SABO TECHNICAL CENTRE
LIST OF DONATED EQUIPMENT 1992/93

DATE	NUMBER	NAME OF EQUIPMENT	SPECIFICATION	PRICE	INSTALL DATE	INSTALL PLACE	REMARK
1993-05-14	D-63-1-2-6	Diamond Bits and Reamers / TONE	DiamondBit,impregratedtype:N86-70, 30cts4w	Rp 4,147,930.60 ¥ 225,186.24	1993-05-14	Technical Development	Indonesia
1993-05-14	D-63-2-1-1	Diamond Bits and Reamers / TONE	DiamondBit,Surface set type:N66-50,6cts4w	Rp 5,302,214.50 ¥ 287,850.95	1993-05-14	Technical Development	Indonesia
1993-05-14	D-63-2-1-2	Diamond Bits and Reamers / TONE	DiamondBit,Surface set type:N66-50,6cts4w	Rp 5,302,214.50 ¥ 287,850.95	1993-05-14	Technical Development	Indonesia
1993-05-14	D-63-2-2-1	Diamond Bits and Reamers / TONE	DiamondBit,Surface set type:N86-70,26cts4w	Rp 7,750,843.10 ¥ 420,784.10	1993-05-14	Technical Development	Indonesia
1993-05-14	D-63-2-2-2	Diamond Bits and Reamers / TONE	DiamondBit,Surface set type:N86-70,26cts4w	Rp 7,750,843.10 ¥ 420,784.10	1993-05-14	Technical Development	Indonesia
1993-05-14	D-63-3-1-1	Diamond Bits and Reamers / TONE	Diamond reamer : N66-50, 6cts, 6 water way	Rp 2,172,464.80 ¥ 117,940.54	1993-05-14	Technical Development	Indonesia
1993-05-14	D-63-3-1-2	Diamond Bits and Reamers / TONE	Diamond reamer : N66-50, 6cts, 6 water way	Rp 2,172,464.80 ¥ 117,940.54	1993-05-14	Technical Development	Indonesia
1993-05-14	D-63-3-1-3	Diamond Bits and Reamers / TONE	Diamond reamer : N66-50, 6cts, 6 water way	Rp 2,172,464.80 ¥ 117,940.54	1993-05-14	Technical Development	Indonesia
1993-05-14	D-63-3-2-1	Diamond Bits and Reamers / TONE	Diamond reamer : N66-70, 6 water way	Rp 2,832,881.70 ¥ 153,793.79	1993-05-14	Technical Development	Indonesia
1993-05-14	D-63-3-2-2	Diamond Bits and Reamers / TONE	Diamond reamer : N66-70, 6 water way	Rp 2,832,881.70 ¥ 153,793.79	1993-05-14	Technical Development	Indonesia
1993-05-14	D-63-3-2-3	Diamond Bits and Reamers / TONE	Diamond reamer : N66-70, 6 water way	Rp 2,832,881.70 ¥ 153,793.79	1993-05-14	Technical Development	Indonesia
1993-05-14	D-66-5-1-1	Horizontal Drilling Tools / TONE	Pin Join for Soft formation	Rp 2,104,261.50 ¥ 114,237.87	1993-05-14	Technical Development	Indonesia
1993-05-14	D-66-5-1-2	Horizontal Drilling Tools / TONE	Pin Join for Soft formation	Rp 2,104,261.50 ¥ 114,237.87	1993-05-14	Technical Development	Indonesia
1993-05-14	D-66-5-1-3	Horizontal Drilling Tools / TONE	Pin Join for Soft formation	Rp 2,104,261.50 ¥ 114,237.87	1993-05-14	Technical Development	Indonesia
1993-05-14	D-66-5-1-4	Horizontal Drilling Tools / TONE	Pin Join for Soft formation	Rp 2,104,261.50 ¥ 114,237.87	1993-05-14	Technical Development	Indonesia
1993-05-14	D-66-5-1-5	Horizontal Drilling Tools / TONE	Pin Join for Soft formation	Rp 2,104,261.50 ¥ 114,237.87	1993-05-14	Technical Development	Indonesia

SABO TECHNICAL CENTRE
L ;T OF DONATED EQUIPMENT 1992/9

DATE	NUMBER	NAME OF EQUIPMENT	SPECIFICATION	PRICE	INSTALL DATE	INSTALL PLACE	REMARK
1993-05-14	D-66-5-2-1	Horizontal Drilling Tools / TONE	Pin Join for Medium formation	Rp 2,104,261.50 ¥ 114,237.87	1993-05-14	Technical Development	Indonesia 1¥=Rp18.42
1993-05-14	D-66-5-2-2	Horizontal Drilling Tools / TONE	Pin Join for Medium formation	Rp 2,104,261.50 ¥ 114,237.87	1993-05-14	Technical Development	Indonesia
1993-05-14	D-66-5-2-3	Horizontal Drilling Tools / TONE	Pin Join for Medium formation	Rp 2,104,261.50 ¥ 114,237.87	1993-05-14	Technical Development	Indonesia
1993-05-14	D-66-5-2-4	Horizontal Drilling Tools / TONE	Pin Join for Medium formation	Rp 2,104,261.50 ¥ 114,237.87	1993-05-14	Technical Development	Indonesia
1993-05-14	D-66-5-2-5	Horizontal Drilling Tools / TONE	Pin Join for Medium formation	Rp 2,104,261.50 ¥ 114,237.87	1993-05-14	Technical Development	Indonesia
1993-05-14	D-66-5-3-1	Horizontal Drilling Tools / TONE	Pin Join for Hard formation	Rp 2,104,261.50 ¥ 114,237.87	1993-05-14	Technical Development	Indonesia
1993-05-14	D-66-5-3-2	Horizontal Drilling Tools / TONE	Pin Join for Hard formation	Rp 2,104,261.50 ¥ 114,237.87	1993-05-14	Technical Development	Indonesia
1993-05-14	D-66-5-3-3	Horizontal Drilling Tools / TONE	Pin Join for Hard formation	Rp 2,104,261.50 ¥ 114,237.87	1993-05-14	Technical Development	Indonesia
1993-05-14	D-66-5-3-4	Horizontal Drilling Tools / TONE	Pin Join for Hard formation	Rp 2,104,261.50 ¥ 114,237.87	1993-05-14	Technical Development	Indonesia
1993-05-14	D-66-5-3-5	Horizontal Drilling Tools / TONE	Pin Join for Hard formation	Rp 2,104,261.50 ¥ 114,237.87	1993-05-14	Technical Development	Indonesia
1993-05-14	D-68	Spa. part for Drill. Mach.&Diesel Eng. / TONE	-	Rp 13,153,536.00 ¥ 714,089.90	1993-05-14	Technical Development	Indonesia
1993-05-14	D-69	Spa. part for Mud Pump&Diesel Eng. / TONE	-	Rp 14,493,248.00 ¥ 786,821.28	1993-05-14	Technical Development	Indonesia
1993-05-28	D-75	Inserting Type Inclinometer / SAKATA DENKI	Model : EIN - 5030 G	Rp 9,500,000.00 ¥ 500,000.00	1993-05-28	Technical Development	Japan 1¥=Rp19
1993-05-28	D-77	Indicator / SAKATA DENKI	EM - 52	Rp 8,360,000.00 ¥ 440,000.00	1993-05-28	Technical Development	Japan
1993-05-28	D-84	Pipe Strain Meter / SAKATA DENKI	EPS - 9152	Rp 7,182,000.00 ¥ 378,000.00	1993-05-28	Q'ty = 120 Units	Japan
1993-05-28	D-85	Cable / SAKATA DENKI		Rp 2,593,500.00 ¥ 136,500.00	1993-05-28	2100 m	Japan

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SABO TECHNICAL CENTRE
LIST OF DONATED EQUIPMENT 1992

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DATE	NUMBER	NAME OF EQUIPMENT	SPECIFICATION	PRICE	INSTALL DATE	INSTALL PLACE	REMARK
1993-05-28	D-92	Indicator	EM - 92	Rp 3,097,000.00 ¥ 163,000.00	1993-05-28	Technical Development	Japan 1¥=Rp19
1993-05-28	D-93-1	Remote Recorder Set Automatic Landslide Recorder /SAKATA D	SRL - 3	Rp 2,432,000.00 ¥ 128,000.00	1993-05-28	Technical Development	Japan
1993-05-28	D-93-2	Remote Recorder Set Automatic Landslide Recorder / SAKATA D	SRL - 3	Rp 2,432,000.00 ¥ 128,000.00	1993-05-28	Technical Development	Japan
1993-05-28	D-93-3	Remote Recorder Set Automatic Landslide Recorder / SAKATA D	SRL - 3	Rp 2,342,000.00 ¥ 128,000.00	1993-05-28	Technical Development	Japan
1993-05-28	D-93-4	Remote Recorder Set Automatic Landslide Recorder / SAKATA D	SRL - 3	Rp 2,342,000.00 ¥ 128,000.00	1993-05-28	Technical Development	Japan
1993-05-28	D-93-5	Remote Recorder Set Automatic Landslide Recorder / SAKATA D	SRL - 3	Rp 2,342,000.00 ¥ 128,000.00	1993-05-28	Technical Development	Japan
1993-05-28	D-93-6	Remote Recorder Set Automatic Landslide Recorder / SAKATA D	SRL - 3	Rp 2,342,000.00 ¥ 128,000.00	1993-05-28	Technical Development	Japan
1993-05-28	D-93-7	Remote Recorder Set Automatic Landslide Recorder / SAKATA D	SRL - 3	Rp 2,342,000.00 ¥ 128,000.00	1993-05-28	Technical Development	Japan
1993-05-28	D-93-8	Remote Recorder Set Automatic Landslide Recorder / SAKATA D	SRL - 3	Rp 2,432,000.00 ¥ 128,000.00	1993-05-28	Technical Development	Japan
1993-05-28	D-93-9	Remote Recorder Set Automatic Landslide Recorder / SAKATA D	SRL - 3	Rp 2,342,000.00 ¥ 128,000.00	1993-05-28	Technical Development	Japan
1993-05-28	D-93-10	Remote Recorder Set Automatic Landslide Recorder / SAKATA D	SRL - 3	Rp 2,342,000.00 ¥ 128,000.00	1993-05-28	Technical Development	Japan
1993-05-28	D-97	Cable / SAKATA DENKI		Rp 10,830,000.00 ¥ 570,000.00	1993-05-28	Qty = 2000 m	Japan
1993-05-28	D-101-1	Water Level Meter / SAKATA DENKI	Model : HRL - 6	Rp 3,807,600.00 ¥ 200,400.00	1993-05-28	Technical Development	Japan
1993-05-28	D-101-2	Water Level Meter / SAKATA DENKI	Model : HRL - 6	Rp 3,807,600.00 ¥ 200,400.00	1993-05-28	Technical Development	Japan
1993-05-28	D-101-3	Water Level Meter / SAKATA DENKI	Model : HRL - 6	Rp 3,807,600.00 ¥ 200,400.00	1993-05-28	Technical Development	Japan
1993-05-28	D-101-4	Water Level Meter / SAKATA DENKI	Model : HRL - 6	Rp 3,807,600.00 ¥ 200,400.00	1993-05-28	Technical Development	Japan

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SABO TECHNICAL CENTRE
LIST OF DONATED EQUIPMENT 1992/

DATE	NUMBER	NAME OF EQUIPMENT	SPECIFICATION	PRICE	INSTALL DATE	INSTALL PLACE	REMARK
1993-05-28	D-101-5	Water Level Meter / SAKATA DENKI	Model : HRL - 6	Rp 3,807,600.00 ¥ 200,400.00	1993-05-28	Technical Development	Japan 1¥=Rp19
1993-05-28	D-106	Flowing Underground Water Layer Detector /SAKATA DENKI	Model : YZ - 72 B	Rp 9,310,000.00 ¥ 490,000.00	1993-05-28	Technical Development	Japan
1993-05-28	D-107	Indicators / SAKATA DENKI	ME - 48	Rp 7,220,000.00 ¥ 380,000.00	1993-05-28	Technical Development	Japan
1993-05-28	D-109-1	Tiltmeter / SAKATA DENKI	Model K - 101 2 Units/set	Rp 2,432,000.00 ¥ 128,000.00	1993-05-28	Technical Development	Japan
1993-05-28	D-109-2	Tiltmeter / SAKATA DENKI	Model K - 101 2 Units/set	Rp 2,432,000.00 ¥ 128,000.00	1993-05-28	Technical Development	Japan
1993-05-28	D-109-3	Tiltmeter / SAKATA DENKI	Model K - 101 2 Units/set	Rp 2,432,000.00 ¥ 128,000.00	1993-05-28	Technical Development	Japan
1993-05-28	D-109-4	Tiltmeter / SAKATA DENKI	Model K - 101 2 Units/set	Rp 2,432,000.00 ¥ 128,000.00	1993-05-28	Technical Development	Japan
1993-05-28	D-109-5	Tiltmeter / SAKATA DENKI	Model K - 101 2 Units/set	Rp 2,432,000.00 ¥ 128,000.00	1993-05-28	Technical Development	Japan
1993-09-10	D-111	Angle Receiver Board / JRC	CHM - 128	Rp 7,600,000.00 ¥ 380,000.00	1993-09-10	Technical Development	Japan
1993-09-10	D-112	Angle Converter Board / JRC	CDC - 252	Rp 7,600,000.00 ¥ 380,000.00	1993-09-10	Technical Development	Japan
1993-09-10	D-113	Scan Converter Board / JRC	CHM - 87	Rp 13,400,000.00 ¥ 670,000.00	1993-09-10	Technical Development	Japan
1993-09-10	D-115	DC Power Supply Equipment / JRC	NBA - 4000	Rp 13,700,000.00 ¥ 685,000.00	1993-09-10	Technical Development	Japan

⑤ 広報活動の参考資料

⑤－１ 広報活動進捗状況

PROGRESS OF DISSEMINATION ACTIVITIES

No	Subject	Contents	1992/1993	1993/1994	1994/1995	1995/1996	1996/1997	Remarks
			1 2	3 4	5 6	7 8	9 10	
1.	Publications	1) SIC News	100% 100%	100% 100%				
		2) Leaflets	100%	100%				
		3) Booklets	100%	100%				
		4) Reports	100%	100%				
		5) Proceedings	100%	100%				
2.	Seminars	1) Seminar on Sabo Engineering 1	100%					National
		2) International Seminar on Erosion and Sediment Control(ISESC)		100%				International
		3) Seminar on Sabo Engineering 3			5 %			National
		4) Seminar on Sabo Engineering 4						
		5) Seminar on Sabo Engineering 5						
3.	Data base System	1) Making a concept of data base system	100%					
		2) Hardware/installation procurement		100%				
		3) Data collection		15 %				
		4) software		20 %				

