

**SUPPORTING REPORT M**  
**PARTICIPATORY WORKSHOP**

# SUPPORTING-M : PARTICIPATORY WORKSHOP

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## **SUPPORTING-M PARTICIPATORY WORKSHOP**

### **1. OBJECTIVES OF WORKSHOP USING PCM**

The Project Cycle Management (PCM) was applied to the Study on flood control and landslide prevention in Tegucigalpa Metropolitan Area in the first and second field investigation stages. It was expected that the workshops, which are the highlight of PCM, would facilitate the formulation of the master plan that is acceptable and able to be implemented by the agencies concerned in Honduras. The PCM is a newly developed method to formulate, implement and maintain plans in a mutually understood and agreed manner among the participants from the various parties. The benefits and losses to those parties that are incurred by the plans may naturally vary, and sometimes their relation becomes opposite. The main objectives of holding the PCM workshop are summarized as follows:

- To examine the problems related to natural disaster prevention in the Metropolitan Area
- To collect various opinions and verify the Master Plan proposed through project dialogue, and
- To identify and establish strategic approaches to solve the problems from the various aspects.

Hence, the PCM is usually applied for the people benefited, local residents and implementing agencies of the projects. The implementation and operation of the natural disaster prevention project are widely diversified in functions and positions and need mutual understanding and cooperation among the various agencies concerned. In this respect, the PCM was introduced to the group of agencies that form the Steering Committee of the Study in the stage of a Master Plan.

### **2. ACTIVITIES AND SELECTION OF PARTICIPANTS**

#### **2.1 SELECTION OF PARTICIPANTS**

The selection of the participants for the workshop is an important process of the PCM procedure. Basically, it is advisable that the participants of the workshop comprise the representatives of beneficiaries, community directly affected by the project, relevant governmental agencies, experts, and funding agencies. Opinions and information from the residents and community directly affected by the project will be collected through questionnaires especially on Hurricane "Mitch".

The agencies selected as participants to the PCM workshop are shown in *Table M.2.1*. These agencies were selected as counterpart agencies in the stage of preliminary study.

#### **2.2 GENERAL GUIDANCE ON PCM**

Prior to the workshop, the guidance of the PCM method was conducted to the participants from the counterpart agencies on the first day of the workshop. In the guidance, the procedures and mechanisms of the PCM method were explained to the attendants by using the explanatory note on the Project Cycle Management prepared by FASID (Foundation for Advanced Studies on International Development) as well as a brief case study.

## 2.3 WORKSHOP USING PCM METHOD

The Workshop using Project Cycle Management (PCM) for the Master Plan Study on Flood Control and Landslide Prevention in Tegucigalpa Metropolitan Area was conducted pursuant to the programme shown in *Table M.2.2*. A series of the workshops was conducted mainly at SOPTRAVI's office in Barrio La Bolsa, Comayagua.

On May, two day's site visit in Choloma City was held in order to expand their knowledge on disaster prevention project. In Choloma City, the Flood and Sediment Control Project financed by Japan's Grant Aid has been executing.

The participants from six major related agencies are normally less than 10 members and only one group was organized so that all members be always able to participate together for discussion. The group was chaired by Mr. Yoshiaki Kaneko (Organization/Institution Expert of the JICA Study Team) with assistant moderator, Mr. Ryo Matsumaru ( Socioeconomy/Project Evaluation Expert of the JICA Study Team). The participants are listed in *Table M.2.3*.

## 3. PERFORMANCE OF WORKSHOP

### 3.1 PARTICIPATION ANALYSIS

#### 3.1.1 CATEGORIZATION OF GROUP

The group discussed on the relevant agencies to the natural disaster prevention project and listed up them. *Table M.3.1* shows a categorization of these agencies. Among these agencies, COPECO will be principal agencies which pays main roles for disaster prevention. AMDC and CODEM must also play the important role especially in case of emergency. SOPTRAVI is a major organization as an implementation agency.

#### 3.1.2 DETAILED TARGET GROUP ANALYSIS

In the detail participation analysis, CODEM-DC(AMDC) was identified as a target group that may be solved under the project. The specific issues of the target group such as differing needs, potentials and implications of planning project were extracted as shown in *Table M.3.2*.

### 3.2 PROBLEM ANALYSIS

The first step of this method is to identify a core problem, which is a starting point of the analysis. As the problems of natural disaster prevention in the Metropolitan Area are so complex and complicated, several core problems were selected to be analyzed.

The participants identified the following three major core problems:

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Core problem

---

- Weak institutional framework
  - Residents suffer flood damage
  - Residents are threatened with landslide, steep slope failure and debris flow risk
-

The outputs in this stage are shown in *Figures M.3.1, M.3.2 and M.3.3.*

**3.3 OBJECTIVE ANALYSIS**

The approaches identified through the workshop are as follows:

Approach
- Institutional Strength Approach
- Flood Mitigation Approach
- Landslide Prevention/Mitigation Approach

The results of questionnaires for residents on Hurricane "Mitch" were also considered to identify the approaches.

The approaches were identified from the objective trees shown in *Figures P.3.4, M.3.5 and P.3.6.*

**3.4 PROJECT DESIGN MATRIX**

Based on the results of successive analysis such as problem analysis and objective analysis, the PDM (Project Design Matrix) was prepared by all members as shown in *Table M.3.3, M.3.4 and M.3.5.* The project purpose identified by the participants of the workshop is that not only mitigation of flood damage but also mitigation of landslide damage. In order to achieve the project purpose, the following outputs were identified through the project dialogue among the participants.

Outputs to achieve the Project Purpose on the PDM

Institutional Aspect	Flood Mitigation Aspect	Landslide Mitigation Aspect
Inter-institutional body be organized	Adequate flood mitigation facilities be provided	Adequate landslide control /mitigation facilities be provided
Establishment of information system	Land use in flood risk area be properly regulated	Land use in landslide risk area be properly regulated
Personnel Training	Flood forecasting and warning system be installed	Monitoring/observation facilities be installed

**4. RESULTS OF INVESTIGATION OF RESIDENTS CONSCIOUSNESS**

In order to incorporate resident’s opinion into Master Plan for flood control and landslide protection, the resident’s consciousness on natural disaster prevention were investigated by means of questionnaire. The answers were mostly based on the experience of Hurricane Mitch and other major disasters. The fact-finding on the spot were held in thirty six (36) colonias and barrios affected by flooding and in eleven (11) colonias and barrios by landslide/slope

failure due to Hurricane Mitch, respectively.

