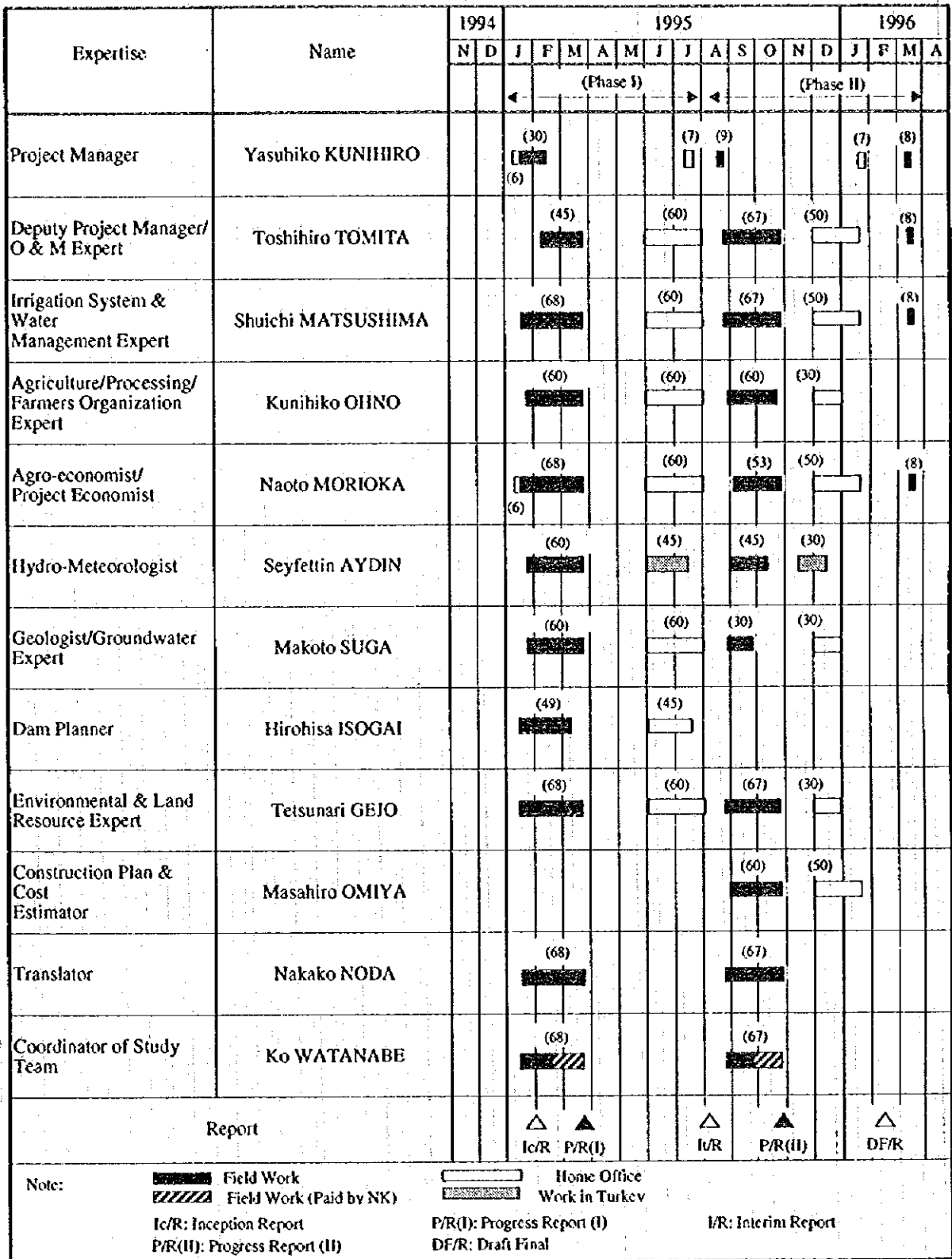


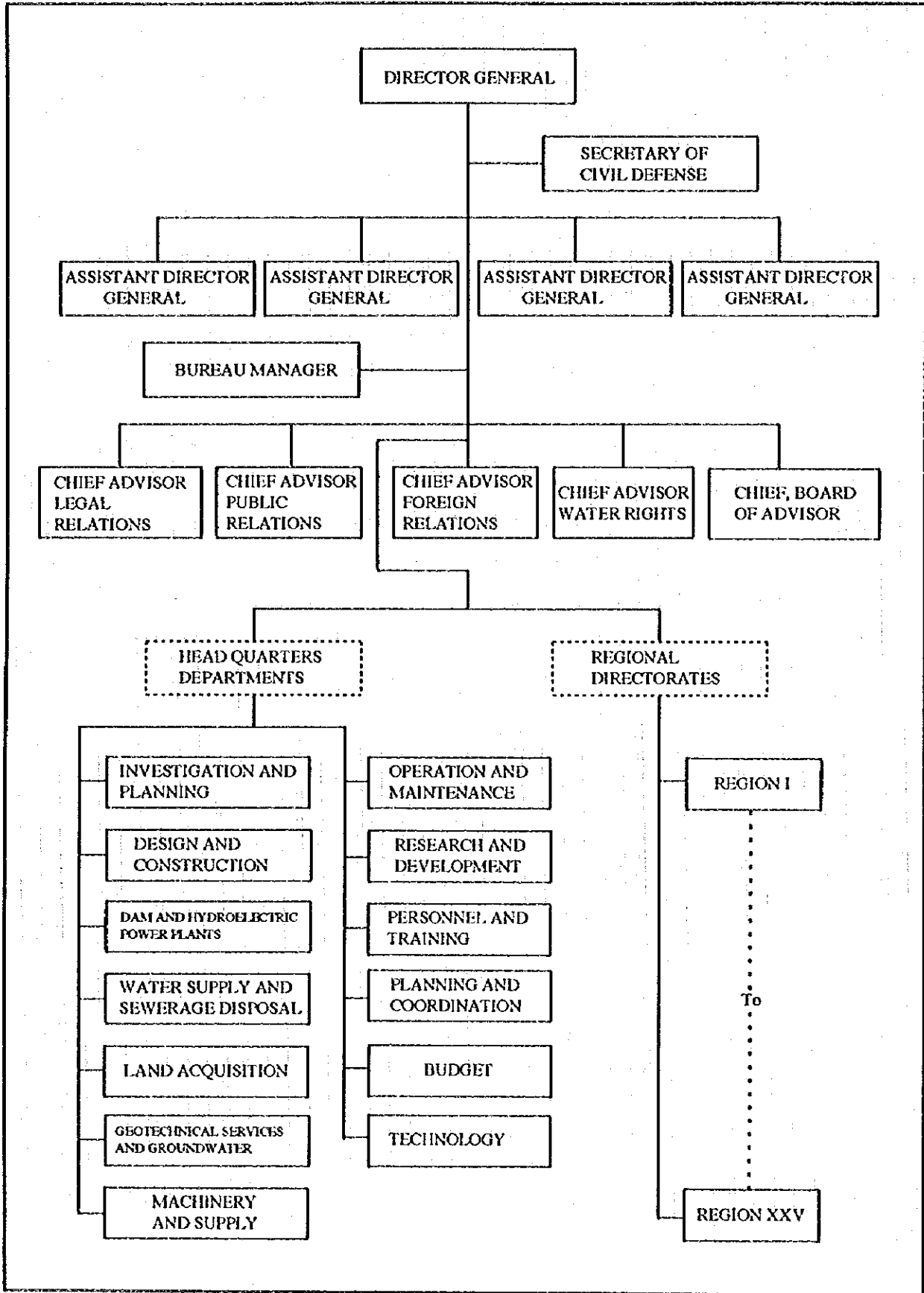
## *FIGURES*

Figure I.1.1

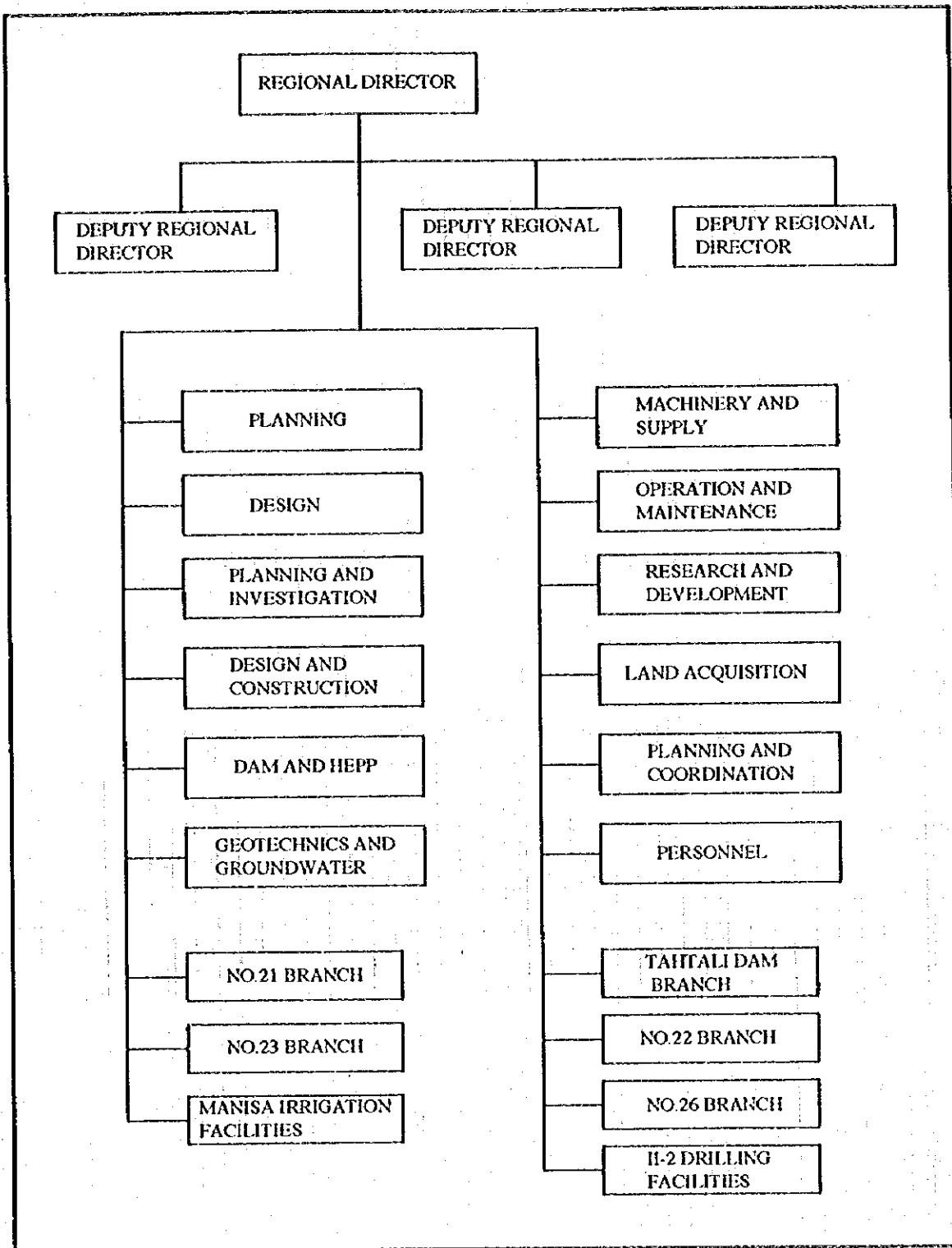


Assignment Schedule

Figure 1.2.1

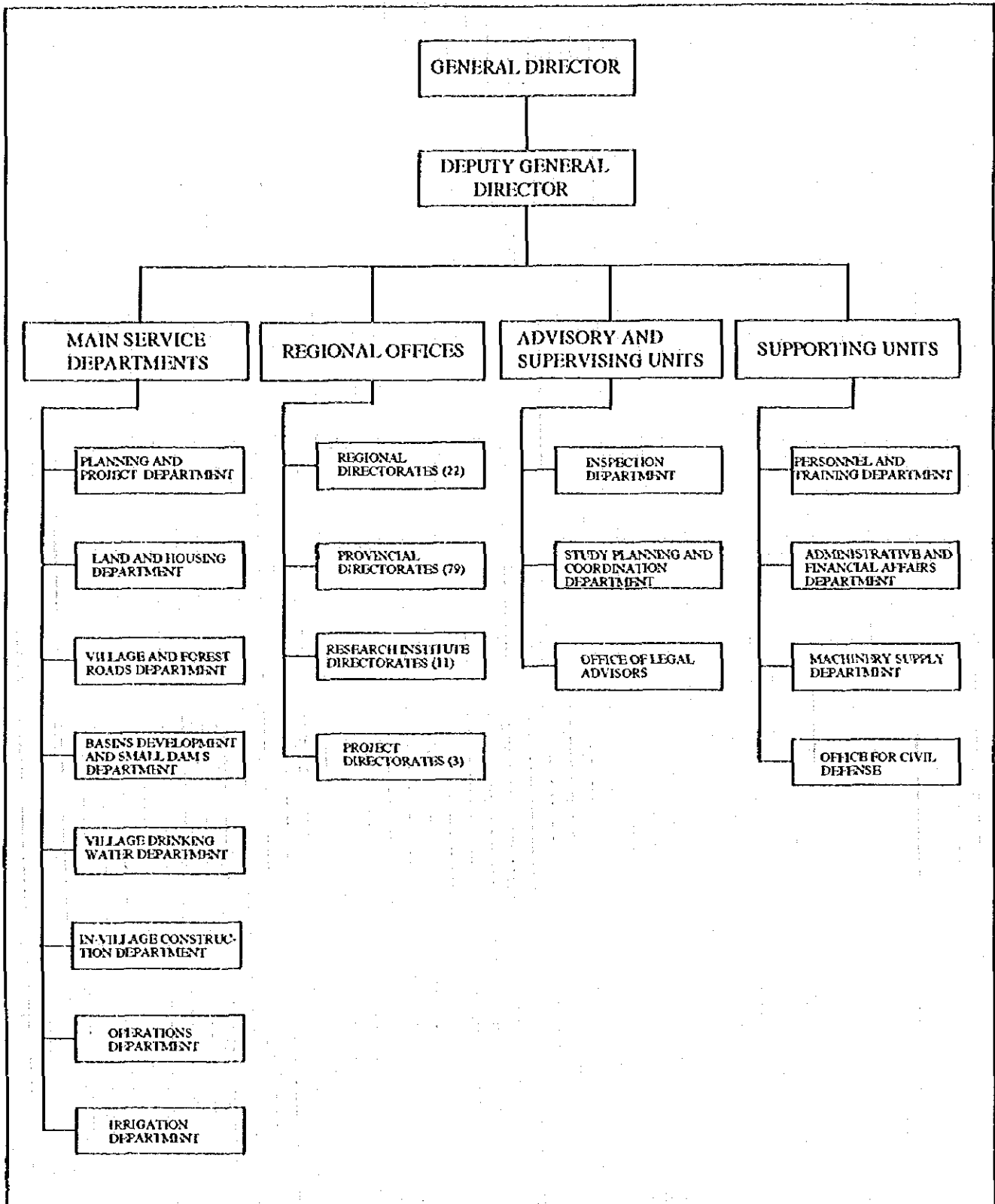


Organization Chart of General Directorate of State Hydraulic Works

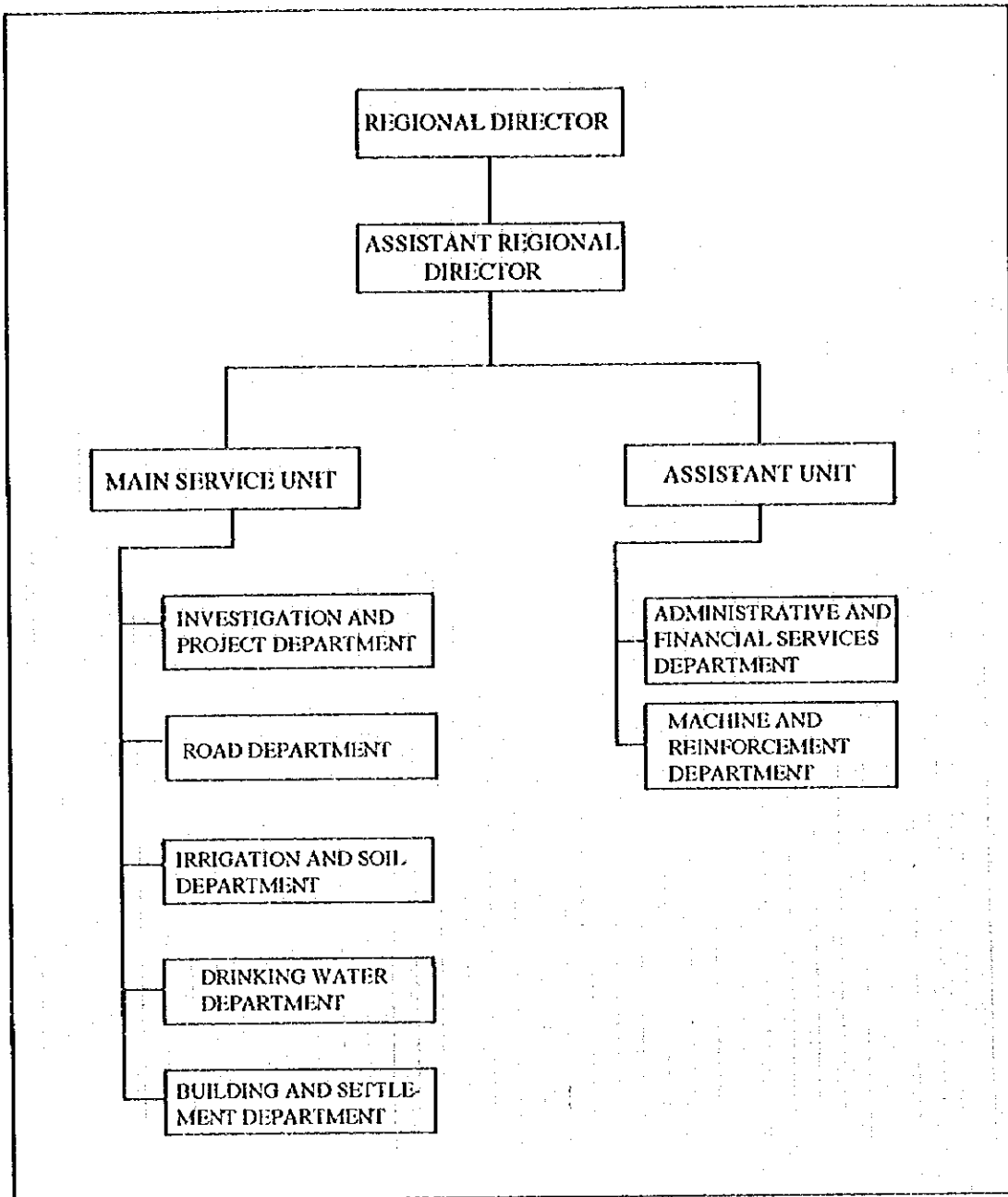


Organization Chart of DSI Second Regional Directorate

Figure 1.2.3

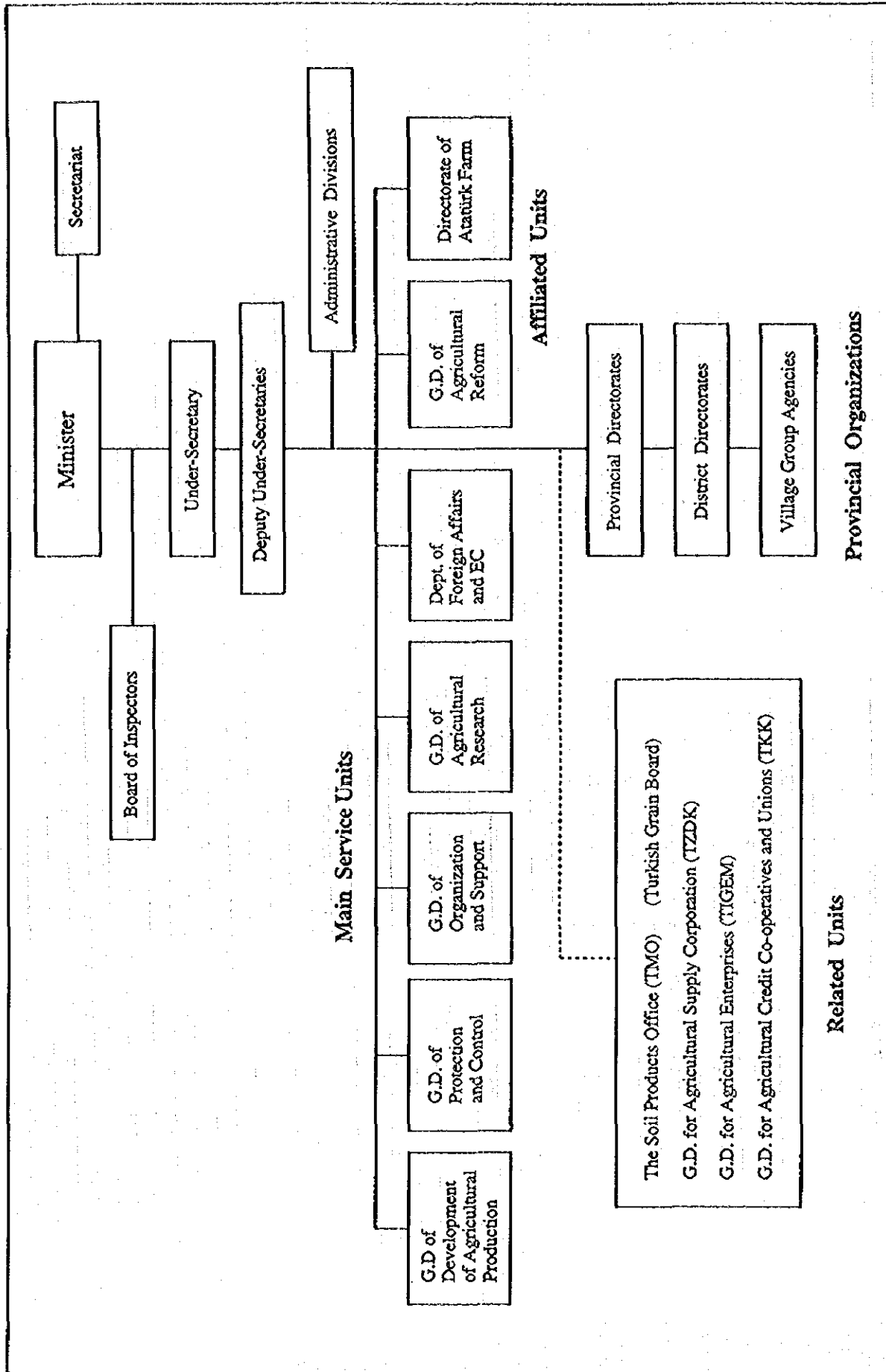


Organization Chart of General Directorate of Rural Services



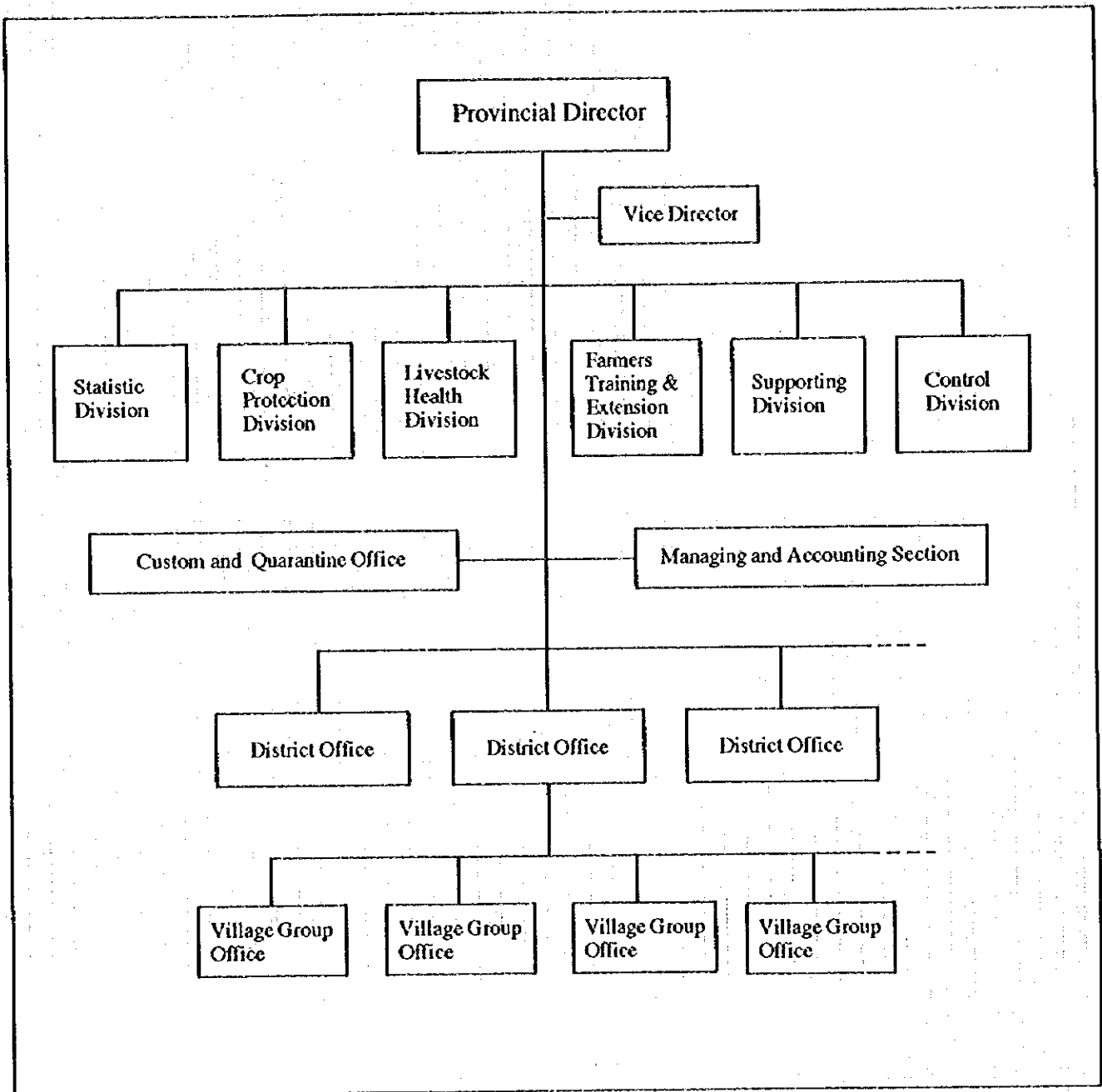
