

FIGURES

CHIEF MINISTER'S OFFICE	MINISTRY OF FINANCIAL PLANNING AND DEVELOPMENT
Chief Minister's Department	State Treasurer's Department
Sabah Economic Planning Unit (SEPU)	Computer Unit
Project Investment Unit (PIU)	Boards of Surveys
Community Development Unit (CDU)	Borneo Development Corporation (BDC)
State Attorney's Chambers	Borneo Housing Mortgage Finance Berhad (BHMF)
Land and Survey Department (LSD)	Employees Provident Fund (EPF)
Forests Department	Koperasi Rakyat Jelata Sabah (KOJASA)
District Offices	Sabah Air Sendirian Berhad
Government Printer	Sabah Marketing Corporation (SAMA)
State Archives	Sabah Bank Berhad
Sabah Institute of Administration and Research (SINAR)	Sabah Development Bank (SDB)
Sabah Foundation	Sabah Credit Corporation (SCC)
Yayasan Bumiputra Sabah	Rural Credit
Majlis Ugama Islam Sabah (MUIS)	
MINISTRY OF INDUSTRIAL DEVELOPMENT	MINISTRY OF TOWN AND COUNTRY DEVELOPMENT
Department of Industrial Development	Department of Town and Country Planning
State Development Office (SDO)	Rural Administration Unit
Bumiputra Participation Unit (BPU)	Housing and Town Development Board
Sabah Economic Development Corporation (SEDCO)	Municipal Councils
MINISTRY OF INFRASTRUCTURE DEVELOPMENT	Town Boards
Public Works Department (JKR)	District Councils
Road Transport Department	
State Railways	MINISTRY OF COMMUNITY SERVICES
Sabah Ports Authority (SPA)	Department of Welfare Services
Sabah Electricity Board (SEB)	Sabah Museum
(Sabah Water Authority)	State Library
MINISTRY OF RESOURCES DEVELOPMENT	MINISTRY OF AGRICULTURE AND FISHERY DEVELOPMENT
Department of Manpower Training	Department of Agriculture
Environmental Unit	Drainage & Irrigation Department (DID)
Sabah Tourism Promotion Corporation (STPC)	Department of Fisheries
Sabah National Parks	Department of Veterinary Services and Animal Husbandry
MINISTRY OF CULTURE, YOUTH AND SPORTS	Sabah Padi Board
Sabah Land Development Board (SLDB)	Sabah Rubber Fund Board (SRFB)
Sabah Forestry Development Authority (SAFODA)	Koperasi Serbaguna Nelayan Sabah Berhad (KO-NELAYAN)
Sabah Sports & Cultural Board (KOSAN)	Koperasi Pembangunan Desa (KPD)
Koperasi Serbaguna Sanya Sabah	Koperasi Rakyat Sabah (KORAS)
	Agricultural Advisory Council

Fig. 1 Government Structure of the State of Sabah

CHIEF MINISTER'S OFFICE	MINISTRY OF FINANCE AND DEVELOPMENT
Administration	State Financial Secretary's Office (SFS)
Divisions	State Planning Unit (SPU)
Districts	Treasury
Establishment	Sarawak Economic Development Corporation (SEDC)
Complaint Bureau	
Civic Development	MINISTRY OF COMMUNICATIONS AND WORKS
Civic Service Training	Public Works Department (JKR)
Bintulu Development Authority (BDA)	Land Transport Office
Drainage & Irrigation Department (DID)	Brooke Dockyard & Engineering Works Corporation
Land Custody & Development Authority (LCDA)	Kuching Water Board
STATE ATTORNEY - GENERAL'S CHAMBER	Sibu Water Board
Legal Department	Sarawak Electricity Supply Corporation (SESCO)
MINISTRY OF LOCAL GOVERNMENT	Kuching Port Authority
Municipal Councils	Rajang Port Authority
District Councils	
MINISTRY OF LAND AND MINERAL RESOURCES	MINISTRY OF FORESTRY
Land and Survey Department (LSD)	Department of Forests
Sarawak Land Development Board (SLDB)	Sarawak Timber Industry Development Corporation (STIDC)
Sarawak Land Consolidation and Rehabilitation Authority (SALCRA)	MINISTRY OF HOUSING
MINISTRY OF WELFARE SERVICES	Housing Development Corporation (HDC)
Welfare Department	Borneo Development Corporation (BDC)
MINISTRY OF AGRICULTURE AND COMMUNITY DEVELOPMENT	Borneo Housing Corporation (BHC)
Department of Agriculture	MINISTRY OF CULTURE, YOUTH AND SPORTS
	Department of Culture, Youth and Sports

Fig. 2 Government Structure of the State of Sarawak

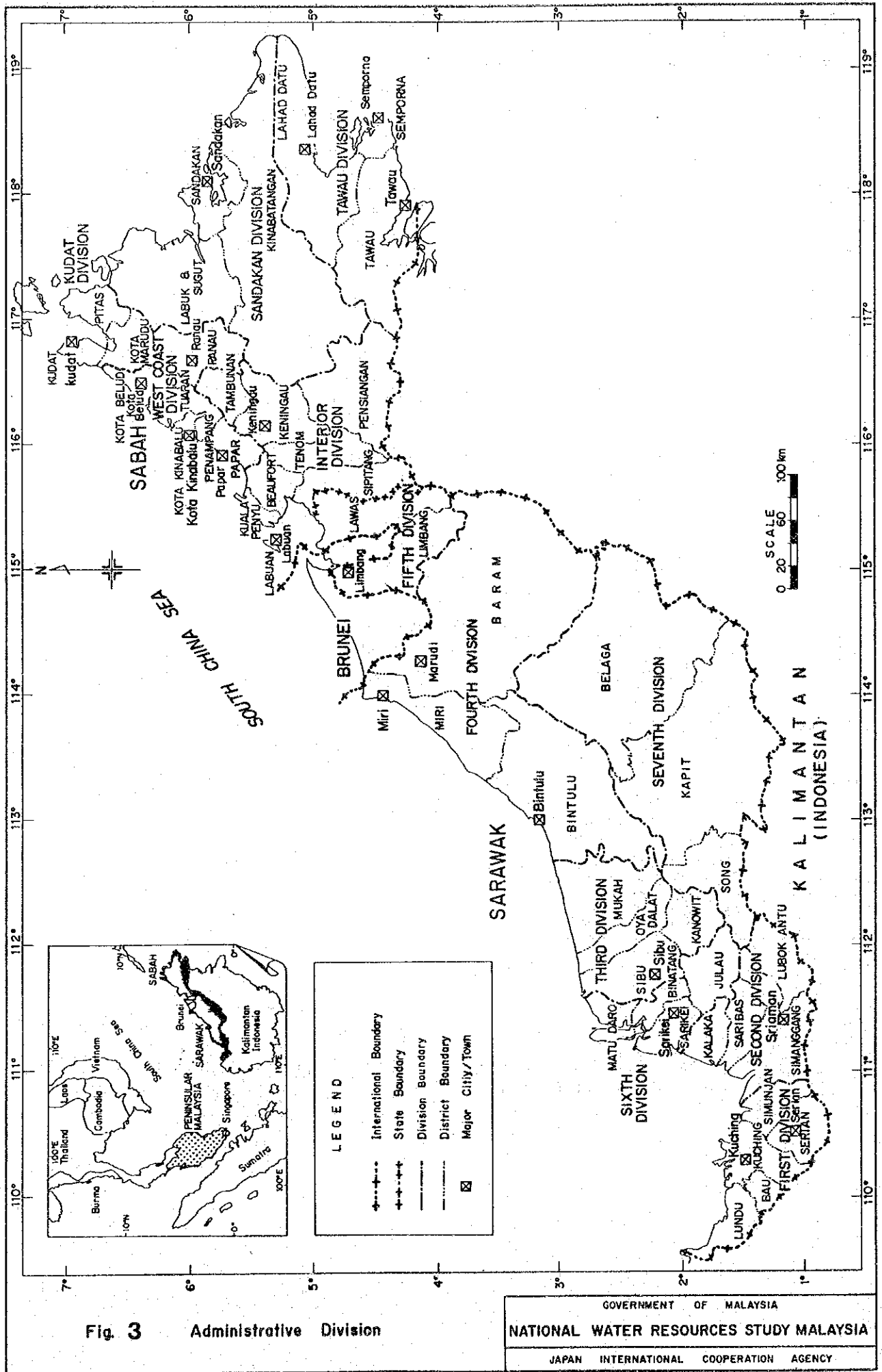


Fig. 3 Administrative Division

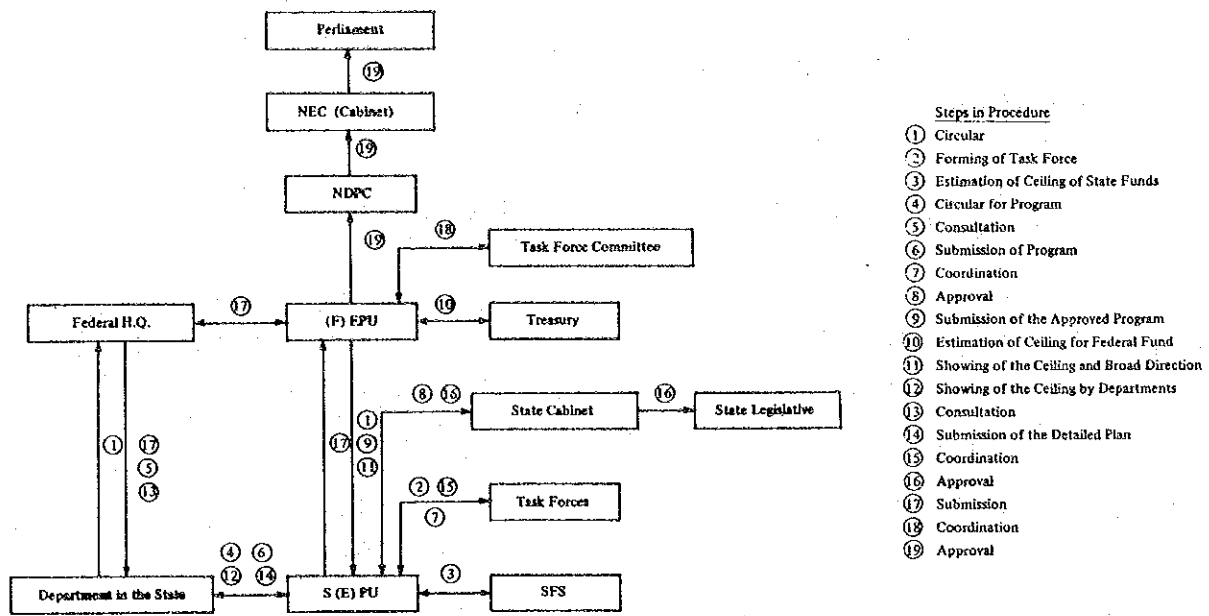


Fig. 4 General Procedure for Project Approval in the Malaysia Five Year Development Plan