⑤－２　出版物の種類、出版物の主要配布先

1, KINDS OF PUBLICATION

No	Contents	Kinds	Amount (expl)	Date of Issued	Distribution
1.	STC News	(1) STC News No 1	1000	October 1992	}
		(2) STC News No 2	1000	March 1993	} a - q
		(3) STC News No 3	1000	October 1993	}
		(4) STC News No 4	1000	March 1994	}
2.	Leaflets	(1) Sabo Technical Centre	500	1992/1993	
		(2) What is Sabo(English version)	1000	1992/1993	}
		(3) What is Sabo(Indonesia version)	1000	1992/1993&1993/1994	} r
		(4) Forecasting and warning system in the area of Mt. Merapi	1000	1992/1993	}
		(5) Project facilities for Technical Development (Indonesia Version)	1000	1993/1994	} a,b,c,o,q,r,n
		(6) STC facilites (Indonesia version)	1000	1992/1993	} r
3.	Booklets	(1) Why Indonesia need Sabo (Indonesia version)	1000	1992/1993	}
		(2) Revised Sabo in Indonesia	500	1993/1994	} o - r
4.	Report	(1) Report of short tera Expert	100	1992/1993&1993/1994	} Ministry of Public Works related Institution
		(2) Technical memorandum of STC No. 001	100	1993/1994	
5.	Proceeding	(1) Proceeding Seminar on Sabo Engineering I	100	1992/1993	Authorts, Ministry of Public Works, Universities, National libraly, related Institution
		(2) Proceeding of ISESC	150	1993/1994	

Distribution of STC Publications

a. Directorate General of Water Resources Development
b. Agency of Research and Development
c. Research Institute for Water Resources Development and its Experimental Stations
d. Universities (state and private)
e. Ex-participant of Courses
f. JICA
g. Local government
h. Ministry of Mine and Energy
i. Volconological Survey of Indonesia
j. State Ministry of Environmental and Population
k. Ministry of Forestry
l. Ministry of Social Welfare
m. Ministry of Agriculture
n. Sabo Projects
o. River Projects
p. Indonesian Institute of Scince
q. Related Institutions
r. Visitors

Concrete description of the way how those publications have been utilized

So far there is no investigation in this matter. However, some library, like National library and Universities library request the proceedings of the Seminar and STC News which have ISBN and ISSN number respectivelly to add their students knowledge on sabo technology.

2. CONCRETE CONTENTS OF SEMINAR

1. The First Seminar on Sabo Engineering (SSE-1) (1992/1993)

1) Theme　: Effect of Sabo Works to Human life

2) Purpose : (1) To exchange of knowledge on erosion and sediment disaster prevention

(2) To disseminate sabo technology

3) Subtheme and topics

(1) Endeavour to Protect Human life and Activities

a. Present countermeasures against debris/ sediment flow

b. Present countermeasures against agradation and degradation.

c. Critical rainfall for generating debris/sediment flow

d. Present evacuation system for disaster management

e. Present countermeasures against landslide

f. Regulation on sediment related disaster prevention

(2) Influence of Sabo Works to living of Inhabitants and Socio Economic Activities.

a. Influence of sabo works on agricultural production

b. Influence of sabo works on developing of isolated area

c. Influence of sabo works on job creation

d. Influence of sabo works on water resources development

e. Influence of Sabo Works to living of instabitants

4) Date

February 17 - 20, 1993. (4 days)

5) Site

Sabo Technical Centre and Multipurpose sabo dam at Pabelan River, Mt Merapi.

6) Number of Presented Paper : 13 pcs

7) Number of participants (72 ps)

Consist of :

(1) JICA

a. JICA Indonesia office	:	2 ps
b. JICA Expert to DOR	:	2 ps
c. JICA long-term expert to STC	:	4 ps
d. JICA short term expert to STC	:	1 ps
		9 ps

(2) Indonesian Participant

a. Directorate of River	:	2 ps
b. STC	:	14 ps
c. Research Institute for Water Resources Development	:	4 ps
d. Sabo project	:	8 ps
e. River project	:	4 ps
f. Local government	:	5 ps
g. Universities	:	11 ps
h. Related institution	:	15 ps
		63 ps

2. International Seminar on Erosion and Sediment Control (ISESC) (1993/1994)

1) Theme : Development and Proper Application of Sabo Technology Based on Regional Characteristics.

2) Purpose :

(1) To exchange experience and knowledge of sediment disaster countermeasures among disaster prone countries.

(2) To disseminate sabo (erosion and sediment control) technology

3) Date

January 11 - 14, 1994. (4 days)

4) Site

Sabo Technical Centre and Sabo fasilities at Putih River, Mt. Merapi area.

5) Number of Papers

(1) Presented papers

a. Special Reports	:	6 pcs
b. Country Reports	:	9 pcs
c. Additional Paper	:	1 pc
		16 pcs
(2) Un-presented papers	:	9 pcs
Total	:	25 pcs

6) Number of Participants (78 ps)

(1) International Organization : 8 ps
(UNDHA - Geneva, JSECE - Japan, ADPC - Thailand, IRTCES - China, UNDP - Indonesia office, UNESCO - Indonesia office)

(2) Country Representation

a. Indonesia	:	2 ps
b. Nepal	:	2 ps
c. Philippine	:	1 ps
d. Venezuela	:	1 ps
e. Honduras	:	1 ps
f. Japan	:	1 ps
g. China	:	1 ps
		9 ps

(3) JICA

a. JICA Indonesia office	:	3 ps
b. JICA Expert to DEWRD / DOR	:	2 ps
c. JICA long-term expert to STC	:	4 ps
d. JICA short term expert to STC	:	1 ps
		10 ps

(4) Japan Sabo Society : 4

(5) Consultant : 1

(6) Indonesian participants

a. STC Project	:	14 ps
b. Directorate of Rivers	:	3 ps
c. Research Institute for Water Water Resources Development	:	3 ps
d. Sabo Project	:	8 ps
e. River Project	:	3 ps
f. Local government	:	2 ps
g. Related institutions	:	12 ps
h. Universities	:	3 ps
		48 ps

3. The Third Seminar on Sabo Engineering (SSE-3) 1994/1995

1) Theme : Environment and sabo

2) Purpose :

(1) To understand what is the principle of sabo works

(2) To understand human interact in implementing sabo works with their environment

(3) To find the significant environmental impact of sabo to human activities, safety and security

(4) To find out how far the environmental legislation has been applied in sabo area

(5) To collect opinion for the improvement of sabo facilities to increase the environmental quality in sabo area

3) Sub theme

(1) The impact of sabo upon the environment

(2) Improvement of environmental quality

4) Date

November 21 - 24, 1994 (4 days)

5) Site

Sabo Technical Centre and Sabo facilities at Bebeng River, Mt. Merapi

6) Number of Expected Papers : 13 ps

7) Number of Expected Participants : 60 ps

Consist of :

- Ministry of Public Works
- Ministry of Mine and Energy
- Ministry of Forestry
- Ministry of Social Welfare
- State Ministry by of Environmental
- Local Government
- JICA
- JICA Expert to STC (longterm and short term experts)
- Related Institutions.

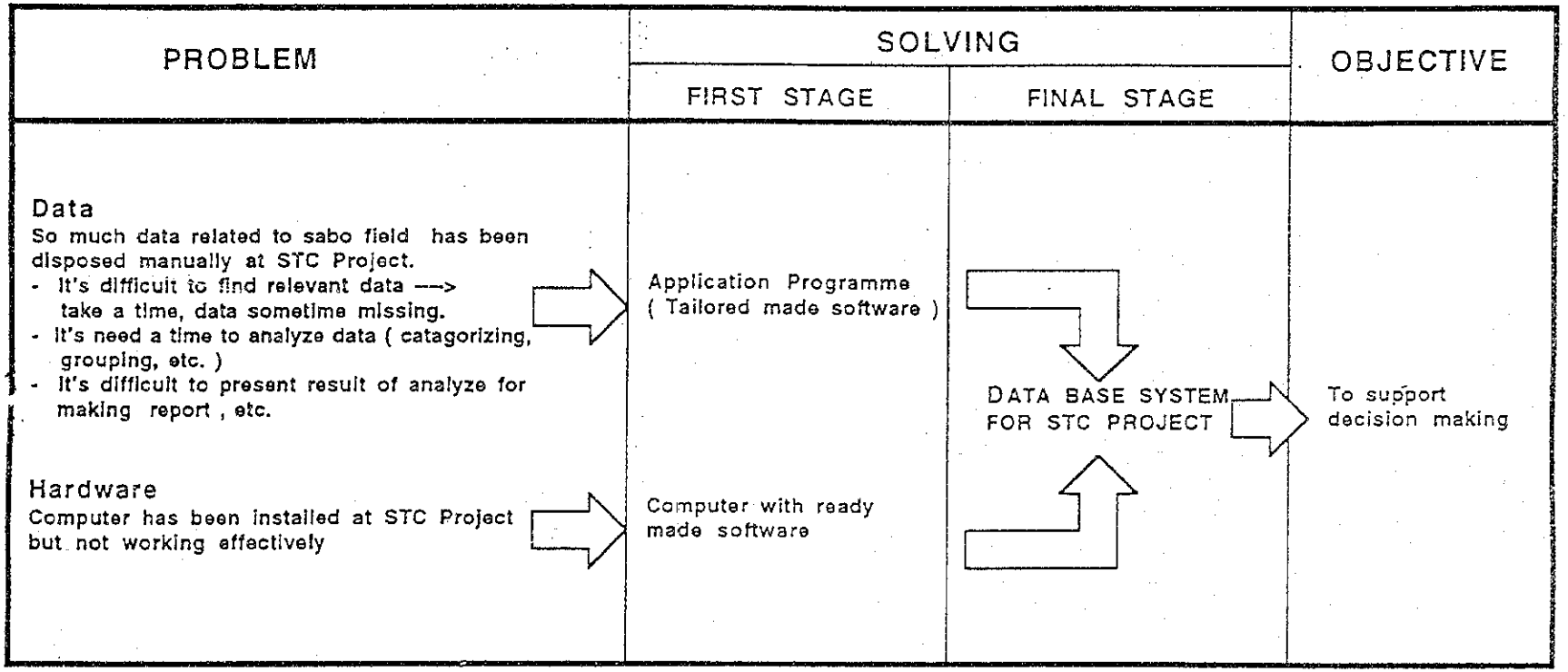
⑤－4　データベースの概念

DATA BASE

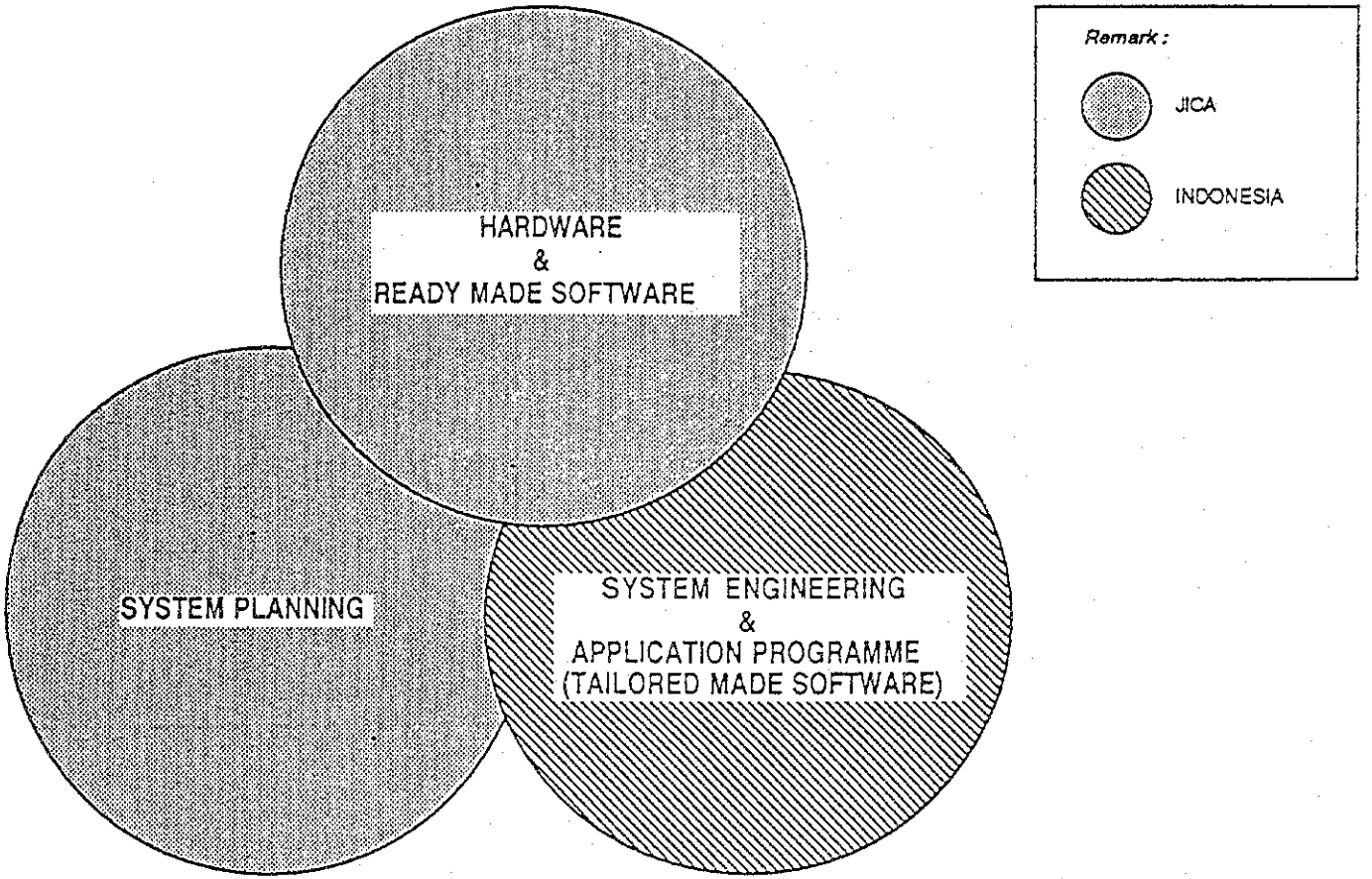
1. Purpose
   (1) Development policy on sabo works
   (2) The five year plan on sabo works (annual report, midterm review)
   (3) Technical advice to local government
   (4) Maintenance of sabo facilities
   (5) Simplification of sabo management at STC Project