Organization Chart of GDRS 16th Regional Directorate

Figure 1.2.5



Organization Chart of Ministry of Agriculture and Rural Affairs

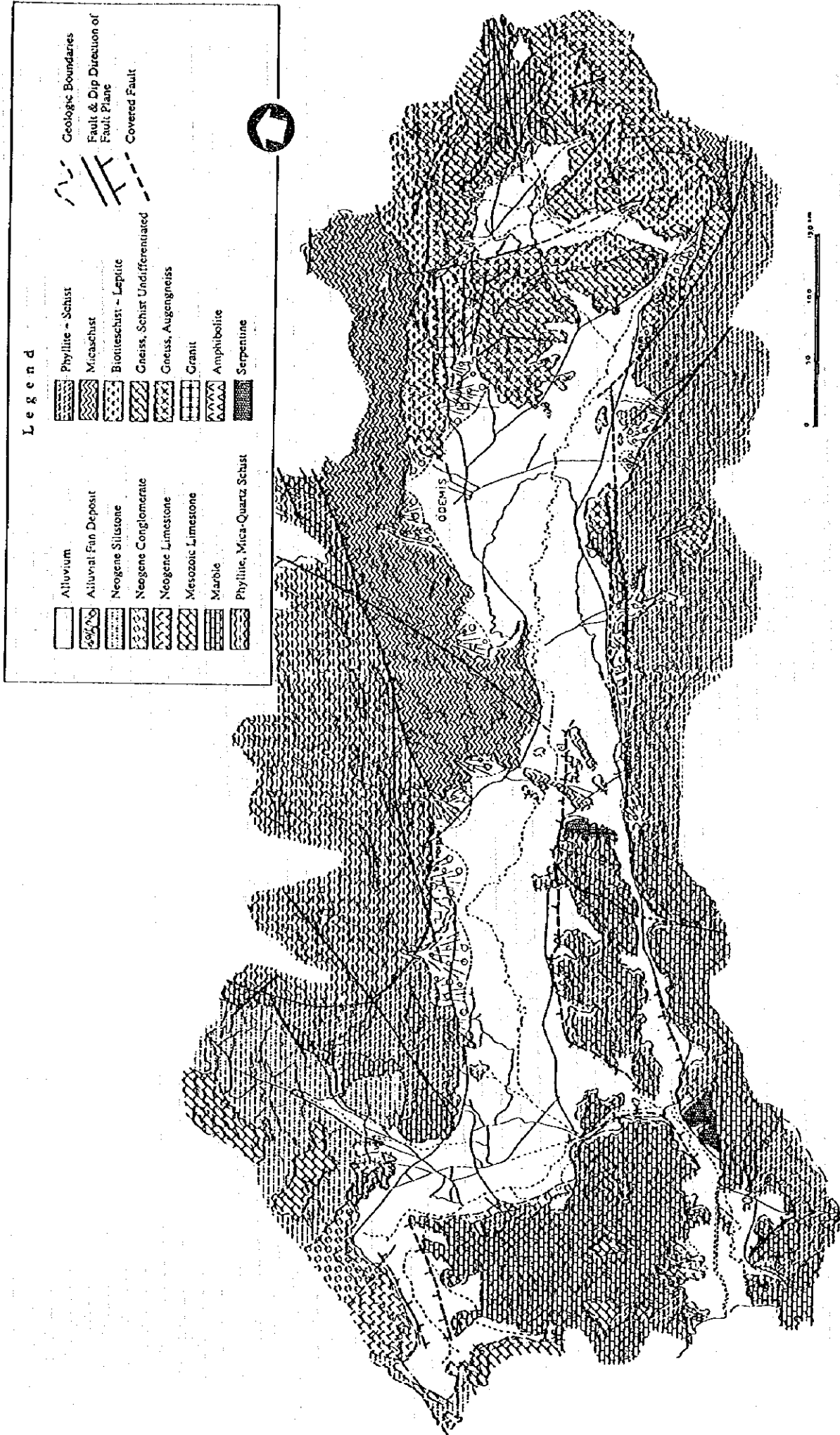
Figure 1.2.6



Organization Chart of Izmir Provincial Office of MARA

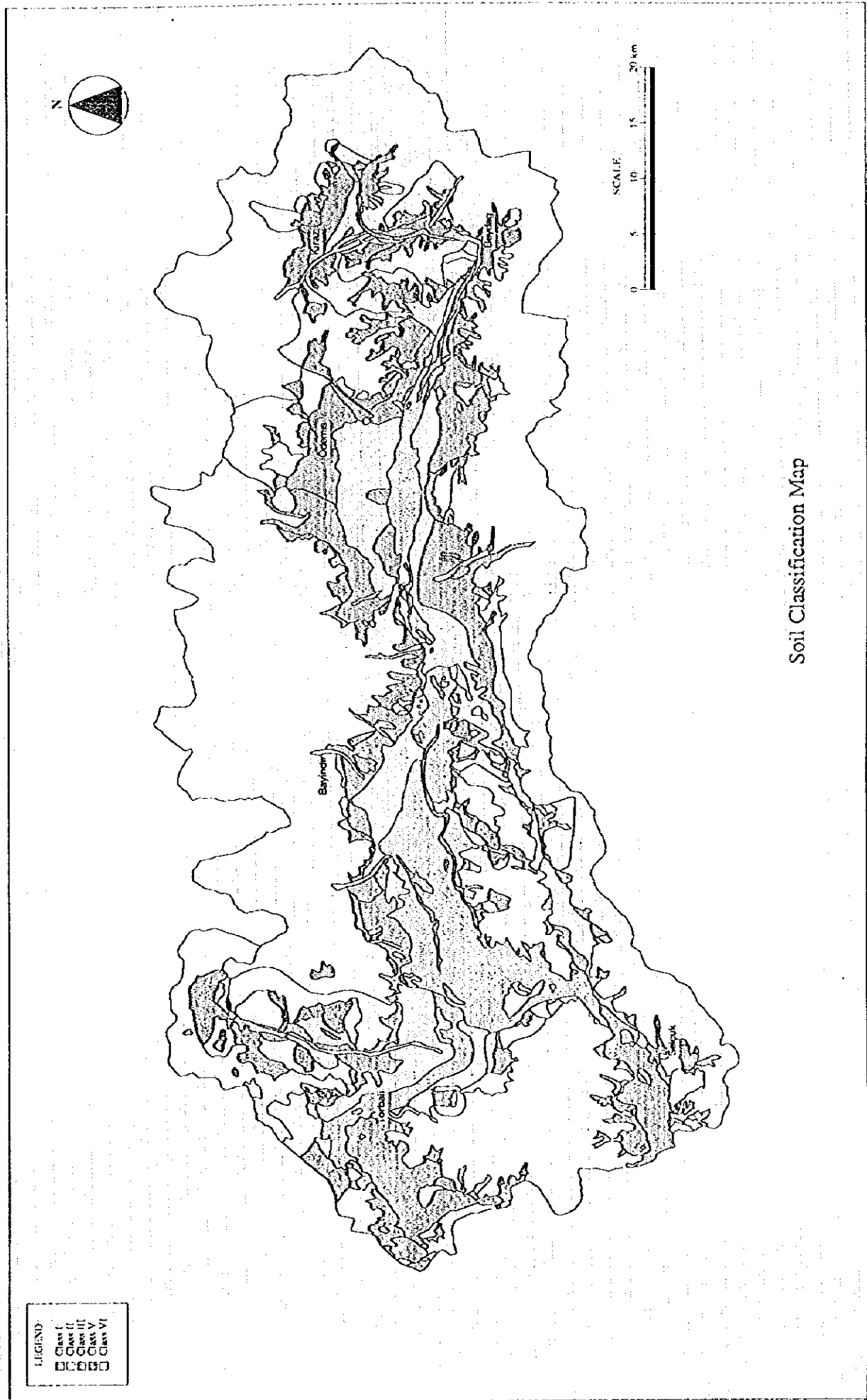


Figure 2.1.1



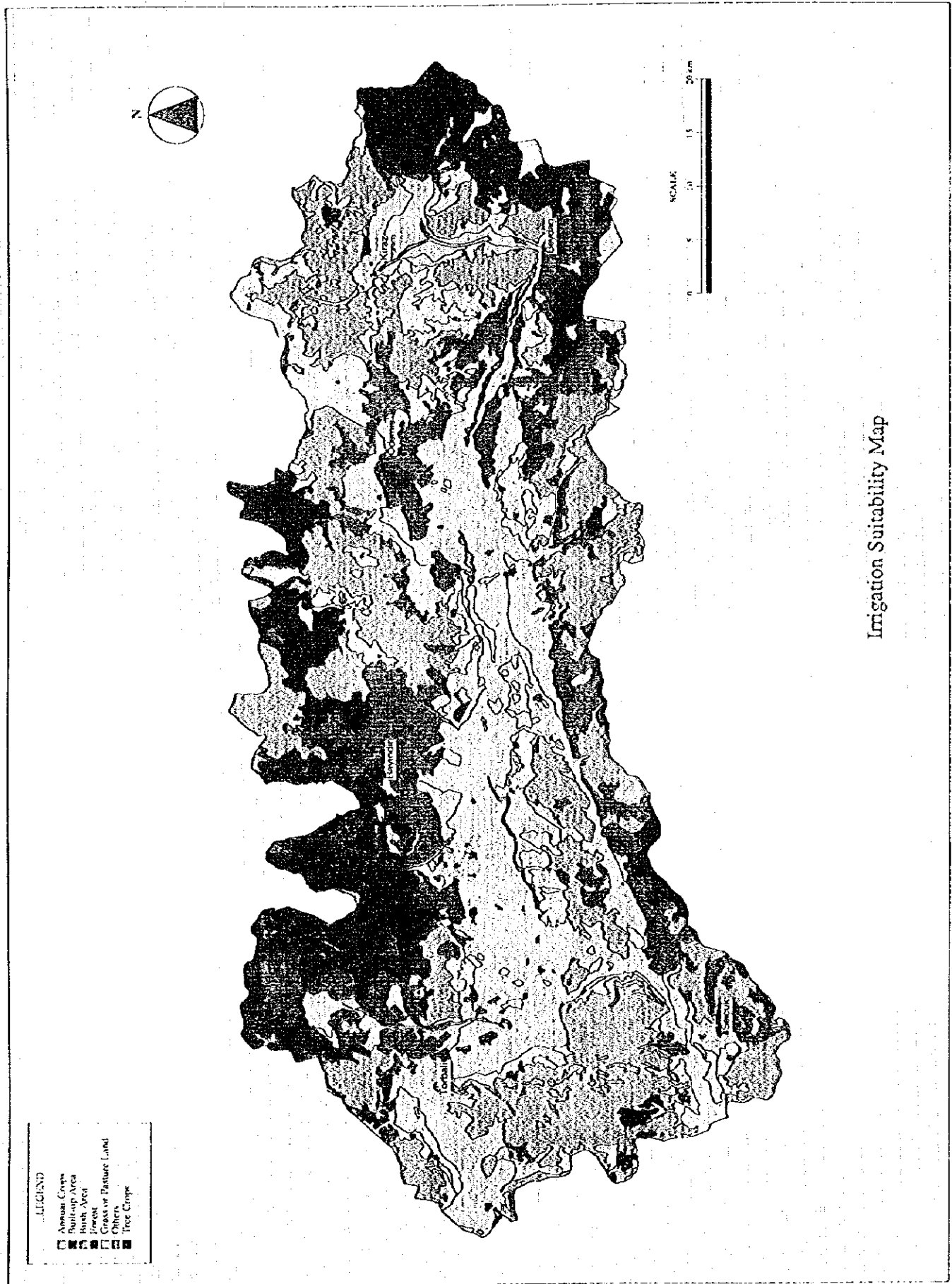
Modified from "Geological Map of Odemis-Kiraz Massif (Menderes Massif) (Odemis-Kiraz Asmasifinin (Menderes Massifi) Jeolojisi Haritasi)", MTA, IZMİR, and "Hydrogeologic Map of the Küçük Menderes Plain (Küçük Menderes Ovası Hidrojeolojisi Haritasi)", DSI.

