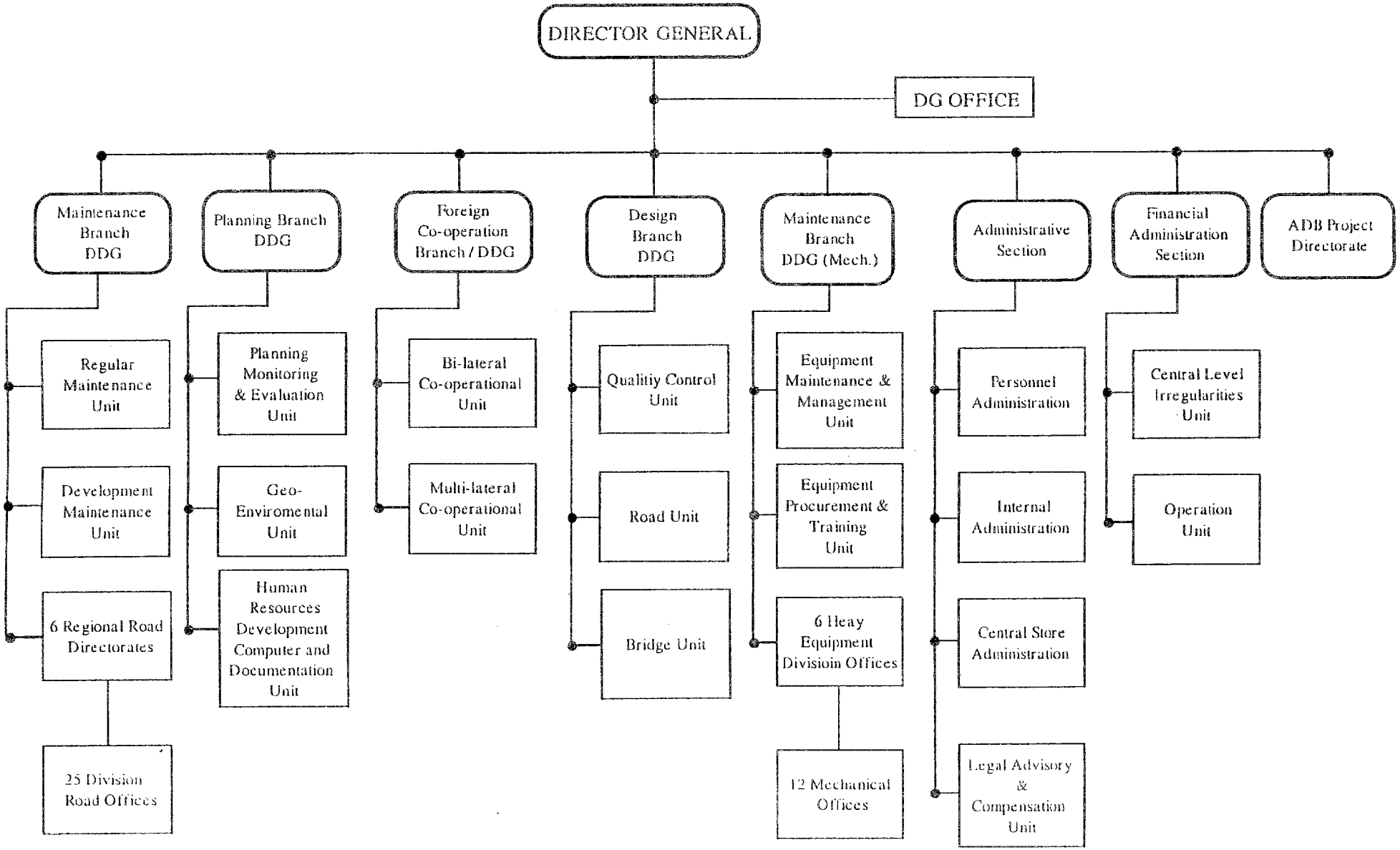
On behalf of the Government of His Majesty's Government of Nepal

Attachment:
1) Location Map
2) Organization Chart of Executing Agency
3) Tentative Study Schedule



Attachment 1 Location Map

Attachment 2 Department of Roads Organization Chart



Attachment 3 Tentative Study Schedule

Study Item \ Month	1	2	3	4	5	6	7	8	9	10	11	12
Field Investigation												
Traffic Survey and Analysis												
Identification of Present Road Traffic Issues												
Geotechnical / hydrological Survey												
Selection of Optimal Route												
Traffic Demand Forecast												
Determination of Road Design Criteria												
Preliminary Road Designing												
Construction Plan / Cost Estimate												
Environmental Analysis												
Economic & Financial Evaluation												
Formulation of Implementation Program												
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