2. Contents
   (1) Disposition of sabo fasilities information
   (2) Disposition of sediment related disaster information
   (3) Disposition of STC Project data

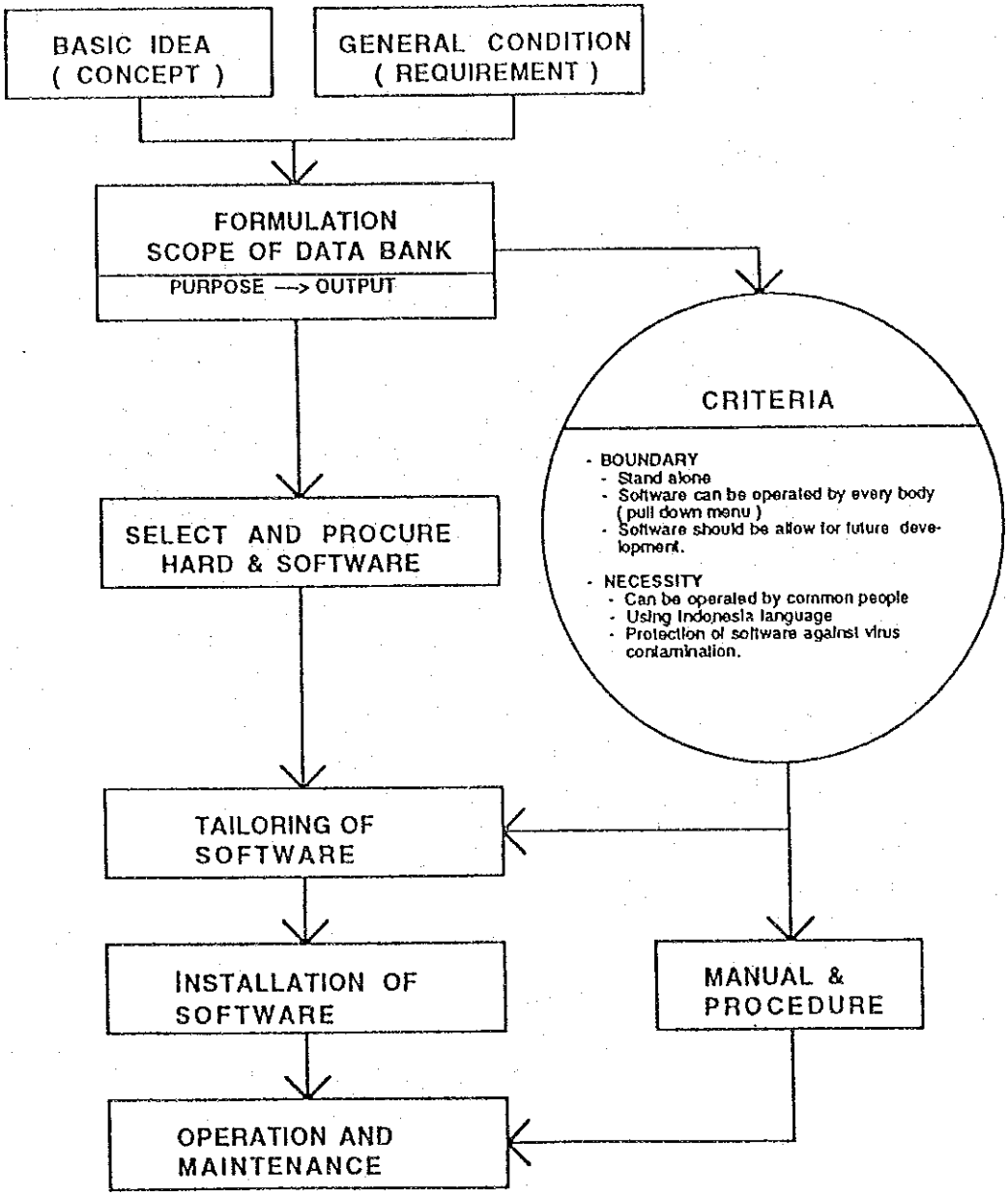
BASIC CONCEPT OF THE DATA BASE SYSTEM IN STC PROJECT



CONSTRUCTION OF DATA BASE IN STC PROJECT



GENERAL IDEA OF DATA BASE SYSTEM IN STC PROJECT



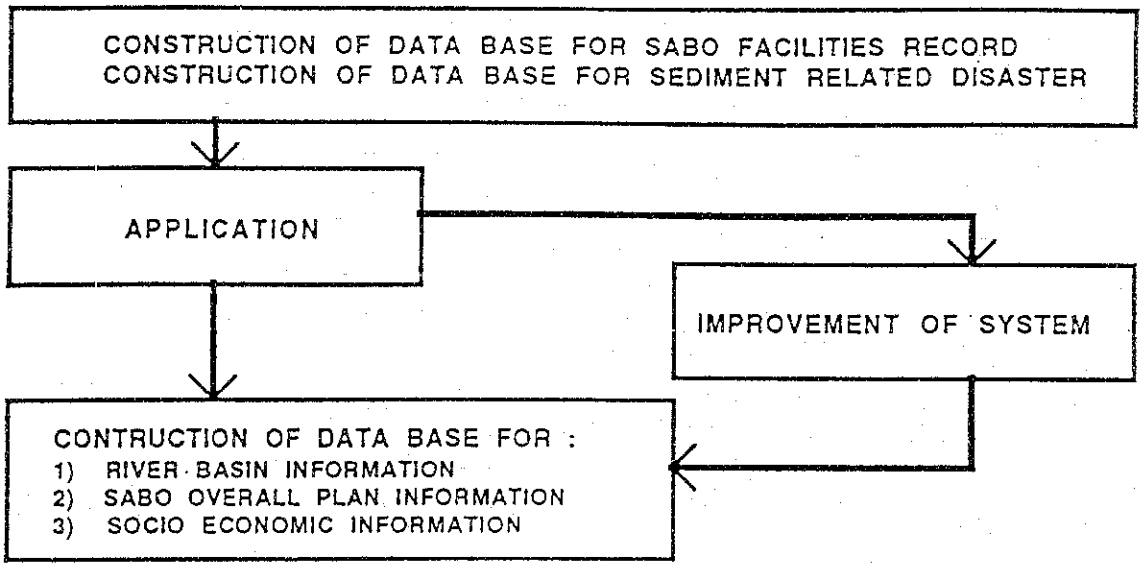
TARGET OF DATA BASE ON STC PROJECT

SCOPE OF DATA BASE	TARGET
1. DISPOSITION OF SABO FACILITIES INFORMATION	1) In order to examine the adequate design to the jobsite (for example : proposition on improvement points, sellection of the proper method, the detail figure, the damage points of the facilities and the condition around them will be arranged and will be looked up easily. 2) In order to explain the invesment amount in the river of sabo facilities will be arranged.
2. DISPOSITION OF SEDIMENT RELATED DISASTER INFORMATION	1) In order to explain the disaster to public. 2) In order to adequate measures in occurence of disaster. 3) In order to make the plan of sabo facilities and forecasting/ warning system, features of debris flow, landslides and slope failures will be exposed.
3. DISPOSITION OF STC PROJECT DATA	1) Management of books reports and maps. 2) Management of facilities and equipments,etc. 3) Management of finance,personality etc. 4) Record ofsurvey investigation in job site, etc. 5) Record of training activities (syllabus, curriculum, record of participant, etc.)

Remark :

At first these data base system will be made separately, then in future, these will be compiled to one system, and be utilized as network system.

AN OUTLINE OF PROCESS OF THE DATA BASE



SUBJECT	REMARKS
River Basin Information	Topography, geology,climate, rivers,etc.
Sabo Overall Plan Information	Name, location, river name, construction year, cost, plan items, design items, photo, topographical map, longitudinal section, design drawing, etc.
Soci Economic Information	population,land utilities, infrastructures (housing, public fcilities), etc.

CONTENTS AND NUMBER OF DATA BASE SYSTEM

NO	KIND OF DATA BASE	NUMBER OF DATA BASE	CONTENTS OF DATA BASE
1	Disposition of sabo facilities information	Sabo dam, dike,training dike, channel works, sand pocket etc.	Location, river name, planning discharge, planning rainfall, blue print, topographical map, longitudinal map. Date of construction, cost,rehabilitation measures, etc.
2	Disposition of sediment related disaster information	Debris flow, mud flow, sediment flow	Location,date,rainfall (one day, max. one hour, max. two hours) Deposit condition (shape, scale, bed slope, max.grain size etc) Damages (person, houses,field etc.), urgent countermeasures, topographical map drawing the deposit area.
		Landslide, slope failure	Location,date,cause (rainfall-one day, max.one and two hours). Condition of collapse, landslide, damage (person, houses, field etc.). Urgent countermeasures. Topographical map with the landslide/slope failure.
3	Disposition of STC Project data	Training division	Trainees,lecturers, teaching materials.
		Technical development division	Investigation record (date,researcher,budget,purpose,result) Experiment (date,researcher,purpose,result,detail of condition).
		Information division	Seminars, workshop, conferences.
		Administration division	Books and reports such as in Yokota Library. Equipment

DATA UTILIZATION

Example

NO	Data / Report	Cost for sabo	Total control sediment	Total asset	Number of people	Area of Agriculture	Cost for gabion	Volume of dam	Volume of dik	etc	output				
											1	2	3	4	5
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

DEPARTEMEN PEKERJAAN UMUM
DIREKTORAT JENDERAL PENGAIRAN - DIREKTORAT SUNGAI
PROYEK PUSAT LATIHAN DAN PENGEMBANGAN TEKNIK SABO
SOPALAN, MAGUWOHARJO, DEPOK, YOGYAKARTA, KOTAK POS 1128
TELP. (0274) - 60432, 60433, FAX. (0274) - 60434
STC

P

Lembar Ke : 1
Nomor Urut :

LEMBAR INVENTARIS BARANG

I. UNIT BARANG

1 NAMA BARANG :

2 MERK / TIPE / TAHUN :

3 KAPASITAS :

4 SISTEM OPERASI : ☐ Manual ☐ Mekanis ☐ Hidraulis ☐ Elektris

5 DUDUKAN PERALATAN : ☐ Terpasang Tetap ☐ Mobile ☐ Transportable ☐ _____

6 KEGUNAAN : _____

_____

PHOTO

7 PERLENGKAPAN LAIN :

No	Nama Barang	Merk / Tipe / Tahun
(1)		
(2)		
(3)		
(4)		
(5)		

Desain : Bidang Informasi, 1993

II. JUMLAH BARANG

KELOMPOK :
SUBKELOMPOK :
SUBSUBKELOMPOK:

Lembar Ke : 2
Nomor Urut :

No. Urut	No. Inventaris	No. Seri	Negara Pembuat	Warna	Perolehan					Lokasi Penempatan Barang
					Dari	Dengan Cara	No. Dokumen	Tanggal Transaksi	Harga (Ribuan Rp.)	

Catatan :

Desain : Bidang Informasi , 1993

INVENTARISASI FASILITAS SABO

Di Proy.Gn.Merapi; Tinggi Main dam: 5m<H<8m (9bh)

No. Fasilitas: M-1 | Nama Fasilitas: C.D.K.Pabelan | Badan Pengelola: Proy.Gn.Merapi

n Pembuatan: 1972-1973 | Tahun Perbaikan:

Sistem Sungai: Kali Progo | Nama Sungai: Kali Pabelan

okasi — Jarak dari puncak (km):
Kabupaten: Magelang | Kecamatan: Sawangan | Desa: Tlatar

ondisi drolika — Luas Pengaliran (km2): 63.25
Debit Banjir Rencana (m3/dt): 824
Periode Banjir (tahun):

eadaan Sungai — Debit Banjir (m3/dt): 824
Kemiringan dasar sungai alam (%): 5
Kemiringan Dasar Sungai Rencana (%): 3

lisi Struktur Utama

Main Dam

Panjang (m)	63
Tinggi(m)	7.25
Isi beton (m3)	78
Isi Urugan .(m3)	-

Spillway

B(m)	40
B'(m)	45
Ho (m)	2.5
b (m)	2
Kemiringan hulu	1 : 0.476
Kemiringan hilir	1 : 0.24

Lantai terjun

D(m)	-
d(m)	-
H2 (m)	3.25

Sub Dam

H1(m)	4.25
L1(m)	74

Spillway

B1 (m)	40
B1'm)	51
Ho1(m)	2.5
b1(m)	1
Kemiringan Hulu	1 : 0.5
Kemiringan Hilir	1 : 0.312

Tanggal Pemasukan Data: 3/31/94

Sebelumnya | *Selanjutnya* | *Hapus* | *Record Baru*

RESULTS OF INFORMATION SECTION 'S JOB IN STC DATA BASE TRAINING; NOVEMBER 25 1993 ; LECTURE BY : MR. UDONO

INVENTORY OF SABO WORK FACILITIES

PROJECT NAME	NO	NAME OF FACILITY	LOCATION	CATCHMENT AREA		DISCHARGE		SEDIMENT DISCHARGE		RETURN PERIOD	HEIGHT OF MAIN DAM		DESIGN SLOPE OF RIVER		DETAINED VOLUME		CONTROLE VOLUME	
MERAPI	11	C.D. K.PUTIH	K. PUTIH	8.5	KM^2	295	M^3/S	450	M3/S	100 year	10	m	4.3	%	104000	M3	72.400	M3
MERAPI	12	C.D. K. PUTIH	K. PUTIH	7,9	KM^2	230	M^3/S	345	M3/S	100 year	2	m	4.5	%	27000	M3	58.400	M3
MERAPI	13	C.D.K.PUTIH	K. PUTIH	7.7	KM^2	67.65	M^3/S	101.5	M3/S	100 year	2	m	4.5	%	25000	M3	71.400	M3
MERAPI	14	C.D.K. JURANG JERO	K.JURANGJERO	6.48	KM^2	173	M^3/S	260	M3/S	100 year	5	m	4.5	%	45000	M3	71400	M3
MERAPI	15	C.D.K. KRASAK	K. KRASAK	24	KM^2	585	M^3/S	878	M3/S	100 year	4	m	3	%	160000	M3	160000	M3
MERAPI	16	C.D.K.KRASAK	K. KRASAK	23	KM^2	562	M^3/S	843	M3/S	100 year	7	m	3	%	?	M3	7120000	M3
MERAPI	17	C.D.K. BEBENG	K. BEBENG	6	KM^2	190	M^3/S	280	M3/S	100 year	10.5	m	4	%	163000	M3	163000	M3
MERAPI	18	KONS.DAM.K.BEBENG	K.BEBENG		KM^2	190	M^3/S	285	M3/S	100 year	8	m	4	%	-	M3		M3
MERAPI	19	KONS.DAM.K.BEBENG	K. BEBENG		KM^2	190	M^3/S	280	M3/S	100 year	5	m	4	%	-	M3		M3
MERAPI	20	C.D.K.BEBENG	K.BEBENG	8	KM^2	200	M^3/S	250	M3/S	100 year	12	m	3.5	%	396000	M3	396000	M3