Geological Map of Küçük Menderes River Basin



Soil Classification Map

Figure 2.1.3



Irrigation Suitability Map

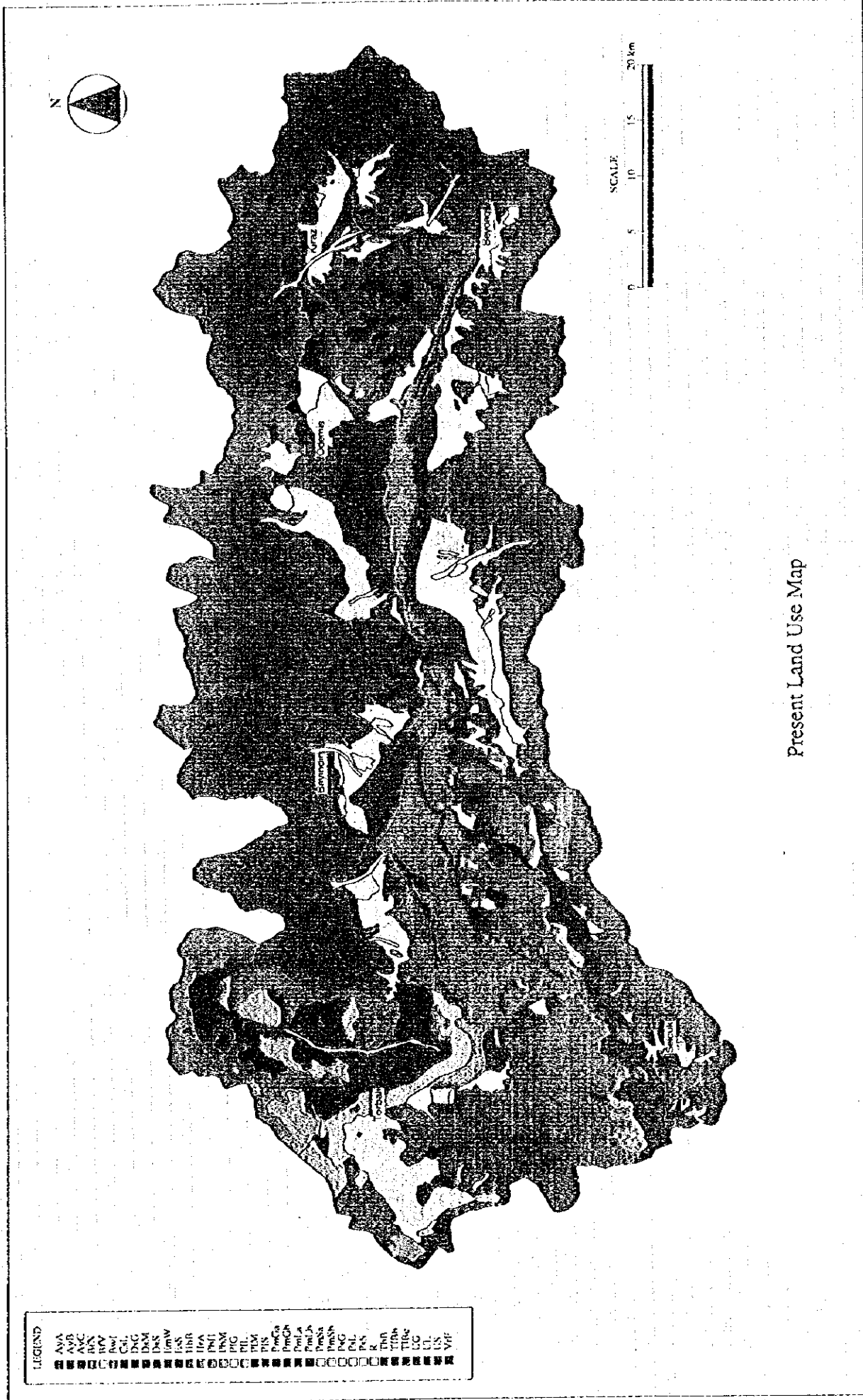
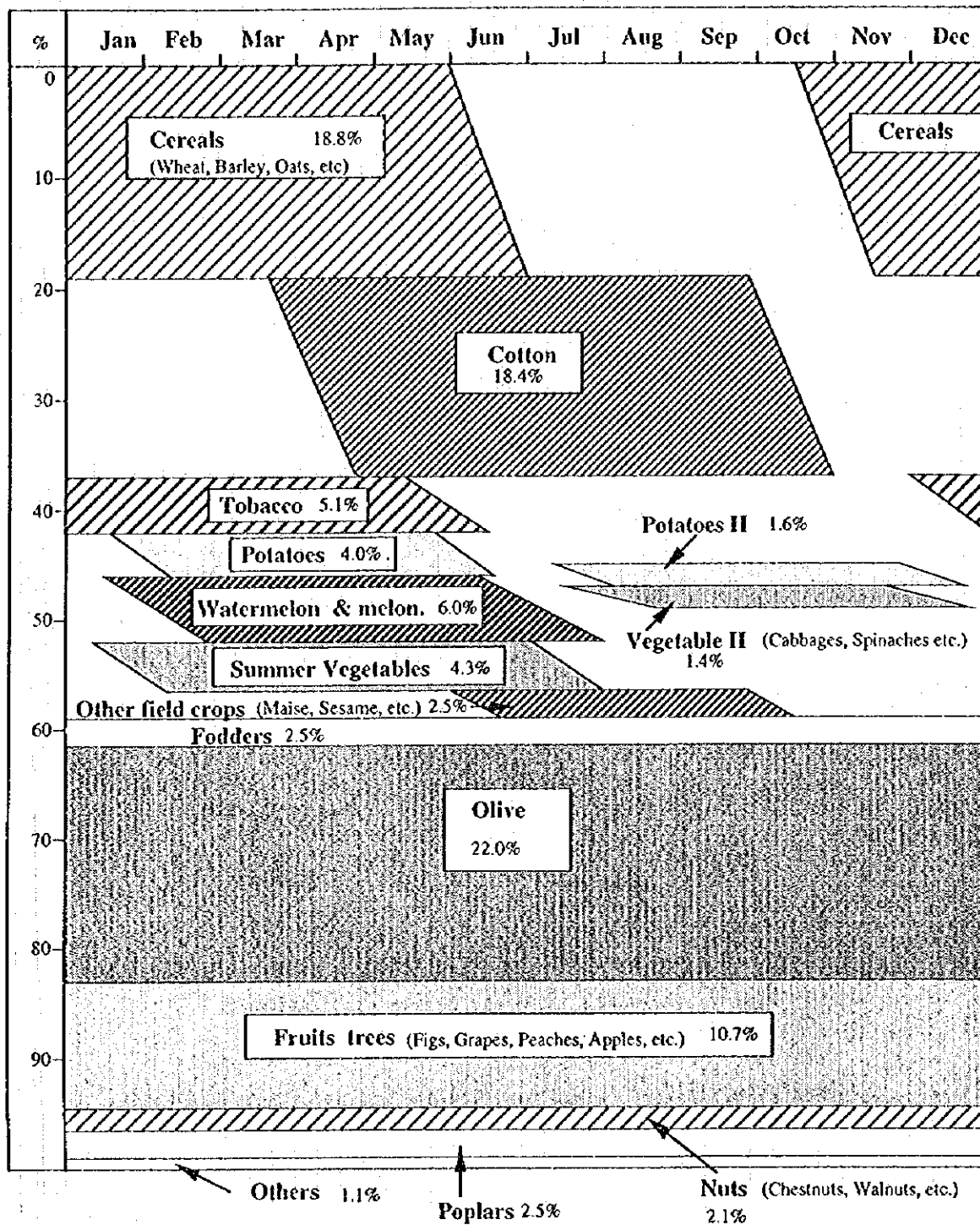
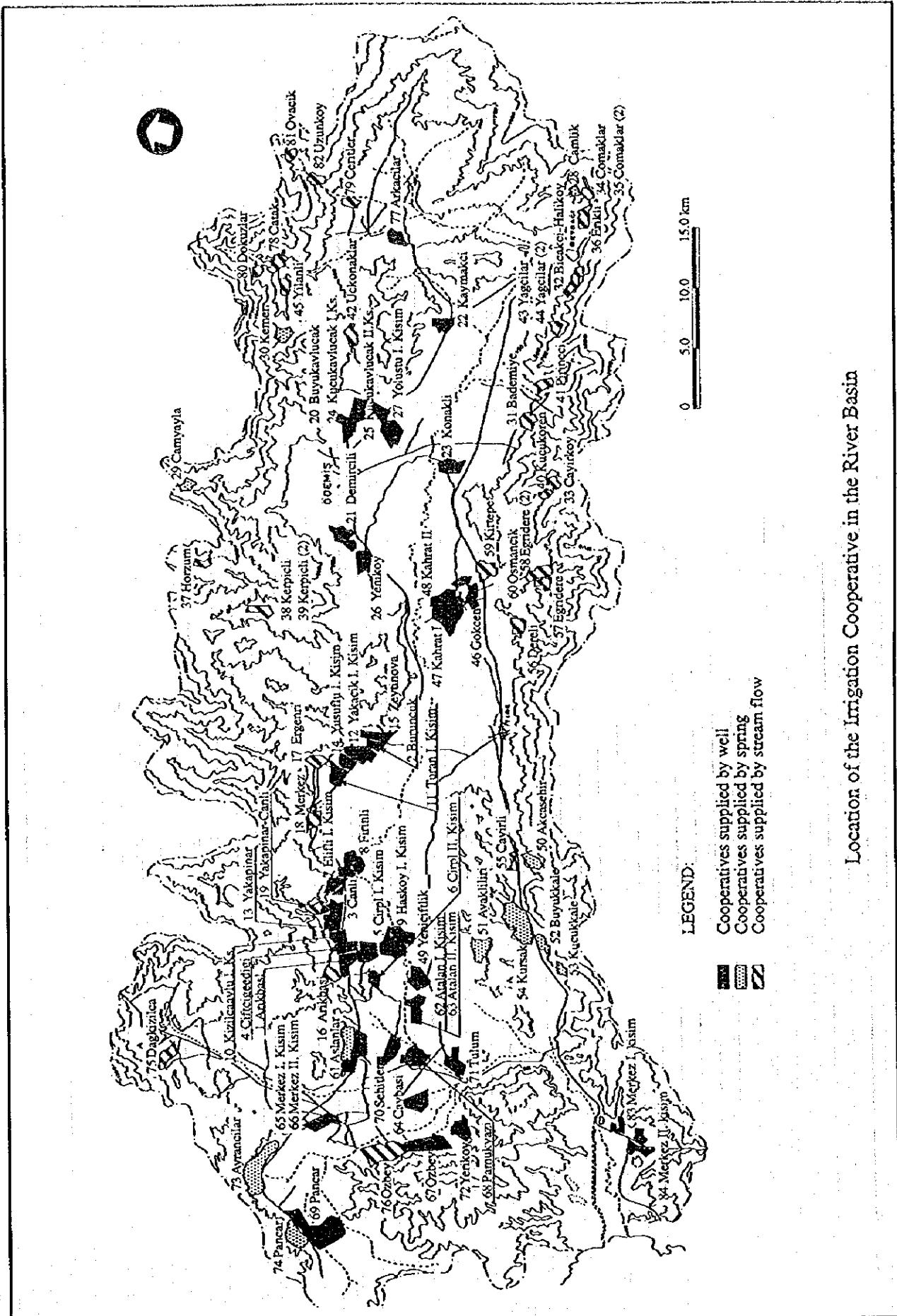


Figure 2.1.5

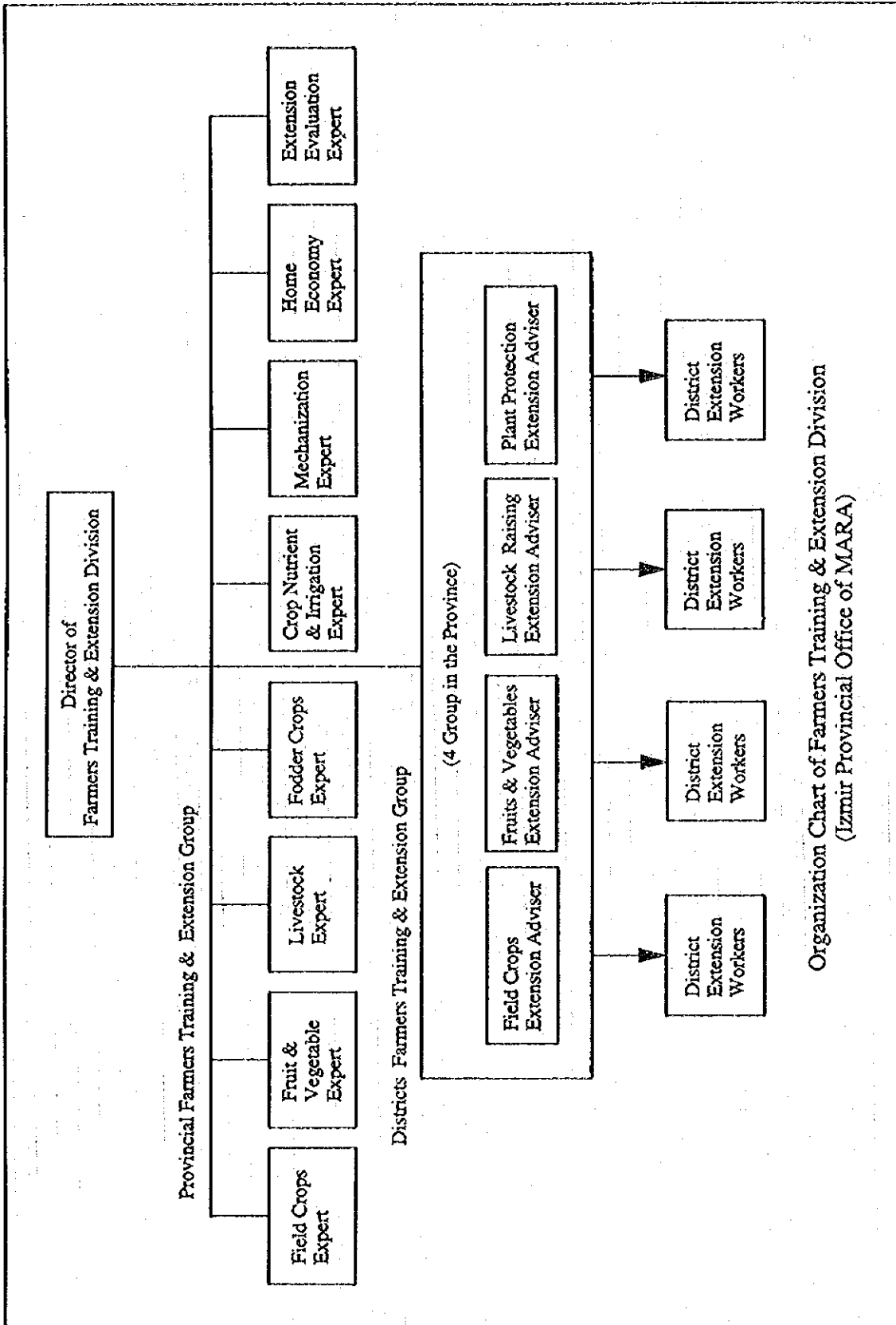


Average Cropping Pattern of the Main Crops in the River Basin

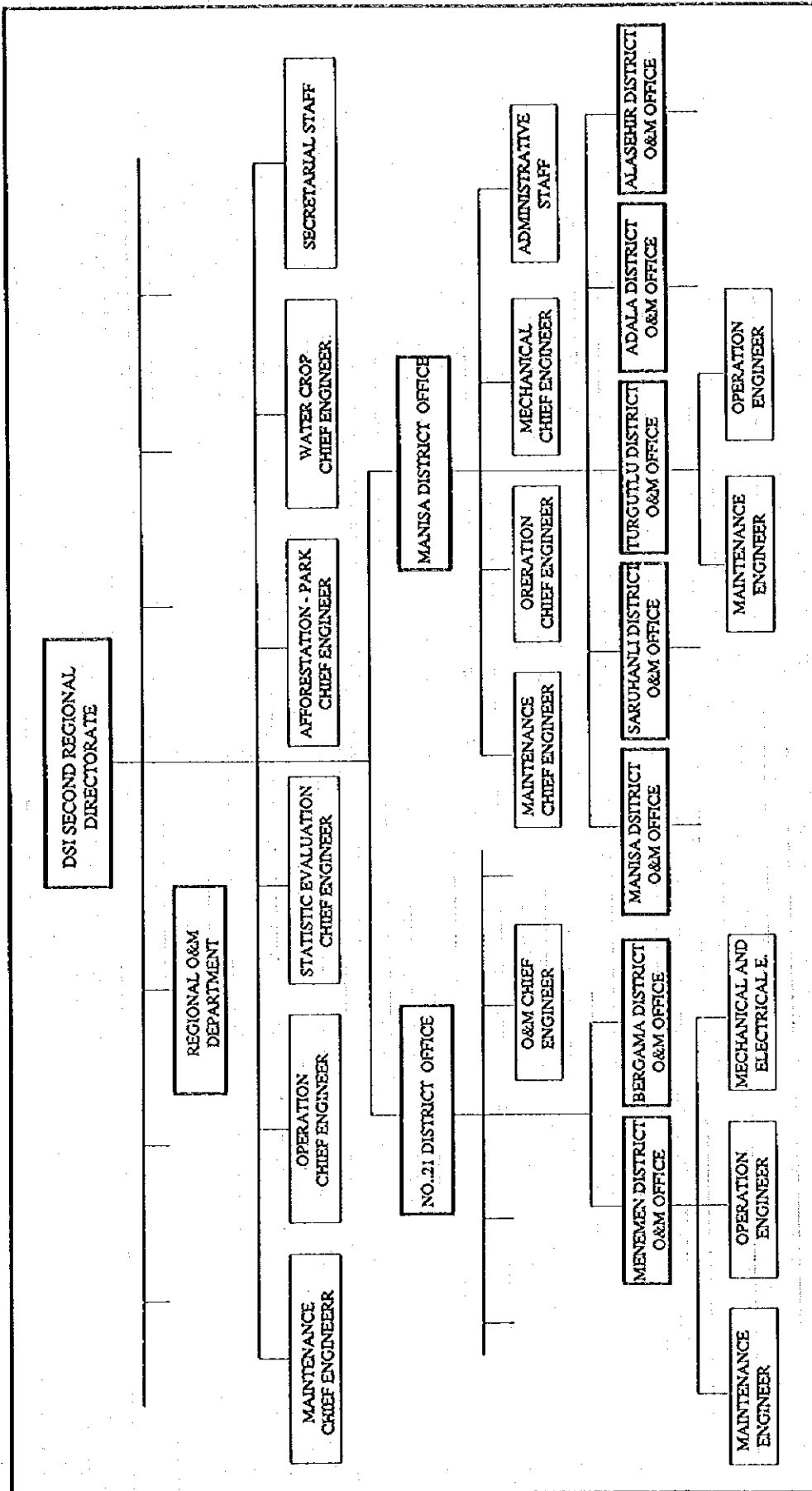


Location of the Irrigation Cooperative in the River Basin

Figure 2.1.7



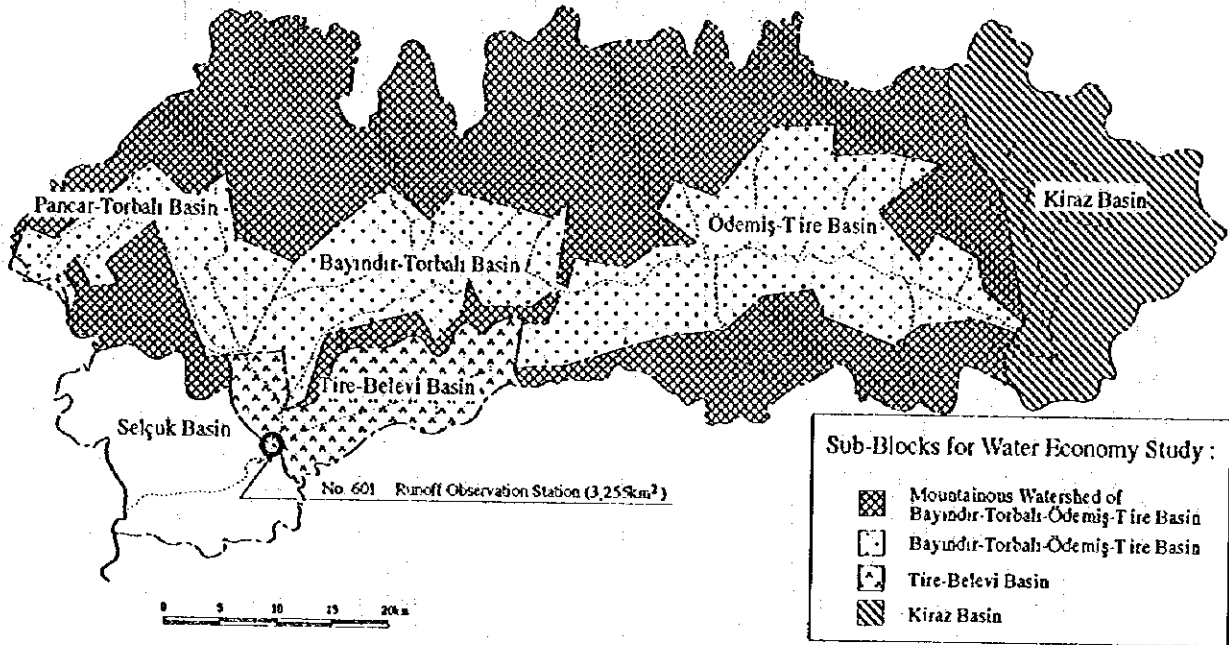
Organization Chart of Farmers Training & Extension Division  
(Izmir Provincial Office of MARA)



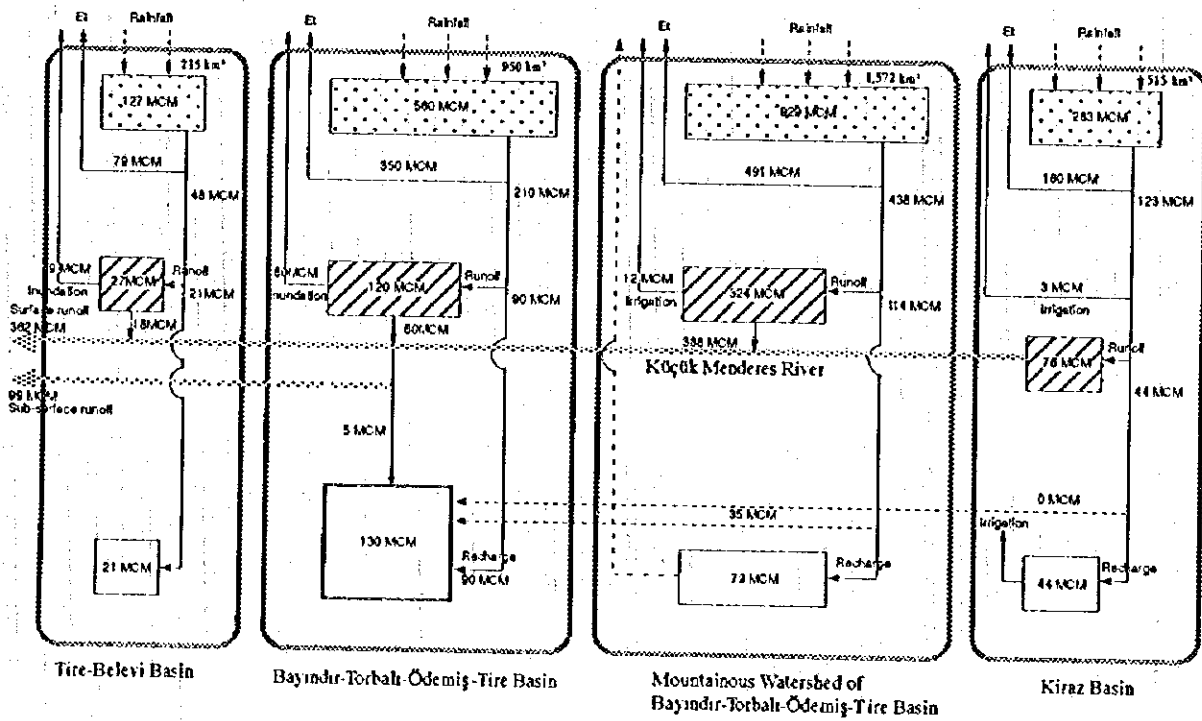
O&M Organization Chart for Irrigation Projects in the Gediz River Basin



Figure 2.2.1 ~ 2.2.2



Zoning of Ground-Water Basin in the River Basin



\*: Above figures of water volume are mean values estimated through water economy study during 20 years from 1974 to 1993.

