

SCOPE OF WORK
FOR
THE STUDY
ON
SLOPE DISASTER MANAGEMENT FOR FEDERAL ROADS
IN
MALAYSIA

AGREED UPON BY
MINISTRY OF WORKS, MALAYSIA
AND
JAPAN INTERNATIONAL COOPERATION AGENCY

Kuala Lumpur, Malaysia, 14th July, 2000



Dato' Ir. Hj. Yaini bin Omar
Director General
The Public Works Department Malaysia
Ministry of Works
Malaysia



Mr. Minoru Nakamura
Leader
Preparatory Study Team
Japan International Cooperation Agency

I. INTRODUCTION

In response to the request of the Government of Malaysia (hereinafter referred to as "GOM"), the Government of Japan (hereinafter referred to as "GOJ") decided to conduct the Study on Slope Disaster Management for Federal Roads in Malaysia (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 Malaysia.

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

II. OBJECTIVE OF THE STUDY

The objective of the Study are:

- 1) to conduct a study on the road slope disaster management for the federal roads in Malaysia; and
- 2) to pursue technology transfer in the course of implementation of the Study.

III. STUDY AREA

The study area shall cover the following federal roads in Malaysia.

- 1) East-West Highway, Federal Route 4
- 2) Cameron Highlands Road, Federal Route 59
- 3) Gap – Fraser's Hill Road, Federal Route 56
- 4) Kuala Kubu Bharu – Gap – Teranum Road, Federal Route 55
- 5) Penang Road, Federal Route 6
- 6) Tambunan-Keningau Road (Sabah)

For the case study and development of road slope disaster management system, one or two federal roads should be selected as pilot project sites.

IV. SCOPE OF THE STUDY

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

Phase I

1. Survey and analysis on the background of the Study
 - (a) Analysis of existing data and review of relevant studies
 - (b) Present design and construction methods of road slopes
 - (c) Present condition of road slope disasters
2. Survey and analysis on the present condition of slope disaster management
 - (a) Site investigation
 - (b) Mechanisms of slope failure
 - (c) Classification methods of slopes
3. Design and development of slope disaster management system
 - (a) Inspection, investigation and monitoring
 - (b) Maintenance works management
 - (c) Information system
 - (d) Selection of pilot project sites
4. Suggestions for the improvement of road slope design and construction along new road constructions

Phase 2

5. Case study
 - (a) Physical investigation (includes engineering survey)
 - (b) Slope inventory data base and monitoring system
 - (c) Institutional improvement
 - (d) Preventive maintenance works for slopes
 - (e) Project evaluation
6. Establishment of road slope disaster management system
 - (a) Guideline on operational system
 - (b) Slope disaster management information system
 - (c) Typical design and drawings of preventive maintenance works
 - (d) Institutional improvement and human resource development
7. Recommendations

V. STUDY SCHEDULE

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

VI. REPORTS

1. JICA shall prepare and submit for discussion and consideration by the steering committee the following reports in English to GOM.

- (a) Inception Report

Twenty (20) copies at the beginning of the study in Malaysia.

- (b) Progress Report

Twenty (20) copies within 5 months after the beginning of the study.

- (c) Interim Report 1

Twenty (20) copies within 8 months after the beginning of the study.

- (d) Interim Report 2

Twenty (20) copies within 12 months after the beginning of the study.

- (e) Draft Final Report

Twenty (20) copies within 17 months after the beginning of the study.

GOM shall provide JICA with its comments in English within one (1) month after the submission of Draft Final Report.

2. JICA shall prepare and submit thirty (30) copies of final report with two (2) sets of CD-ROM within two (2) months after the receipt of the written comments on the Draft Final Report from GOM.