DISASTER RECORD

FORM-1-1

1.DISASTER

a. Kind of Disaster: DEBRIS FLOW

b. Location: PROVINCE: AAA | KABUPATEN: BBB | KECAMATAN: CCC | DESA: DDD

c. Date of Occurence: 93.11.29

d. Time: 12:12

e. Duration:

2.RIVER / STRUCTURES

a. Name of River: ABC | BRANCH: DEF | SUB BRANCH: GHI | SUB SUB BRANCH: JKL

b. Kind of Structure:

c. Kind of Damages:

3.CAUSE OF DISASTER

a. Cause: HEAVY RAIN

b. Discharge / Water Level: WATER DISCHARGE: | WATER LEVEL: | SEDIMENT DISCHARGE: 20000

c. Rain Fall: TOTAL: 300 | 24HR: 250 | 1HR: 50 | INTENSITY:

4.DAMAGE

a. Innundation Area:

b. Duration of Innundation:

c. Traffic Facilities: 1 BRIDGE

d. Sabo Facilities: NON

e. Total of Victim: 3

5.COUNTERMEASURES BEFORE DISASTER

1 SABO DAM

6.EMERGENCY COUNTERMEASURES

a. Type of Works:

b. Budget:

c. Other Donation:

7.PROPOSAL COUNTERMEASURES

a. Type of Works:

b. Estimated Budget:

c. Other:

8.OTHER IMPORTANT RECORDS

THIS IS A SAMPLE DATA

DATA SUPPLIER: TOSHIAKI UDONO

DATE OF INVESTIGATION: 93.11.29

⑥ 現地調査

⑥－1　ハウゼアにおける地すべり対策

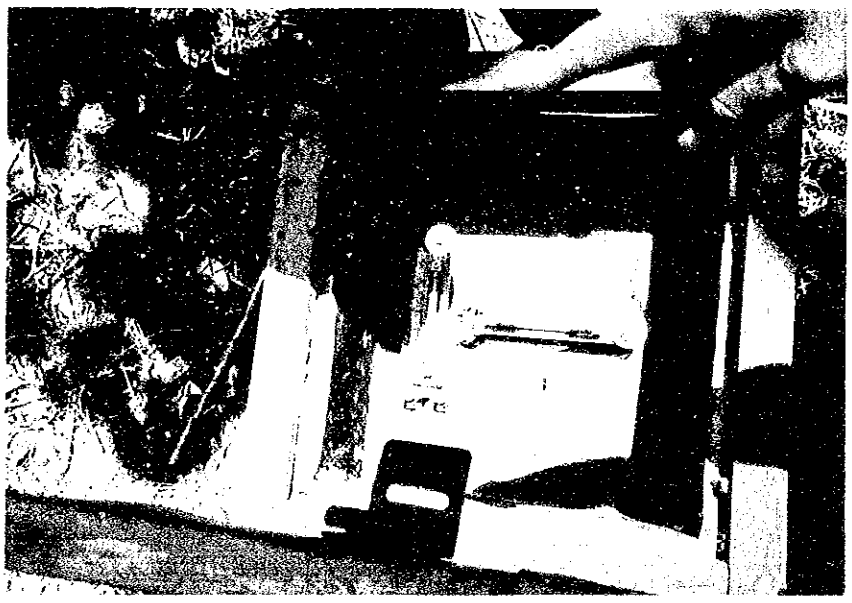
家屋を巻き込んだ大きな地すべり地で、村の幾つもの家屋に地すべりによるクラックが確認される。雨期の後半に移動量が多いことから、降雨に影響されていると思われるが、各家に設けられた生活用水や食用のコイのためのため池も大きな要因と考えられている。

現地調査の状況

地すべりによってクラックの入った家

地すべりの一要因と考えられる各家に設けられたため池

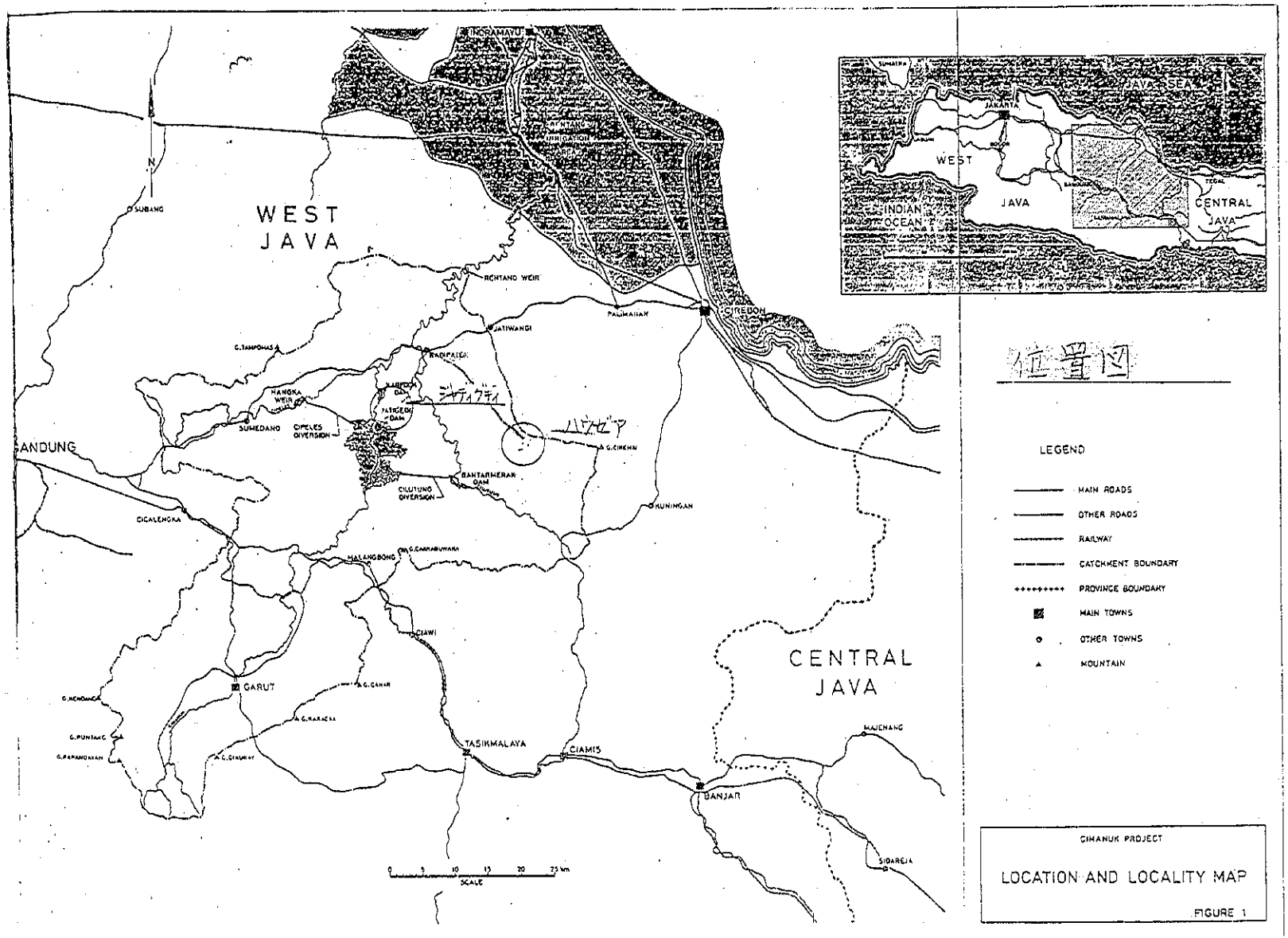
地すべり調査のための傾斜計



地すべり地の地下水位計

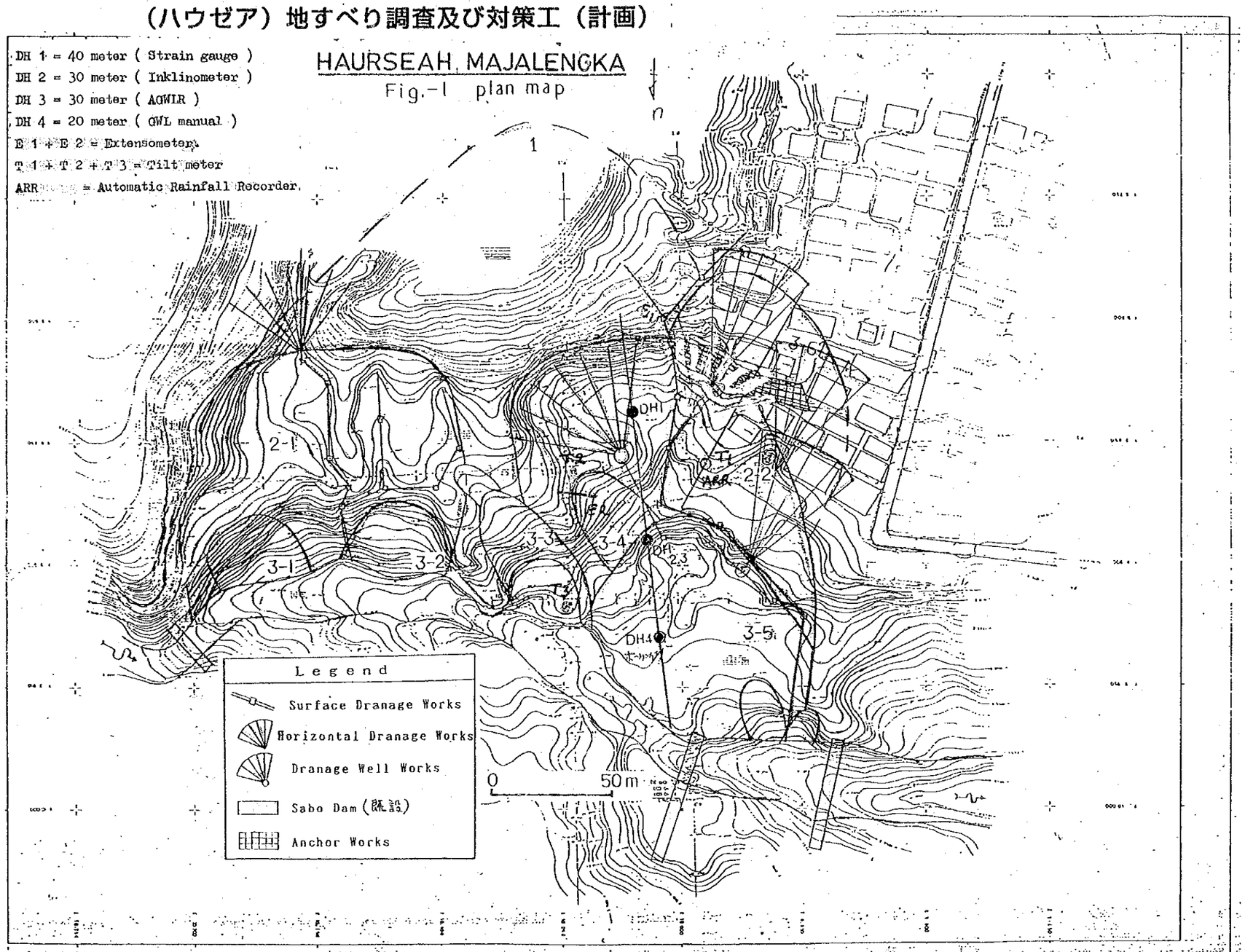
雨 量 計

地すべり地に設置した伸縮計（中央 白い棒）


WEST
JAVA
CENTRAL
JAVA
INDRAMAYU
SUBANG
CIREBON
JATIWANGI
RENTANG WEIR
RAJADESA
HANOKA WEIR
SUMEDANG
CIPELES DIVERSION
CIRAHAB DAM
PATROEM DAM
BANDUNG
CIGALENGKA
BANTARMERAN DAM
CILUTUNG DIVERSION
G.CIREMAI
RUNINGAN
MALANGBONG
G.CARABUWANA
CIAWI
GARUT
TASIKMALAYA
CIAMIS
MAJENANG
BANJAR
SIDAREJA
SCALE
JAVA SEA
JAKARTA
INDIAN OCEAN
SUMATRA
BOGOR
TEGAL
位置図
LEGEND
MAIN ROADS
OTHER ROADS
RAILWAY
CATCHMENT BOUNDARY
PROVINCE BOUNDARY
MAIN TOWNS
OTHER TOWNS
MOUNTAIN
CIMANUK PROJECT
LOCATION AND LOCALITY MAP
FIGURE 1

（ハウゼア）地すべり調査及び対策工（計画）

DH 1 = 40 meter (Strain gauge)
DH 2 = 30 meter (Inklinometer)
DH 3 = 30 meter (AGWLR)
DH 4 = 20 meter (GWL manual)
E 1 + E 2 = Extensometer
T 1 + T 2 + T 3 = Tilt meter
ARR = Automatic Rainfall Recorder



