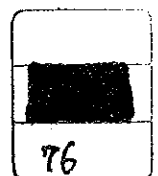


SCOPE OF WORK OF THE MASTER PLAN STUDY
FOR LAND EROSION AND VOLCANIC DEBRIS CONTROL
IN THE AREA OF MT. MERAPI
IN THE REPUBLIC OF INDONESIA

NOVEMBER 1976

Japan International Cooperation Agency



国際協力事業団	
受入 月日 84. 9. 13	108
登録No. 09522	55.5
	SDF

1. INTRODUCTION

The Government of Japan, in response to the request of the Government of Indonesia, has decided to conduct a basic and practical study for preparing a master plan on land erosion and volcanic debris control in the area of Mt. Merapi, in accordance with laws and regulations in force in Japan. The Japan International Cooperation Agency (JICA), the official agency responsible for implementation of technical cooperation programmes of the Government of Japan will carry out the study in close cooperation with the Indonesian authorities concerned.

2. OUTLINE OF THE STUDY

2-1 Objective of the study

The objective of the study are; to examine present condition of the area influenced by Nuées Ardentes and the Secondary Lahar from Mt. Merapi and make a master plan for a reduction of disaster caused by Secondary Lahars originating from material already deposited and from material deposited during the coming eruption.

2-2 Project area are described as follows:

- (1) All tributaries situating between K. Pabelan and K. Progo on the south western part and K. Woro, kali Lusah on the South eastern part of the volcano.
- (2) Concerning K. Woro, the area up to the confluence point of K. Lusah and K. Dengkeng.
- (3) The trouble spots at K. Progo and K. Opak due to erosion and sedimentation activities up to their estuaries.

3. SCOPE OF WORK

3-1 The activities undertaken in the survey and study are as follows:

Phase I (Survey)



- (1) Topography
- (2) Present land use condition

Phase II (Study)

- (3) Geology
- (4) Hydrology, meteorology and river engineering
- (5) Sediment discharge, transportation and deposition
- (6) Damage
- (7) Economic condition
- (8) Synthetic disaster prevention plan
- (9) Sabo works plan

3-2 Transfer of knowledge are as follows:

- (1) On-the-job training of Indonesian counterparts
- (2) Transfer of technical knowledge to the Indonesian counterpart in the course of the study in Japan

4. REPORTS

JICA will submit following reports to the Government of Indonesia.

- (1) Plan of operation containing the outline of the mapping works (Phase I) has already been submitted.
- (2) Plan of operation containing the outline of the main study (Phase II) will be submitted before the commencement of the main study.
- (3) Progress report, containing the result of rough analysis of the study, will be submitted.

- (4) Draft final report and Final report, containing the synthetic disaster prevention plan and Sabo works plan, will be submitted.

5. UNDERTAKING OF THE GOVERNMENT OF THE REPUBLIC OF INDONESIA

For the purpose of the study, the Government of Indonesia will cooperate to the possible extent by:

- (1) Providing the team with the necessary facilities for aerophotograph taking.
- (2) Providing the team with the data and information concerned for its use in connection with the study.
- (3) Carrying out such works as terrestrial survey, geological survey, material and soil test, hydrological observation and economic situation survey.
- (4) Assuring the security of the team to the extent possible.
- (5) Exempting from taxes and duties for machinery equipment and materials necessary for the study.
- (6) Assigning counterpart personnel (officials/engineers) to the team during the survey and study period.
- (7) Providing the team with suitable office space and office equipment necessary for the study.
- (8) Making arrangements for accommodations for the team and all of the expenses of the accommodations for Japanese team should be paid by Japanese team. Providing field office required for the study work, when necessary.
- (9) Providing two vehicles, drivers, fuel and maintenance cost for this study (four wheel drives Jeep).
- (10) Allowing to take all data and materials concerned including photo films out of the Republic of Indonesia to Japan by the Japanese study team according to the security regulation.
- (11) Providing any other available facilities that may be required for the execution of the study.

6. UNDERTAKINGS OF THE GOVERNMENT OF JAPAN

For the purpose of the study, the Government of Japan will undertake the following works:

- (1) The airphoto taking and mapping. (refer to the attached sheet 1)
- (2) Dispatch of the Japanese expert team to conduct the study including ground control survey.
- (3) On-the-job training of Indonesian counterparts in Indonesia and Japan.
- (4) Arrangement of the equipment necessary for the efficient conduct of the study.