VII. UNDERTAKING OF GOM

To facilitate the smooth conduct of the Study, GOM will take the following necessary measures subject to the laws and regulation in force in Malaysia;

1. To inform the members of the Study Team of any existing risk in the study area and to take any measures deemed necessary to secure the safety of the Study Team;

2. To ensure the necessary entry permits for the Study Team to conduct field surveys in Malaysia and exempt them from consular fees;
3. To exempt the members of the Study Team from taxes and duties, as normally accorded under the provision of Malaysian General Circular No.1 of 1979, on equipment, machinery and other materials brought into and out of Malaysia for the conduct of the Study;
4. To exempt the members of the Study Team from Malaysian income tax on their official emoluments in respect of their period of assignment in Malaysia in connection with the conduct of the Study, but the GOM shall retain the right to take such emoluments into account for the purpose of assessing the amount to be applied to income from other sources;
5. To provide necessary facilities to the Study Team for remittance as well as utilization of funds introduced into Malaysia from Japan in connection with the conduct of the Study;
6. To secure permission for entry into private properties or restricted areas for the conduct of the Study;
7. To provide the Study Team with medical services when needed but the expenses will be chargeable to members of the Study Team;
8. To provide the Study Team with available data, maps and information necessary for the execution of the Study;
9. To make arrangements for the Study Team to take back to Japan the data, maps and materials connected with the Study, subject to the approval of the government of Malaysia, in order to prepare the reports;
10. To appoint counterpart personnel to the Study Team during the study period;
11. To provide the Study Team with suitable office space with clerical service and necessary office equipment in Kuala Lumpur and a city nearby the site for the case study to be conducted in the phase 2;
12. To provide the Study Team with adequate means of local transport for official travel only;
13. To bear claims, if any arises, against the members of the 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 of the members of the Japanese study team; and

14. To nominate The Public Works Department (JABATAN KERJA RAYA MALAYSIA, JKR), The Ministry of Works (MOW) on the part of GOM to act as the counterpart agency for the Study and also as the coordination body in relation to other relevant governmental and non-governmental organizations.

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 Malaysia; and
- 2) To pursue technology transfer to Malaysian counterpart personnel in the course of the Study.

IX. CONSULTATION

JICA and GOM 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

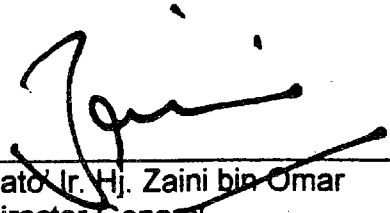
Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	Phase 1						Phase 2													
Field Work																				
Work in Japan																				
Report Presentation	△ IC/R				△ PR/R1		△ IT/R				△ PR/R2					△ DF/R			△ F/R	

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


MINUTES OF MEETING
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Mr. Minoru Nakamura
Leader
Preparatory Study Team
Japan International Cooperation Agency

The preparatory study team (hereinafter referred to as "the Team"), for the Study on Slope Disaster Management for Federal Roads in Malaysia (hereinafter referred to as "the Study") organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA") headed by Mr. Minoru Nakamura visited Malaysia from 6th to 14th July, 2000.

The Team held a series of meetings on the Scope of Work for the Study with relevant authorities of the Government of Malaysia (hereinafter referred to as GOM). List of participants is shown in Attachment 1.

As a result of the series of discussions, GOM and the Team came to the agreement on the Scope of Work (hereinafter referred as "S/W") of the Study, and signed it on 14th July, 2000.

This document summarizes major items discussed between both sides 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. Both sides agreed to change the title of the Study from 'The Study on Slope Disaster Management for Federal Highways' to 'The Study on Slope Disaster Management for Federal Roads.'
3. The Public Works Department (JKR) is responsible to coordinate other relevant departments within Ministry of Works (MOW) and other authorities such as Minerals and Geoscience Department, Malaysia, Malaysian Meteorological Services Department and Survey Department according to the necessity during the Study.
4. The Malaysian side shall assign at least eight (8) officials, engineers and technicians each as counterpart personnel for the Study.
5. The technical criteria for the new information system design shall be determined in the Study through discussions between the JKR and the Japanese study team.
6. Following seminars and workshops shall be conducted in the Study. The Japanese study team arranges seminars while workshops are organized by JKR.
 - (a) At the beginning of the study in Malaysia
Seminar on the road slope management in Japan