HAURSEAH MAJALENGKA

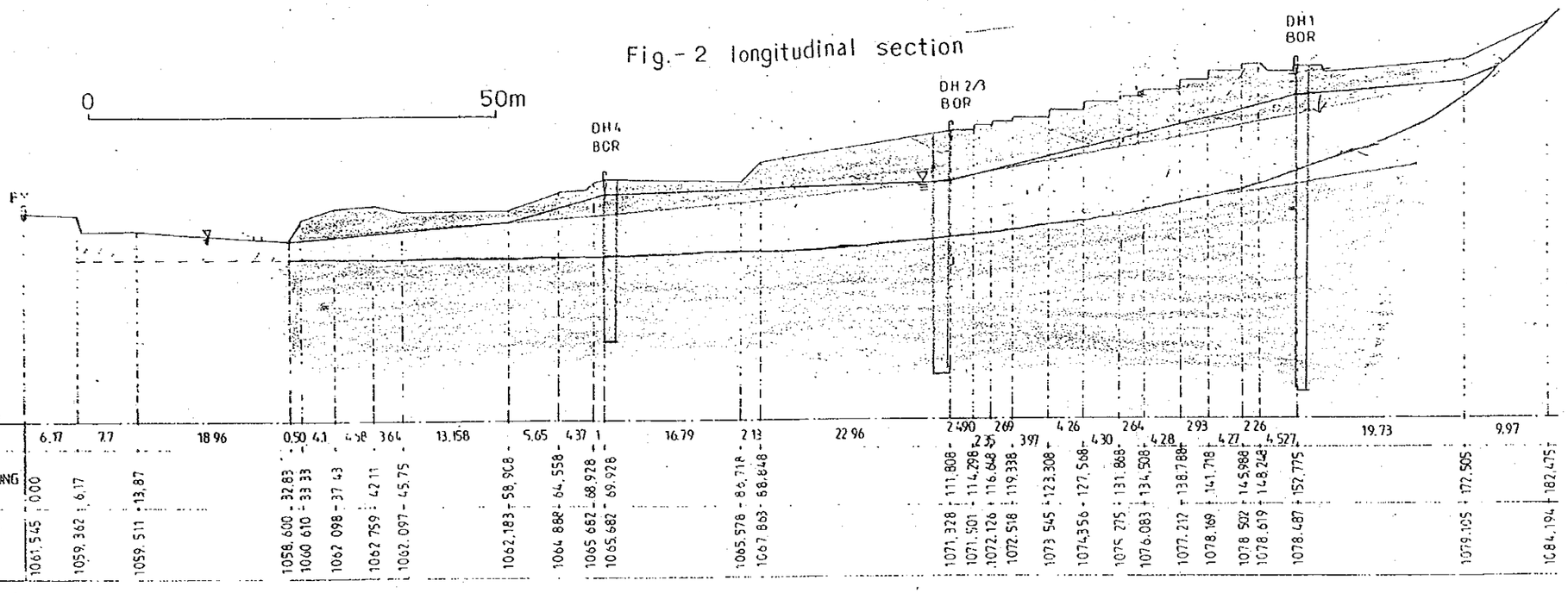


Fig.- 2 longitudinal section

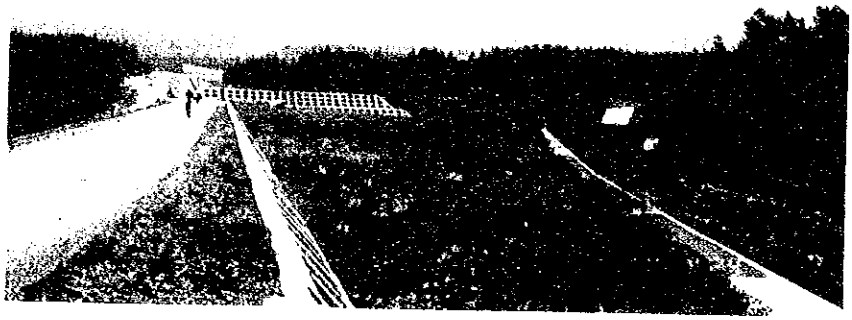
▨ *Lapisan tanah penutup, mengandung boulder andesit abu² hitam, ϕ 5 cm – 1 meter.*

☐ *Lapisan : silt stone, agak lapuk, agak lunak abu².*

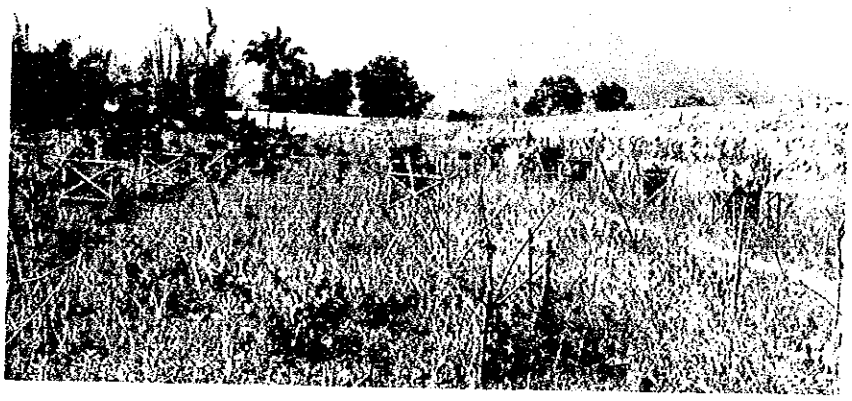
▩ *Lapisan clay stone, abu-abu kehitoman, agak keras.*