7. ORGANIZATION OF THE PROJECT

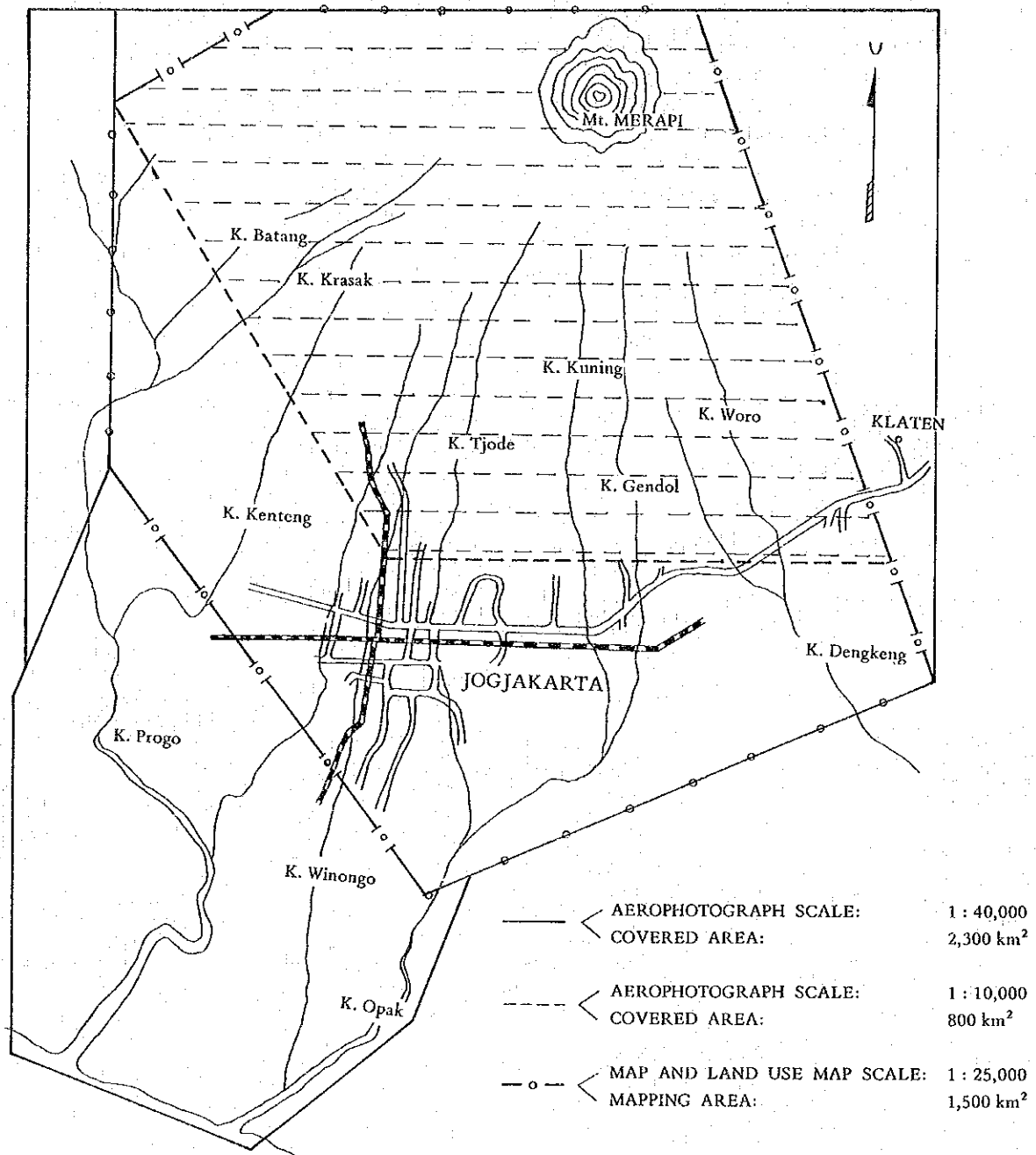
The Government of Indonesia puts in charge for the implementation of the study the Director General of Water Resources Development, Ministry of Public Works and Electric Power as the Indonesian executive authority while the Government of Japan puts in charge the President of JICA as the Japanese executive authority.

For the execution of the study, JICA and the Director General of Water Resources Development, Ministry of Public Works and Electric Power will establish the organization as shown in attached sheet 2.