Water Economy of the Küçük Menderes River Basin

Figure 2.2.3

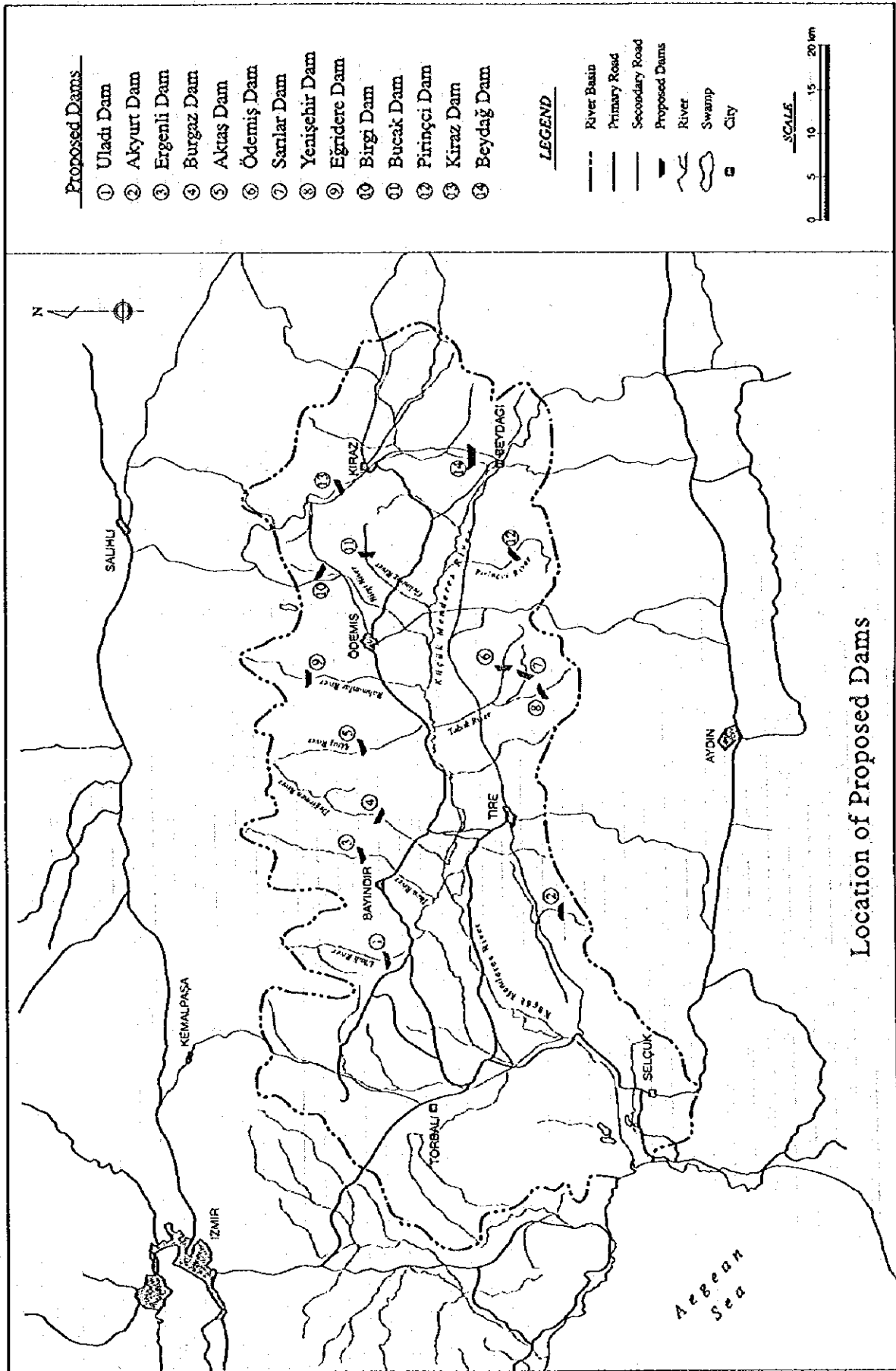
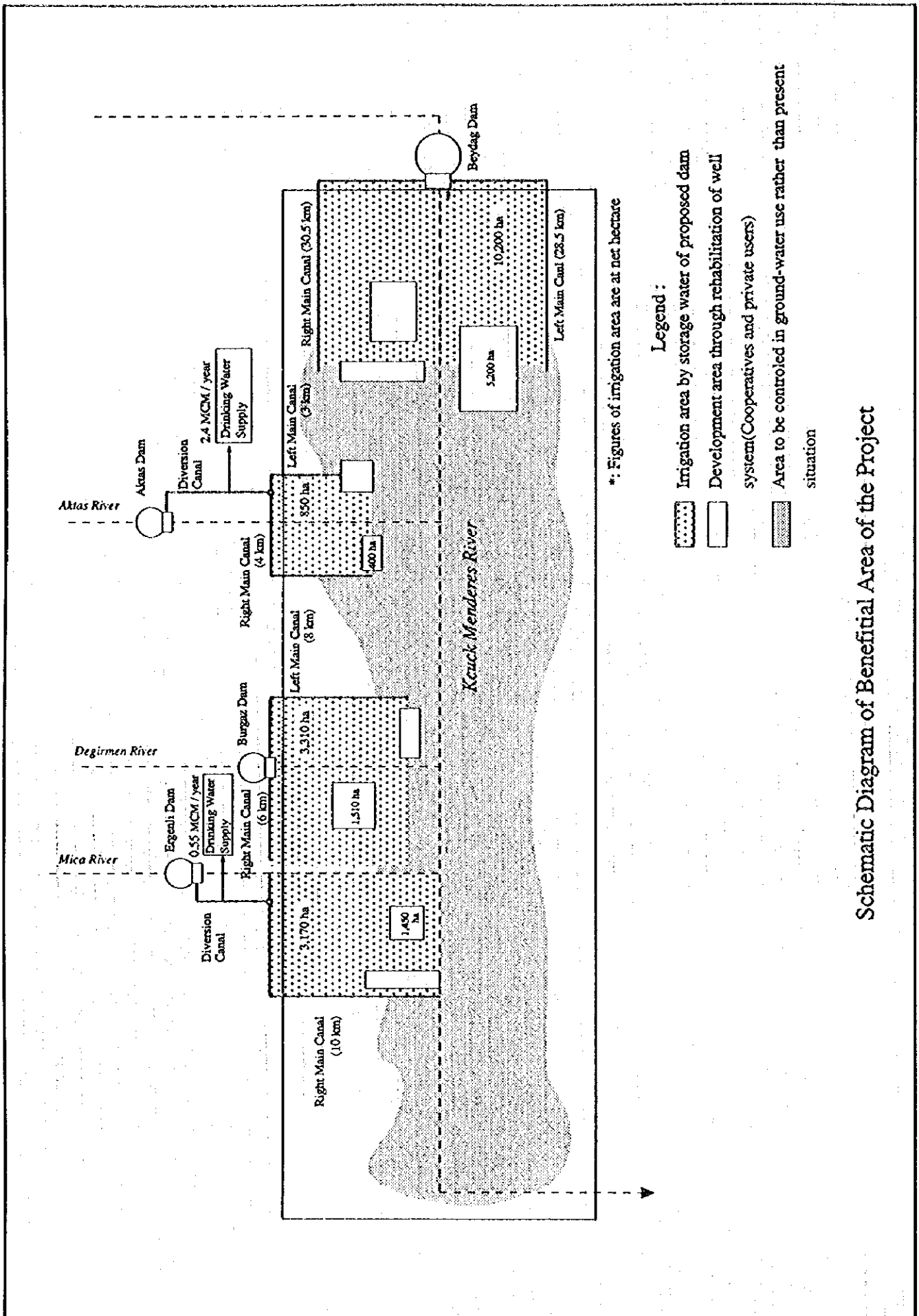
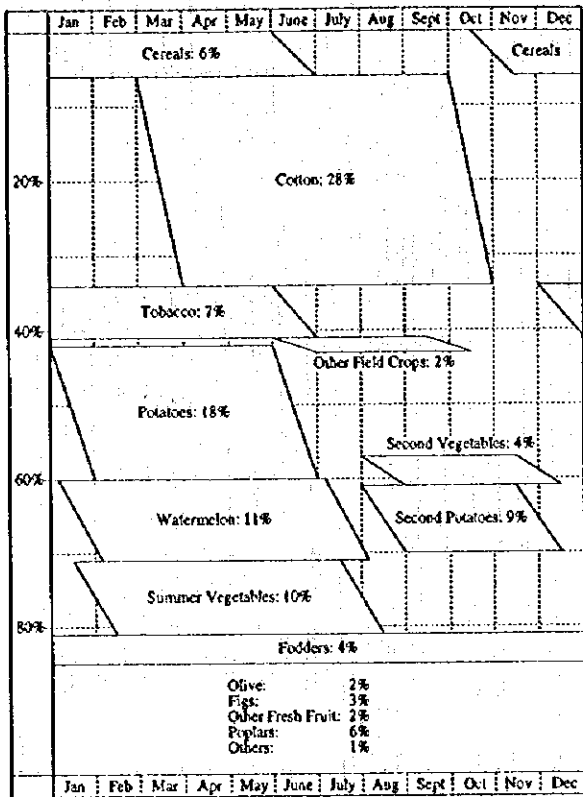