⑥－２　メラピ火山における土砂対策および試験現場

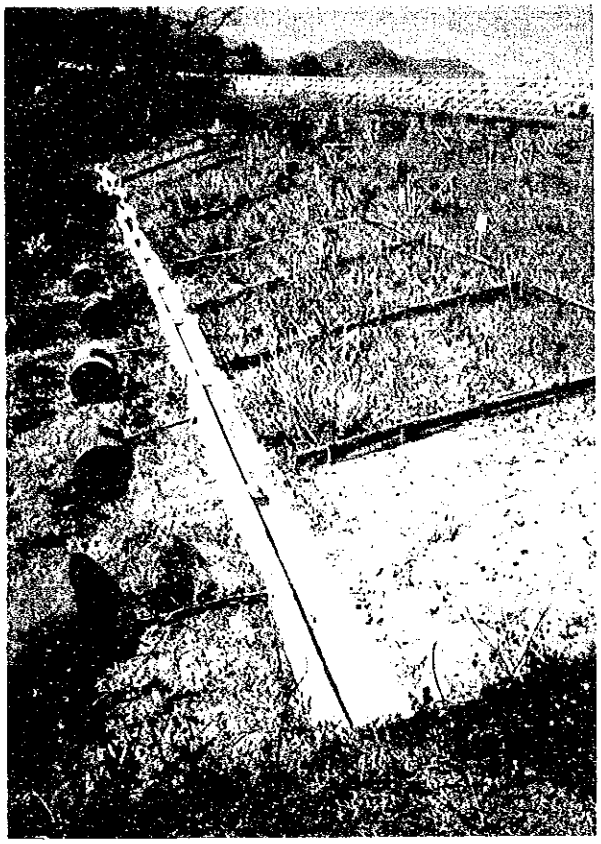
メラピ火山と道流護岸堤



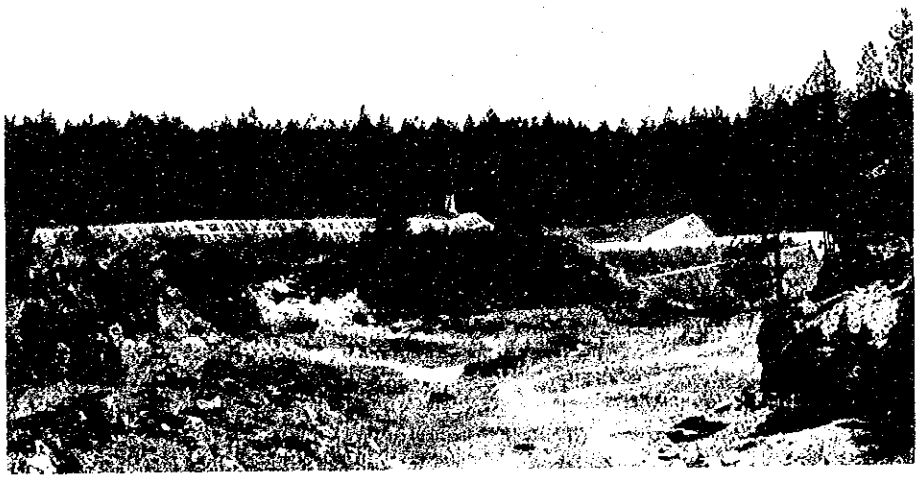
植生調査（樹種比較）

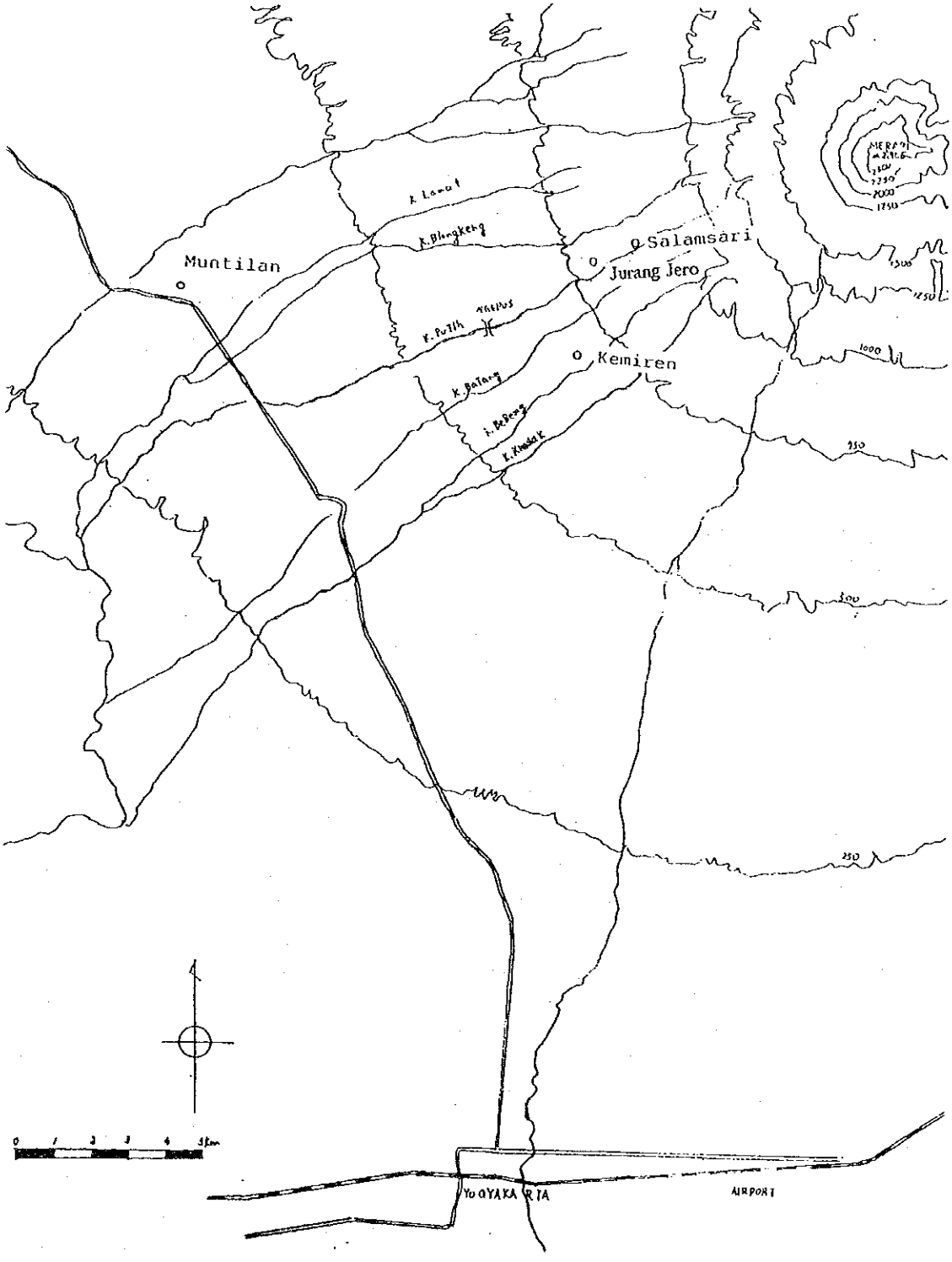


植生調査（植生ごとの水と土砂の流出量の比較）



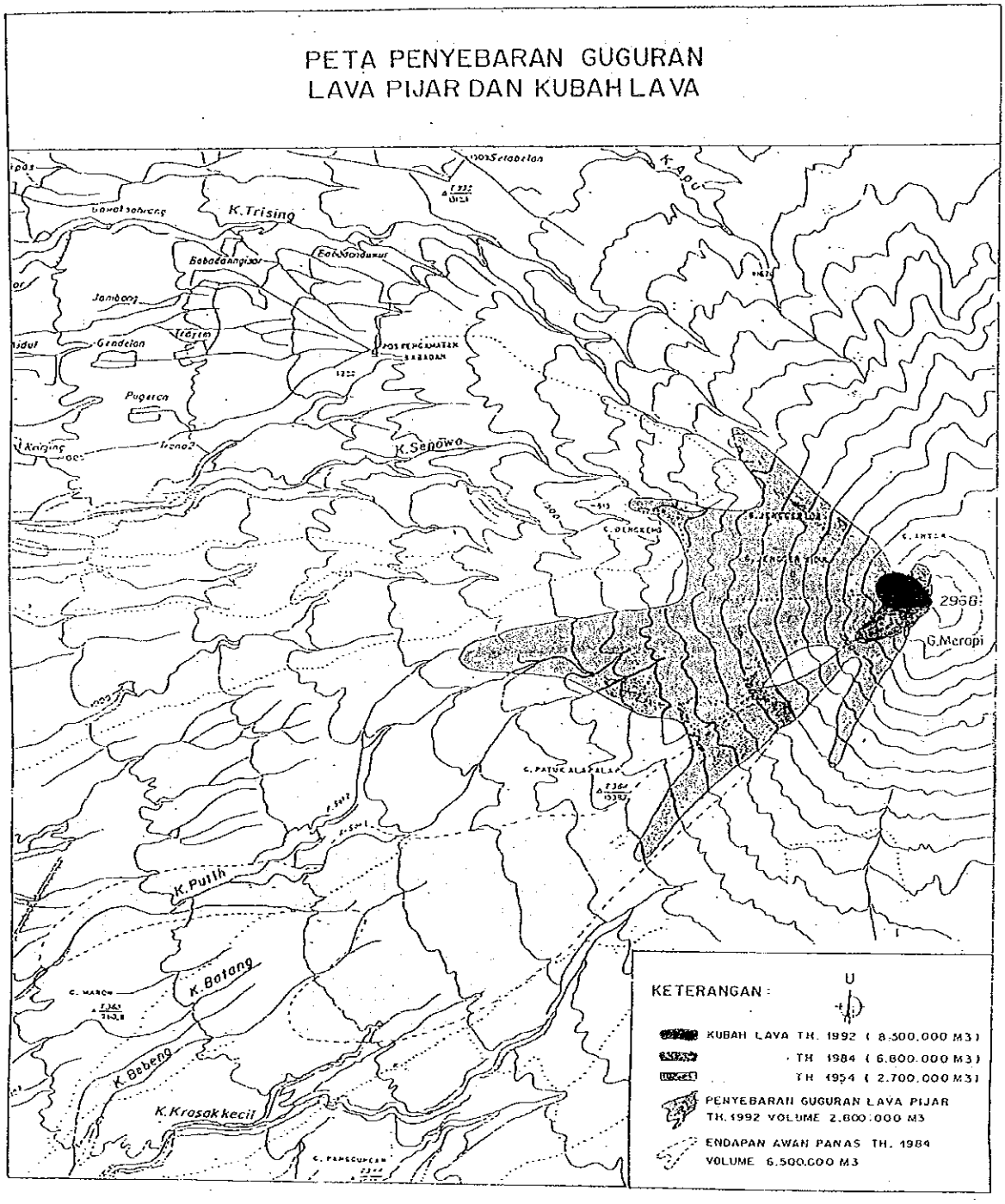
土石流予警報システム



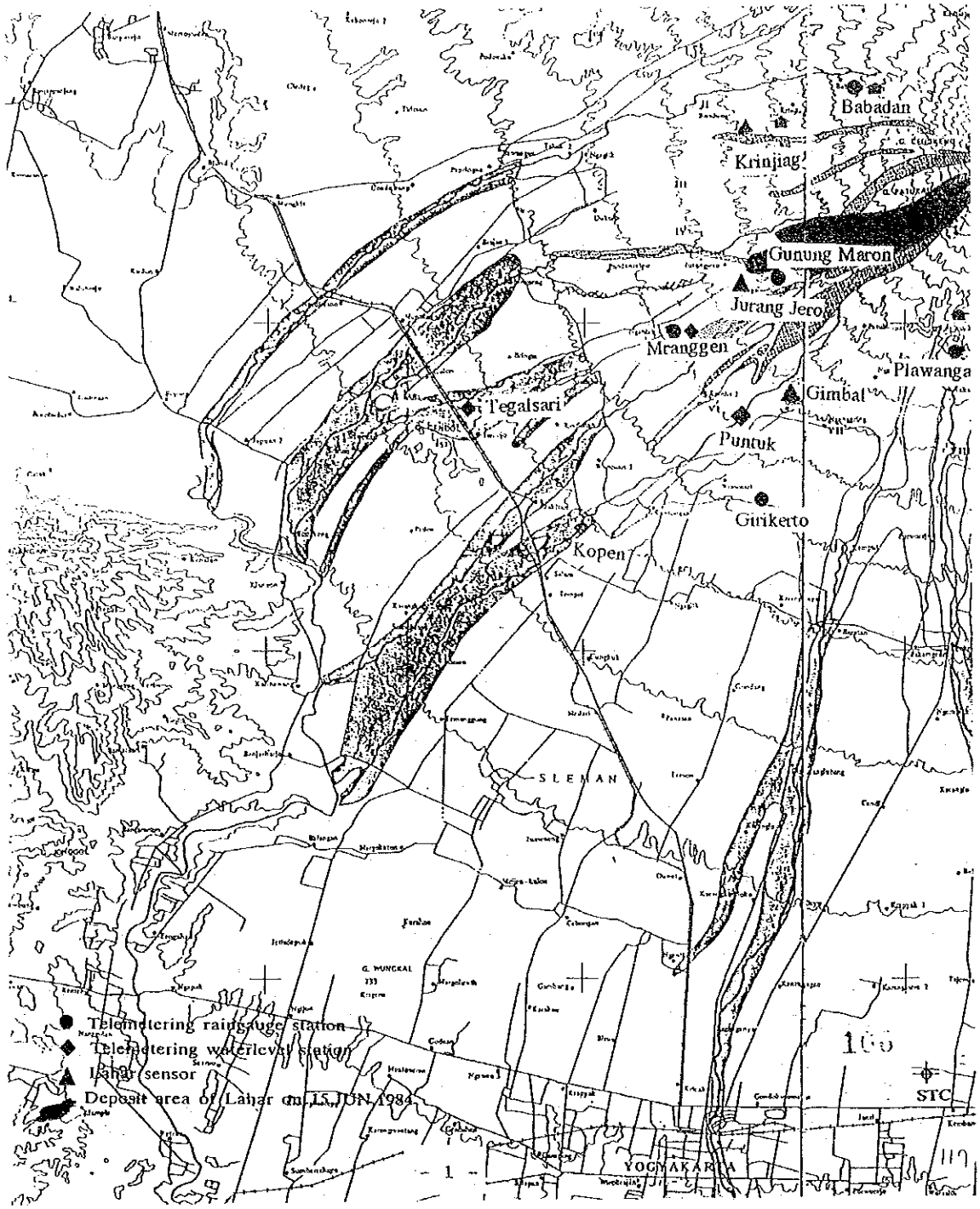

Muntilan
Salamsari
Jurang Jero
Kemiren
YOGYAKARTA
AIRPORT

現地視察位置図

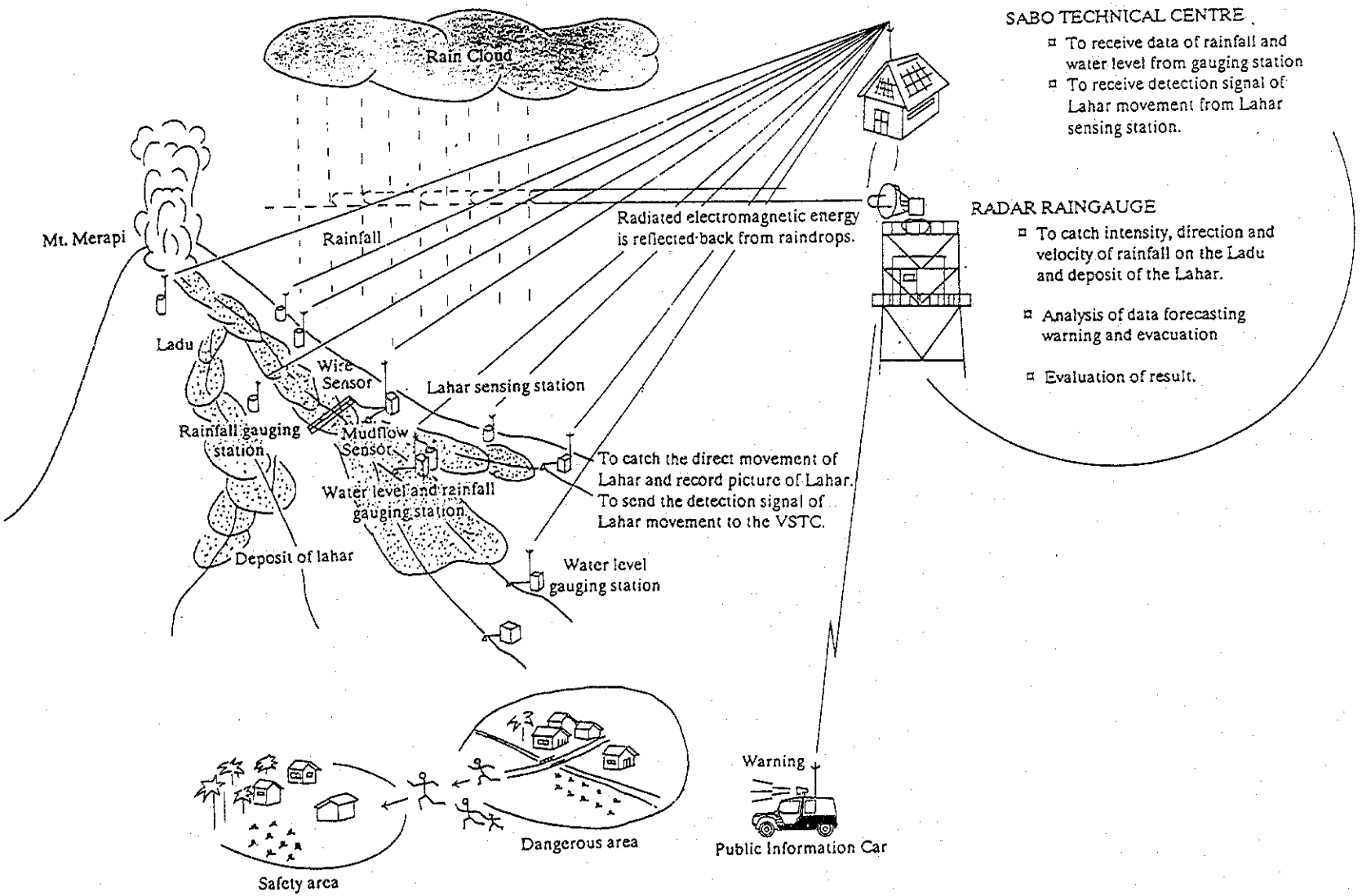
過去の土石流災害図


PETA PENYEBARAN GUGURAN
LAVA PIJAR DAN KUBAH LAVA
K. Trising
K. Senowo
K. Putih
K. Batang
K. Bebeng
K. Krasak kecil
2968
G. Merapi
KETERANGAN :
U
KUBAH LAVA TH. 1992 (8.500.000 M3)
TH 1984 (6.600.000 M3)
TH 1954 (2.700.000 M3)
PENYEBARAN GUGURAN LAVA PIJAR
TH. 1992 VOLUME 2.600.000 M3
ENDAPAN AWAN PANAS TH. 1984
VOLUME 6.500.000 M3

予警報システム位置図


Babadan
Krinjing
Gunung Maron
Jurang Jero
Mranggen
Plawanga
Gimbal
Tegalsari
Puntuk
Giriketo
Kopen
SLEMAN
G. MERAPI
STC
YOGYAKARTA
Telemetering rainguge station
Telemetering waterlevel station
Lahar sensor
Deposit area of Lahar on 15 JUN 1984