- (b) At the end of phase1
 - Seminar on the mechanisms of road slope disaster
 - Workshops on institutional development
 - (c) During a case study in phase 2
 - Workshop on operation of information system and institutional development
 - (d) At the end of study in Malaysia
 - Seminar to present the contents of a final report
7. A steering committee and technical committee will be established for the Study. The proposed member of the committee is shown in Attachment 2.
 8. The Study team will be allowed to take out aerial photographs related to the area of Study out of Malaysia, subject to approval of the GOM.
 9. The both sides agreed upon the following items on sub-contracting:
 - (a) The Procedure of the sub-contracting shall be in full accordance with the rules of JICA
 - (b) Local or international sub-contractors shall be allowed to conduct business in Malaysia
 10. JKR requested a short duration (10 days) counterpart training for eight (8) people in Japan in order to pursue effective technology transfer and the Team promised to convey this request to JICA headquarters in Tokyo. At the same time, the Team explained to JKR that there is a certain limit on number of trainees to be invited for the counterpart training.
 11. JKR will provide office furniture for the Study team. However, JKR requested JICA to provide office equipment such as computers, a photocopy machine, a telephone and facsimile machine with phone bills. The Team promised to convey this request to JICA headquarters in Tokyo.
 12. JKR asked JICA to provide computers for information system development and equipment for slope investigations such as raingage stations, inclinometers, extensometers and piezometers. JKR also requested JICA to provide vehicles for the Study. The Team promised to convey this request to JICA headquarters in Tokyo.

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Attachment 1

Attendant List

Dato' Ir. Hj. Zaini bin Omar	Director General, JKR
Dato' Ir. Dr. Wahid bin Omar	Deputy Director General 1, JKR
Ir. Mohamad bin Husin	Director of Planning & Corporate Services, JKR
Ir. Hj. Mohamad Razali Othman	Director of Roads Branch, JKR
Ir. Joseph Lim Chan San	Senior Superintending Engineer, Road Maintenance Unit, JKR
Ir. Kamar bin Kassim	Senior Assistant Director, Road Maintenance Unit, JKR
Ir. Lai Khin Onn	Assistant Director, Road Maintenance Unit, JKR
Ir. Suhaimi Jamaludin	Assistant Director, Road Maintenance Unit, JKR
Ir. Roslan Majid	Assistant Director, Road Maintenance Unit, JKR
Ir. Dr. Ahmad Nadzri Hussein	Senior Assistant Director, Road Design Unit, JKR
Mr. Uzir Alimat	Assistant Director, Road Design Unit, JKR
Mr. Minoru Nakamura	Member of JICA Preparatory Study Team
Ms. Yoshie Muramatsu	Member of JICA Preparatory Study Team
Mr. Akira Okamoto	Member of JICA Preparatory Study Team
Mr. Yukishi Tomida	Member of JICA Preparatory Study Team
Mr. Kanji Watanabe	Member of JICA Preparatory Study Team
Mr. Yasuji Nagaya	Member of JICA Preparatory Study Team
Mr. Naofumi Yamamura	JICA Malaysia Office

Attachment 2

1. Proposed Member List of the Steering Committee

- (a) Roads Director, JKR
- (b) Senior Superintending Engineer (Road Maintenance), JKR
- (c) Senior Assistant Director (Slope), JKR
- (d) Senior Assistant Director (Geotechnical), JKR
- (e) Assistant Director (Slope), JKR
- (f) Representative of Infrastructure Section, Economic Planning Unit

2. Proposed Member List of the Technical Committee

- (a) Senior Assistant Director (Slope), JKR
- (b) Senior Assistant Director (Geotechnical), JKR
- (c) Assistant Directors (Slope & Geology), JKR
- (d) Representative of MMSD (Malaysian Meteorological Survey Department)
- (e) Representative of SD (Survey Department)
- (f) Representative of MGD (Minerals and Geoscience Department, Malaysia)

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