Figure 2.2.4

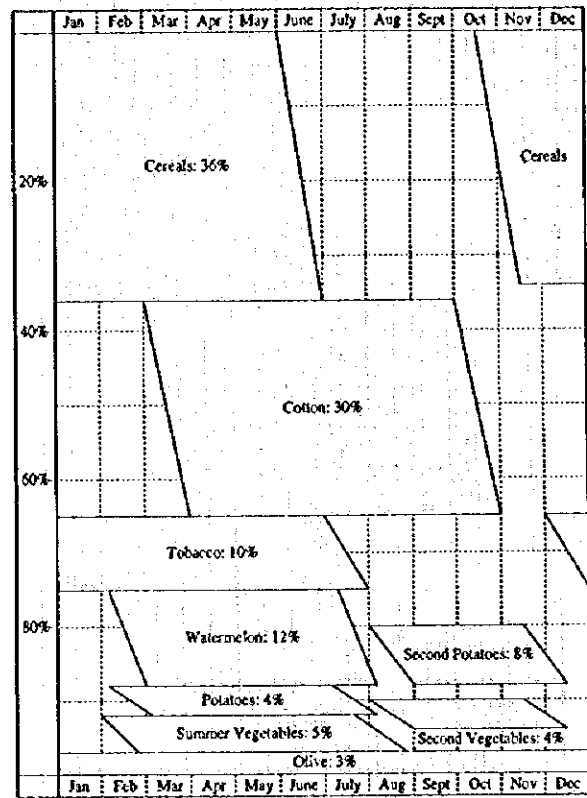


Schematic Diagram of Beneficial Area of the Project

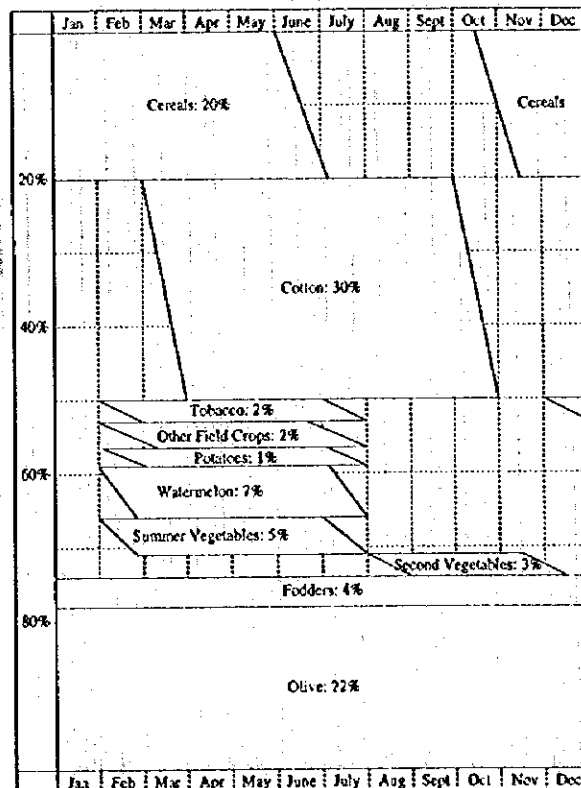
Figure 2.2.5



(a) Beydag Dam Project Area



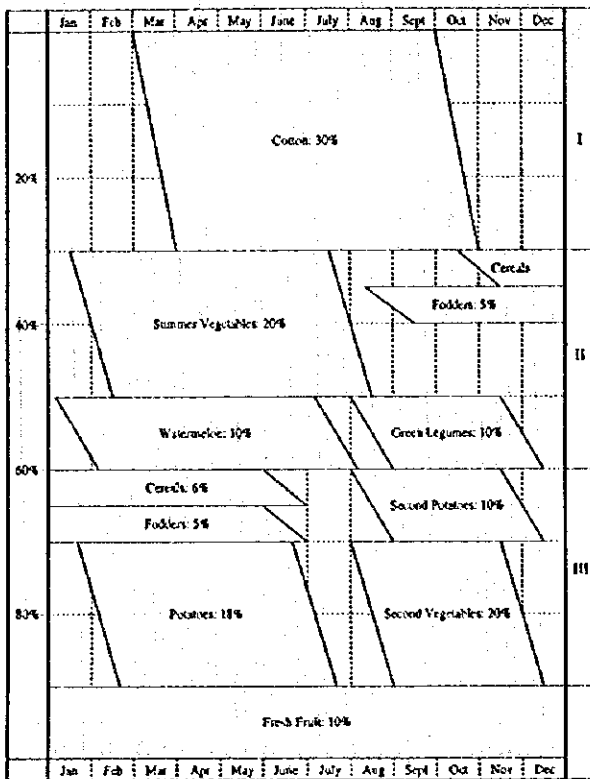
(b) Aktas Dam Project Area



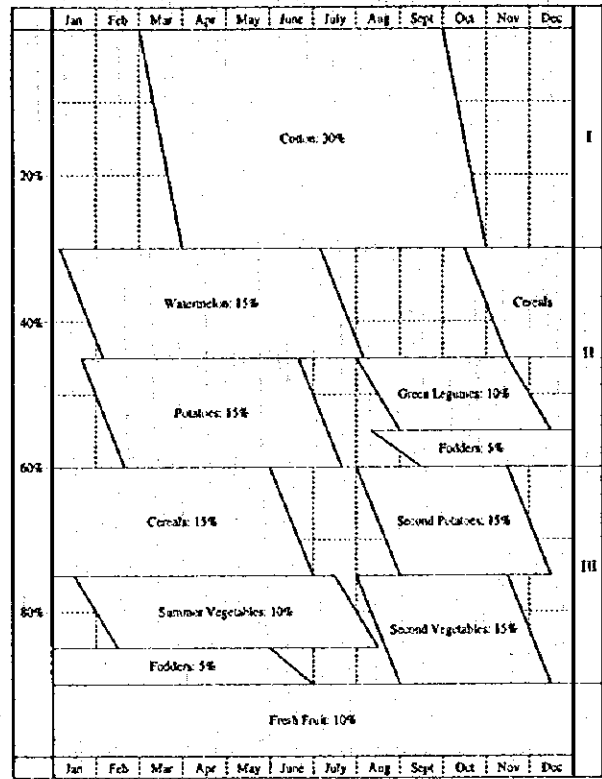
(c) Burgaz and Ergenli Dam Project Area

Present Cropping Pattern in the Study Area

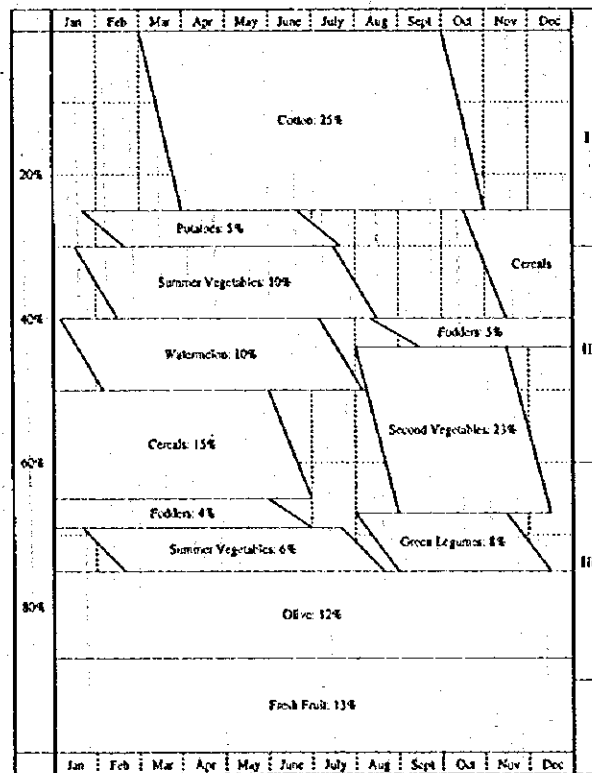
Figure 2.2.6



(a) Beydag Dam Project Area



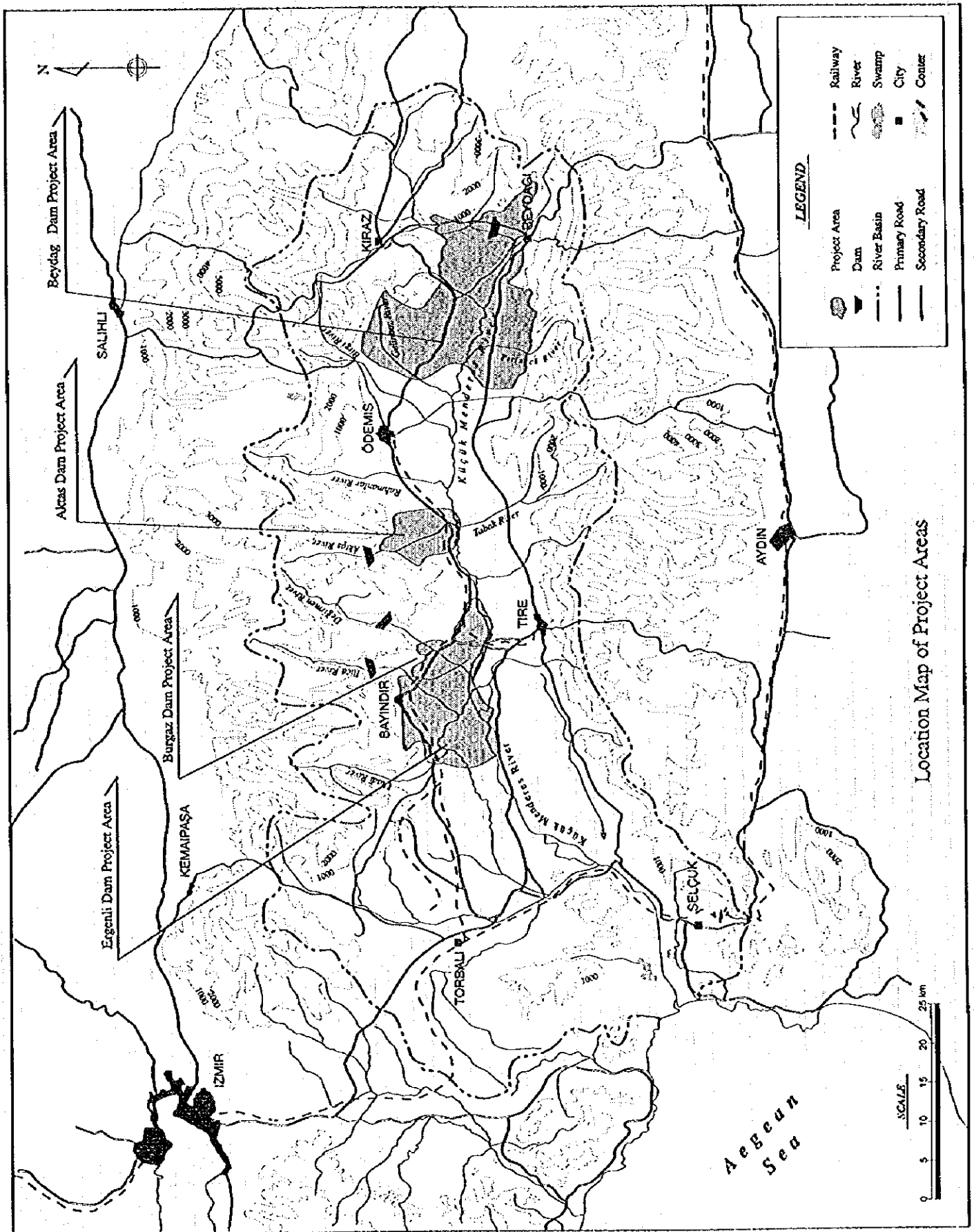
(b) Aktas Dam Project Area



(c) Burgaz and Ergenli Dam Project Area

Proposed Cropping Pattern in the Study Area

Figure 2.2.7



Location Map of Project Areas

Figure 2.2.7

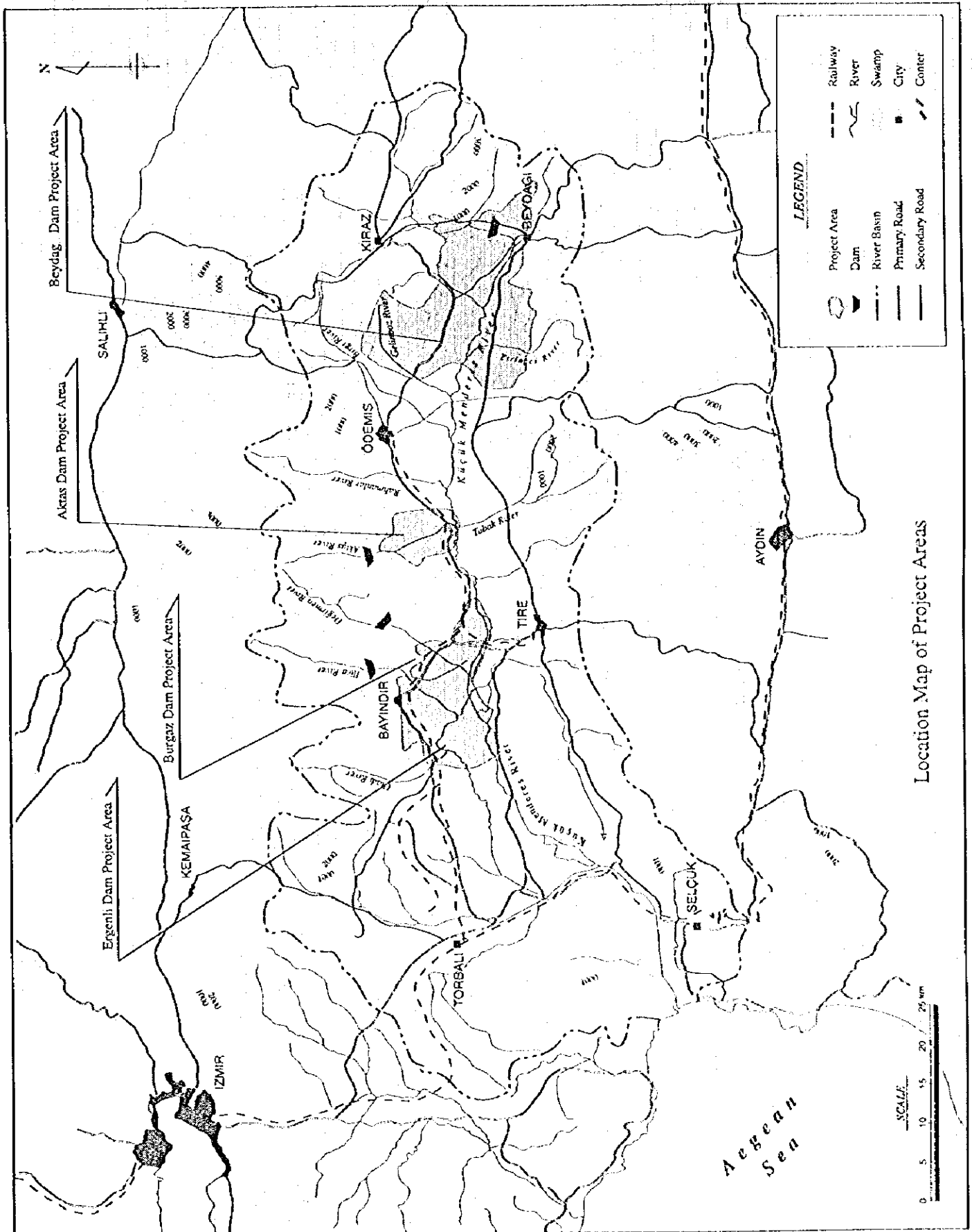
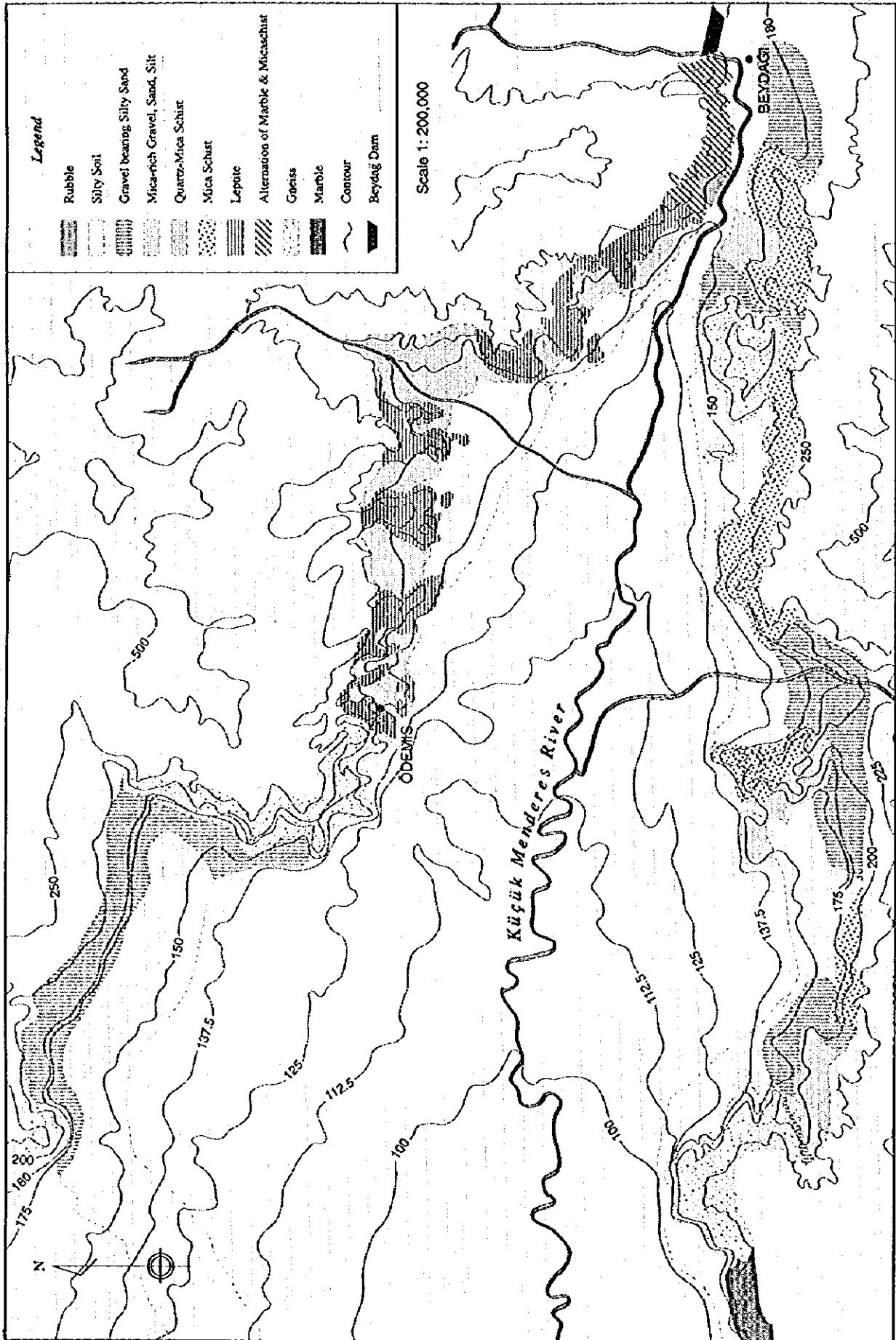


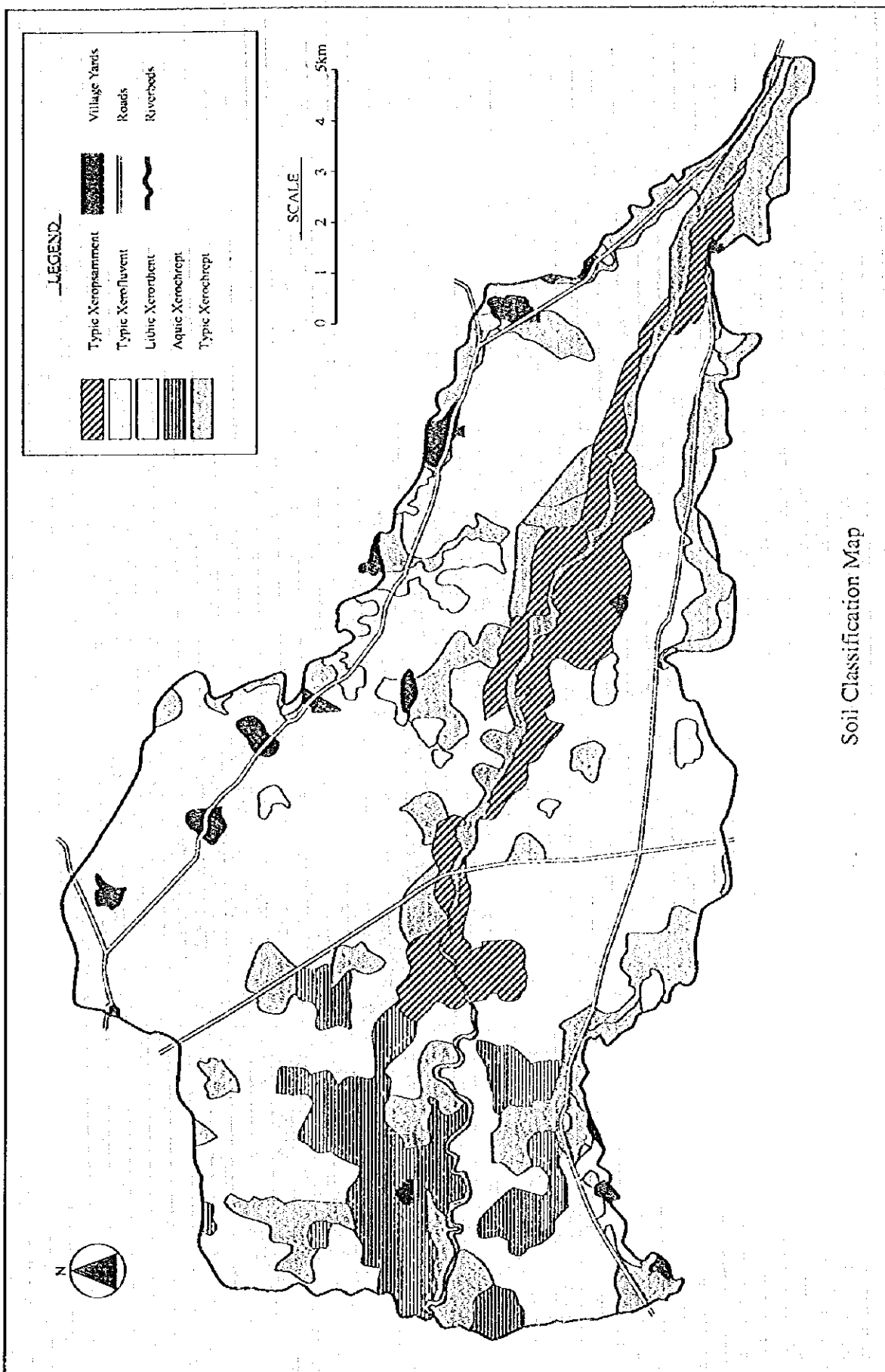
Figure 3.1.1



Geology along the Alignment of the Proposed Main Canal



Figure 3.1.2



Soil Classification Map

Figure 3.1.3

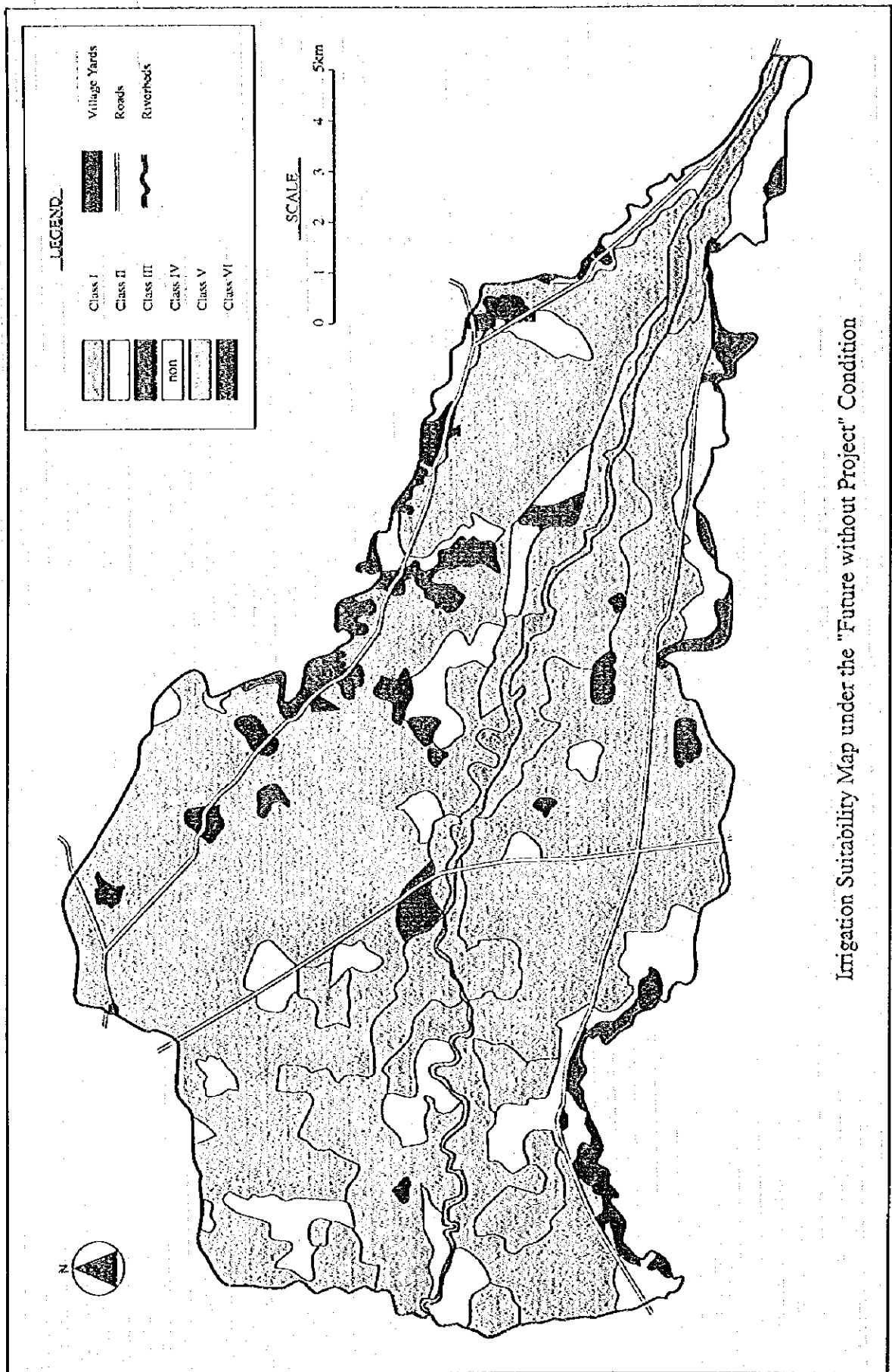
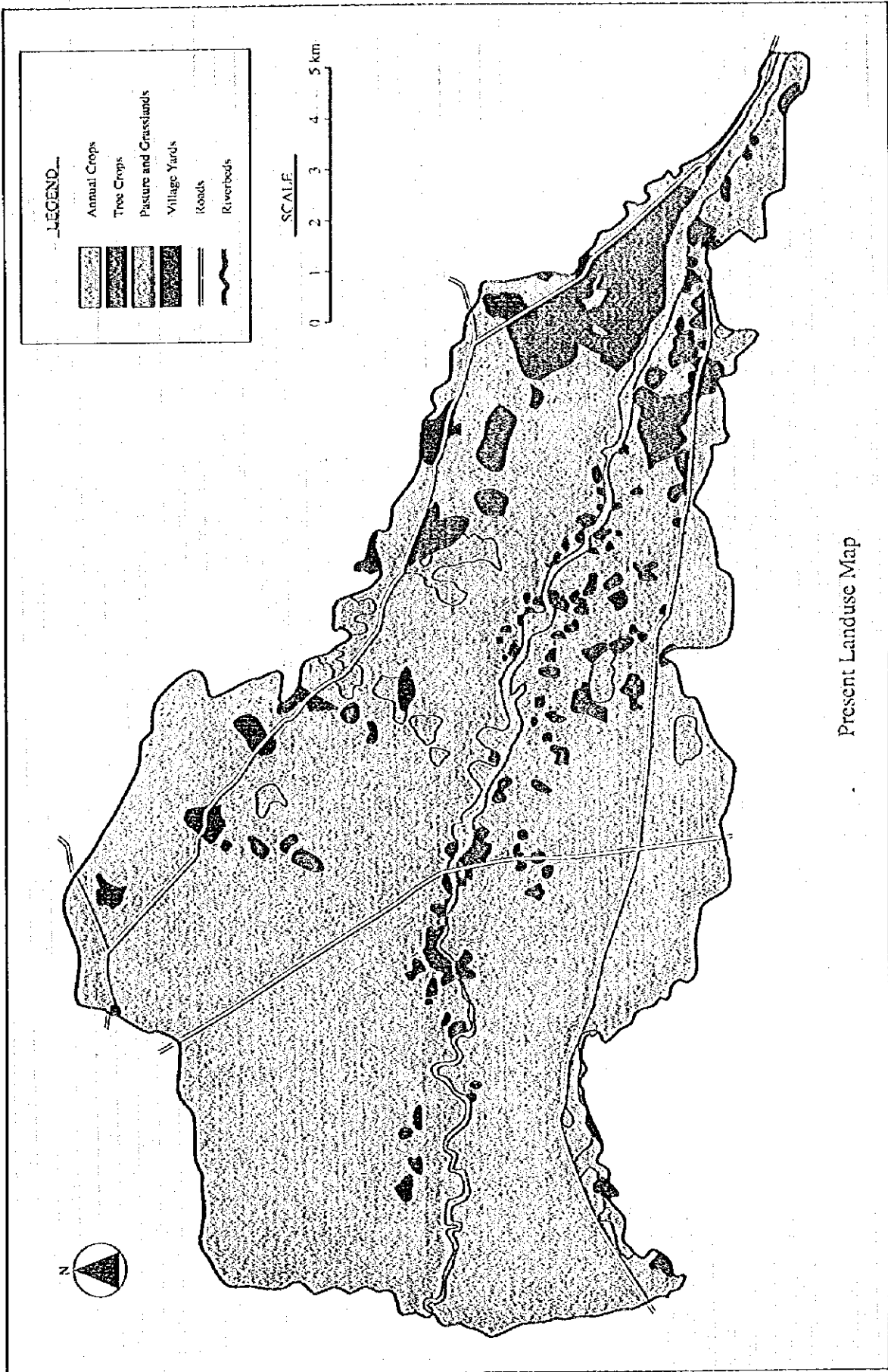
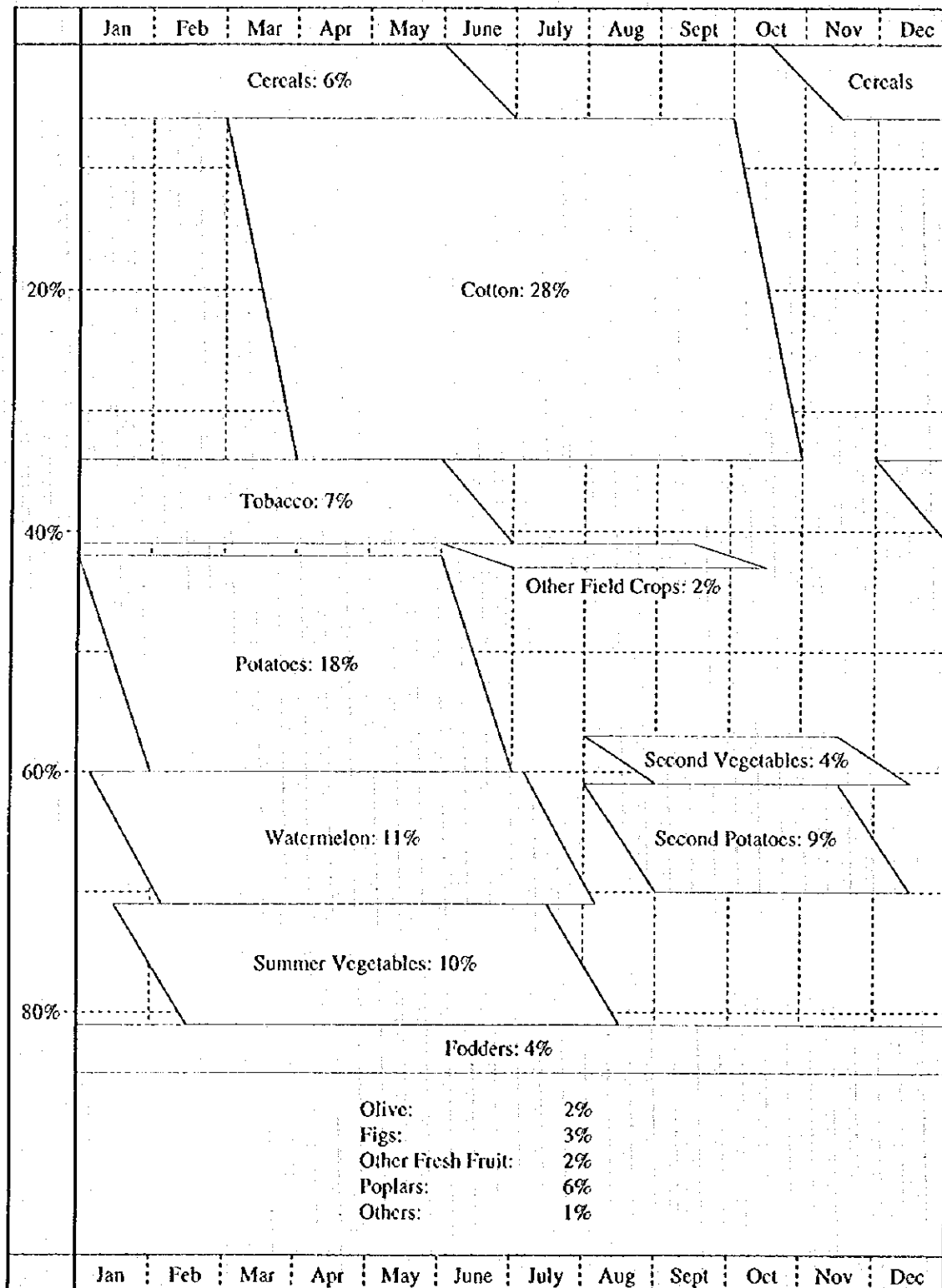