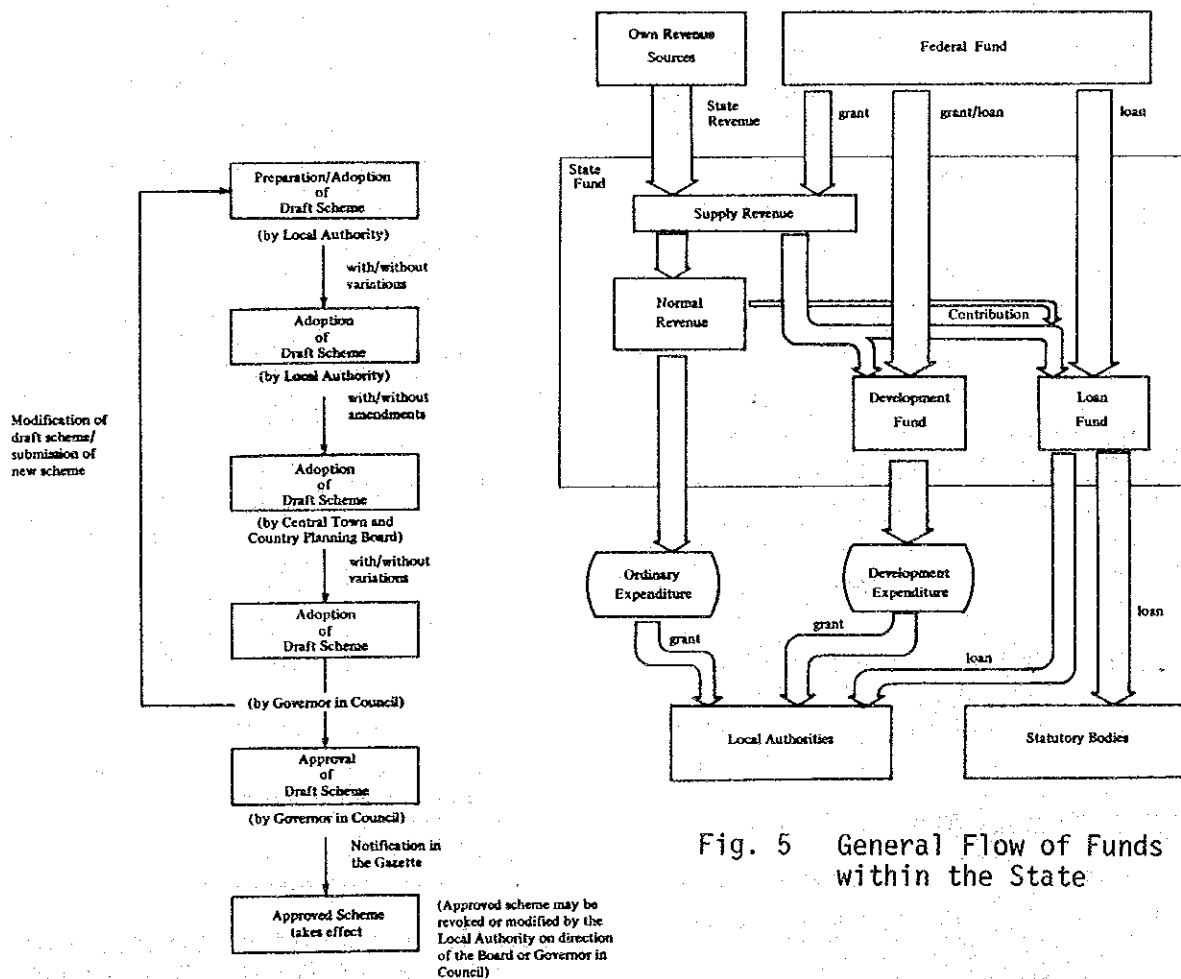
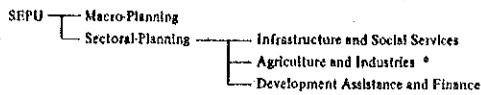


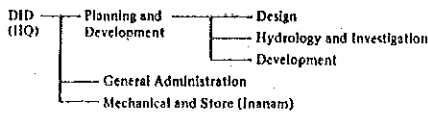
Fig. 5 General Flow of Funds within the State

Fig. 6 Procedure for Approval of Schemes under the Town and Country Planning Ordinance, Sabah



Remarks: * Including mining and forestry

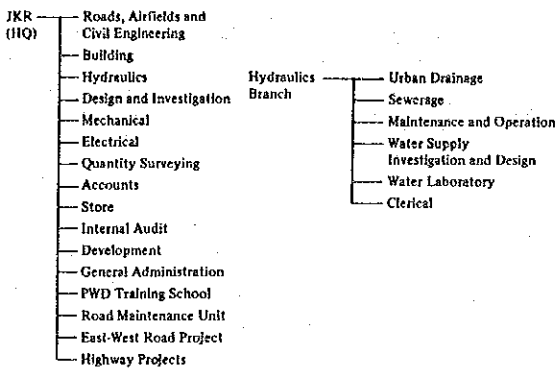
Fig. 7 Organization Structure of Sabah Economic Planning Unit



District DID Offices

Sandakan	Papar
Kudat	Tuaran
Kota Marudu	Kota Kinabalu / Labuan
Kota Belud	Keningau
Ranau	Beaufort

Fig. 9 Organization Structure of Sabah Drainage and Irrigation Department



Divisional JKR Offices

West Coast South	West Coast North (Kota Belud)
Sandakan	Tawau
Interior (Keningau)	Labuan
Kudat	Beaufort

District JKR Works

Papar	Tuaran
Ranau	Lahad Datu
Semporna	Kunak
Tenom	Tambunan
Sipitang	Kuala Penyu
Kota Marudu	Telupid
Beluran	

Fig. 11 Organization Structure of Sabah Public Works Department

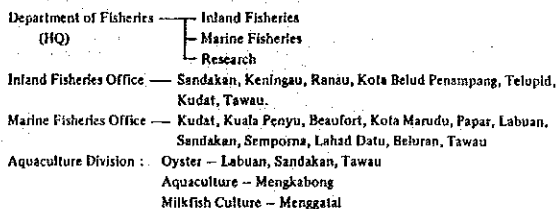


Fig. 13 Organization Structure of Sabah Department of Fisheries

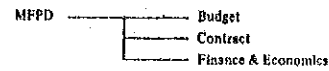
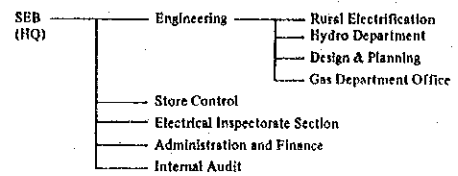


Fig. 8 Organization Structure of Ministry of Financial Planning and Development



Divisional SEB Offices

East Coast Office (Sandakan)	West Coast Office (Inanam)
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Fig. 10 Organization Structure of Sabah Electricity Board

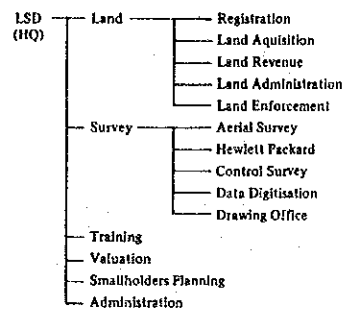
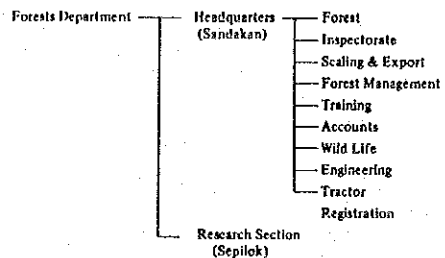


Fig. 12 Organization Structure of Sabah Land and Survey Department



Forest Circle, Sandakan
 Forest Districts - Lamag, Beluran, Sandakan (North & South)
 Forest Circle, Tawau
 Forest Districts - Lahad Datu, Kunak, Tawau, Kalabakan
 Forest Circle, West Coast
 Forest Districts - Kota Kinabalu, Beaufort, Keningau

Fig. 14 Organization Structure of Sabah Forests Department

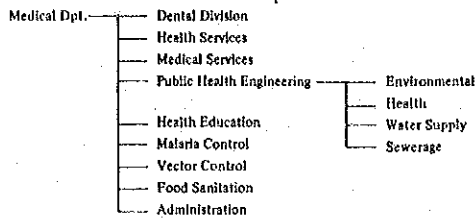


Fig. 15 Organization Structure of Sabah Medical & Health Services (Medical Dpt.)

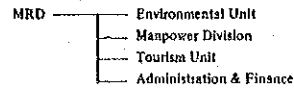


Fig. 16 Organization Structure of Sabah Ministry of Resources Development

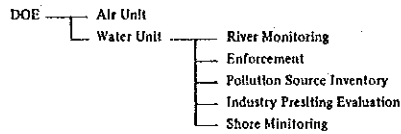


Fig. 17 Organization Structure of Sabah Division of Environment

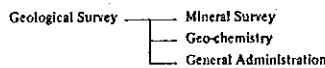


Fig. 19 Organization Structure of Sabah Geological Survey Department

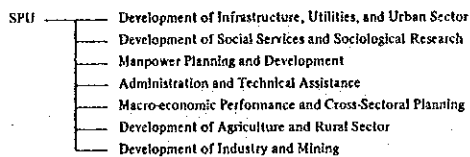


Fig. 21 Organization Structure of State Planning Unit, Sarawak

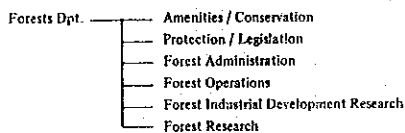


Fig. 23 Organization Structure of Sarawak Department of Forests



Fig. 18 Organization Structure of Sabah Mines Department

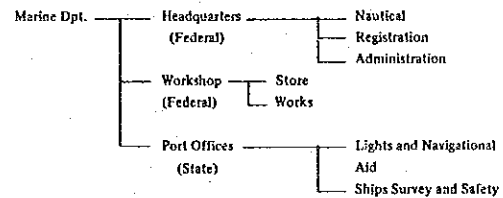


Fig. 20 Organization Structure of Sabah Marine Department

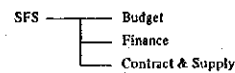
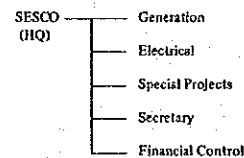
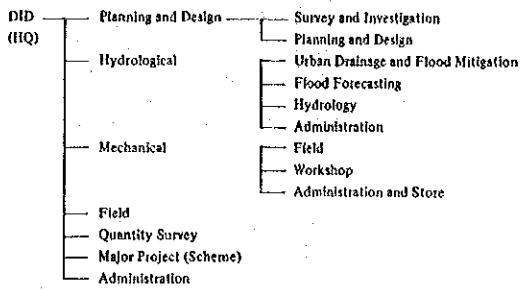