The locations of the fact-finding on the spot are as follows:

For flooding:

- |                             |                            |                       |
|-----------------------------|----------------------------|-----------------------|
| 1.Kennedy                   | 13. Villa Olimpica         | 24.Mateo              |
| 2.Las Vegas                 | 14.La Haya                 | 25.Miramesi           |
| 3.Loarque                   | 15.El Reparto              | 26.Los Robles         |
| 4.El Chile                  | 16.La Guillen              | 27.Barrio Abajo       |
| 5.Las Mercedes              | 17.La Travesia             | 28.Estado Unidos      |
| 7.Villa Nueva               | 18.Las Brisas              | 29.La Concordia       |
| 8.San Juan del Norte        | 19.Flor de Campo           | 30.Las Palmas         |
| 9.Las Vegas d ela Primavera | 20.Suazo Cordoba           | 31.Las Torres         |
| 10.La Soto                  | 21.Santa Fe                | 32.Betania            |
| 11.El Sitio                 | 22.Nueva Suyapa            | 33.Concepcion         |
| 12.El Carrizal              | 23.Buenos Aiares           | 34.El Hato de Enmedio |
| 35.La Era                   | 36.Las Faldas del Pedregal |                       |

For landslide:

- |               |                       |
|---------------|-----------------------|
| 1.El Chile    | 7.Miramesi            |
| 2.Flor Campo  | 8.El Eden             |
| 3.Venezuela   | 9.Soto                |
| 4.La Cabana   | 10.Valle de Amatareca |
| 5.Sagastume   | 11.Aldea Carpintero   |
| 6.El Porvenir |                       |

The investigated major items are as follows:

- Information sources about Hurricane Mitch and evacuation activity
- Awareness that they live in the flood or landslide risk area
- Necessity of improvement of structural measures and nonstructural measures
- Intention of resettlement from natural disaster risk area

Answers of each questionnaire are as follows:

**(1) For Flooding**

Q: Do you know that you live in the flood risk area?

A: Fifty (50) % of the answerer says yes and the rest fifty (50) % doesn't know. It seems that the latter have not experienced the flooding in their places.

Q: Why do you live there though you know that your house is located in the flood risk area ?

A: Almost of them do not have other places to live.

Q: Why did not you know that you live in the flood risk area?

A: 65% of them didn't have any experience in the past. The rest could not get information or was not informed.

Q: Did you know the Hurricane Mitch would hit the metropolitan area?

A: 40 % of them knew and the rest didn't know.



Q: What was the source of information about attack of hurricane?

A: 60% was from TV, 30% from radio and from public organization was quite few.

Q: Did you evacuate during Hurricane Mitch?

A: 50% of them evacuated and the rest didn't evacuate.

Q: What was the reason for decision of evacuation?

A: 36% is due to weather forecast or evacuation order and 54% is due to their own judgment.

Q: What was the information source of weather forecast or evacuation order?

A: 90 % was TV or radio.

Q: Weather forecast and evacuation order were made adequately?

A: 80% of them answered Yes.

Q: Do you think that method of the information communication by weather forecasting and evacuation order should be improved?

A: All of them answered Yes.

Q: Do you think the land regulation is necessary?

A: 87% answered Yes.

Q: What is the desirable design scale of flood control ?

A: Most people answered under 25 years return period.

Q: What is necessary for disaster prevention

A: Risk map and plan of evacuation route.

Q: What is the desirable method of communication about evacuation order?

A: The first is by TV and the second is Radio.

Q: Do you have an intention to move to safety place from flood risk area?

A: 55% answered Yes without any condition and 44% answered Yes with conditions of location and compensation.

## **(2) For Landslide and Slope Failure**

Q: Did you know that you lived in the risk area of landslide or slope failure?

A: 80% people didn't know and 20% answered Yes.

Q: Did you know that Hurricane Mitch would attack metropolitan area?

A: 38% answered Yes and 62% answered No.

Q: Did you evacuate when Hurricane attacked metropolitan area?

A: 64% evacuated and the rest did not evacuate.

Q: What was the information source about weather forecast and evacuation order?

A: Most is TV or radio.

Q: Do you think that method of information communication about weather forecast and evacuation order should be improved?

A: 60% of people answered Yes.

Q: Is it necessary to take any countermeasure against landslide and slope failure?

A: 35% answered Yes and the rest did not answer.

Q: Is it necessary to strengthen the land use regulation?

A: 90% answered Yes and 10% answered "not necessary".

Q: What is the most appropriate method of information communication?

A: TV and radio is 80%.

Q: Do you need more detailed information about landslide and slope failure risk in the resident area?

A: 98% answered Yes.

Q: How do you act when you receive the evacuation order?

A: 65% will evacuate immediately and the rest will evacuate considering surrounding conditions and past experience.

Q: Do you move when you will be informed that you live in the risk area?

A: 33% will move without any condition and the rest will move depending on conditions of resettlement place and compensation.

Q: Do you have any intention to pay personally for implementation of the disaster prevention project and how much do you agree to pay?

A: 75% agree to pay about 200 Lps per year and the rest have no intention to pay.

Based on the above mentioned results of investigation, the followings were confirmed:

- 1) TV and radio are very important and effective as means of information communication and they will be major means of information communication with more detailed and adequate information in future.
- 2) Most of the residents know only through their past experience that they live in the natural disaster risk area. Hence it is quite important to make flood and land slide risk map.
- 3) Land use regulation should be strengthened. The most residents recognize its necessity.
- 4) As for resettlement of the residents, only fifty and thirty percent of the residents will move without any condition in the flood risk area and land slide risk area, respectively.