Figure 3.1.4



Present Landuse Map

Figure 3.1.5



Present Cropping Pattern in the Project Area

Figure 3.2.1

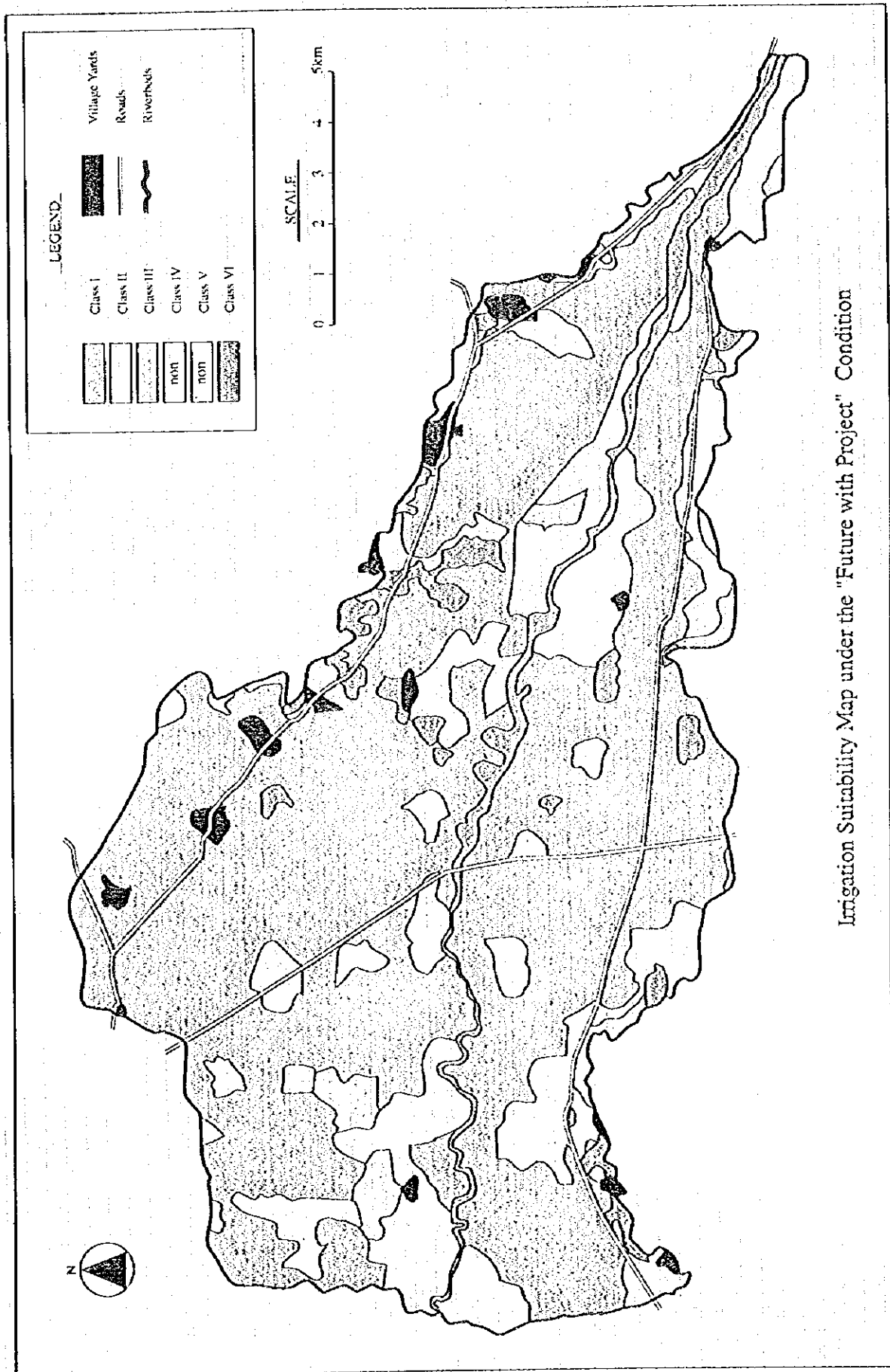
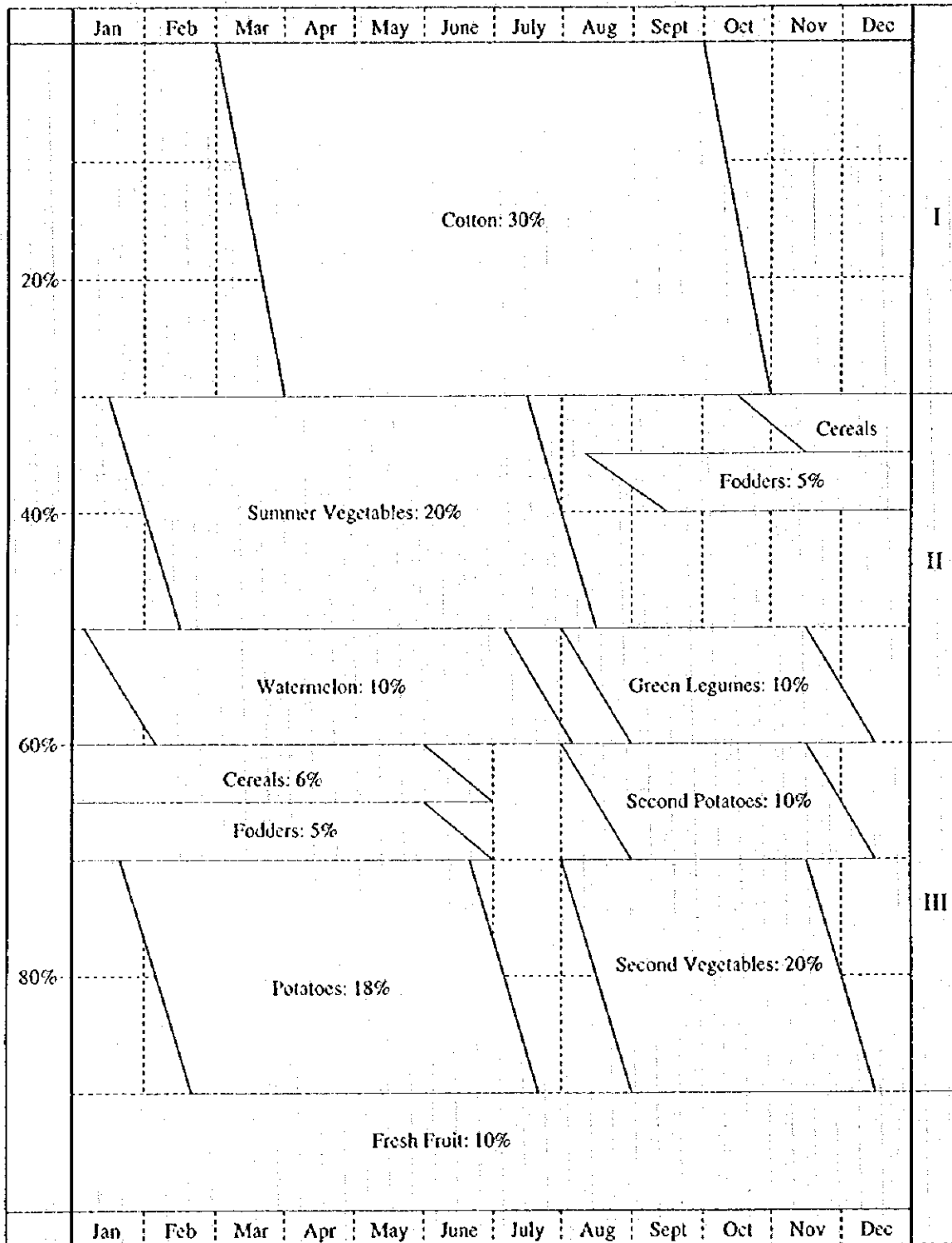
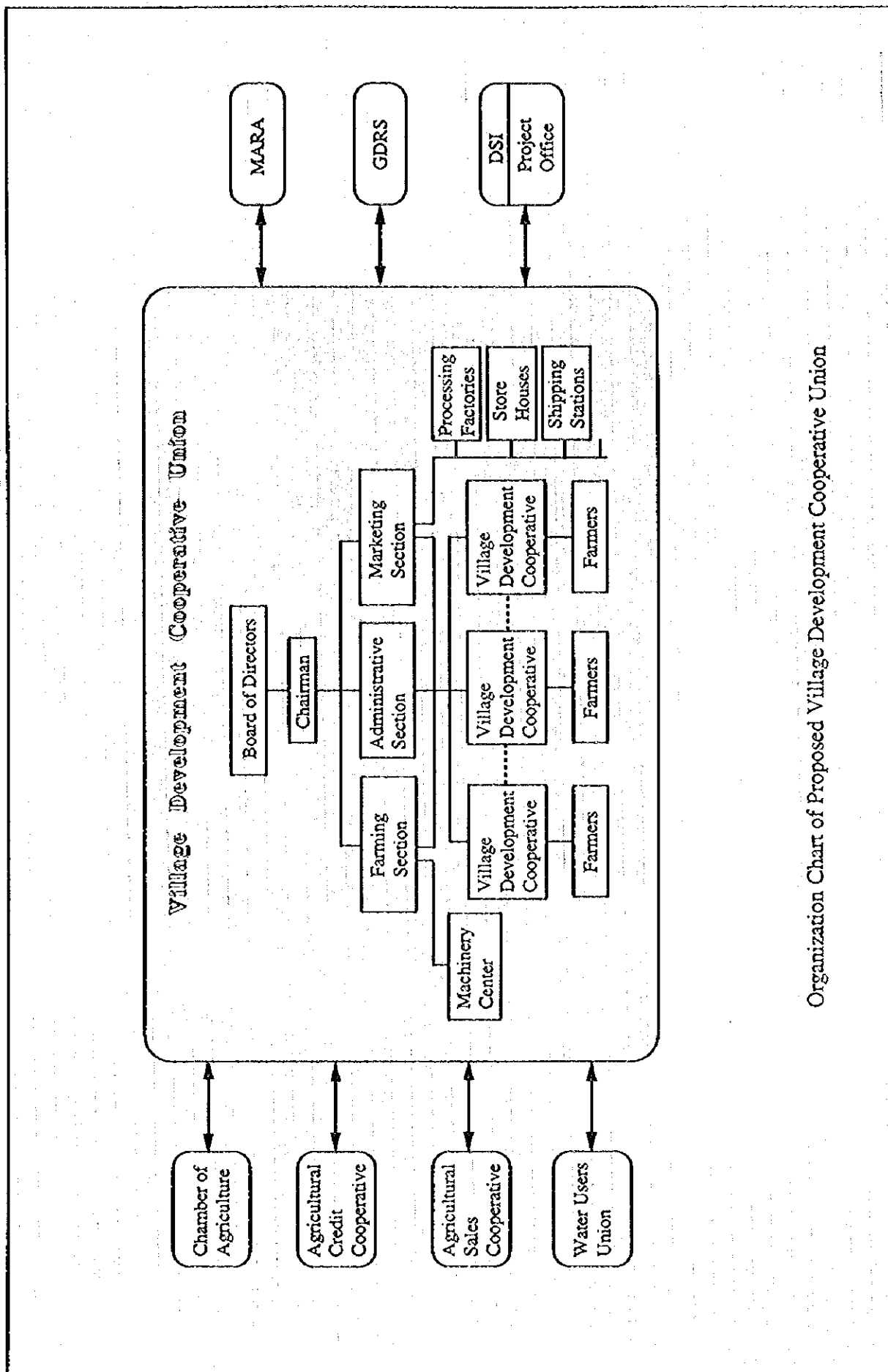


Figure 3.2.2



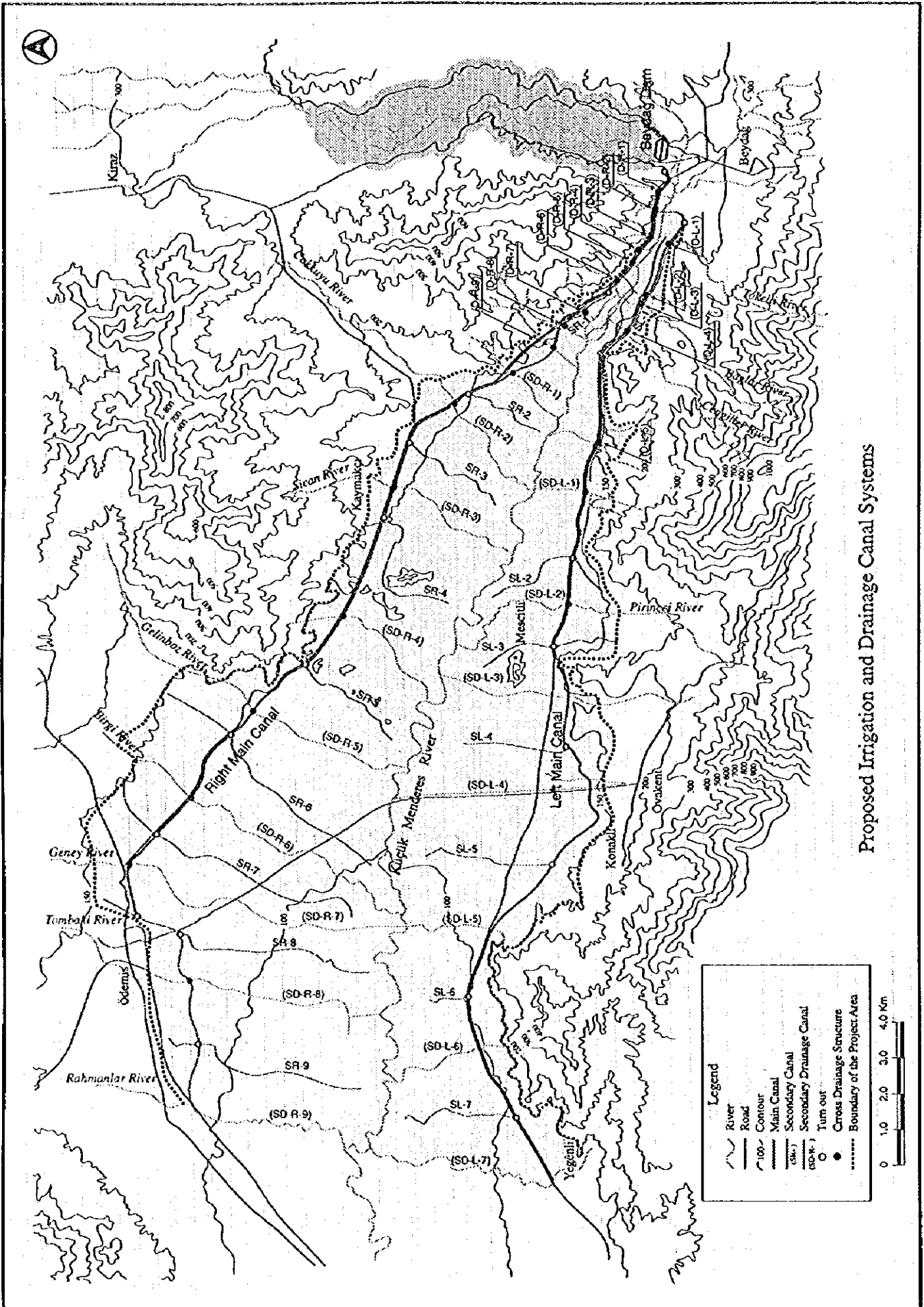
Proposed Cropping Pattern in the Project Area

Figure 3.2.3



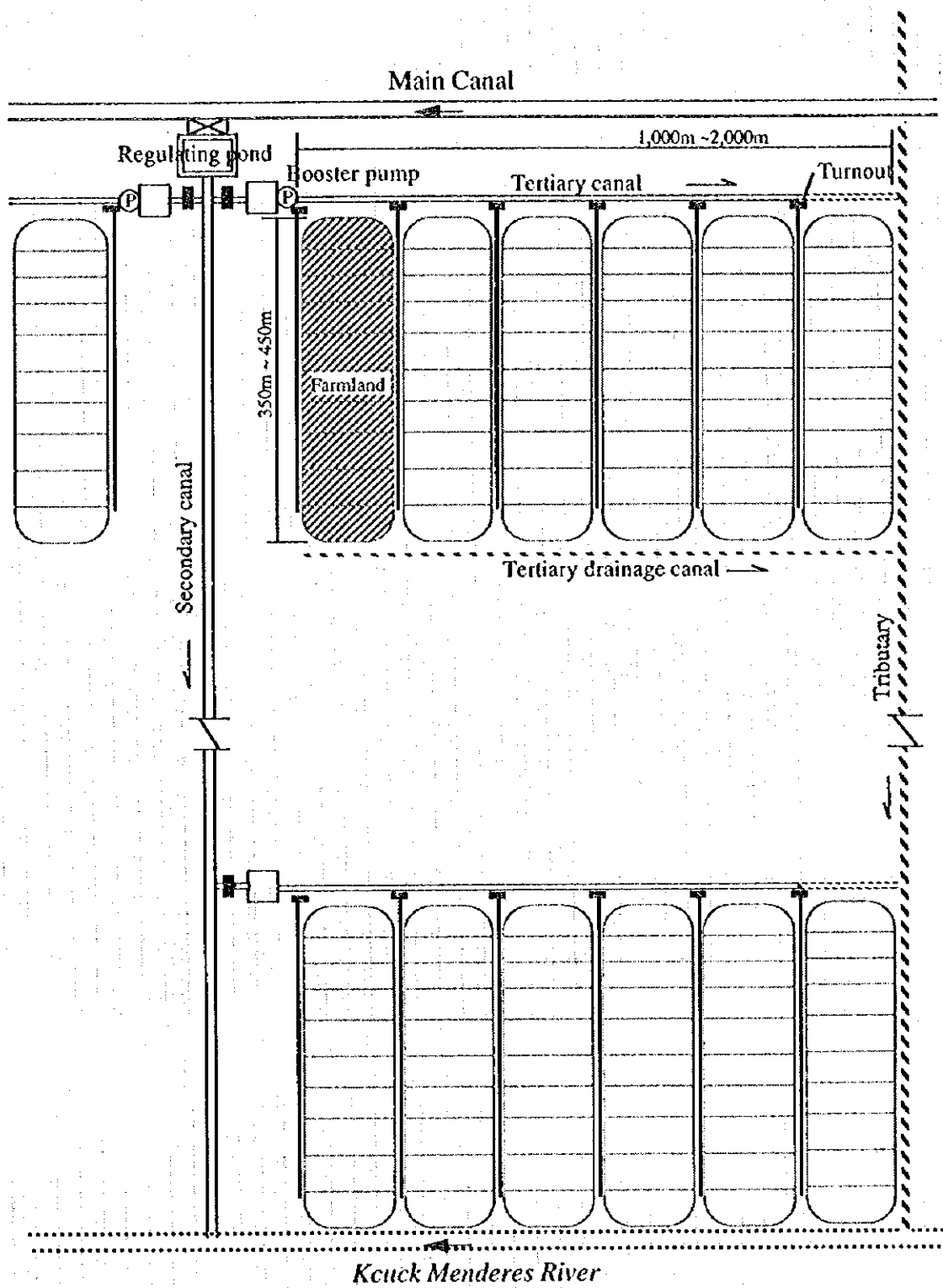
Organization Chart of Proposed Village Development Cooperative Union