Fig. 22 Organization Structure of State Financial Secretary's Office, Sarawak



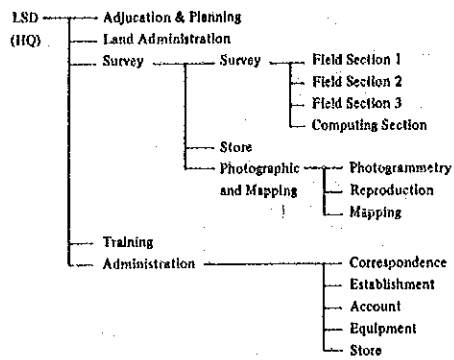
Divisional Offices — Northern, Central, Western

Fig. 24 Organization Structure of Sarawak Electricity Supply Corporation



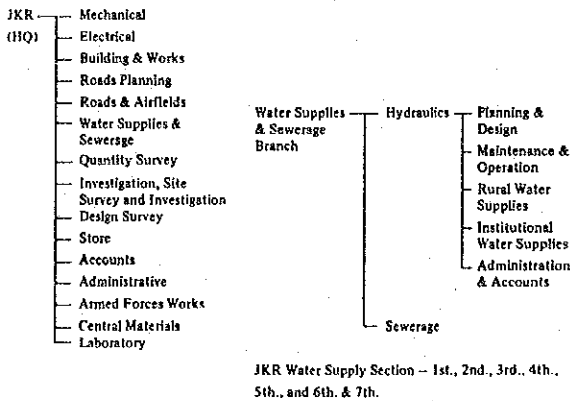
Divisional DID Offices 1st., 2nd., 3rd. & 7th., 4th., 5th., and 6th.

Fig. 25
Organization Structure of Sarawak Drainage and Irrigation Department



Divisional Planning Branches
Divisional Land / Land Registry Branches
Divisional Survey Branches
Divisional LSD Offices - Kuching, Simanggang, Sibul, Miri, Limbang, Sarikel, Kopit
Administrative District Offices - In each district

Fig. 26
Organization Structure of Sarawak Land and Survey Department



JKR Water Supply Section - 1st., 2nd., 3rd., 4th., 5th., and 6th. & 7th.

Fig. 27
Organization Structure of Sarawak Public Works Department

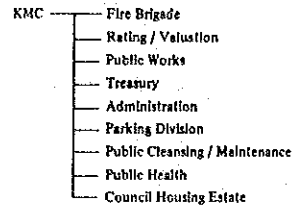


Fig. 28
Organization Structure of Kuching Municipal Council

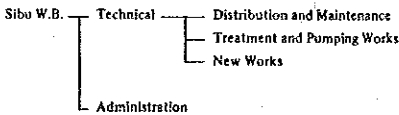


Fig. 29
Organization Structure of Sibu Water Board

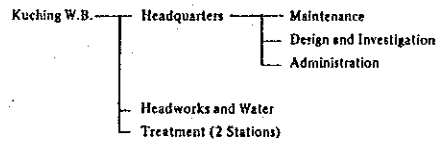


Fig. 30
Organization Structure of Kuching Water Board

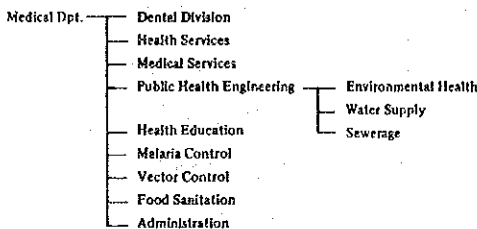


Fig. 31
Organization Structure of Sarawak Medical and Health Services

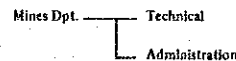


Fig. 32
Organization Structure of Sarawak Mines Department

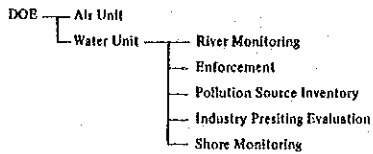
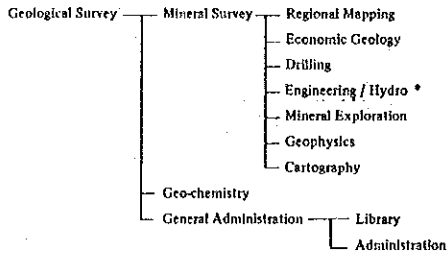


Fig. 33 Organization Structure of Sarawak Division of Environment



Remarks: * : Hydrogeology Section will be set up by 1983 in this Division

Fig. 34 Organization Structure of Sarawak Geological Survey Department

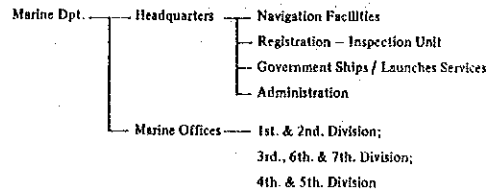
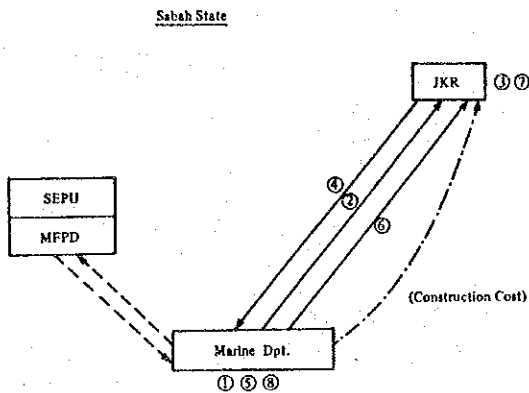


Fig. 35 Organization Structure of Sarawak Marine Department



Steps in Procedure

- ① Making of a basic plan (Allocation of wharves / jetties)
- ② Consultation
- ③ Amendment of the basic plan
- ④ Amended plan with recommendations
- ⑤ Checking of JKR's plan
- ⑥ Requests for construction
- ⑦ Detail design and construction
- ⑧ Operation and management

LEGEND

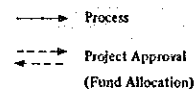


Fig. 36 Construction and Management of Government Wharves/Jetties in Sabah and Sarawak

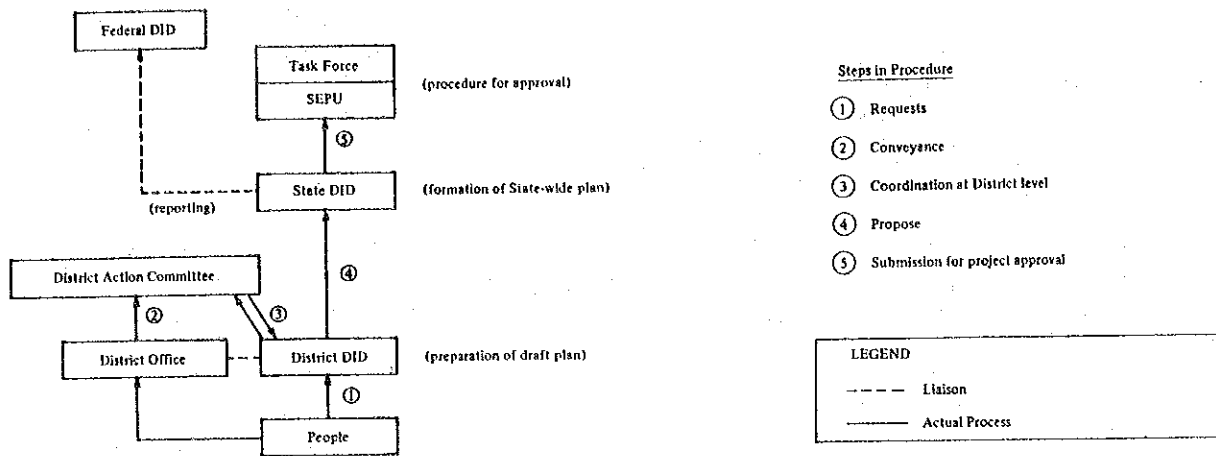


Fig. 37 Procedure of Formation of Sabah DID's Projects

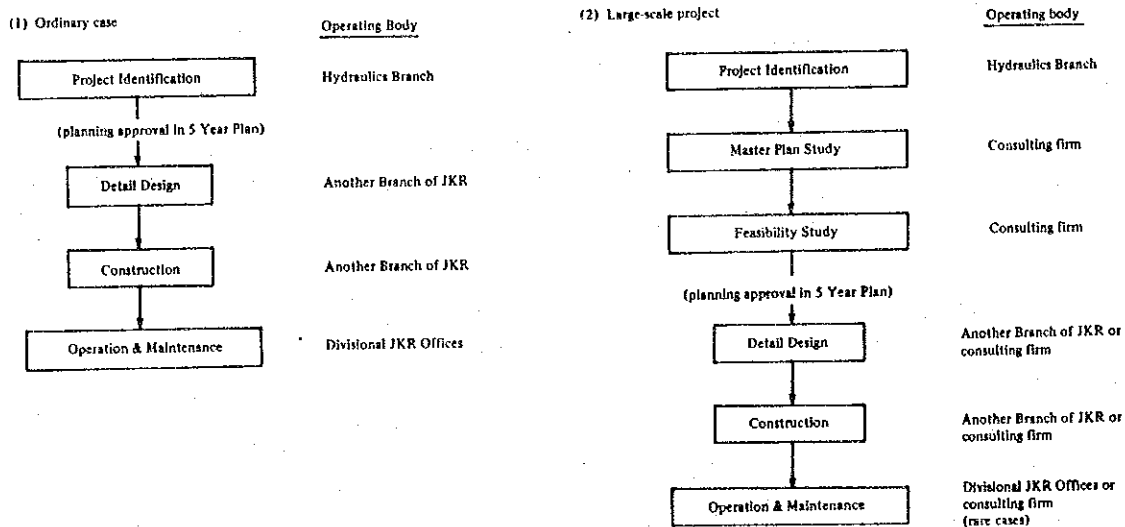


Fig. 38 Planning and Implementation of Projects by the Hydraulics Branch, Sabah JKR