Resettlement of the residents will be very difficult problem. Hence the evacuation system should be prepared.

## **5. CONCLUSION**

- 1) Participatory workshop has been effectively done with participation of counterpart personnel from COPECO, SETCO, SOPTRAVI, AMDC/CODEMDC and SANAA. However, participation from SERNA, who will perform an important role on disaster prevention, was not realized. It is recommended that SERNA should be involved in inter-institutional organization for disaster prevention in Metropolitan area as SERNA is actually in charge of basin management, hydro-meteorological observation and landslide prevention.

- 2) Through the full discussion among the counterpart agencies, major issues on disaster prevention problems were recognized.

**Table M.2.1 Agencies Concerned with Project**

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Organization	
1. National Emergency Committee	COPECO
2. Municipal Emergency Committee	CODEM
3. Ministry of the Public Works, Transportation and Housing	SOPTRAVI
4. Ministry of Natural Resources and Environment	ERNA
5. National Service Authority for Water Supply and Sewerage	SANAA
6. Municipality of the Central District	AMDC
7. Ministry of Technical Cooperation	SETCO
8. JICA Study Team	

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**Table M.2.2 Program of PCM Workshop**

Date / Place	Items to be Discussed	Participants
Feb. 20 10:00~12:00 SOPTRAVI	Opening Speech, Welcome Message General guidance on PCM Introduction of Participants	Team Leader Mr.Kaneko Each member
Feb. 21 10:00~12:00 SOPTRAVI	Preliminary Participation Analysis	all members
Feb. 22 10:00~12:00 SOPTRAVI	Problem Analysis (flood)	all members
Apr. 25 10:00~12:00 SOPTRAVI	Problem Analysis (landslide)	all members
May 2 10:00~12:00 SOPTRAVI	Objective Analysis (flood)	all members
May 3 10:00~12:00 Choloma Site	Site visit (Choloma Flood /Sediment Control Project)	all members
May 4 10:00~12:00 Choloma Site	Site visit (Choloma Flood /Sediment Control Project)	all members
May 8 10:00~12:00 SOPTRAVI	Objective Analysis (landslide)	all members
Jun.28 10:00~12:00 SOPTRAVI	Problem Analysis and Objective Analysis Explanation of Master Plan Alternative analysis	steering committee members
Aug.28 10:00~12:00 SOPTRAVI	Problem Analysis (Institution)	all members
Set. 11 10:00~12:00 SOPTRAVI	Demarcation of role for disaster prevention	all members
Set. 18 10:00~12:00 AMDC	Matrix of function and assignment of Disaster prevention	all members
Set. 25 10:00~12:00 COPECO	Objective Analysis (Institution)/ Preparation of Project Design Matrix (PDM)	all members
Oct. 2 10:00~12:00 SOPTRAVI	Preparation of Plan of Operation (PO)	all members

Table M.2.3 Participants of PCM Workshop

Name	Organization	Title	Speciality	Hobby
MIRIAM NARVAEZ	SANAA	Control y seguimiento de proyectos	Ing. Civil/ Gerencia de Proyecto	Music and dance
GLADIS ROJAS	SANAA	Asistente de Avion	Ing. Civil/Hidrologia	T.V., reading and dance
H. FONSECA	A.M.D.C.	Asistente G.D.U./ Coordinador	Informatica/ Administracion	Softball, pesca y tiro
Y. KANEKO	EQUIPO DE JICA	Entidad/ Asistencia	Desarrollo de Recursos de Agua	musica, pintura, etc.
M. MIURA	EQUIPO DE JICA	Jefe de equipo	Planificacion Preventiva contra Desastres	Gastronomia: preparar comida japonesa
RAPHAEL ALDUVIN	SETCO	Asistente Técnico Especializado	Manejo de Proyectos Manejo de Ciencias Hidrológicas	Musica, lectura y visitas al bosque
GUSTAVO SUAZO	SOPRAVI	Asistente Depto. Obras Publicas	Obras de Prohibicion contra Inundaciones	Musica y T.V.
R. OCHOA	SANAA	Director Investigacion y Asistente Técnico	Ing. Civil/Saneamiento, Tes. En Hidrologia	Musica, lectura, escribir
ROSA MARIA B.	SOPRAVI	Ingeniero coordinador de proyectos	Obras de Proteccion contra Inundaciones	Musica instrumental
R. REYDEL P.	A.M.D.C.	Jefe Validad y Transporte/ Metropolitan	Transporte	Natacion, musica
MARCIO FIGUEROA	SOPRAVI	Ingeniero	Control de Obras Supervision de Proyectos	Football, Noticias, Lectura Cristiana
G. GODOY	EQUIPO DE JICA	Traductor	Inglés/Español/Ingles	Astronomia
R. MATSUMARU	EQUIPO DE JICA	Evaluacion del Proyecto	Medidas Preventivas contra Inundaciones	Tennis
C. GUTIERREZ	A.M.D.C.	Jefe de Infraestructura	Ing. Civil	Motociclismo, tiro
MARIO AGUILERA	COPECO	Ing. Investigacion	Ing. Civil	Musica, computadoras
NOEL MENJIVAR	SOPRAVI	Coordinador de Proyecto	Ing. Civil	Musica