8. STUDY SCHEDULE

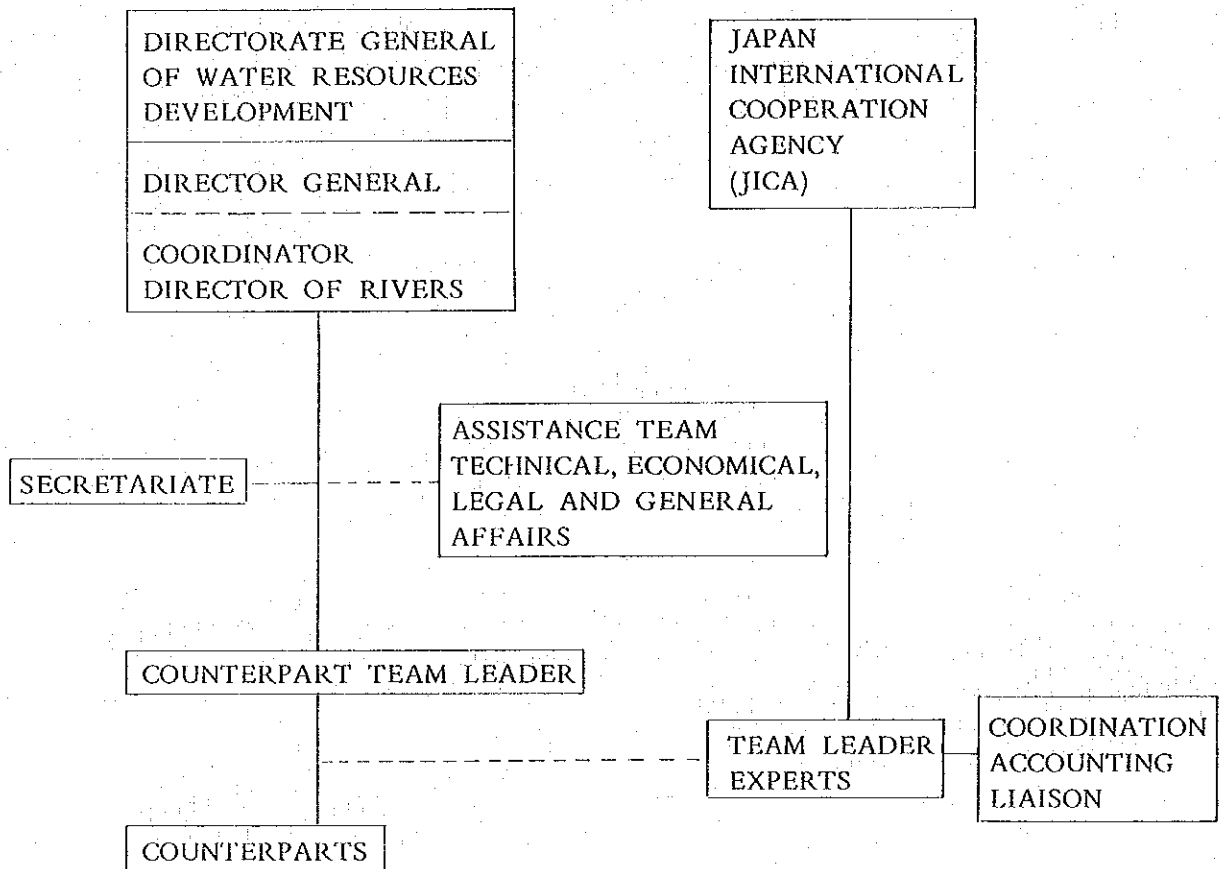
Refer to the attached sheet 3.

Attached Sheet 1.



Attached Sheet 2.

ORGANIZATION CHART



Attached Sheet 3.

STUDY SCHEDULE

Year	1976	1977	1978	1979
	4 5 6 7 8 9 10 11 12 1 2 3	4 5 6 7 8 9 10 11 12 1 2 3	4 5 6 7 8 9 10 11 12 1 2 3	4 5 6 7 8 9 10 11 12 1 2 3
1. Topography	_____			
2. Present land use condition	_____			
3. Geology		--		
4. Hydrology, meteorology and river engineering		-----		
5. Sediment discharge, transportation and deposition		-----	-----	
6. Damage		-----		
7. Economic condition			--	-----
8. Synthetic disaster prevention plan		---	---	-----
9. Sabo works plan		--		-----
Report	↑ Plan of operation (Phase I) ↑ Progress report (Mapping) ↑ Plan of operation (Phase II)	↑ Progress report	↑ Progress Report	Final draft report Final report