メラピ　火山麓土石流予警報システム図



Vegetation Works（植生工試験箇所分布図）

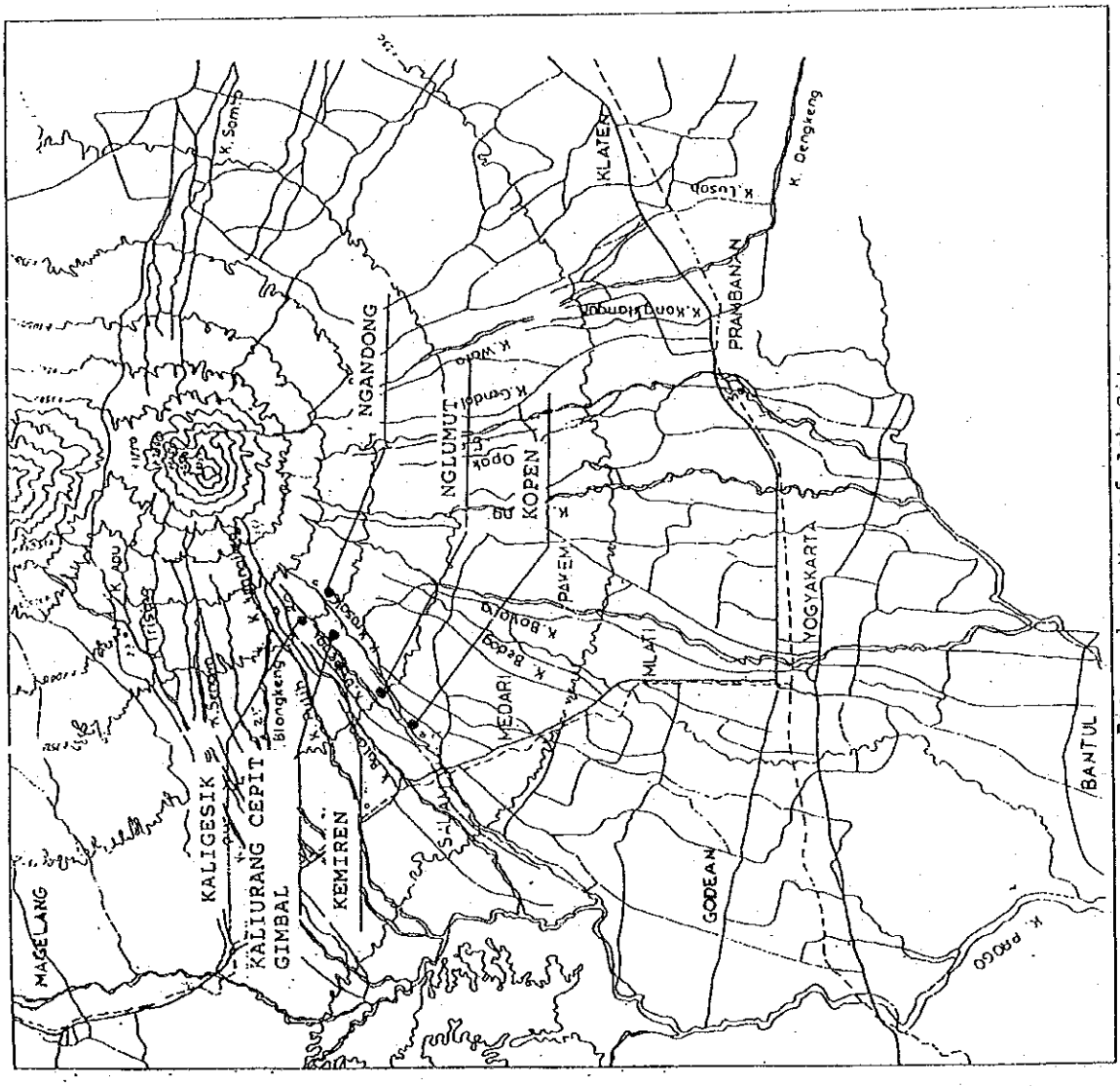


Fig. - 1 Map of Job Site

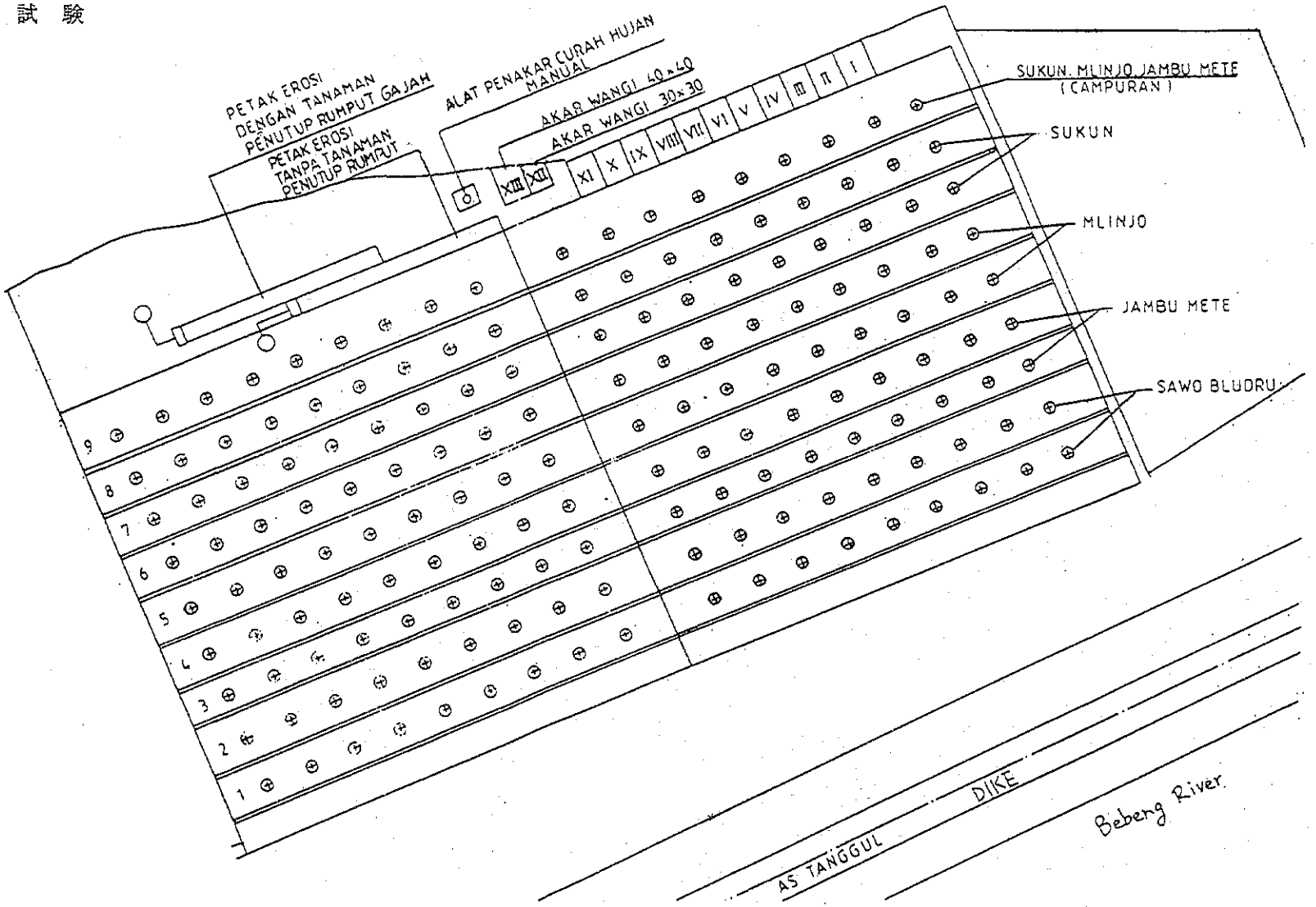
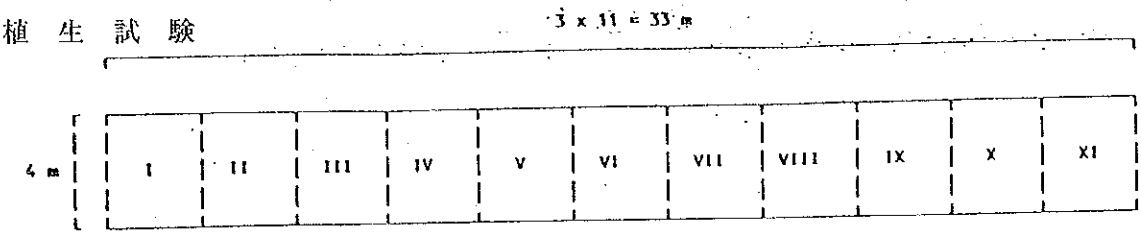


Fig. - 2 Kemiren job site

植 生 試 験



KETERANGAN :

NOMOR PLOT	JENIS RUMPUT	JARAK TANAM
I	Kolonjono	30 x 30
II	Gajah	30 x 30
III	Alang-alang	30 x 30
IV	Raja	30 x 30
V	Glagah	40 x 40
VI	Kolonjono	40 x 40
VII	Alang-alang	40 x 40
VIII	Gajah	40 x 40
IX	Raja	40 x 40
X	Glagah	30 x 30
XI	Tanpa tanaman	---

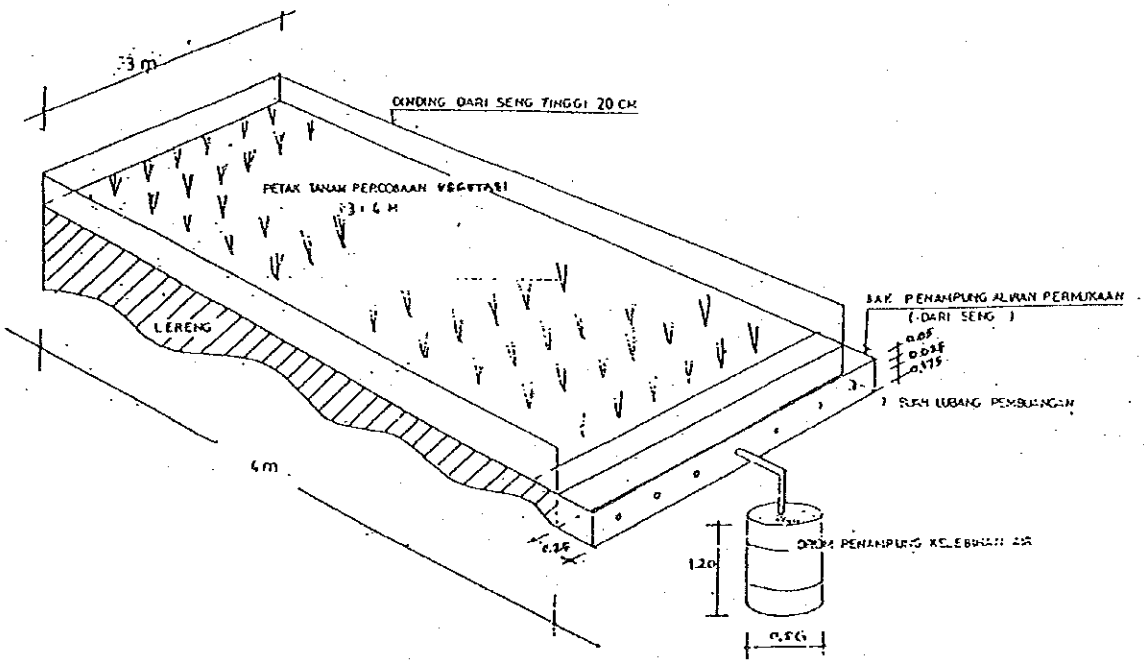


Fig. - 3 The experiment about grasses

植 生 試 験

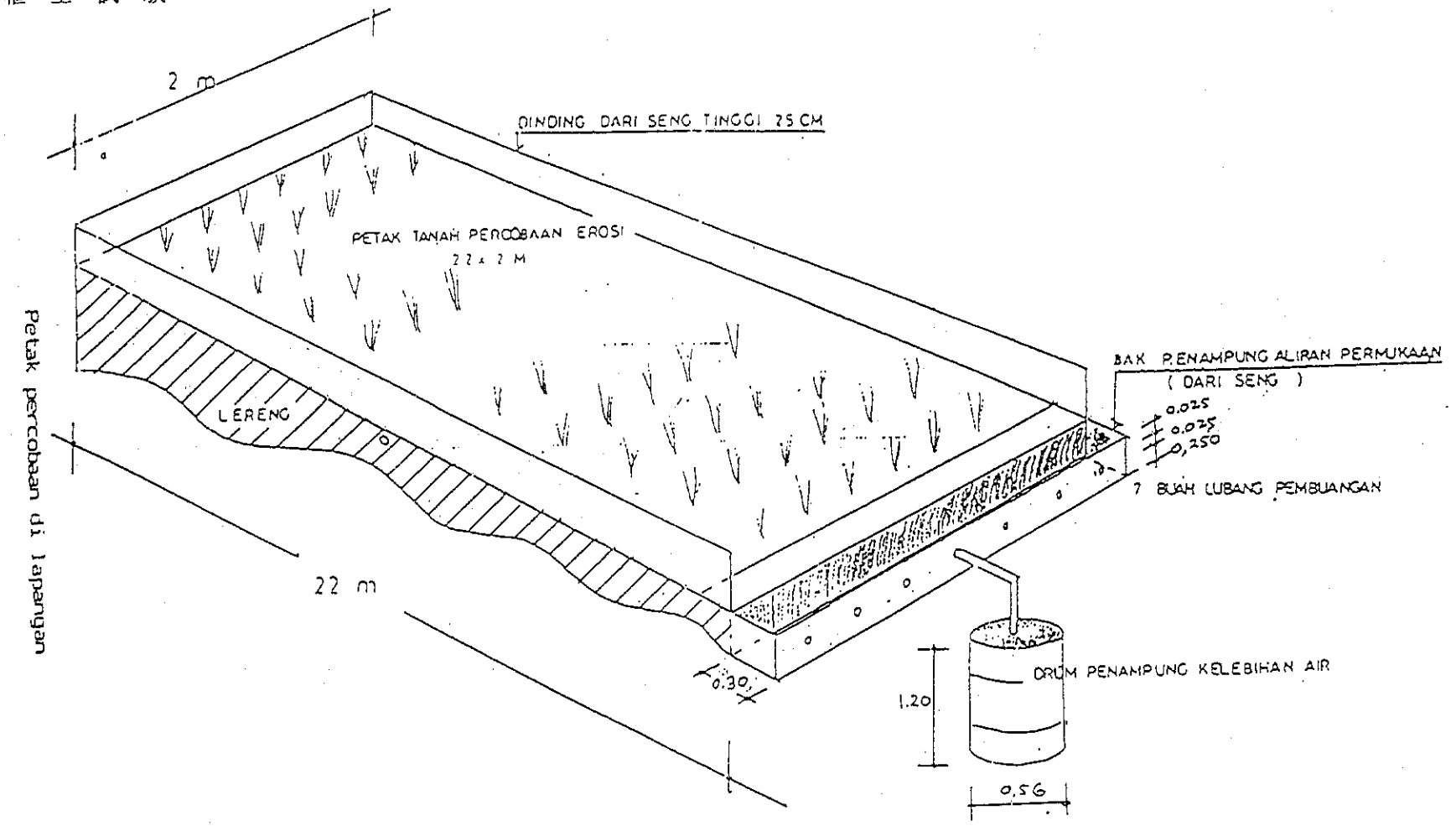


Fig. - 4 The experiment about sheet erosion

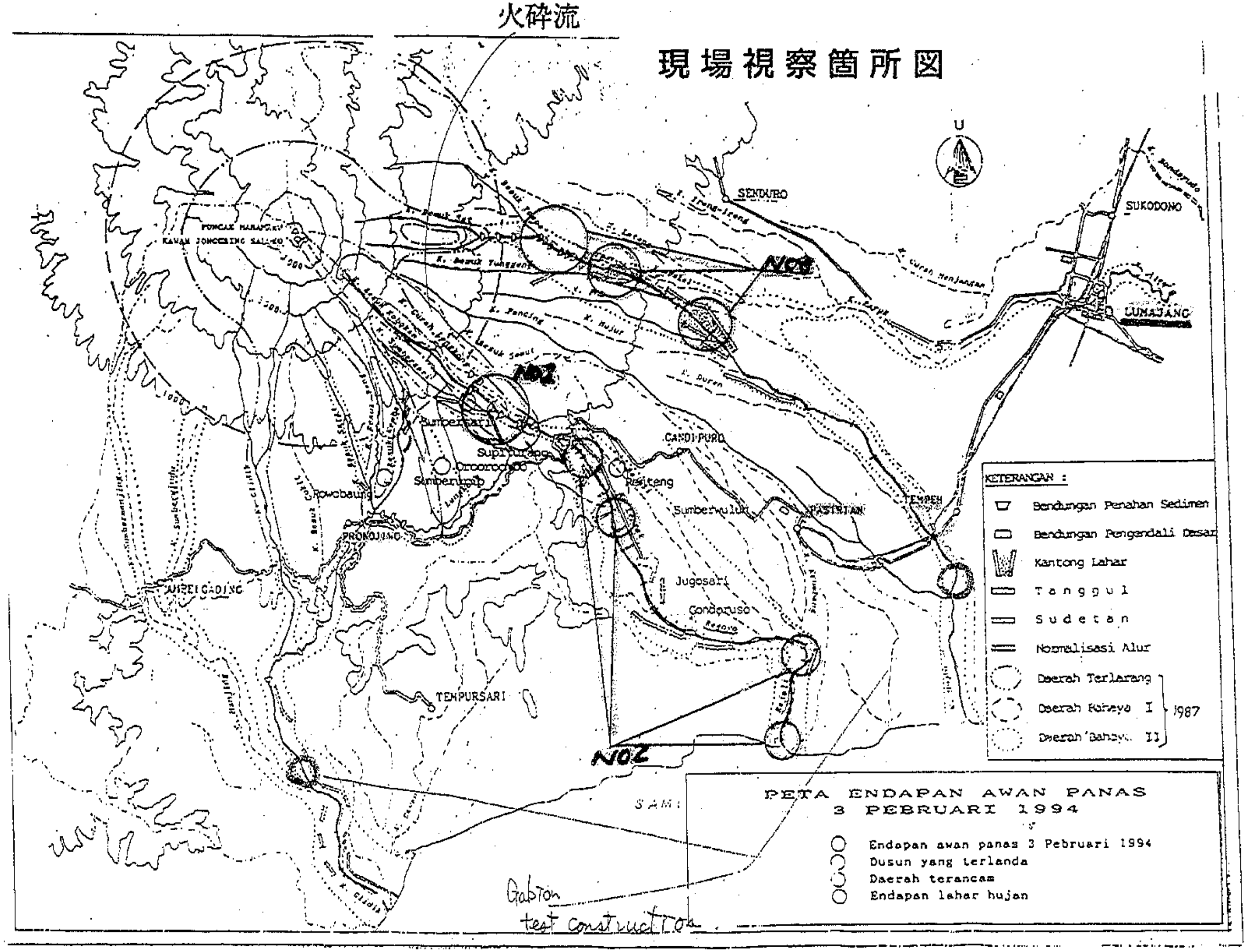
⑥－3　94年スメル火山噴火災害状況

94年3月に噴火し、大規模火砕流災害が発生したスメル火山南西麓のコバアン川を中心に視察した。噴火後、火砕流堆積物の流出による大規模土石流が発生し、コバアン第7、第5ダムが壊滅的ダメージを受けた。このダムは技術開発項目の1つである、ダムの天端磨耗対策の試験施工サイトとなっており、復旧の進捗状況によっては、計画の見直しを考えなければならないが、現在、砂防技術センターの技術支援を受けた復旧工事が急ピッチで行われており、予定通り施工できる見通しである。