Table M.3.1 Categorization of Participants

Beneficiaries	Potential opponents	Planning agency	Decision maker	Implementation agency	Financial agency	Others
HABITANTES EN ZONAS DE RIESGO	HABITANTES EN ZONAS DE RIESGO	COPECO	COPECO	COPECO	GOBIERNO CENTRAL Y LOCAL	INTERNET
COMERCIO EN ZONAS DE RIESGO	COMERCIO EN ZONAS DE RIESGO	A.M.D.C.	A.M.D.C.	A.M.D.C.	O.P.S.	C.N.N.
SERVICIOS PUBLICOS	CONSTRUCTORAS	SOPTRAVI	SOPTRAVI	SOPTRAVI	O.I.T.	MEDIOS ESCRITOS RADIO Y TV
GOBIERNO LOCAL Y CENTRAL	POBLACION INVASORA	SECRETARIA DE SALUD	MINISTERIO DE DEFENSA	SECRETARIA DE SALUD	O.P.D.s	USGS
SERNA	ASPIRANTES POLITICOS	SERNA	SECRETARIA DE SALUD	SECRETARIA DE EDUCACION	O.N.G.s	MIAMI HURRICANE CENTER
MINISTERIO DE SALUD	ALGUNAS INDUSTRIAS	MINISTERIO DE EDUCACION	SECRETARIA DE EDUCACION	SANAA	O.F.I.s	EQUIPO DE JICA
A.M.D.C.	AGRICULTORES Y GANADEROS	SANAA	SANAA	SAG / AFE- COHDEFOR		BUROCRACIA
ASPIRANTES POLITICOS		UNIVERSIDADES	CUERPO DE BOMBEROS	CEPRENAC		
POBLACION EN GENERAL		COHDEFOR	POLICIA NACIONAL PREV.	COHEP		
		CONADES	CAMARA DE COM. E INDUST.	FHIS		
	CAMARA DE COMERCIO IEG.	CRUZ ROJA HONDUREÑA	HABITANTES EN ZONAS DE RIESGO	POLICIA NACIONAL PREV.		
	FUERZAS ARMADAS	CRUZ VERDE				

Table M.3.2 Detailed Target Group Analysis

CODEM(AMDC)	CHARACTERISTICS	NEEDS	POTENTIALS	IMPLICATIONS OF PLANNING PROJECT
	No Master Plan for Disaster Prevention	Formulate Master Plan for disaster prevention	Technical assistance	Formulation of flood control and landslide master plan
	Insufficient budget	Acquire financial resources	International/foreign fund	
	Weak force of land use regulation	Enforce municipality law	Monitoring by risk map	Preparation of risk map
	Insufficient flow capacity of river and canal	Improve the river and canal	Land acquisition has been done	Formulation of river improvement plan
	No proper maintenance of flood control and drainage facilities	Prepare maintenance plan on disaster prevention facilities	Enhancement of residents	Maintenance plan
	Lack of trained personnel	Employ/train technical staff	Training of staff	Technical transfer
	Lack of hazard/risk map of natural disaster	Prepare hazard and risk map		Formulation of hazard and risk map
	Lack of proper information communication system	Install information communication system	Under preparation by USAID	
	Lack of hydrological observation/monitoring system	Enrich hydrological observation/monitoring system	Strengthening of existing system	planning of hydrological observation stations
	Lack of sufficient inter-institutional coordination	Strengthen inter-institutional coordination	willingness of agencies to coordinate	Recommendation of inter-institutional coordinating body



**Table M.3.3 Project Design Matrix (Floods)**

Narrative Summary	Verifiable indicators	Means of verification	Important assumption
<b>Overall Goal</b>			
Less vulnerable Metropolis against natural disaster		Flood damages record	
<b>Project Purpose</b>			
Flood damages are mitigated	15ys. return period flood is controlled without damages by 2015	Master Plan report Implementing schedule	No large scale landslide occurs Mallol bridge be improved Dam gate be properly operated River and canal be properly maintained No large scale deforestation is held
<b>Outputs</b>			
1. Adequate flood mitigation facilities provided	7 km stretch of Cholteca river is improved by 2015	Master Plan	construction money is secured
2. Properly regulated land use in flood risk area	Flood risk map	GIS of land use	
3. Flood forecasting and warnnig system installed			
<b>Activities</b>	<b>INPUTS</b>		
1. Formulate/implement flood control Master Plan	Deepening, widening of river, concrete pile, revetment, dike		
2. Strict implementation of land use law	Hazard and Risk map		
3. Structure regulation of house /building in flood			<b>Preconditions</b>
4. Trainnig of staff on new technology	Well trained manpower		Funding is secured
5. Proper watershed management	Watershed management plan		
6. Periodic monitorng			

**Table M.3.4 Project Design Matrix (Landslide)**

Narrative Summary	Verifiable indicators	Means of verification	Important assumption
<b>Overall Goal</b>			
Less vulnerable metropolis against natural disaster		Landslide damages record	
<b>Project Purpose</b>			
Landslide and slop failure damages are mitigated		Master Plan report Implementing schedule	Land use be strictly controlled
<b>Outputs</b>			
1. Adequate landslide control/ mitigation facilities provided	Berrinche landslide controlled by 2005, Bamboo and Reparto landslide mitigated by 2005	Master Plan	construction money is secured
2. Properly regulated land use in landslide risk area	Landslide/steep slope failure risk map	GIS of land use	
3. Monitoring / observation facilities installed		Observation record	
<b>Activities</b>	<b>INPUTS</b>		
1. Formulate/implement landslide protection Master Plan	Well. shaft, surface and underground drainage, gabion		
2 Strict implementation of land use law	Hazard and Risk map/Land use masterplan		
3 Implement landslide observation facilities	Clinometer, piezometer		
4 Relocation of residents in A rank risk area	Hazard and risk map		
5 Periodic monitoring/ observation	Trained manpower		
6 Training of staff on new technology	Well trained manpower		
			<b>Preconditions</b>
			Funding is secured

Table M.3.5 Project Design Matrix (Institution)

Narrative Summary	Verifiable indicators	Means of verification	Important assumption
<b>Overall Goal</b>			
Strong Institution to face up to states of emergency.	Response time	Damages report	Consistent support of the central government.
<b>Project Purpose</b>			
Greater interinstitutional coordination for a quick response to the emergency	Response time	Formation of response groups Damages report	Less bureaucracy Communication improvement Efficiency at work Optimization of of economic resources
<b>Outputs</b>			
1. Organized inter-institutional groups		Master Plan	Well-defined budget
2. Establishment of the information systems.	Expansion of the hydro-meteorological station net	Number of the functioning hydro-meteorological station	Data bank of qualified personnel.
3. Trained personnel	Trained personnel for the operation and maintenance of the information system		
<b>Activities</b>	<b>INPUTS</b>		
Implementation of Master Plan	Trained personnel		
Training of selected personnel	Equipping		
Expansion and maintenance of the hydro-meteorological station nets			<b>Preconditions</b>
Control and monitoring of the institutional development			Well-defined and approved budgets.