Figure 3.2.4



Proposed Irrigation and Drainage Canal Systems





Typical Layout of On-Farm Facility

Figure 3.2.6

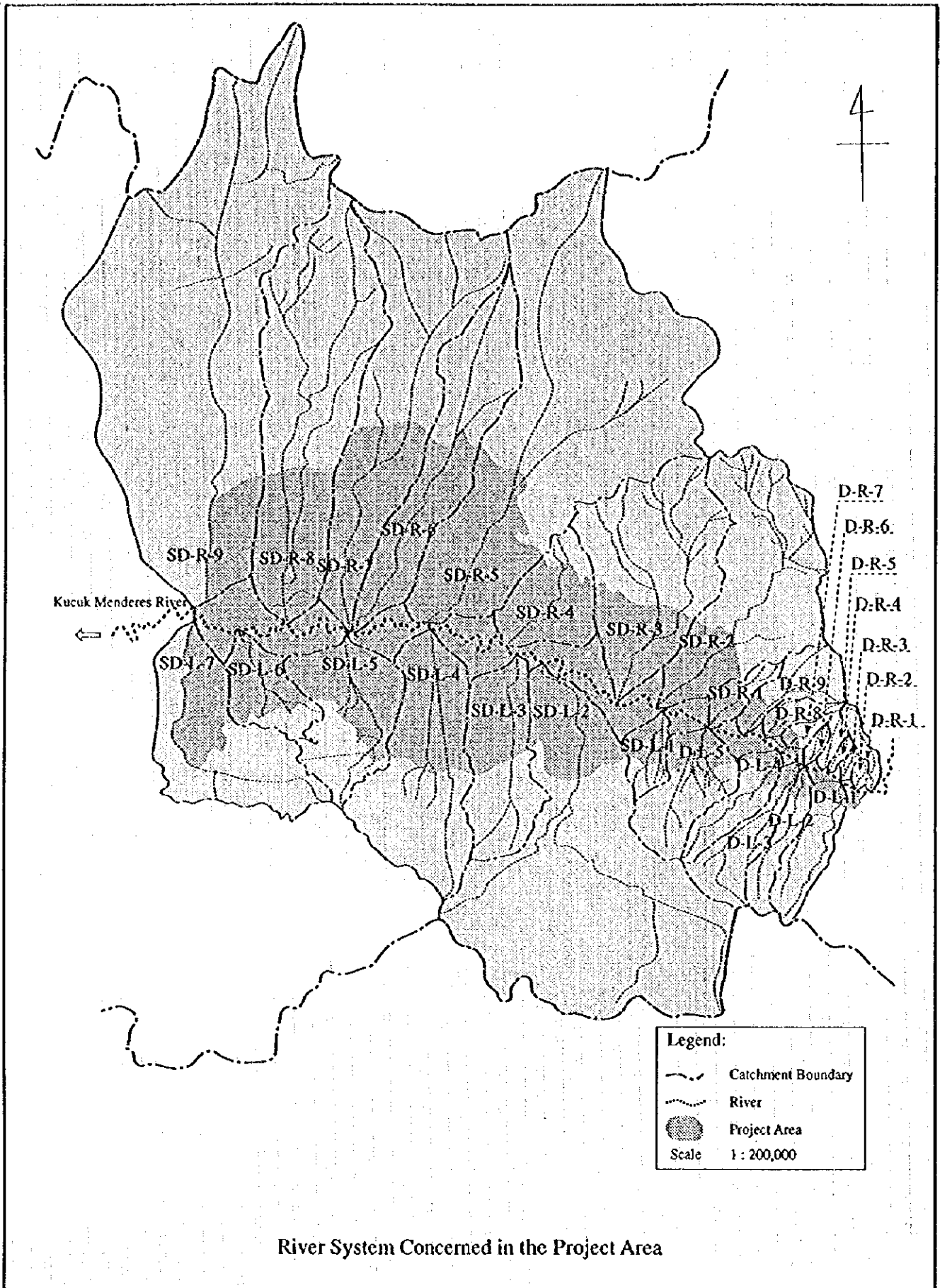


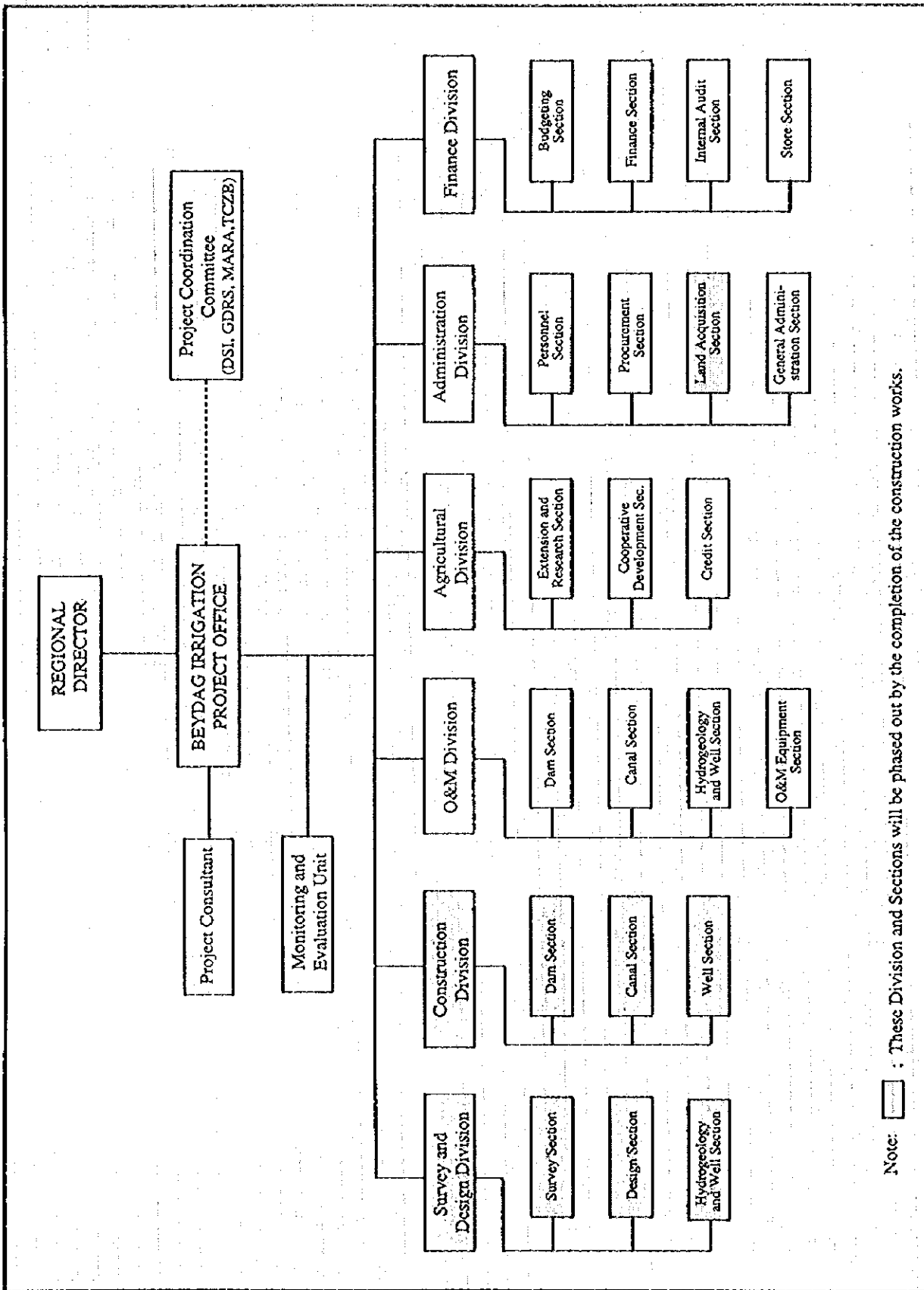
Figure 3.3.1

Work Items	Work Stage		Construction and Operation Stage									
	Calendar Year	Project Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>A. Project Work</b>												
A-1 Survey and Design												
(1) Field Survey												
(2) Detailed Design												
A-2 Construction												
(1) Preparatory Work												
(2) Package-I Work												
- Headrace												
- Right Main Canal												
- Secondary Canals												
- Tertiary Canals												
- Secondary Drains												
- Tertiary Drains												
(3) Package-II Work												
- Left Main Canal												
- Secondary Canals												
- Tertiary Canals												
- Secondary Drains												
- Tertiary Drains												
(4) On-farm Development												
- Right Bank Area												
- Left Bank Area												
A-3 Procurement of O&M and Office Equipment												
A-4 Land Acquisition												
A-5 Project Administration												
A-6 Technical Supports												
(1) Consulting Services												
(2) Survey and Study												
<b>B. Beydar Dam *</b>												
(1) Construction												
(2) Land Acquisition												
(3) Project Administration												

Note \*: Construction work was started from 1993.

Project Implementation Schedule

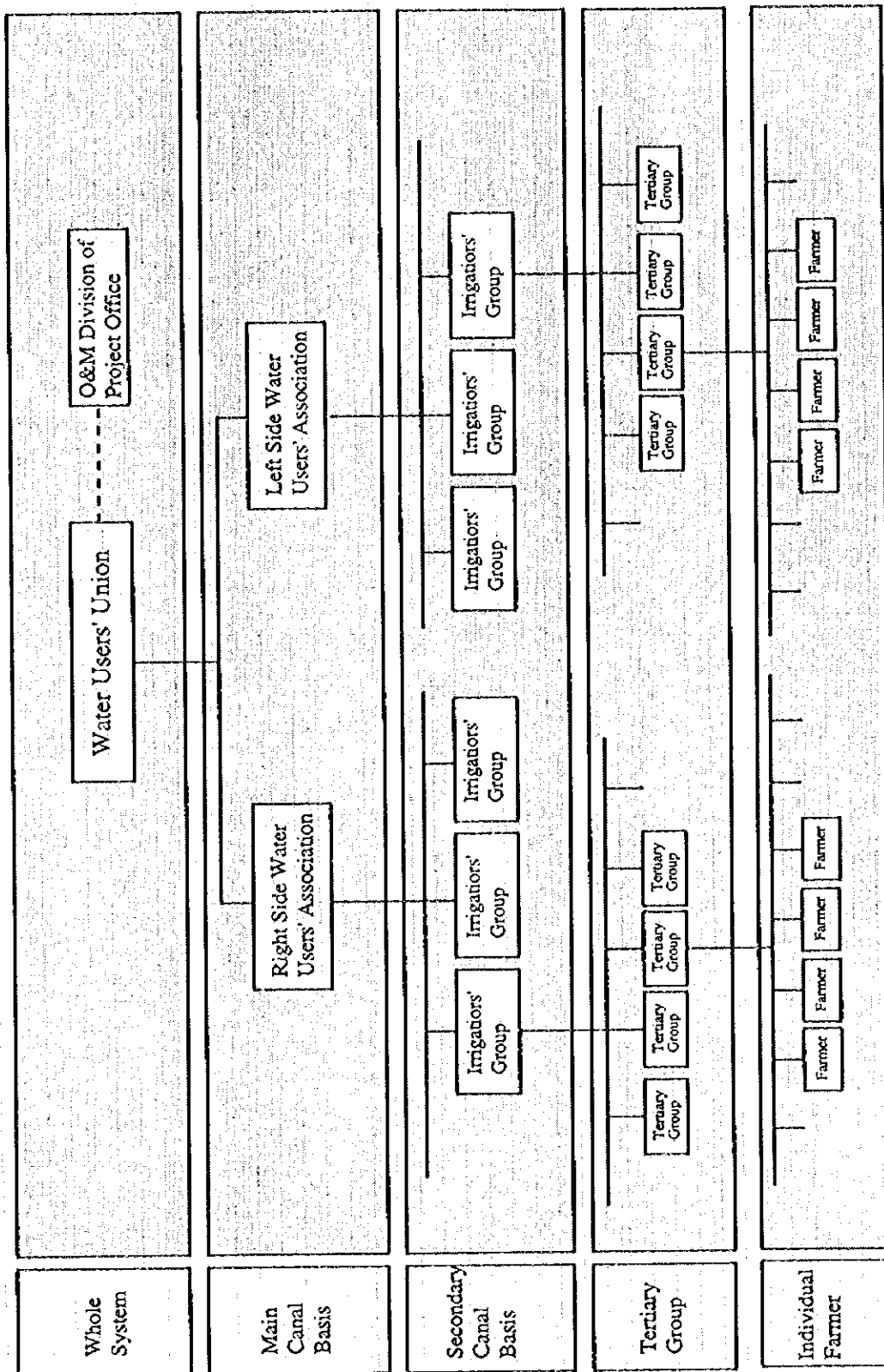
Figure 3.4.1



Note: [ ] : These Division and Sections will be phased out by the completion of the construction works.

Proposed Organization Chart of Project Office

Figure 3.4.2



Proposed Water Users' Association

## ***ATTACHMENTS***

MINUTES OF MEETINGS  
ON  
CONTACT MISSION  
FOR  
THE STUDY  
ON  
KÜÇÜK MENDERES RIVER BASIN IRRIGATION PROJECT

In response to the request of the Government of the Republic of Turkey, the Government of Japan (hereinafter referred to as "GOJ") has decided to dispatch the Contact Mission (hereinafter referred to as "the Team") organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA"), an official agency responsible for the implementation of the technical cooperation program of GOJ.

The team, headed by Mr. Ryuhei FUNANO, visited the Republic of Turkey from January 15 to February 4, 1994, for the purpose of discussing and exchanging views on the Study on Küçük Menderes River Basin Irrigation Project (hereinafter referred to as "the Study"), and had series of discussions with the officials concerned of the State Hydraulic Works (hereinafter referred to as "DSI"). The list of participants in the meetings is attached in Annex III.

As a result of discussions, DSI and the Team agreed as follows :

1. Both sides agreed upon the basic study concept attached in Annex I.
2. Both sides also agreed that "Scope of the Study" shall be formulated based on the standard form of Scope of Work attached in Annex II.
3. Both sides agreed that, basically, the Study shall be executed at a master plan level, which formulates brief agricultural water resources and irrigation development plan for the Study area and give priority order to each project, and also a feasibility study level in formulation of irrigation network at place for the highest priority in Beydag area.
4. Regarding the Beydag Dam, as it is now in the stage of construction, no further study shall be done, and all the technical data about the Beydag Dam will be given to the Japanese study team in the Study if it is necessary.
5. Concerning the water supply to Izmir, only the possibility of amount of water which can be used shall be studied, which conclusion will be given depending on the amount of water usage in agriculture.

DSI

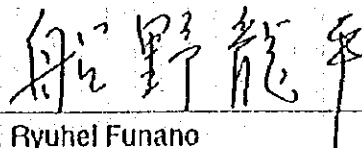
Funano

6. As for the environmental study, the Japanese study team shall carry out the collection of existing data, and if necessary, additional investigation to identify the environmental conditions and preliminary assessment of potential environmental impact of the proposed project. But, all procedures required by the Turkish laws of environment and/or regulations shall be taken by DSI.  
The Japanese study team shall provide DSI with basic data and information on environmental issues in the course of the Study.
7. DSI shall supply the Japanese study team offices equipped with electricity, water supply, and telephones in Ankara, and the site.
8. DSI shall provide necessary numbers of counterpart personnel, who are governmental officials, during the whole Study period.
9. DSI shall provide necessary numbers of vehicles with drivers to the Japanese study team during the study period in Turkey.
10. DSI shall, at its own expense, execute supplemental investigation such as topographic mapping, boring, route survey, etc., which will be needed in the Study.
11. DSI requested for the survey equipments to investigate the determination of the criteria of water requirement for main crops in the pilot area. The Team observed that the request shall be conveyed to GOJ for consideration.
12. DSI requested for the counterpart training in Japan. The Team observed that the request shall be conveyed to GOJ for consideration.

Ankara, 25th January, 1994



Mr. Ahmet Unver  
Assistant General Director for  
General Directorate,  
General Directorate of State Hydraulic Works,  
Ankara

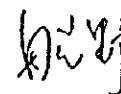


Mr. Ryuhel Funano  
Leader of Contact Mission,  
Japan International Cooperation Agency



## Basic study concept

1. The study on area of the Küçük Menderes river basin (proposed irrigation area of approximately 23,000ha is included, see attached map in Annex II)
2. Agricultural water resources development from the view of cost and benefit difference considering the balance of both water sources
  - (1) Amount of surfacewater which can be used as a development
  - (2) Amount of groundwater which can be used as a development
3. Effective irrigation development
  - (1) Formulation of irrigation system from the view of structure, operation and maintenance
  - (2) Selection of pilot area for determination of criteria for irrigation, such as requirement of water for main crops
  - (3) Calculation of irrigable area
  - (4) Giving priorities to each project by brief estimation of cost and benefit
  - (5) Further investigation to formulate an outline of irrigation network at place for the highest priority in Baydag area at a feasibility study level
4. Sedimentation control and groundwater recharge measures, including river bed facilities if necessary
5. Examine the possibility of water supply to Izmir and its quality



Standard Form of Scope of Work

SCOPE OF WORK  
FOR  
THE STUDY  
ON  
KÜÇÜK MENDERES RIVER BASIN IRRIGATION PROJECT  
IN  
THE REPUBLIC OF TURKEY

AGREED UPON BETWEEN  
GENERAL DIRECTORATE OF STATE HYDRAULIC WORKS  
AND  
JAPAN INTERNATIONAL COOPERATION AGENCY

Place and Date of Signature,

Mr.

General Directorate of State Hydraulic Works

Mr.

Leader,  
Preparatory Study Team,  
Japan International Cooperation Agency

AS

野村

## I. INTRODUCTION

In response to the request of the Government of the Republic of Turkey (hereinafter referred to as "the Government of Turkey"), the Government of Japan has decided to conduct a Study on the Küçük Menderes River Basin Irrigation Project (hereinafter referred to as "the Study"), in accordance with the relevant laws and regulations in force in Japan.

Accordingly, the Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of the technical cooperation programs of the Government of Japan, will undertake the Study in close cooperation with the authorities concerned of the Government of Turkey.

The present document sets forth the Scope of Work with regard to the Study.

## II. OBJECTIVES OF THE STUDY

The objectives of the Study are :

1. To conduct a study on irrigation development for the Küçük Menderes River Basin Irrigation Project (hereinafter referred to as "the Project"), and
2. To carry out technology transfer to the Turkish counterpart personnel through on-the-job training in the course of the Study.

## III. STUDY AREA

The Study covers the Küçük Menderes river basin (proposed irrigation area of approximately 23,000ha is included, see attached map).

## IV. SCOPE OF THE STUDY

## V. STUDY SCHEDULE

## VI. REPORTS

JICA shall prepare and submit following reports in English to the Government of Turkey.

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*Handwritten signature*

## VII. UNDERTAKING OF THE GOVERNMENT OF TURKEY

1. To facilitate smooth conduct of the study, the Government of Turkey shall take necessary measures ;
  - 1-1. to secure the safety of the Japanese study team.
  - 1-2. to permit the members of the Japanese study team to enter, leave and sojourn in the Republic of Turkey for the duration of their assignment therein, and exempt them from foreign registration requirements and consular fees.
  - 1-3. to exempt the members of the Japanese study team from taxes, duties, fees and any other charges on equipment, machinery and other materials brought into the Republic of Turkey for the conduct of the study,
  - 1-4. to exempt the members of the Japanese study team from income tax and charges of any kind imposed on or in connection with any emoluments or allowances paid to the members of the Japanese study team for their services in connection with the implementation of the Study,
  - 1-5. to provide necessary facilities to the Japanese study team for the remittance as well as utilization of the funds introduced into the Republic of Turkey from Japan in connection with the implementation of the Study,
  - 1-6. to secure permission for entry into private properties or restricted areas for the conduct of the Study when it is required,
  - 1-7. to secure permission for the Japanese study team to take all data and documents related to the Study out of the Republic of Turkey to Japan,
  - 1-8. to provide medical services as needed. Its expense will be chargeable on the members of the Japanese study team.
2. The Government of Turkey shall bear claims, if any arises, against the members of the Japanese study team, resulting from, occurring in the course of, or otherwise connected with the discharge of their duties in the implementation of the Study, except when such claims arise from gross negligence or willful misconduct on the part of the members of the Japanese study team.
3. General Directorate of State Hydraulic Works (hereinafter referred to as "DSI") shall act as a counterpart agency to the Japanese Study Team and also as a coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.
4. DSI shall, at its own expense, provide the Japanese study team with the following, in cooperation with the other authorities concerned :
  - 4-1. available data and information related to the Study,
  - 4-2. counterpart personnel,
  - 4-3. suitable office with necessary furniture in Ankara and project sites,
  - 4-4. credentials or identification cards,
  - 4-5. necessary number of vehicles with drivers and fuel during the field survey, and
  - 4-6. supplemental investigations needed for the Study.

DSI

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#### VIII. UNDERTAKING OF JICA

For the conduct of the Study, JICA shall take the following measures :

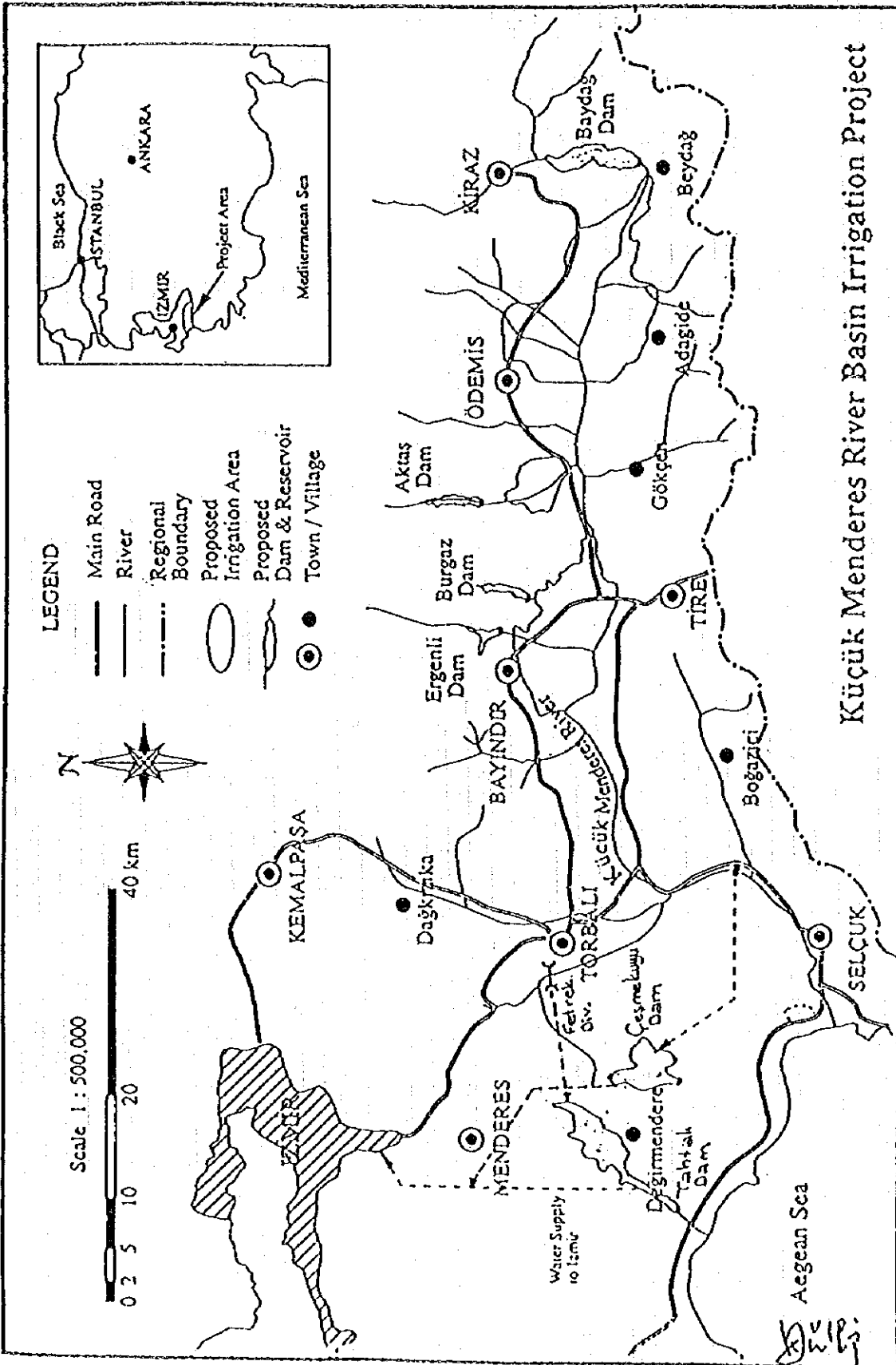
1. To dispatch study teams, at its own expense, to the Republic of Turkey, and
2. To conduct technology transfer to the Turkish counterpart personnel in the course of the Study.

#### IX. CONSULTATION

JICA and DSI will consult each other in respect of any matter that may arise from or in connection with the Study.

DSI

JICA



**Küçük Menderes River Basin Irrigation Project**

## LIST OF PARTICIPANTS

DSI, ANKARA

## INVESTIGATION AND PLANNING DEPARTMENT

Mr. Hüseyin Yavuz	Head
Mr. Dinçer Kulga	Deputy Head
Mr. Cuma Çakmak	Director of the Planning Section I
Mr. Kerim Gülsün	Director of the Soil Classification and Drainage Section
Mr. Tuncel Esen	Director of the Agricultural Economics Section
Mr. Necati Özçirpici	Director of the Hydrology Section
Mr. Ramazan Kosdere	Director of the Surveying and Mapping Section
Mr. Ayhan Teker	Director of Hydro Meteorological Observation Section
Mr. Mustafa Tanriverdi	Planning Section I
Mr. Fahrettin Eminoglu	Soil Classification and Drainage Section
Mr. D. Ali Çelik	Agricultural Economics Section

## GEOTECHNICAL SERVICES AND GROUNDWATER DEPARTMENT

Mr. Erdal Sekercioğlu	Director of the Engineering Geology Section
-----------------------	---

## OPERATION AND MAINTENANCE DEPARTMENT

Mr. Lütfi Şahin	Director of the Operation Section
-----------------	-----------------------------------

## WATER SUPPLY AND SEWERAGE DEPARTMENT

Ms. Isil Salihoglu	Director of the Environmental Problems and Water Pollution Control Section
Ms. Filiz Aydınliym	Environmental Problems and Water Pollution Control Section

DSI II REGIONAL DIRECTORATE, IZMIR

Mr. Hikmet Özgöbek	Director of the II Regional Directorate
Mr. Ilker Altis	Director of the Planning Section
Mr. Relik Safa	Director of the Design Section
Mr. Zülkiif Tansug	Director of the Geotechnics and Groundwater Section
Mr. Ali Fuat Küçükarakurt	Planning Section

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*Handwritten signature*

The Team

Mr. Ryuhel Funano

Mr. Hisao Nakano

Mr. Kozo Inada

Mr. Toshiaki Kawabata

Mr. Kazuyuki Shimazaki

Mr. Akira Shimizu

Mr. Cihanbir Metin

Team leader

Member, Agriculture

Member, Dam Planning

Member, Irrigation

Member, Environment and Structure

Member, Coordinator

Member, Interpreter

AS

10/18/83



SCOPE OF WORK  
FOR  
THE STUDY  
ON  
KÜÇÜK MENDERES RIVER BASIN IRRIGATION PROJECT  
IN  
THE REPUBLIC OF TURKEY

AGREED UPON BETWEEN  
GENERAL DIRECTORATE OF STATE HYDRAULIC WORKS  
AND  
JAPAN INTERNATIONAL COOPERATION AGENCY

Ankara, 11th April, 1994



Mr. Ahmet Ünver  
Assistant General Director,  
General Directorate of  
State Hydraulic Works (DSİ)



Mr. Shoichi Ogasawara  
Leader,  
Preparatory Study Team,  
Japan International Cooperation Agency

## I. INTRODUCTION

In response to the request of the Government of the Republic of Turkey (hereinafter referred to as "the Government of Turkey"), the Government of Japan has decided to conduct a Study on the Küçük Menderes River Basin Irrigation Project (hereinafter referred to as "the Study"), in accordance with the relevant laws and regulations in force in Japan.