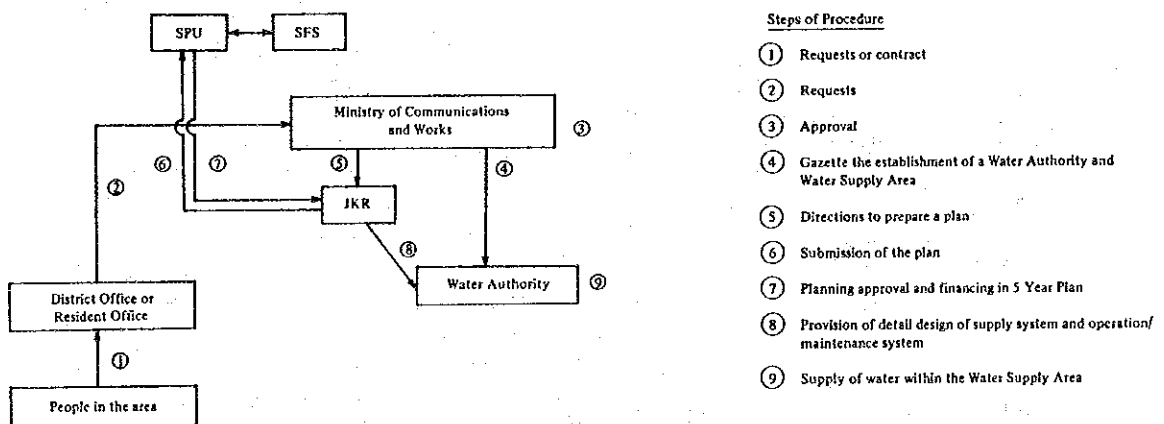


Fig. 39 Procedure of Implementation of Water Supply Schemes by the Water Supplies and Sewerage Branch, Sarawak JKR

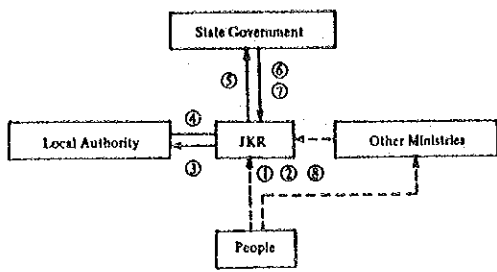


Fig. 40 Procedure of Provision of Sewerage Systems by Hydraulics Branch, Sabah JKR

Steps in Procedure

- ① Project finding
- ② Planning
- ③ Propose
- ④ Agreement
- ⑤ Submission of plan
- ⑥ Project approval
- ⑦ Financing
- ⑧ Implementation

LEGEND

- Actual process
- Consideration

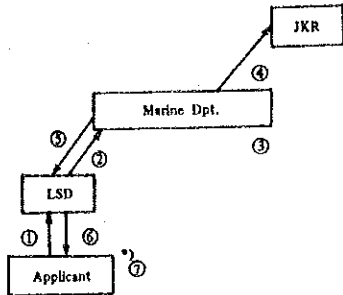


Fig. 41 Procedure of Administration of River Facilities Construction in Sarawak

Steps in Procedure

- ① Application for facility construction
- ② Request opinion
- ③ Review in view of river navigation
- ④ Consultation concerning detail design of the facility
- ⑤ Conveyance of the decision made
- ⑥ Permission or rejection in accordance with the Marine Department's decision
- ⑦ Construction

Remarks: *) Includes anyone who wishes to construct any kind of river facility, whether governmental or private.

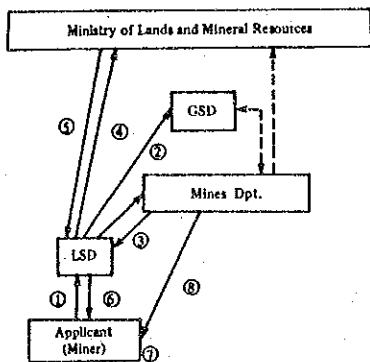


Fig. 42 Procedure of Issuing Mining Licences (Including Water Use) in Sarawak

Steps in Procedure

- ① Application
- ② Reference or consultation
- ③ Conveyance of the decision made
- ④ Request permission to issue licence
- ⑤ Grant permission
- ⑥ Issue licence in accordance with the decision of the Mines Department
- ⑦ Operation of mining
- ⑧ Supervision

LEGEND

- Actual Process
- Liaison

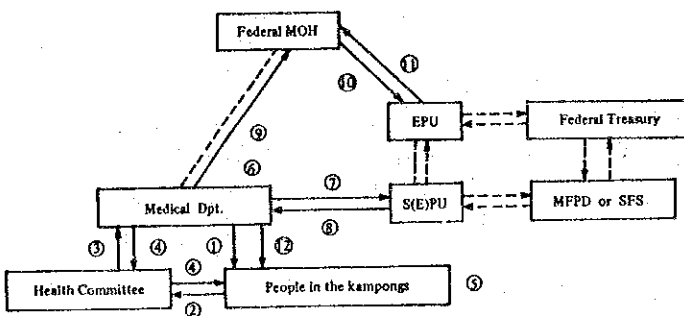


Fig. 43 Procedure of Rural Water Supply Schemes as a part of the Rural Environmental Sanitation Program

Steps in Procedure

- ① Contact and persuasion to form a Committee, simultaneously with the preliminary survey nearby
- ② Formation of the Committee
- ③ Formal request
- ④ Request to make latrines
- ⑤ Making of latrines
- ⑥ Survey and planning
- ⑦ Submission of plans
- ⑧ Approval
- ⑨ Submission of plans
- ⑩ Submission of plans
- ⑪ Approval and fund allocation
- ⑫ Implementation of water supply to kampongs

LEGEND

- Actual Process
- Liaison

ANNEX

***LEGAL ARRANGEMENT FOR
WATER RESOURCES DEVELOPMENT
AND MANAGEMENT***

LEGAL ARRANGEMENT FOR
WATER RESOURCES DEVELOPMENT AND MANAGEMENT

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1. INTRODUCTION

This Annex provides legal and institutional considerations to support the recommendations presented in Vol. 1 Master Action Plan. In Chapters 2 and 3, the existing and predictable problems and needs are outlined for the sectors of water resources development and management, and considerations on possible legal and institutional arrangement to solve the problems and to meet the needs are described. Chapter 4 is devoted to a preliminary idea of outline of the national water resources code which synthesizes the considerations on possible legal and institutional arrangement as a reference material for the personnel who will draft the national water resources code in the future. It should be noted that the presented preliminary idea of outline code is one of many possible alternatives and it does not include all necessary details to be required to the code.

2. MANAGEMENT OF THE DEVELOPMENT PROJECT

2.1 Coordination of Project

A large number of water resources development and conservation projects will be implemented to meet the future water demand. These projects will need huge amount of financial and manpower resources as well as construction materials. To minimize the financial, manpower and material constraints which may take place in the implementation of projects is one of the most important problems to be solved by the Government.

Water resources development will be carried out to meet the water demands of each sector. Water use plan of each sector shall be coordinated and optimized from the national viewpoint. Priority within each sector must be given in the implementation of development projects.

Construction and management of multipurpose facilities and/or interstate projects will increase in number in the future. As present legal system distributes the powers and responsibilities related to the water resources among various agencies, coordination among related agencies shall be indispensable in the management of those projects.

2.2 Guideline and Plan

The assessment and coordination is indispensable in the implementation of development project. Project shall be undertaken on a plan and not on chance. Comprehensive and integrated water resources development and management can only be realized through the planning system.

Sectoral programs shall be established at first. National targets of the each sector and technical standard shall be shown as the premises. The targets and regional development policy derive the water demands and necessity of water resources development by each region.

The necessity together with the uniformed technical standards for the water resources development and management shall be complied in the form of National Guideline for Water Resources Development and Management. The Guideline may also includes the preliminary identification of major facilities.

Regional plans, which follow the Guideline, shall come next. The coordination of various projects including multipurpose/interstate projects shall be undertaken through the formation of the Basin Master Plan. Implementation schedule, share of responsibility and cost allocation will be formed within the Plan.

2.3 Interstate Issues

The Federal Constitution provides that the river which is wholly within one state comes under the state power. Interstate river and interstate water supply are also under state power so long as there is an agreement among states concerned. Although there are some interstate rivers within the country, no agreement in a written form has been established yet. There are some theoretical arguments regarding the interpretation of "interstate" or "agreement", almost no administrative measure has been carried out or studied until now.

Future water demand will require interstate diversion and/or development of the interstate river. Coordination among related States and, if necessary, Federal agencies is inevitable to carry out these project. It is predictable that the coordination takes a long time. To avoid the possible delay, the way to coordinate the interstate matters must be established. Constitutionally, the Federal Government has the power to take over the legislative and executive powers of the State by the provision of "National Development Plan". But in practice, it will be the better way to let the State Governments concerned establish the plan by themselves under the assistance and coordination of the Federal Government.

2.4 Institutional Arrangements

(1) National guideline

At present, EPU is the agency which is in charge of coordination of development project plans and preparation of the Malaysia Five Year Development Plan. Therefore, it will be quite natural to let EPU formulate the National Guideline. There may be some alternatives regarding the characters of the Guideline and the inner-organization of EPU and/or relation with other agencies.

The first alternative is that the Guideline is authorized as a sub-plan of the Malaysia Plan. Here, the Guideline must be formulated in the same manner as the Malaysia Plan. The Guideline will only include socioeconomic framework and technical standards. Little modification of existing institution will be required in this way.

The second alternative is that the Guideline shall include plans of every federal project. This alternative is the enhanced form of the first one. It requires the more complicated coordination among related federal agencies. In a same time the establishment of specific council/committee outside the NEC/NDPC or expansion of powers of the NEC/NPPC is necessary.

In the third alternative only multipurpose or interstate project will be taken up within the Guideline. Special arrangement shall be required for the participation of State agencies.

(2) Basin plan

The character of the basin plan is influenced by that of the Guideline. If a detailed plan of a project will be included in the Guideline, the basin plan need not handle the project plan. On the other hand, when the Guideline only shows the targets and technical standards, the basin plan shall study the overall aspects of each project.

In the first alternative, the Basin Plan only shows the technical standards for the river management such as river maintenance flow water quality standard. Each project plan should be formed and implemented by the existing method.

The Basin Plan in the second alternative is just a piling up of the sectoral development/management programmes. This proposal has the advantage in that these plans are easy to set up, while coordination with other sector as required in the time of implementation.

The third alternative is a region-wide comprehensive Basin Plan. This plan shall involve all water related matters to enable the greatest integration. Substances in the plan are to be selected according to the necessities in the respective basins.

Both Federal and State agencies must be participated in the formation and implementation of the Plan. As the river belongs to the State, key agency to manage planning shall be the State agency. SPU/SEPU and D.O. are now in charge of planning coordination in each level. However they need a technical assistance from the respective agencies. An agency which is composed of both engineers and administrators will be required to manage those aspects.

(3) Interstate and multipurpose project

Certain region will need interstate basin plan or the plan which contains the interstate diversion. In the formation and implementation of these plans institutional arrangement among two or more related States and, if necessary, Federal agencies shall be established.