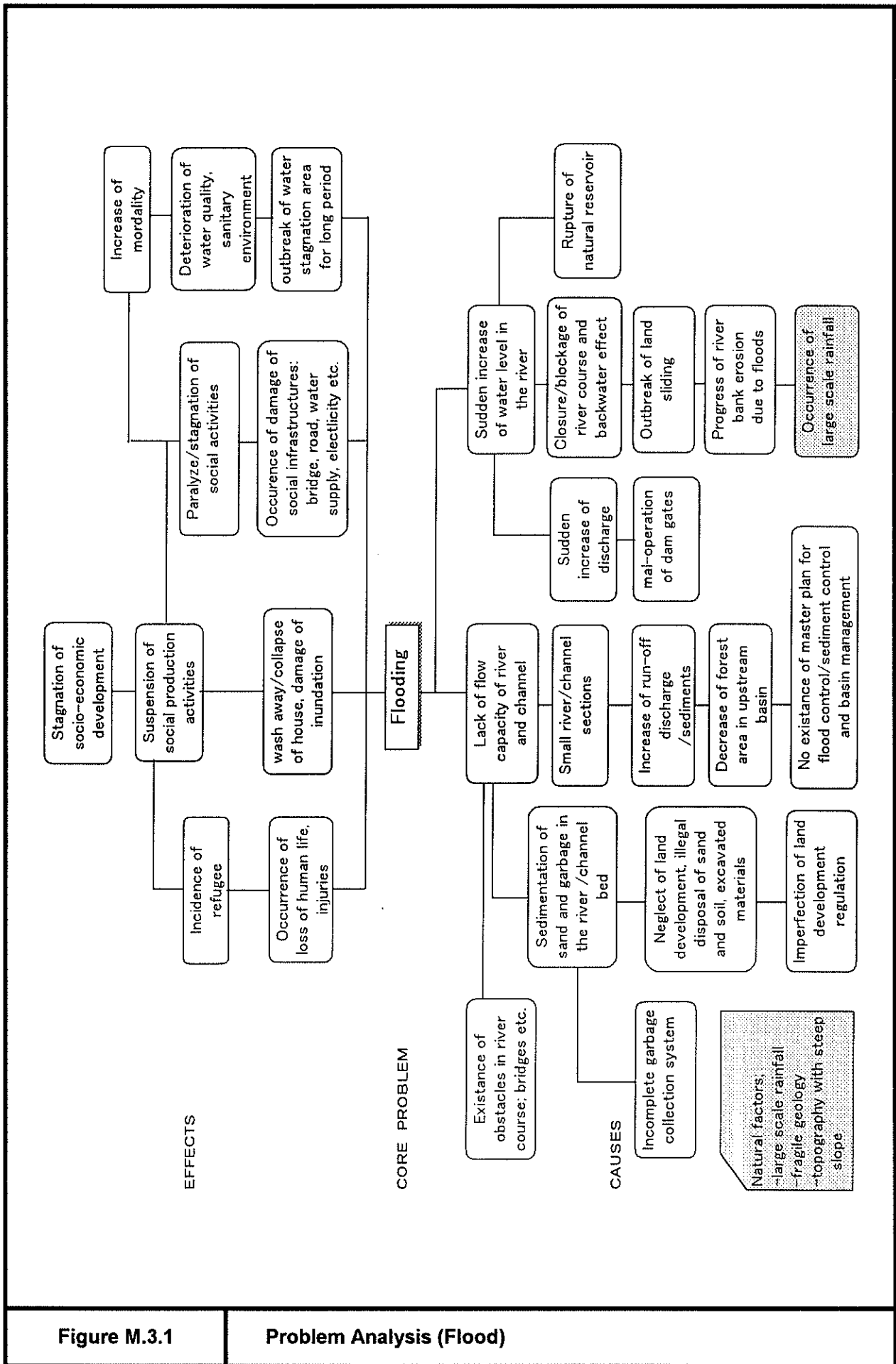


Figure M.3.1

Problem Analysis (Flood)