・ゴバアン川第7ダムの被災状況(下流より)
この上流に建設予定の主ダムの水通しに天端磨耗対策の試験施工を行う予定であった。

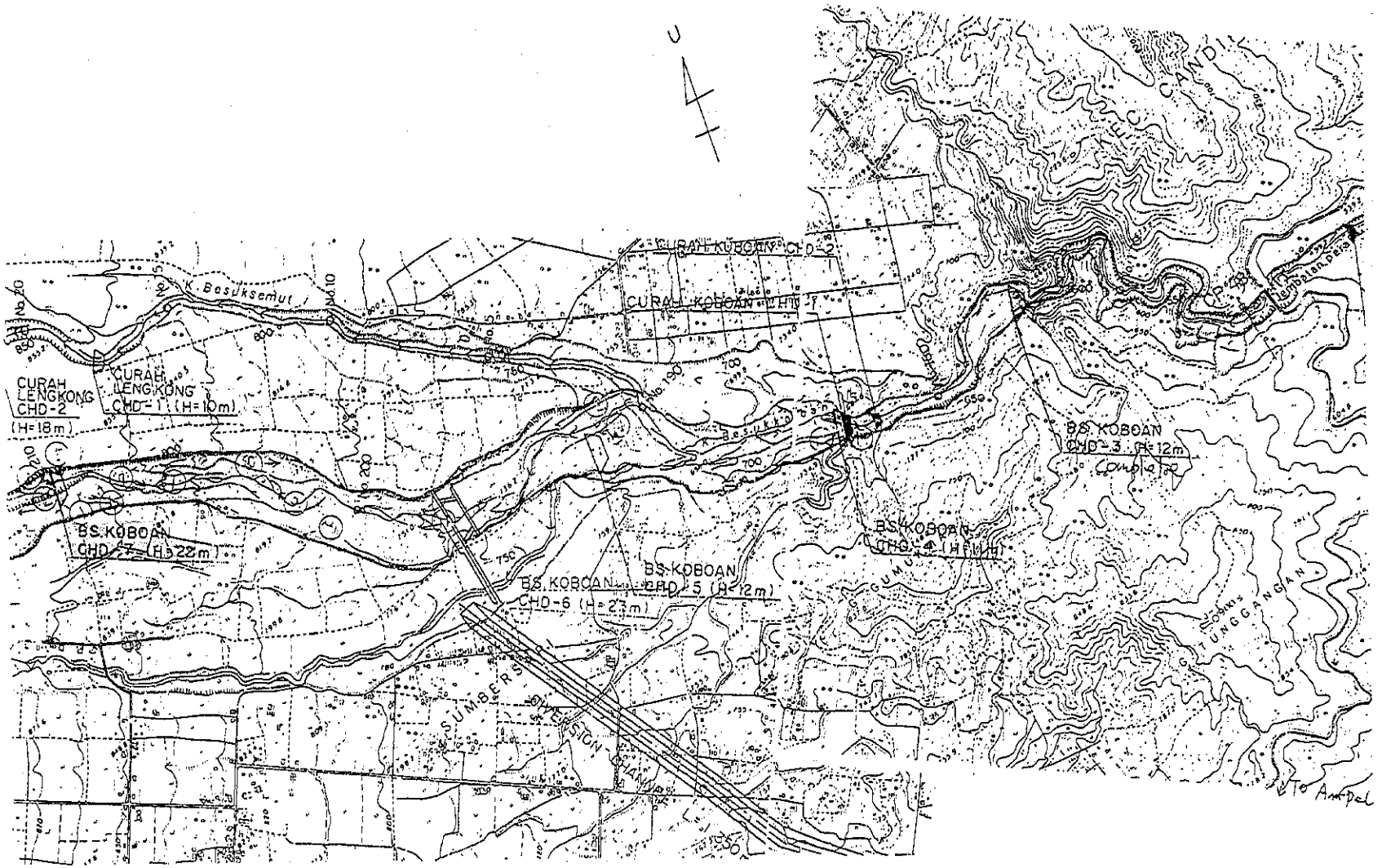
・ゴバアン川第7ダム(ソデより)

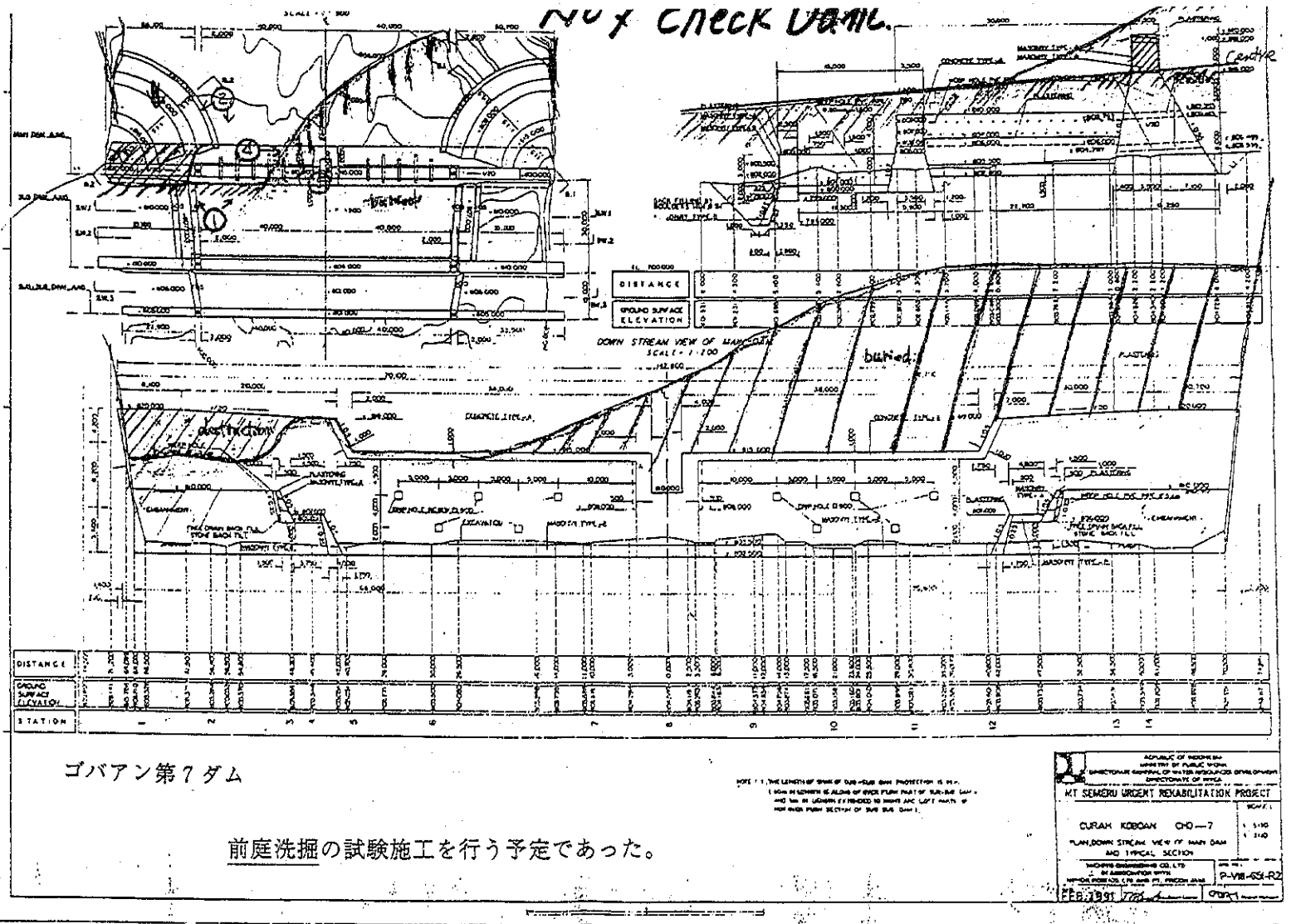
現場視察箇所図



火砕流
U
SENDURO
SUKODONO
LUMAJANG
PUNCAK MAHAMERU
KAWAH JONGGRING SALOKO
K. Besuk Tunggeng
K. Pancing
K. Mujur
K. Duren
K. Curah Menjangan
K. Besuk Semut
K. Curah Kobokan
K. Sumbersari
NO3
NO2
NO2
Sumbersari
Supiturang
Orcorcoro
Sumberurip
Rowobaung
PRONOJIWO
CANDIPURO
Pajiteng
Sumberwuluh
PASIRIAN
TEMPEH
Jugosari
Condoruso
K. Rejali
K. Glidik
AMPELGADING
TEMPURSARI
KETERANGAN :
Bendungan Penahan Sedimen
Bendungan Pengendali Dasar
Kantong Lahar
T a n g g u l
S u d e t a n
Normalisasi Alur
Daerah Terlarang
Daerah Bahaya I
Daerah Bahaya II
1987
PETA ENDAPAN AWAN PANAS
3 PEBRUARI 1994
Endapan awan panas 3 Pebruari 1994
Dusun yang terlanda
Daerah terancam
Endapan lahar hujan
Gabion
test construction

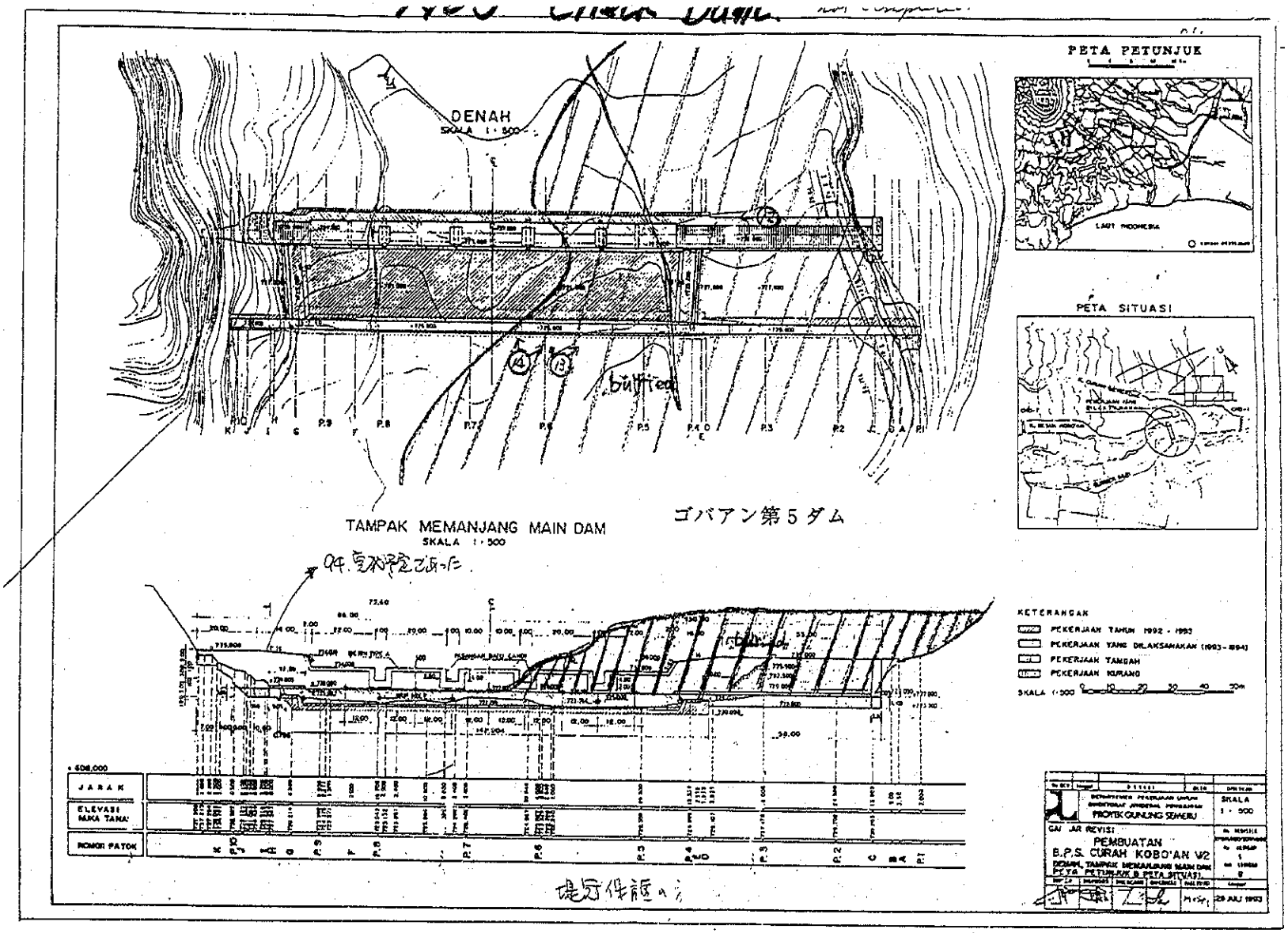
スメル火山南西麓　コバアン 第7、第5ダム





ゴバアン第７ダム

前庭洗掘の試験施工を行う予定であった。


DENAH
SKALA 1 : 500
TAMPAK MEMANJANG MAIN DAM
SKALA 1 : 500
ゴバアン第５ダム
PETA PETUNJUK
PETA SITUASI
KETERANGAN
PEKERJAAN TAHUN 1992 - 1993
PEKERJAAN YANG DILAKSANAKAN (1993 - 1994)
PEKERJAAN TAMBAH
PEKERJAAN KURANG
SKALA 1:500
JARAK
ELEVASI MUKA TANAH
NOMOR PATOK
PROYEK GUNUNG SEMERU
SKALA 1 : 500
PEMBUATAN
B.P.S. CURAH KOBO'AN V2
PETA PETUNJUK & PETA SITUASI
29 JULI 1993