Multipurpose facilities will be constructed throughout the country. It will also require the institutional arrangement for the coordination among the agencies concerned.

One of the alternatives will be the existing committee system. Plans could be established by a coordinating agency, but entrustment to the engineering agency such as PWD, DID or NEB is necessary for the implementation and management of projects.

The second alternative is to set up a new agency to be entrusted the planning, implementation and management of the interstate/multipurpose projects.

The third alternative is to let the new agency in charge of construction and management of interstate/multipurpose projects, only. Planning and supervision will be done through a committee system. Arbitration system will be also required for the smooth management. An idea of the National Water Resources Development and Management Corporation is on the extension of this alternative.

2.5 Legal Arrangements

As regards to the Federal Constitution, the integrated and comprehensive water resources development and management can be done without the amendment. To shift the legislative and executive powers related to water of the state of the federal may be one of the alternatives, careful arrangement among agencies will settle the possible problems.

From the fact that existing Malaysia Plan or other coordination system have been carried out without establishing specific laws, no law requires the enactment for the attainment of recommended planning system. However, it is recommendable to establish a fixed procedure for the project management in the form of a written law.

If the National Water Resources Development and Management Corporation is established as a statutory body, it shall be done by the enactment of a law. As the Corporation will have a strong concern to the national interest, it should be established as a statutory body.

2.6 Financial Arrangements

Integrated water resources development raises complicated financial issues. The beneficiary by the facilities shall bear the cost as a principle. However, especially in the case of multipurpose facilities, the cost allocation for the secondary beneficiary will be very difficult. Such case will be seen in the projects related to flood mitigation.

Sometimes the multipurpose project may come to a deadlock due to financial constraints of one agency. This obliges the project to be implemented as a single purpose or incomplete one.

To avoid the duplication of investments or implementation of incomplete projects, a system for special grant or soft loan shall be prepared especially for the sector in which sufficient revenue cannot be expected.

3. WATER RESOURCES MANAGEMENT AND CONSERVATION

3.1 Water Balance

The economic development increases the water demand in various forms. As the quantity of water resources in a natural condition is limited, coordination and water resources development will be necessary when the demand exceeds the supply capacity and concurrence of water use arises. In another word, water balance management is closely related to the water resources development management.

To determine the supply capacity of water resources, an idea of river maintenance flow shall be introduced. Maintenance flow shall be established based on a natural and social condition of the river. The coordination among every related agency shall be indispensable, for it is one of the most important indicators for the water resources development and management. Therefore, it shall be enumerated within the basin plan.

Detailed informations regarding river flow are required for the determination of the maintenance flow. And the river flow shall be monitored so that the maintenance flow management be effective. Thus, data gathering regarding river levels and other matters consists an important part of the water resources management.

Existing methods for the calculation of water balance based on a minimum flow are not far from the maintenance flow system. Minimum flow is one item to be considered in the determination of the maintenance flow. However, minimum flow alone cannot satisfy the needs for water resources management.

3.2 Water Quality

The increase of water demand leads to the increase of wastewater discharge. Economic and industrial development also enhances the flowing out of polluted effluence. These pollutant sources shall be properly controlled not to spoil the environment.

From the viewpoint of water resources management, water pollution control shall be carried out based on the river water quality. There shall be a river water quality standard, and restriction on effluent discharge shall be administrated based on the standard. The quality and volume of river water have a close interdependence. The standard shall be established by taking into consideration the maintenance flow, which shall be considered from the environmental aspect.

River water quality standard may differ by each basin. The standard should not be just an idea or target for the future. It should be kept practically. It is useless to establish unrealistic figures. On the other hand, the standard shall not be the limits to be or can be polluted. If the river water is cleaner than certain standard, the river should be kept clean as far as possible notwithstanding.

3.3 Groundwater

The dependence on groundwater will increase in certain areas. Excessive outtakings of the groundwater may cause adverse effects. In such cases, there shall be a measure to control the extraction.

Groundwater is a very important part of the water resources. It shall also be taken into consideration a comprehensive water resources management. Conjunctive use of the groundwater and river water shall always be considered in the water resources development and management.

3.4 Flood Control

Land use in flood prone area may cause the damage unless the high-water is not properly controlled. It is one of the measures for flood mitigation to restrict the land use within the flood prone area. To construct facilities such as banks, canals and dams is the other measure. However, these two are not alternative. One or either of them may be applied case by case.

High water shall be managed together with the other river managements, as they are closely related to each other. For example, river facilities may worsen the manner of high water, and a flood mitigation works may affect the river use in usual time. Construction and management of these facilities shall be coordinated in advance.

Forecasting and warning system as well as rescue and rehabilitation system are the important parts of the flood mitigation measures. These systems shall be further developed.

3.5 Legal Arrangements

In the laws of Peninsular Malaysia, there are only two points essentially necessary to be amended. One is regarding controls on groundwater extraction, and the other is to strengthen the control against mining effluents. Other basic frameworks to control the activities of private person, i.e. licensing system for river water use, control of land use and restriction of wastewater disposal are already prepared.

In Sabah and Sarawak, a law which provide for the river use will be necessary. Though existing laws may be applicable to such activities, they are not sufficient from the viewpoint of river management.

Administrative procedure does not necessarily require the legal provision in Malaysia, as mentioned before. Habitual practices are taking charge of these aspects. But preferably a law should be promulgated to the establishment of those procedures. Also at the same time, functions and organizations of the coordinating agency shall be established by law. This ensures the uniformity and clearness in water management.

Some more laws require the arrangement to meet the present complicated situation. Differences of provisions among states shall be dissolved as far as possible to keep the uniforming.

3.6 Institutional Arrangements

Management administration of water includes various kinds of activities. As powers and responsibilities related to the water management are distributed among many agencies, at least it is necessary to coordinate these agencies from the viewpoint of integrated and comprehensive water management. There shall be an agency which coordinate the every aspect of water management. The agency is also in charge of establishment of technical standards such as maintenance flow or river water quality for river management is basically a state matter, the agency shall be set up within a state government.

Coordination by a committee may be one of the alternatives. It usually requires the secretariat, and the duties and burden will become very heavy for the secretary of such committee. To solve these problems, officers and workers of the secretariate will increase in number. It will be almost the same as to establish a new agency,

There may be more alternatives in river and groundwater management agencies. They are mainly related to the distribution of powers and duties. Careful studies shall be made to avoid the duplication or missing of the powers and responsibilities.

4. A PRELIMINARY IDEA OF OUTLINE OF THE NATIONAL WATER RESOURCES CODE

4.1 Necessity of a National Code

High level of water use requires the improvement and integration of water administration system. Differences in water related laws of various States may increase the difficulties in interstate projects, for example. Uniformed and consistent legal system shall be necessary for the future water administration.

4.2 Outline of the National Water Resources Code

There will be many alternatives in the composition of the new water law. As matters related to the water administration are distributed among federal, state and concurrent list of the Constitution, one State law or Federal law cannot cover the every aspect. However, establishment of many laws may lose the consistency among these laws.

An integrated and comprehensive water law, in a form of the National Water Resources Code, is recommendable for the future water administration. To avoid the Constitutional restriction, the law shall take a form of both Federal law and State law. This system can be established through the enactment of Federal Parliament and the approval of State Legislative Assembly. Thus, the law may contain both Federal and State matters.

4.2.1 General principle

(1) Significance of the National Water Resources Code

The National Water Resources Code, is a legal provision for the comprehensive water resources development, use and conservation by amending and consolidating all the laws, institutions and the currently prevailing administrative criteria related to water resources, and for maintaining and promoting the uniformity of legal system of water resources among all the states, for the purpose of eliminating various problems concerning the water resources in Malaysia for the present and the future.

(2) Objective of the National Water Resources Code

The objective of the National Water Resources Code is to contribute to the national economical development, improvement of environmental quality and enhancement of social well-being recognizing that the water resources is circulating among the sky, land, rivers and underground, and that it is limited in availability through the following means:

- (a) to increase the public services, the production of food and industrial products, to expand the energy production and so on, by developing and utilizing appropriately, the water resources;

- (b) to conserve the natural and living environment as well as to protect the health of the people in the country, by preventing the pollution of river water and by implementing other measures; and
- (c) to conserve the land, ensure public security and secure the stability of the livelihood of the people by preventing the disasters caused by floods, soil erosion, ground subsidences and so on.

(3) Fundamental principle

Water resources development and management shall be performed in line with the following principles:

- (a) Emphasis should be given, in the process of water resources development and management, to the public welfare in view of the fact that water resources development and use are the common base of various kinds of activities of the people.
- (b) Water resources development and management should be carried out as integrated and comprehensive as possible so that many kinds of objectives would be achieved at the same time, for example, adequate water resources development and use, preserving low flow, prevention of the disaster caused by floods and so on, in the light of the characteristic of the circulating nature of water resources.
- (c) Water resources development and use shall be implemented efficiently based on the plans from the viewpoint of long-term production and planning, and the possibility of effective utilization of hydropower shall be reviewed properly, recognizing that the water is limited natural resources and its development usually takes a considerably long time.
- (d) Water resources management shall be performed appropriately so that various objectives may be achieved taking into account the impacts on the environmental quality which has the important roles for the peoples' health, improvement of living environment and preservation of land.

(4) Responsibilities

The Federal Government, the State Governments, the Local Authorities, the enterprises and the public have their respective responsibilities;

- (a) The Federal Government shall be responsible for carrying out its own projects as well as formulating the fundamental and comprehensive policies, from the national viewpoint for the purpose of proper water resources development and management. The Federal Government shall prepare and maintain National Water Resources Master Plans for the water resources development, use and conservation to identify future problems and needs, and to formulate policies.

- (b) The Federal Government shall take the necessary measures for the establishment of the organizational system for experiment and research, promotion of research and development and distribution of the results, and training of the researcher and engineering staff, for the purpose of promoting scientific and technological development for water resources development and management.
- (c) The Federal and the State Governments shall exert to enhance the consciousness of the people with regard to the proper development and use of water resources as well as disseminate the knowledge concerning water resources development and management.
- (d) The State Governments shall be responsible for implementing their own projects, as well as making plans for proper development and management in line with the national policies presented by the Federal Government in order to develop and manage the water resources appropriately in accordance with the natural, social and economic conditions of the regions concerned.
- (e) The Local Authorities shall be responsible for developing and managing the water resources properly in their own field in accordance with their natural, social and economic conditions in line with the policies by the Federal Government and the State Governments.
- (f) The enterprises shall be responsible for cooperating with the policies by the Federal Government, the State Governments and the Local Authorities as well as for taking such measures that the water resources are appropriately developed and managed in their activities.
- (g) The public shall be responsible for developing, using and conserving water resources properly and also cooperating with the measures related to water resources development and management of the Federal Government, the State Governments and the Local Authorities.