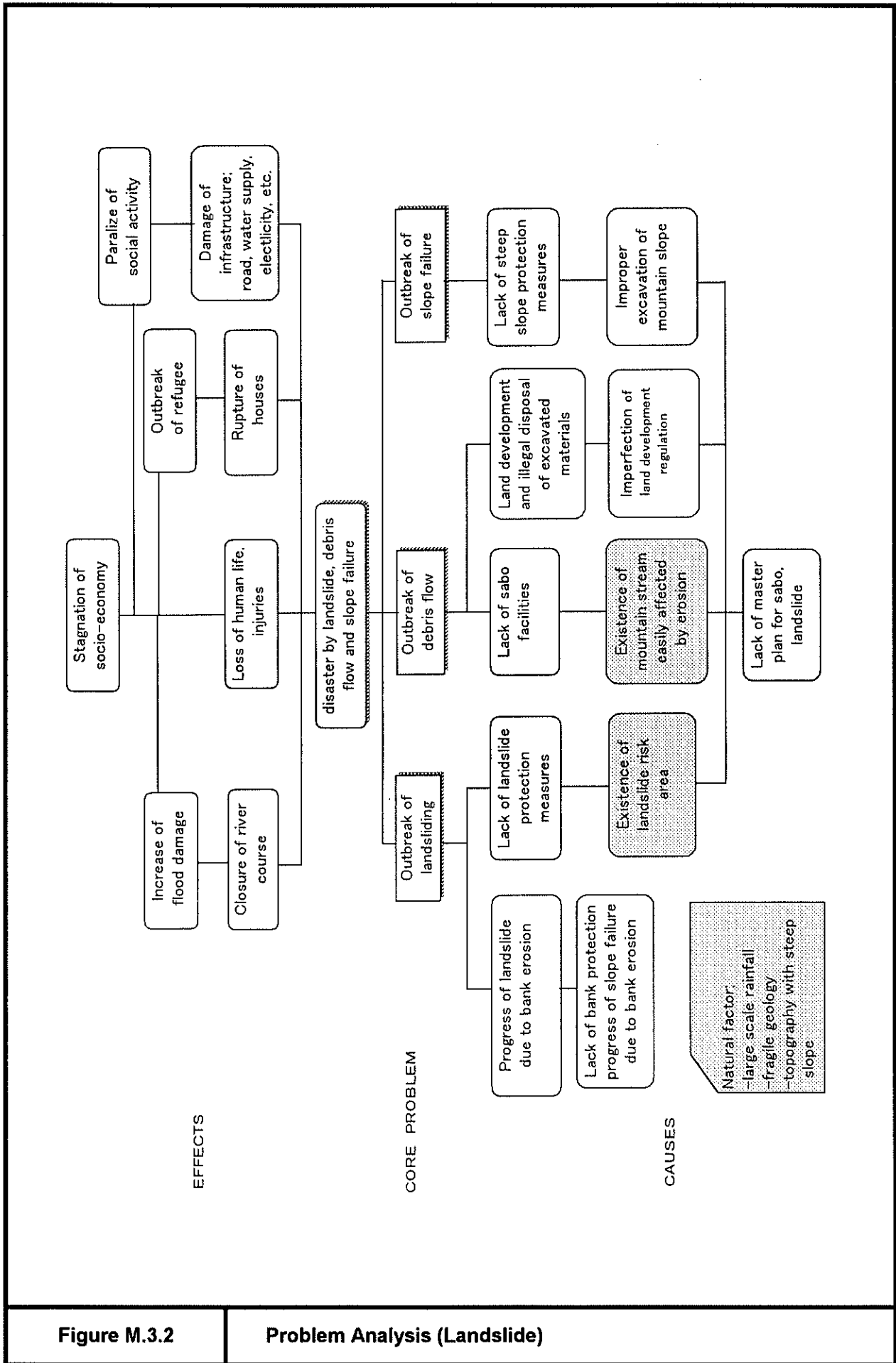


Figure M.3.2

Problem Analysis (Landslide)

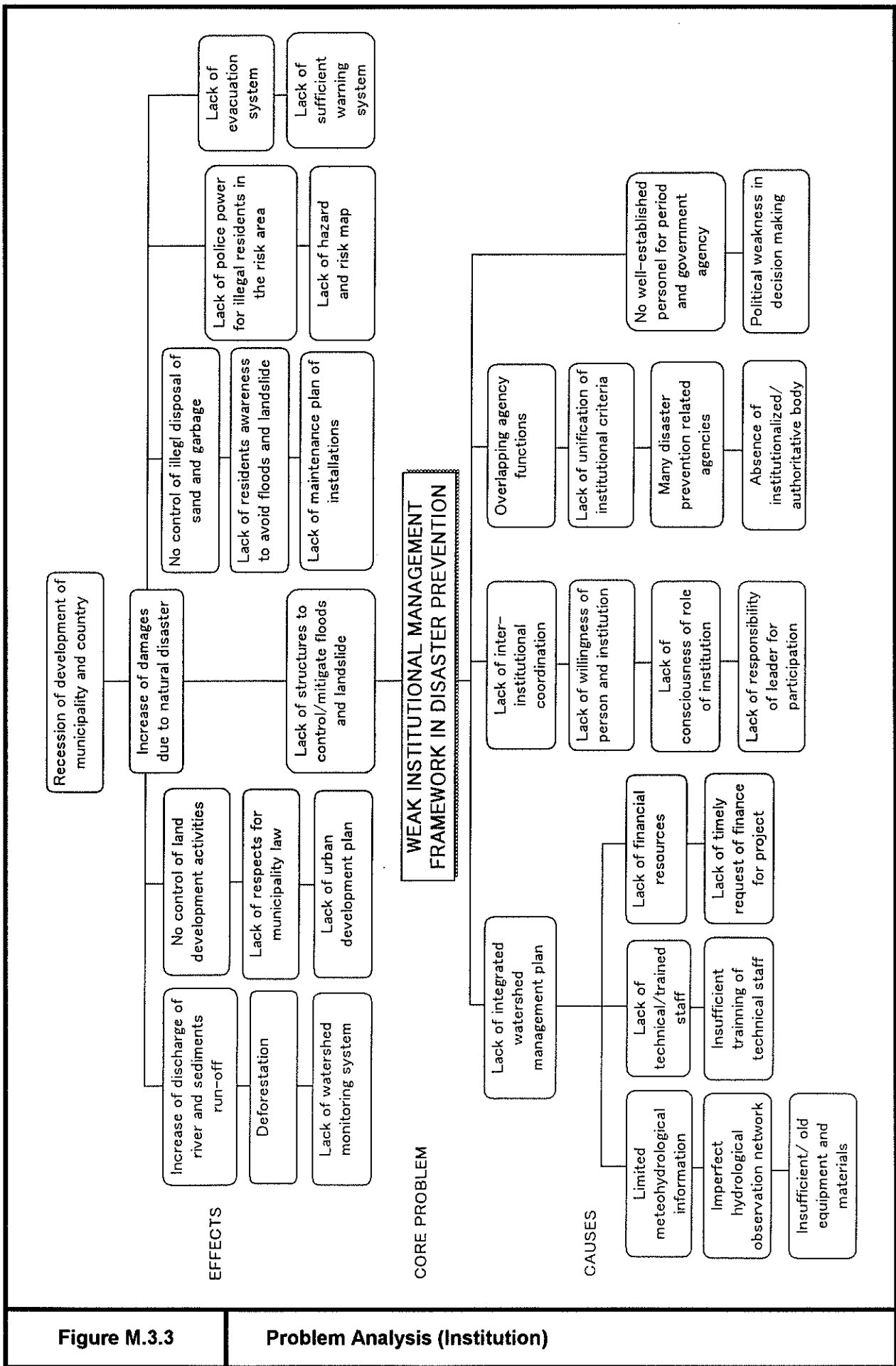


Figure M.3.3

Problem Analysis (Institution)

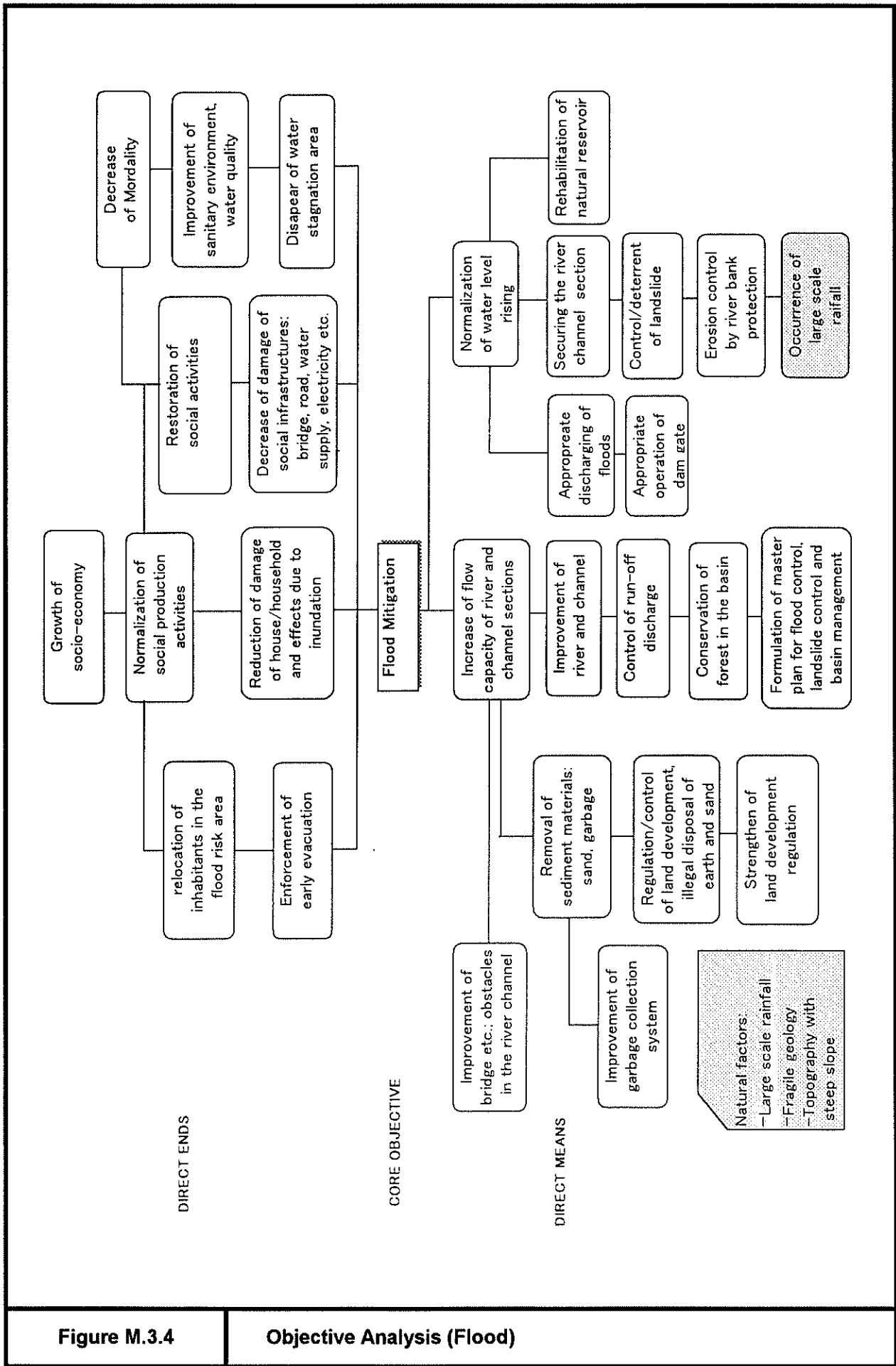


Figure M.3.4

Objective Analysis (Flood)