(5) Coordination with other public benefits

The Federal and the State Governments shall pay attention in coordinating the water resources development and management with other public benefits which are identified in other policies on economy, agriculture, industry, energy, regional development, land and environment.

4.2.2 Comprehensive water resources development and management

(1) Establishment and Function of the Federal Water Resources Division

- (a) There shall be established the Federal Water Resources Division in EPU of the Prime Minister's Department in order to promote comprehensive water resources development and management.
- (b) The Federal Water Resources Division, shall prepare the National Water Resources Master Plan and Regional Water Resources Master Plans, prepare a guideline for water resources management, coordination federal agencies in planning water resources development, appraise water resources development project plans, supervise the National Water Resources Development and Management Corporation, collect and arrange information on the water resources, and advise, recommend and provide technical assistance to the State Governments and the Local Authorities. It may also designate a group of river basins.

(2) Establishment and Function of the State Water Resources Division

There shall be established a State Water Resources Division in SPU of each state. This agency shall be in charge of integrated water resources management on behalf of the Ruler in Council subject to his approval and the functions of the Division are:

- (a) To investigate the present situation on water resources development, use and conservation;
- (b) To determine the river maintenance flow, water quality limits in river systems and standard flood discharge in accordance with the guideline determined by the Federal Government;
- (c) To make agreement for inter-state rivers and manage them subject to the supervision of the State Water Resources Committee;
- (d) To restrict the utilization of the river;
- (e) To coordinate water users during drought and in case of emergency; and
- (f) To designate the river area and other areas, and manage them by the restriction of action which may impair the river and river facilities.

(3) Inter-state river

- (a) The inter-state rivers listed in the Schedule shall be managed and controlled by the State Water Resources Division of each state concerned in accordance with the rules and share of responsibilities to be specified in the agreements which are reached by the State Water Resources Committees concerned. The agreement shall involve the technically basic standard of Article 2.9.
- (b) One or more State Water Resources Divisions concerned with the approval of the respective State Water Resources Committees may apply to the Federal Water Resources Division for coordination and/or preparation of the agreements, in the case when no agreements, can be reached after consultation among the State Governments concerned.
- (c) The Director of the Federal Water Resources Division may, after consultation with the State Governments concerned, arrange the agreement for the development, use and conservation of the inter-state river in the case paragraph (2) is applicable.

(4) Survey on the water resources and distribution of their results

- (a) The State Water Resources Division shall prepare data inventory of the situations regarding river flow, river water quality, groundwater level and others.
- (b) Each agency in the State Government shall inform the Director of the State Water Resources Division the results of the important investigations on the water resources carried out by itself.
- (c) The Director of the State Water Resources Division shall inform the Director of the Federal Water Resources Division the results of the study on the water resources carried out by the agencies in the State Government.
- (d) The Director of the Federal Water Resources Division shall inform the State Water Resources Division concerned the results of the important studies on water resources carried out by the agencies of the Federal Government.

(5) Arrangement of information system

- (a) The Federal Water Resources Division shall collect and arrange the information necessary for comprehensive water resources development, use and conservation in cooperation with the Federal Water resources-related agencies and the State Governments.

- (b) The State Water Resources Division shall arrange and keep a register on the water resources with respect to the rivers which should be comprehensively developed and managed, and offer it for public perusal at the request of the public.
- (c) In the register on the water resources shall be recorded the designation of the river, river flow and water quality at key station, river area, outline of permission for river water use, present situation on the groundwater and other matters necessary for water resources development and management.

(6) Preparation of guideline for water resources management

- (a) The Director of the Federal Water Resources Division shall, after consultation with the National Water Resources Committee, prepare the Guideline for water resources development, which will be the basis for comprehensive water resources management.
- (b) The Guideline for water resources management shall contain the following matters;
 - (i) Such fundamental subjects as present conditions, needs of water resources management, and regional characteristics, etc.
 - (ii) Principles and standards concerning river maintenance flow, water quality limits in river system and standard flood discharge.

(7) Designation of the group of river basins for comprehensive water resources development, use and conservation

The Director of the Federal Water Resources Division may, after consultation with the National Water Resources Committee and the State Governments concerned, shall designate a group of river basins which should be regarded as the minimum unit area for water resources development, use and conservation based on the National Water Resources Master Plan, by the reason that the water demand and supply balance is so tight that water should be utilized in coordinated manner among various water users.

(8) Determination of technically basic standards

- (a) The State Water Resources Division shall, after consultation with the State Water Resources Committee, determine the river maintenance flow which is required for preserving low flow and balancing water demand and supply at the key stations in accordance with the Guideline for water resources management, and make them public.
- (b) The State Water Resources Division shall endeavor to secure the abovementioned river maintenance flow.

- (c) The State Water Resources Division shall, after consultation with the Director General of Division of Environment, determine the water quality limits in river system in accordance with the Guideline for water resources management and make them public.
 - (d) The State Water Resources Division shall determine the standard flood discharge which is to be the basis of flood mitigation scheme in accordance with the Guideline for water resources management.
 - (e) If the river is an inter-state river, the State Resources Divisions concerned with the supervision of the respective State Water Resources Committees shall consult with each other for the determination of technically basic standards in paragraphs (a), (b) and (c).
- (9) National Water Resources Master Plan
- (a) The Director of the Federal Water Resources Division, in cooperation with the State Water Resources Division, shall prepare the National Water Resources Master Plan.
 - (b) The Director of the Federal Water Resources Division shall consult with the National Water Resources Committee before preparing the Plan described in paragraph (a).
- (10) Regional Water Resources Master Plan
- (a) The Director of the Federal Water Resources Division shall prepare the Regional Water Resources Master Plan for the comprehensive water resources development, use and conservation by river basin designated and group of river basins designated, based on the National Water Resources Master Plan.
 - (b) The Director of the Federal Water Resources Division shall consult with the National Water Resources Committee and the State Water Resources Divisions concerned before preparing the Regional Water Resources Master Plan in the designated river basin or the group of river basins.
 - (c) The Director of the State Water Resources Division, when being consulted by the Federal Water Resources Division, shall hear the opinions of the Local Authorities concerned regarding the subjects under their jurisdiction.
 - (d) The Director of the Federal Water Resources Division may coordinate the planning of the agencies concerned in the course of preparation of the Regional Water Resources Master Plan in order to ensure its comprehensiveness.

- (e) The Regional Water Resources Master Plan shall be prepared so as to be coordinated with any other policies and plans which will have been formulated and made by the Federal Government and the State Government concerned.

(11) National Water Resources Committee

- (a) There shall be established in the Prime Minister's Department a National Water Resources Committee.
- (b) The Committee shall investigate and deliberate on the important matters concerning water resources development and management at the request of the Prime Minister as well as the matters placed under its jurisdiction by the Law.
- (c) The Chairman of the Committee shall be the Director General of EPU and the Committee shall consist of representatives of the Federal agencies concerned and the State Governments.
- (d) The Committee may have some or all the Water Resources Development, Water Pollution Abatement, Water Use Coordination during Drought and Flood Mitigation Panels, if necessary.
- (e) The Federal Water Resources Division shall be the Secretariat to the Committee.

(12) State Water Resources Committee

- (a) There shall be established in the State Government a State Water Resources Committee.
- (b) The Committee shall investigate and deliberate on important matters concerning water resources development and management at the request of the State Government as well as on the matters placed under its jurisdiction by the Law.
- (c) The Chairman of the Committee shall be the Director General of EPU, and the Committee shall consist of representatives of the State agencies, and Local Authorities concerned and the Federal branch offices concerned.
- (d) The Committee may have some or all the Water Resources Development, Water Pollution Abatement, Water Use Coordination during Drought and Flood Mitigation Panel, if necessary.
- (e) The State Governments shall hold the meeting of the Committee in the form of joint Committee regarding the interstate subjects, if necessary.

4.2.3 Water resources development

(1) Basic plan for the construction of multipurpose facilities

- (a) The Federal Government and the State Governments concerned shall, after consultation with each other, by project, before construction, prepare the Basic Plan for the construction of such multipurpose facilities as dams, barrages and canals which will be utilized by two or more users.
- (b) The Basic Plan for the construction of multipurpose facilities shall contain the purpose of construction, location and name, type and capacity, intake and discharge of water, allocation of water use volume, concessionair, construction cost and its allocation, construction schedule, matters related to environmental assessment and other essential matters.
- (c) The Federal Government and the State Governments concerned, may, by order, let the National Water Resources Development and Management Corporation which shall be set up according to the next article, construct and manage the multipurpose facilities and annexed facilities which are going to be constructed in accordance with the abovementioned Basic Plan.

(2) The Water Resources Development and Management Corporation

- (a) There shall be established the Water Resources Development and Management Corporation for the purpose of promoting integrated and effective water resources development and management and thereby contributing to the national economic development and the improvement of the livelihood of the people, through the construction of the multipurpose facilities and annexed facilities which is to be implemented in accordance with the abovementioned Basic Plan.
- (b) The Water Resources Development and Management Corporation shall, by the order of the Federal Government and/or the State Governments, in accordance with the Basic Plan, construct, operate and maintain the multipurpose facilities and annexed facilities in order to achieve the abovementioned objectives.
- (c) The construction, operation and management of the multipurpose facilities carried out by the Water Resources Development and Management Corporation shall be in accordance with the project scheme and the operation rules which are formulated by the Water Resources Development and Management Corporation with the approval of the Federal agencies concerned and the State Governments concerned.
- (d) The Water Resources Development and Management Corporation shall, in advance, consult the State Water Resources Division concerned with respect to the contents of the abovementioned operation rules for the multipurpose facilities.

- (e) The Water Resources Development and Management Corporation may, by the delegation of the Federal agencies, the State agencies or the enterprises, implement water resources projects other than the construction of the multipurpose dams, barrages or canals.
- (f) A Board shall be established in the Water Resources Development and Management Corporation in order to manage its organization.
- (g) The Water Resources Development and Management Corporation shall be generally and administratively supervised by the Federal Water Resources Division, and its projects shall be approved by the Federal agencies concerned and/or the State agencies concerned.

(3) Construction of the multipurpose facilities not undertaken by the Water Resources Development and Management Corporation

The multipurpose facilities which are concerned by the agencies within a state may be constructed, operated and maintained by an agency in the same state, if all the agencies concerned agree so.

(4) Plan for regional development and rehabilitation of livelihood of the affected in the dam reservoir area

- (a) The Director of the Federal Water Resources Division may, at the request of the State Government, designate as "Dam Reservoir Area" the area or the area including vicinity where the Federal Government anticipate that its fundamental conditions of the people will be considerably changed, by the dam construction.
- (b) In order to rehabilitate the livelihood of people who may lose their means of livelihood in the Dam Reservoir Area designated in previous article by the dam construction, the State Governments shall prepare the plan for regional development plan and rehabilitation of livelihood including the improvement of living environment, introduction of industries and development of infrastructure taking into account the water quality conservation.
- (c) The State Governments shall, in advance, obtain the approval from the Federal Government- regarding the Federal projects and/or Federal-aid Projects.

- (d) The Plan for regional development and rehabilitation of livelihood in the Dam Reservoir Area shall contain the outline of agricultueal development project, flood mitigation project, road construction project, sewage development project, projects related to educational or medical facilities, and other projects deemed to be necessary in order to abate the effects caused by the changes of the fundamental conditions due to the construction of the dam, etc. and acquisition of the housing and agriculture land, vocational training and guidance, and other means for the people who will lose their means of livelihood.
 - (e) The Federal Government and the State Governments shall endeavor, as much as possible, to implement the plan for the regional development and the rehabilitation of the affected in the Dam Reservoir Area.
- (5) Inter-state water diversion project
- (a) The State Government may, by the agreement between other State Governments concerned, prepare the Plan of the Inter-state water diversion and implement projects.
 - (b) The Federal Government may, at the request of at least one State Government concerned, prepare the Plan of the Inter-state water diversion and implement the project.
 - (c) The Plan of the inter-state water diversion shall contain the fundamental principle of the scheme, benefit area of the project, location of main facilities, maintenance flow in the downstream of intake point, diversion volume, compensation by cash, unit cost of water and operation rule of the facilities.
 - (d) The Federal Government or the State Governments concerned shall not only take into consideration on the hydrological topographical and other natural conditions, population, land use and other social condition, and the long-term forecasting of the water balance related to the diversion project, but also shall pay attention to the well-balanced development of the national land and the region.

4.2.4 Water resources management

(1) Restrictions on the utilization of the river

- (a) The State Water Resources Division may designate the area adjacent to the area where water flows continuously as a part of the "River Area".
- (b) The area where water flows continuously, designated river area of the previous article and the land for the river facilities shall entirely constitute the River Area.

- (c) Any person who intends to occupy land, gather soil and stone, construct or repair of the facilities, alter the configuration of land, plant or cut trees or make other actions within the River Area, shall obtain the permission of the State Water Resources Division concerned.

(2) Restrictions on the utilization of the river water

- (a) Any person who intends to use the river water shall obtain the permission of the State Water Resources Division concerned.
- (b) The State Water Resources Division shall, in advance of the permission, take into integrated consideration such matters as adequacy of the purpose of the river water use, the public benefit of that use, certainty of implementation, influence to the river flow and river water quality.
- (c) The State Water Resources Division may prohibit or restrict navigation on the river to the extent of necessity from the viewpoint of water resources management.
- (d) The Chief Inspector of the Mines Department shall consult, in advance, with the State Water Resources Division in the case of giving permission for the river water use for mining.
- (e) The Licensing Officer of the Fisheries Department shall consult, in advance, with the State Water Resources Division in the case of giving permission according to the provisions of the Fisheries Act.
- (f) The State Water Resources Division shall give the existing river water users concerned the opportunity to express their opinions in case of giving the permission of river water use.

(3) Restriction on the utilization of the groundwater

- (a) The State Water Resources Division may designate as "Groundwater Use Restriction Area" an area where such adverse effects as ground subsidence or sea water intrusion has already occurred and may reduce the yield of groundwater in the existing well.
- (b) Any person who intends to use the groundwater within "Groundwater Use Restriction Area" shall obtain the permission of the State Water Resources Division concerned.
- (c) The State Water Resources Division shall give the existing groundwater users in the vicinity to express their opinions in case of giving the permission of groundwater use.

(4) Restrictions in the outside the river area

- (a) The State Governments, after hearing opinions of the State Water Resources Division, may designate as a "Watershed Conservancy Area", an area where it is anticipated that the cutting of trees, land development and so on will severely affect water resources management.
- (b) The State Water Resources Division may offer its opinions to any officer who is going to do any of the official actions regarding the following cases in which such actions will be executed with respect to the land within the Watershed Conservancy Area;
 - (i) The Forest Officer of the Forest Department gives the permission for cutting trees according to the Forest Enactment.
 - (ii) The State approves any application for alteration of any category of land use according to the National Land Code.
 - (iii) The Collector of Land Revenue gives the permission for clearing of hill land or makes order relating to silt and erosion according to the Land Conservation Act.
- (c) The State Governments may designate as "Flood-prone Area", the area where damages by floods are liable to occur or are anticipated to occur in the future, after hearing the opinions of the State Water Resources Division concerned and taking into consideration Regional Water Resources Master Plan for water resources development, use and conservation in the river basin.
- (d) The State Governments shall prepare the standard for obtaining permission to erect buildings on the land within the Flood-prone Area, taking into consideration the land use plan in such area, and the possibility and anticipated scale of flood damages.
- (e) Any person who intends to construct houses or buildings within a Flood-prone Area shall obtain the permission of the State Government concerned.

(5) Restrictions by the state water resources division on the waste water discharge

- (a) The State Water Resources Division may restrict to discharge pollutant load into the river and groundwater.
- (b) The State Water Resources Division may offer their opinions on the restrictions of waste water discharge according to the provisions of the Environmental Quality Act to the Director General of the Federal Division of Environment.

(6) Special consultation rule on the river use by the government itself

- (a) Any government agency at Federal, State and Local level shall consult the State Water Resources Division concerned in the case when it intends to construct facilities in the River Area or utilize the river water and groundwater in specific area.
- (b) When there is no objection from the State Water Resources Division concerned to the government agency for the consultation previous paragraph (1), the consultation shall be deemed as the permission required according to the relevant provisions in this Code.

(7) Delegation

- (a) The Director of the State Water Resources Division may delegate any of his powers under this Code with respect to restrictions on the utilization of the river and the river water to any district officer.
- (b) The district officer, who is delegated powers from the Director of the State Water Resources Division should exercise his powers with the approval of the State Water Resources Division.
- (c) This section shall not apply to the utilization of the river and the river water by the Government itself.

(8) Rationalization of the water use

- (a) The State Water Resources Division may designate as the "Water Stress Area", the area where water shortage has already occurred or is feared that it may occur.
- (b) Any person who uses a certain amount of river water or groundwater within a Water Stress Area shall prepare a water use rationalization programme and submit it to the State Water Resources Division concerned.
- (c) The State Water Resources Division may advise or make order or recommendation necessary to let the water user improve and rationalize the water use method for the conservation of water after receiving the notification from them.

(9) Emergency measures at flood time

- (a) The Meteorological Service Department shall notify the possible situation of the floods to the State Water Resources Division concerned and the State Natural Disaster Relief Committee concerned in the case when the Meteorological Service Department forecasts that a storm is going to occur as well as notify, if necessary, the situation to the public, requesting the cooperation of the mass media.

- (b) The State Water Resources Division shall notify the situation on the possibility of flooding to the District Natural Disaster Relief Committee concerned, showing the water level or river flow as well as notify the situation to the public, requesting cooperation of the mass media as the needs arise.
- (c) The District Natural Disaster Relief Committees shall establish the flood prevention scheme with regard to observation, precaution, communication, liaison and transportation, etc. and obtain the approval of the State Natural Disaster Relief Committee.
- (d) The State Water Resources Division shall give flood warning as well as inform the same to the District Natural Disaster Committee concerned, if it is deemed that a flood will take place in a river in the state.
- (e) The District Natural Disaster Relief Committees shall commence flood prevention activities in accordance with the flood prevention scheme, in the case when they receive information on floods from the State Water Resources Divisions concerned.
- (f) The State Water Resources Division may order the personnel in charge of dams to take necessary measures with respect to the operation of dams, in the case when the damage by floods has occurred or it is anticipated that the disaster by the floods will probably occur.
- (g) The State Water Resources Division shall report the above-mentioned order to the Panel of Flood Mitigation in the State Water Resources Committee.

4.2.5 Finance and others

- (1) Cost allocation for multipurpose project executed by the Water Resources Development and Management Corporation
 - (a) The Federal Government shall provide the budget to the Water Resources Development and Management Corporation corresponding to the cost which should be borne by the Federal Government with respect to the irrigation and flood mitigation projects.
 - (b) The State Governments concerned shall provide the budget to the Water Resources Development and Management Corporation corresponding to the cost which should be borne by the State Governments with respect to such projects as irrigation, drainage, flood mitigation and domestic and industrial water supply projects.
 - (c) The National Electricity Board, Sabah Electricity Board and/or Sarawak Electricity Supply Corporation shall provide to the Water Resources Development and Management Corporation the

budget corresponding to the cost which should be borne by these agencies with respect to the hydro-electric power projects.

- (d) Other enterprises shall bear the cost which should be borne by them corresponding to the former three cases.
- (e) The State Water Resources Division shall provide the budget corresponding to the cost with respect to increase of the river flow through supplying the water of which the use is not specified.

(2) Federal subsidy for the construction of water resources development facilities

- (a) The Federal Government may subsidize the State Governments some part of the construction cost of water resources facilities by the State Governments.
- (b) The standard of subsidy ratio shall be set up by the Federal Government after consultation with the National Water Resources Committee in compliance with the water use and the scale of the project.