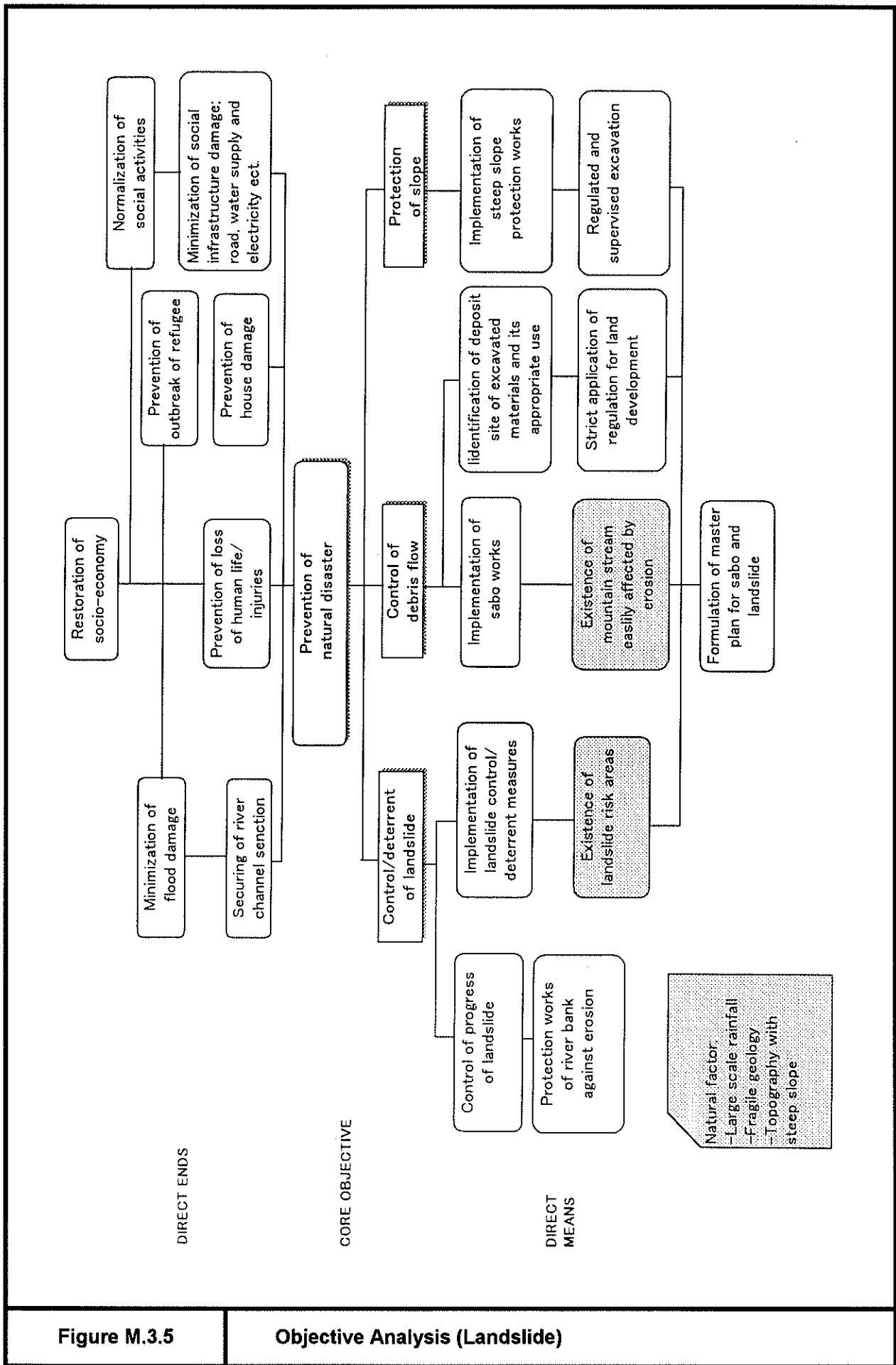


Figure M.3.5

Objective Analysis (Landslide)



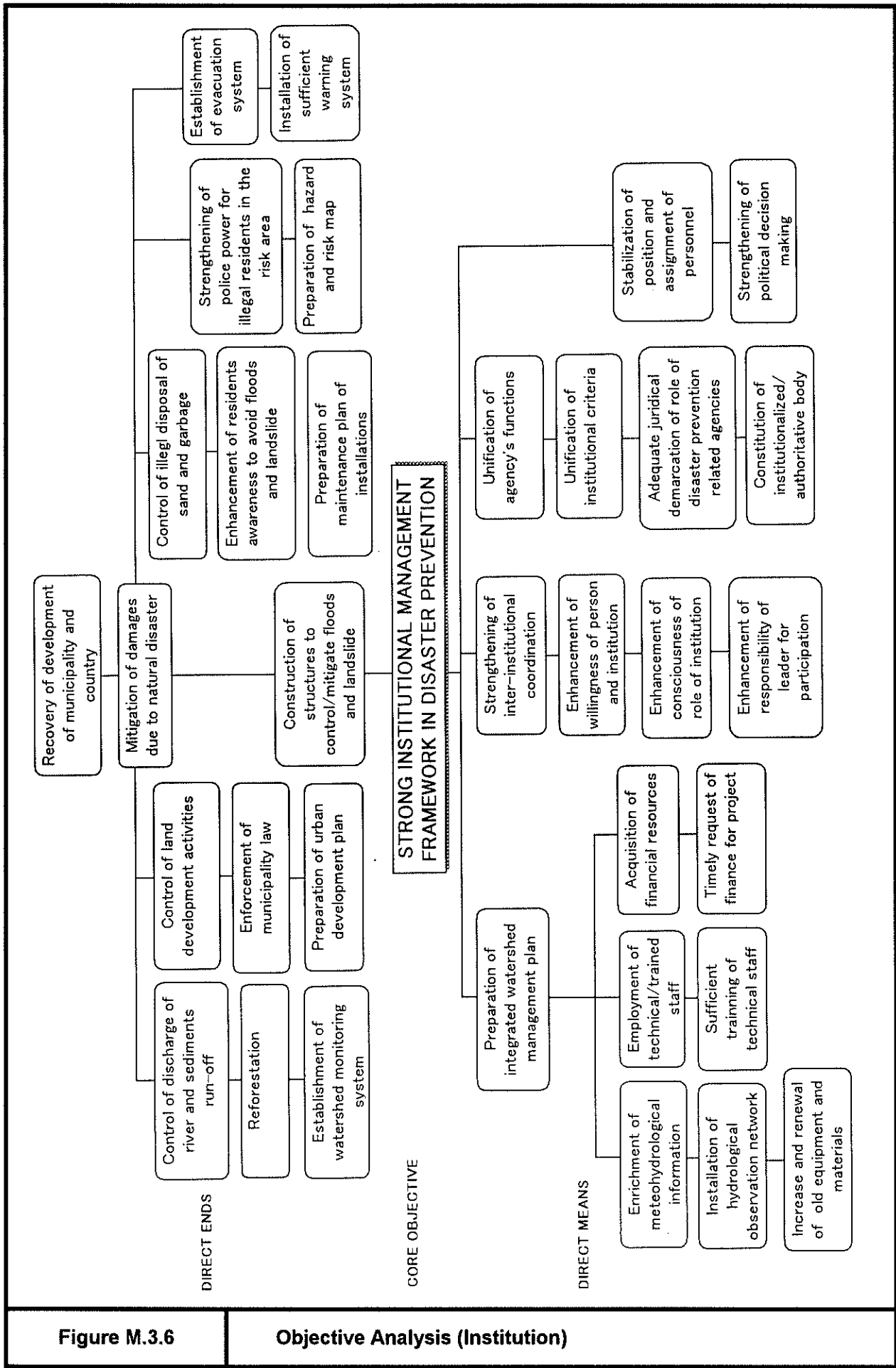


Figure M.3.6

Objective Analysis (Institution)