(3) Federal aid for the regional development in the dam reservoir area

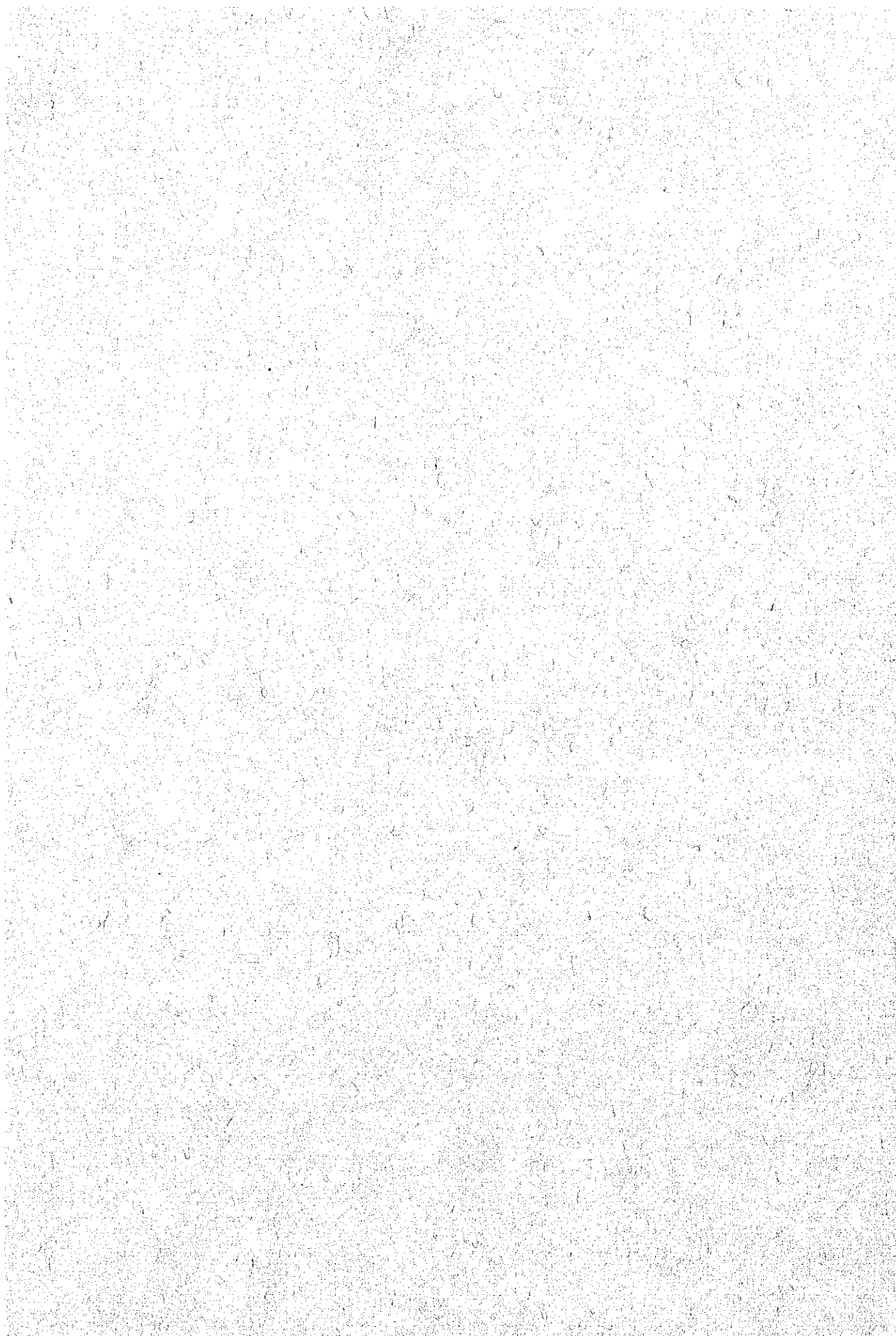
- (a) The Federal Government may grant financial aid to the State Governments with a higher subsidy rate than usual for the purpose of promoting the projects carried out by the State Governments in order to develop the region concerned.
- (b) The State Governments which will bear the cost of the regional development within the Dam Reservoir Area may, after consultation with each other, make the water user who benefits by the construction of the dam concerned and/or the beneficiaries in the downstream area, bear part of the cost of the dam construction.

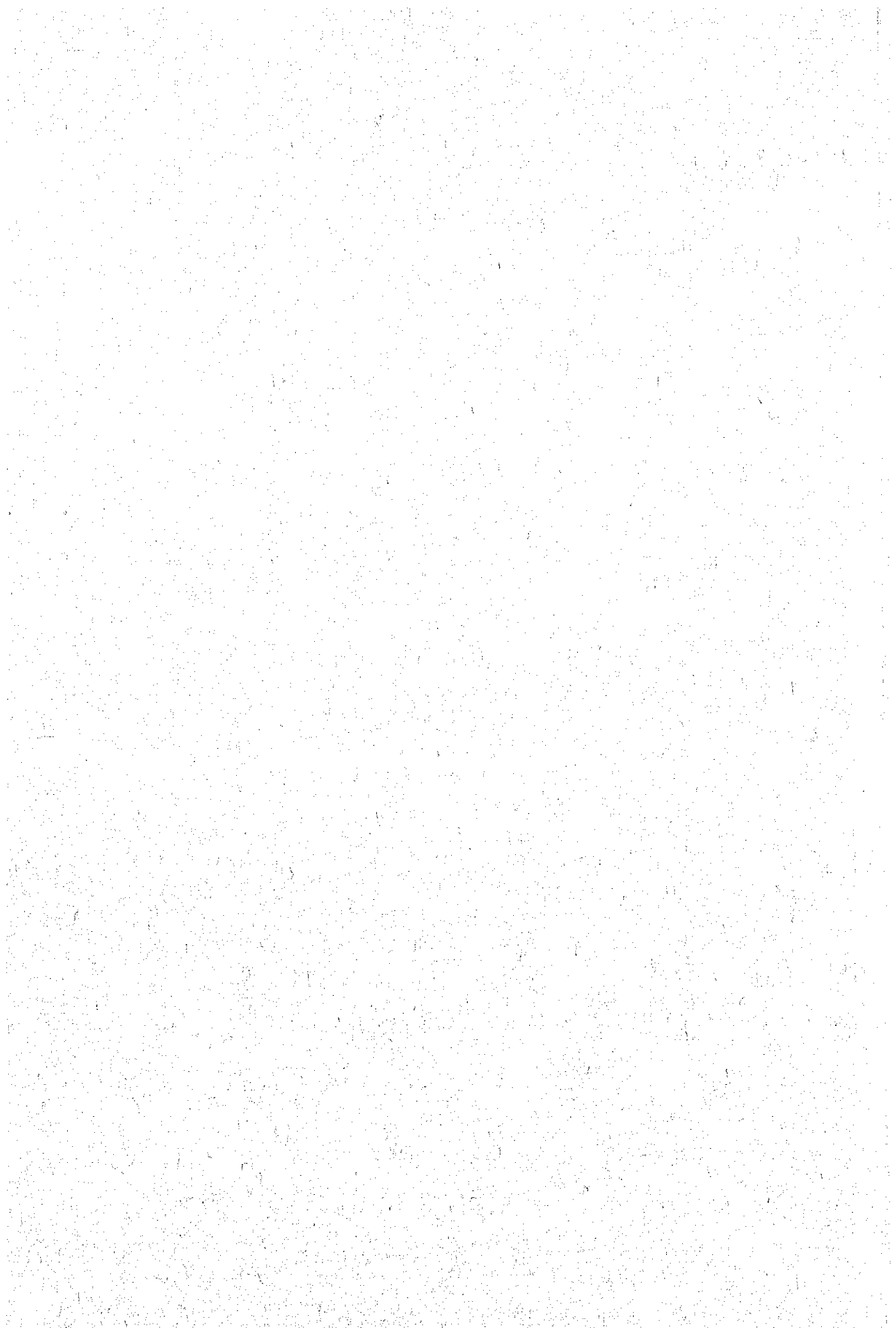
(4) Federal and state aid on the rationalization of the water use and water discharge

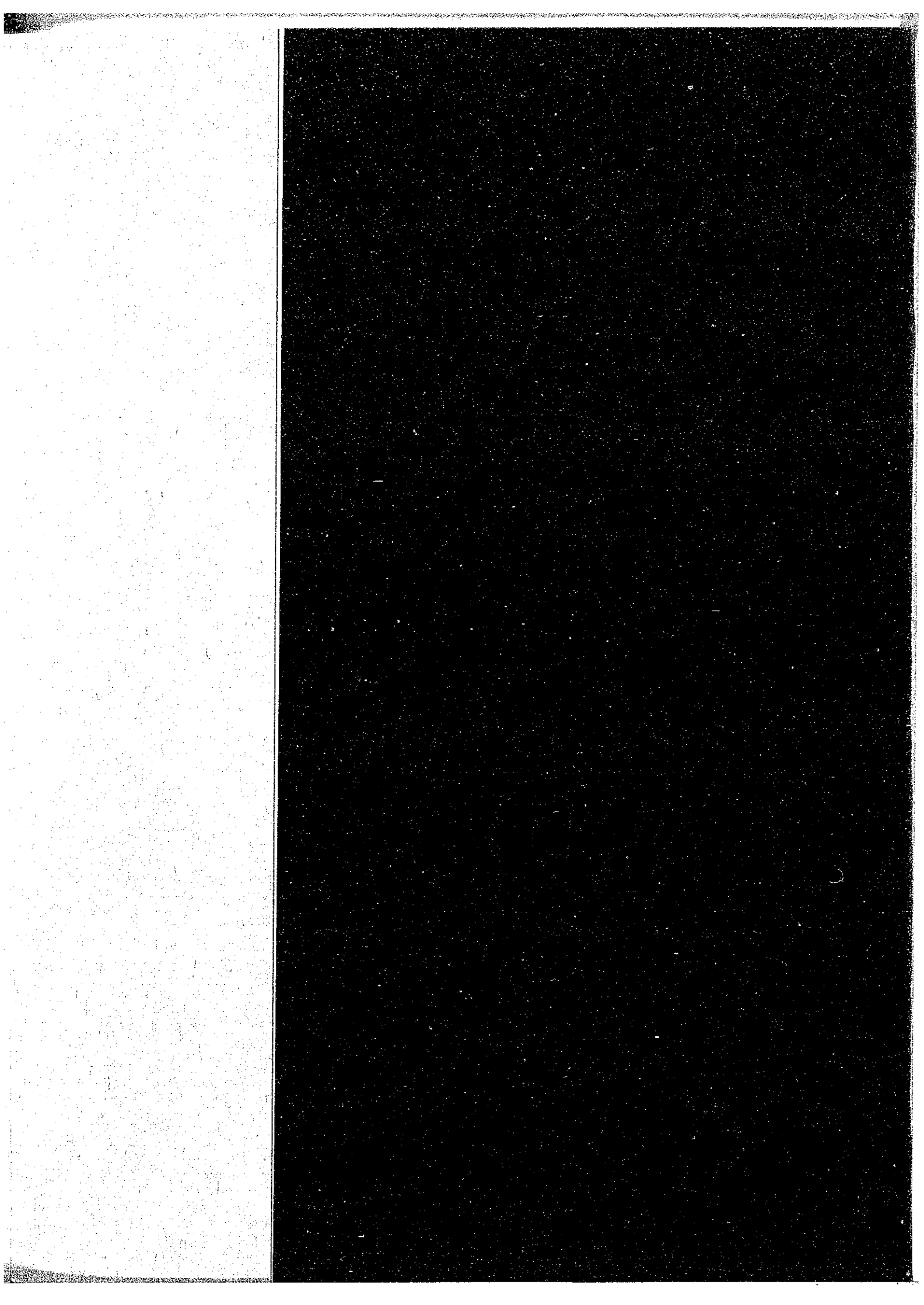
- (a) The Federal Government and the State Governments may grant financial aid to the water users who are going to rationalize the water use by themselves in the designated Water Stress Area.
- (b) The Federal Government and the State Governments may grant financial aid to the water dischargers who are going to improve their water discharge system in accordance with the enforcement of water pollution control by this Code and the Environmental Quality Act.

(5) Technical assistance

The Federal Government shall endeavor to assist the State Governments and the Local Authorities in the technical field of water resources development and management.







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