Accordingly, the Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of the technical cooperation programs of the Government of Japan, will undertake the Study in close cooperation with the authorities concerned of the Government of Turkey.

The present document sets forth the Scope of Work with regard to the Study.

## II. OBJECTIVES OF THE STUDY

The objectives of the Study are :

1. To conduct a study on irrigation development for the Küçük Menderes River Basin Irrigation Project (hereinafter referred to as "the Project"), and
2. To carry out technology transfer to the Turkish counterpart personnel through on-the-job training in the course of the Study.

## III. STUDY AREA

The Study covers the Küçük Menderes river basin (proposed irrigation area of approximately 23,000ha is included, see attached map).

## IV. SCOPE OF THE STUDY

The Study will consist of two (2) phases and will cover the following :

### 1. Phase I (Master Plan Study)

1-1. To collect and review existing data and information in the study area :

#### A. natural condition

- a) meteorology
- b) hydrology
- c) geology
- d) soil
- e) topography
- f) others

#### B. agriculture

- a) land use
- b) cropping pattern and yield

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- c) farming practices
  - d) agro-economy and marketing
  - e) farmers organization and supporting services
  - f) others
- C. agricultural infrastructure
- a) irrigation and drainage facilities
  - b) farm roads
  - c) others
- D. socio-economic situation
- a) population
  - b) employment
  - c) household and farmers
  - d) regional socio-economy and household economy
  - e) social organizations
  - f) others
- E. other information related to the Project
- a) administrative organizations related to the Project
  - b) environmental impacts
  - c) others

1-2. To carry out field survey on the items mentioned in IV 1-1.

1-3. To review other relevant projects and studies.

1-4. To identify the potentials, problems and constraints against development of the Study area.

1-5. To formulate a master plan which consists mainly of effective irrigation development in the Study area, from the view of structure, operation and maintenance.

1-6. To calculate both the surface and the ground water that can be used as a development from the view of brief cost and benefit, and also of the irrigable area.

1-7. To give sedimentation control, including river bed improvements, and ground water recharge measures, if necessary.

1-8. To examine the possibility of water supply to Izmir, and its water quality.

1-9. To give priority order to each project.

## 2. Phase II (Feasibility Study)

Considering the result of the Phase I Study, the feasibility study which is mainly to formulate an outline of irrigation network, at place of the highest priority, shall be executed, will cover the following :

- 2-1. Additional data collection, detailed survey and observations.
- 2-2. Formulation of the development plan ;
  - a. effective irrigation network development plan, and
  - b. agricultural development plan
- 2-3. Preliminary design of major structures.
- 2-4. Preparation of implementation schedule.
- 2-5. Preparation of operation and maintenance plan for major structures.
- 2-6. Preparation of environmental preservation plan.
- 2-7. Estimation of the project cost and benefits.
- 2-8. Evaluation of the project.
- 2.9. Recommendations.

## V. STUDY SCHEDULE

The Study will be carried out in accordance with the attached tentative schedule.

## VI. REPORTS

JICA shall prepare and submit following reports in English to the Government of Turkey.

1. Inception Report  
Twenty (20) copies at the commencement of the Study.
2. Progress Report (1)  
Twenty (20) copies at the end of the Phase I study in Turkey.
3. Interim Report  
Twenty (20) copies at the end of the Phase I study.
4. Progress Report (2)  
Twenty (20) copies at the end of the Phase II study in Turkey.

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#### 5. Draft Final Report

Twenty (20) copies at the end of Phase II study. The Government of Turkey will provide JICA with its comments on the Draft Final Report within one (1) month after receipt of the Draft Final Report.

#### 6. Final Report

Fifty (50) copies within two (2) months after receiving the Government of Turkey's comments on the Draft Final Report.

### VII. UNDERTAKING OF THE GOVERNMENT OF TURKEY

1. To facilitate smooth conduct of the study, the Government of Turkey shall take necessary measures ;

1-1. to secure the safety of the Japanese study team,

1-2. to permit the members of the Japanese study team to enter, leave and sojourn in the Republic of Turkey for the duration of their assignment therein, and exempt them from foreign registration requirements and consular fees,

1-3. to exempt the members of the Japanese study team from taxes, duties, fees and any other charges on equipment, machinery and other materials brought into the Republic of Turkey for the conduct of the study,

1-4. to exempt the members of the Japanese study team from income tax and charges of any kind imposed on or in connection with any emoluments or allowances paid to the members of the Japanese study team for their services in connection with the implementation of the Study,

1-5. to provide necessary facilities to the Japanese study team for the remittance as well as utilization of the funds introduced into the Republic of Turkey from Japan in connection with the implementation of the Study,

1-6. to secure permission for entry into private properties or restricted areas for the conduct of the Study when it is required,

1-7. to secure permission for the Japanese study team to take all data and documents related to the Study out of the Republic of Turkey to Japan,

1-8. to provide medical services as needed. Its expense will be chargeable on the members of the Japanese study team.

2. The Government of Turkey shall bear claims, if any arises, against the members of the Japanese study team, resulting from, occurring in the course of, or otherwise connected with the discharge of their duties in the implementation of the Study, except when such claims arise from gross negligence or willful misconduct on the part of the members of the Japanese study team.

3. General Directorate of State Hydraulic Works (hereinafter referred to as "DSI") shall act as a counterpart agency to the Japanese Study Team and also as a coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.

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4. DSI shall, at its own expense, provide the Japanese study team with the following, in cooperation with the other authorities concerned :
  - 4-1. available data and information related to the Study,
  - 4-2. counterpart personnel,
  - 4-3. suitable office with necessary furniture in Ankara and project sites,
  - 4-4. credentials or identification cards,
  - 4-5. necessary number of vehicles with drivers and fuel during the field survey, and
  - 4-6. supplemental investigations needed for the Study.

#### VIII. UNDERTAKING OF JICA

For the conduct of the Study, JICA shall take the following measures ;

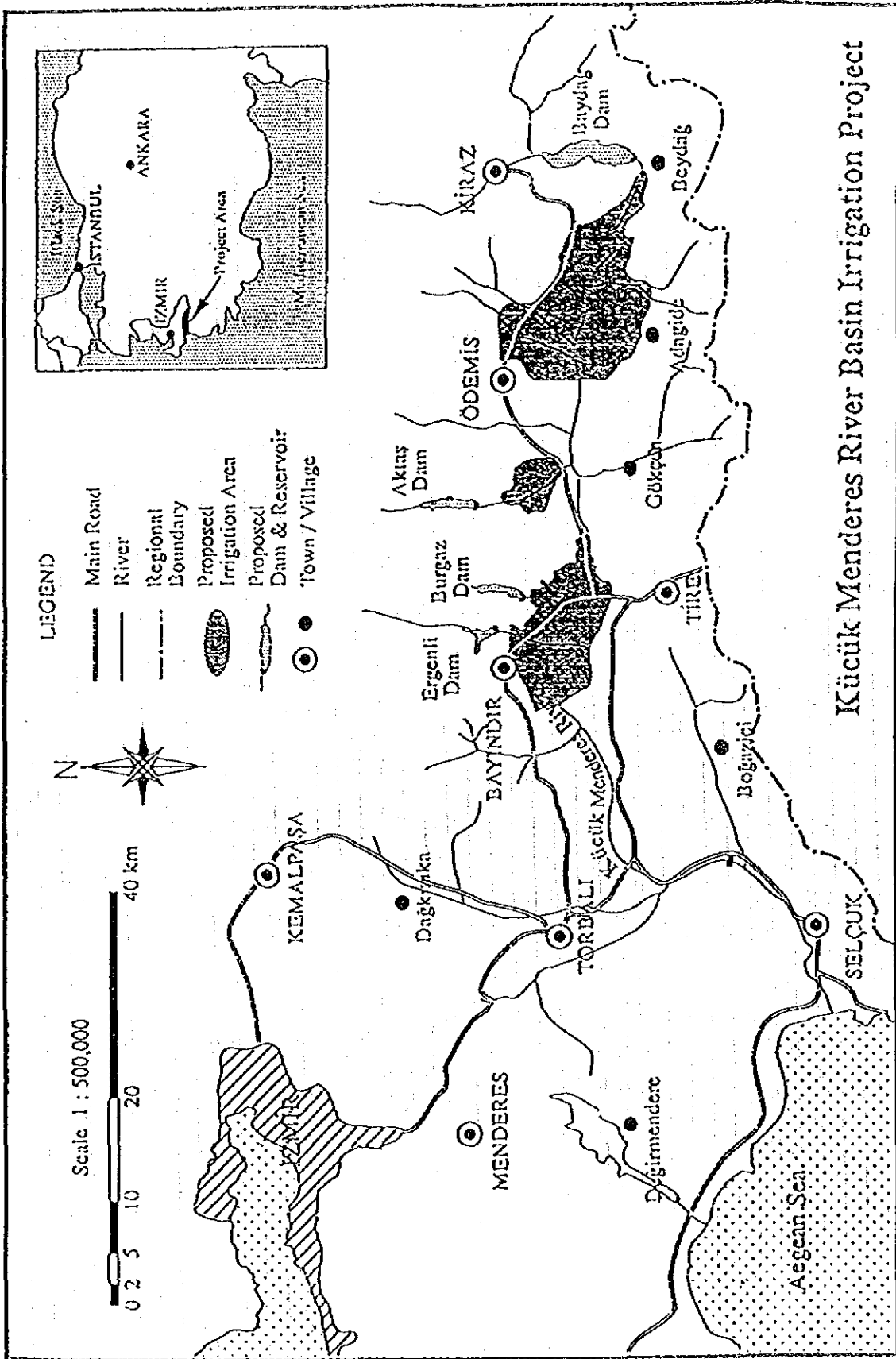
1. To dispatch study teams, at its own expense, to the Republic of Turkey, and
2. To conduct technology transfer to the Turkish counterpart personnel in the course of the Study.

#### IX. CONSULTATION

JICA and DSI will consult each other in respect of any matter that may arise from or in connection with the Study.

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Küçük Menderes River Basin Irrigation Project

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# TENTATIVE SCHEDULE

Month Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Work in Turkey																		☐	○		
Home Office Work in Japan	☐																				
Phases	Phase I										Phase II										
Reports	△ Ic/R			△ P/R (1)						△ II/R			△ P/R (2)				△ DF/R			△ F/R	

(Remarks)

- Ic/R : Inception Report
- P/R (1) : Progress Report (1)
- II/R : Interim Report
- P/R (2) : Progress report (2)
- DF/R : Draft Final Report
- F/R : Final Report

○ Comments on DF/R by the Turkish side

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**MINUTES OF MEETING  
ON  
SCOPE OF WORK  
FOR  
THE STUDY  
ON  
KUÇUK MENDERES RIVER BASIN IRRIGATION PROJECT**

The preparatory study team (hereinafter referred to as "the Team") organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA"), and headed by Mr. Shoichi Ogasawara, visited the Republic of Turkey from April 5 to 14, 1994 for the purpose of discussing and confirming the Scope of Work for the Study on Küçük Menderes River Basin Irrigation Project (hereinafter referred to as "the Study").

The team had a series of discussions with the officials concerned of the General Directorate of State Hydraulic Works, (hereinafter referred to as "DSI") on the Scope of Work for the Study. The list of participants in a series of meetings is attached in the Annex.

As a result of the discussions, DSI and the Team agreed on the Scope of Work for the Study.

The following items are the main issues discussed and agreed upon by both sides in relation to Scope of Work for the Study.

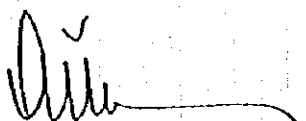
1. DSI shall, at its own expense, be responsible for preparation of the land for the investigation on basic water requirement of main crops in the Study area. JICA shall procure necessary equipments needed for the investigation.

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2. DSI shall be in charge of the conduct of the investigation and data collection on basic water requirement of main crops in the Study area. Although Japanese study team shall support DSI during their stay in Turkey for the conduct of the investigation written above, and use the data given from DSI.
3. The investigation on basic water requirement of main crops in the Study area will be used only for the formulation of development plans of the Study.

Ankara, 11th April, 1994



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Mr. Ahmet Unver  
Assistant General Director,  
General Directorate of  
State Hydraulic Works (DSI)



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Mr. Shoichi Ogasawara  
Leader,  
Preparatory Study Team,  
Japan International Cooperation Agency

**LIST OF PARTICIPANTS**

**DSI, ANKARA**

Mr. Ahmet Ünver Assistant General Director

**INVESTIGATION AND PLANNING DEPARTMENT**

Mr. Hüseyin Yavuz Head  
Mr. Dinçer Kulga Deputy Head  
Mr. Cuma Çakmak Director of the Planning Section I  
Mr. Erbil Alparslan Civil Engineer, Planning Section I

**DSI II REGIONAL DIRECTORATE, IZMIR**

Mr. Hikmet Özgöbek Director of the II Regional Directorate  
Mr. İlker Atis Director of the Planning Section  
Mr. Ali Fuat Küçükarakurt Agricultural Engineer, Planning Section

**The Team**

Mr. Shoichi Ogasawra Team leader  
Mr. Kozo Inada Member  
Mr. Akira Shimizu Member  
Mr. Cihanbir Mellin Member

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MINUTES OF MEETING  
FOR  
THE INCEPTION REPORT  
ON  
THE STUDY  
ON  
KÜÇÜK MENDERES RIVER BASIN IRRIGATION PROJECT

In accordance with the Scope of Work for the captioned study (the Study) agreed upon between Japan International Cooperation Agency and General Directorate of State Hydraulic Works (DSI), the JICA Study Team submitted the Inception Report on January 24, 1995 to the DSI Second Regional Directorate (herein after DSI).

The Meeting was held on January 24 and 25, 1995 at the meeting room in the DSI. The attendants of the meeting are as per attached. The meeting was opened and chaired by Mr. Hikmet Özgöbek, Regional Director of DSI. Upon the request by the chairman, Dr. Y. Kunihiko, Team Leader of the JICA Study Team, explained the contents of the Inception Report. The Inception Report was basically accepted by DSI.

The following are the main items discussed and agreed between DSI and the JICA Study Team during the meeting.

1. At the initial stage of the Study, the JICA Study Team will check the proposed irrigation area of the Master Plan prepared in 1982. After checking, the Study Area will be modified in terms of future irrigation area.
2. DSI inquired about contents of technology transfer. The JICA Study Team answered that the contents will be clarified in due course the study progress for counterpart personnels.
3. Equipments required for the field experiment on basic water requirement will be determined and procured through the discussion between Turkish side and the JICA Study Team in charge.

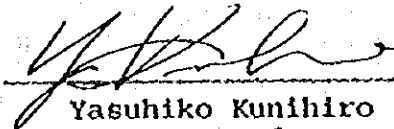
4. DSI will nominate counterpart personnels to conduct the Study with experts of the JICA Study Team. DSI will also coordinate other organizations concerned through counterpart personnels.
5. DSI will provide vehicles necessary for office work in Izmir and field activity based on the schedule of the JICA Study Team. The JICA Study Team will prepare weekly schedule and inform to DSI in advance.

At the end of the meeting, Mr. M. Uoya, Study Administration from JICA Tokyo explained the schedule of the counterpart training in Japan and request DSI to make necessary arrangement. The meeting was closed with mutual understandings for the contents of the Inception Report.



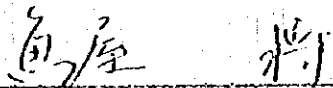
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Hikmet Özgöbek  
Director  
DSI Second Regional  
Directorate



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Yasuhiko Kunihiro  
Team Leader  
JICA Study Team



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Masaru Uoya  
Study Administration  
JICA Tokyo

## List of Participants

Name	Position
<u>Second Regional Directorate, DSI</u>	
Mr. Hikmet Özgöbek	Regional Director
Mr. Ali Fuat Küçükçarakurt	Chief Engineer
Dr. Ahmet H. Alpaslan	Deputy Regional Director
Dr. Ilker Atis	Planning Department Director
Mr. Erbil Alpaslan	Investigation and Planning, Ankara
Mr. Okan Duyar	Civil Engineer, Ankara
Mr. Refik Safa	Project Department Director
Mr. Zülkif Tansug	Groundwater Department Director
<u>JICA Study Team</u>	
Dr. Yasuhiko Kunihiro	Team Leader
Dr. Shuichi Matsushima	Irrigation/Water Management Expert
Mr. Naoto Morioka	Agro-economist/Project Economist
Mr. Hirohisa Isogai	Dam Planner
Mr. Tetsunari Gejo	Land Use Planner/Environmentalist
Ms. Nakako Noda	Interpreter
Mr. Ko Watanabe	Coordinator
Mr. Ravil Agis	Interpreter
<u>JICA Tokyo Head Office</u>	
Mr. Masaru Uoya	Study Administration

MINUTES OF MEETING  
ON  
PROGRESS REPORT (I)  
FOR  
THE STUDY  
ON  
KÜÇÜK MENDERES RIVER BASIN IRRIGATION PROJECT

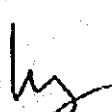
In accordance with the Scope of Work (S/W) for the Study on the Küçük Menderes River Basin Irrigation Project (the Study) agreed upon between the Government of Turkey (GOT) through the General Directorate of State Hydraulic Works (DSI) and the Japan International Cooperation Agency (JICA) on April 11, 1994, the JICA Study Team submitted the Progress Report (I) on March 20, 1995 to the DSI Regional Directorate (DSI-II).

The meetings were held three times between DSI and JICA Study Team on March 17, 22 and 24, 1995. The first meeting chaired by Mr. H. Yavuz, Head of Investigation and Planning Department of DSI, was held at the meeting room of DSI-II in Izmir before submittal of the Progress Report (I). The second meeting chaired by Mr. H. Özgöbek, Regional Director of DSI-II, and the third meeting chaired by Mr. H. Yavuz, Head of Investigation and Planning Department of DSI, were held at the meeting rooms of DSI-II in Izmir and in Ankara respectively based on the Progress Report (I).

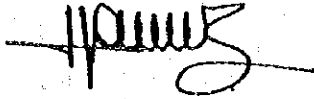
Upon the request by the chairman, Mr. T. Tomita, Deputy Project Manager of JICA Study Team, explained the activities and major findings of the JICA Study Team and the basic concepts for the development plan to be considered in the Study, which are mentioned in the Progress Report (I), and the Report was basically accepted by DSI.

The followings are the main subjects discussed and agreed upon between DSI and the JICA Study Team through the meetings.

- (1) The runoff coefficient of 0.60 applied in the Master Plan prepared by DSI in 1982 seems higher than actual. For this matter, DSI will check the reason why such high coefficient was applied in the Master Plan, and JICA Study Team will also examine the actual runoff coefficient based on the discharge data so far collected by the Team.

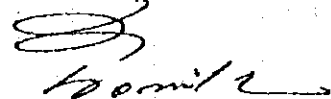


- (2) Some municipalities and villages in the basin may request municipal water supply in near future. In this context, DSI requested JICA Study Team to include the amounts of municipal water supplies to these municipalities and villages in water balance study. JICA Study Team agreed to this matter. The water demands to be considered in the water balance study will be informed by DSI to the JICA Study Team by the end of May 1995.
- (3) DSI requested JICA Study Team to consider the water supply to Izmir in the present study, particularly using surplus water at full development stage in the basin.
- (4) DSI requested JICA Study Team to make study on possibility of dam construction not only for the earth dam but also the concrete dam, concrete facing dam and RCD where the geological condition allows the construction of these dams, because it would be difficult to find out the suitable core materials for the earth dam construction near these dam sites. JICA Study Team agreed to make this study.
- (5) DSI requested JICA to provide the design standards and sample designs for the concrete facing dam and RCD, and JICA Study Team agreed to send these documents to DSI after his return to Japan.



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Hüseyin Yayuz  
Head of Investigation and  
Planning Department of DSI,



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Toshihiro Tomita  
Deputy Project Manager,  
JICA Study Team



LIST OF PARTICIPANTS OF THE FIRST MEETING

on March 17, 1995

at the Meeting Room, DSI-II

DSI Ankara Investigation and Planning Department

Mr. Hüseyin Yavuz, Head

Mr. Cuma Çakmak, Director of Planning Section I

DSI II Regional Directorate

Mr. Hikmet Özgöbek, Regional Director

Mr. Ahmet H. Alpaslan, Deputy Regional Directorate

Dr. İlker Atış, Director, Planning Department

Mr. Arif. Uran, Geological Engineer

Mr. Ahmet Tomar, Agro-economist, Planning Department

Ms. Işık Erdem, Meteorologist

Ms. İnci Gün, Civil Engineer, Planning Department,

JICA Study Team

Mr. Toshihiro Tomita, Co-team Leader / O & M Expert

Mr. Shuichi Matsushima, Irrigation / Water Management Expert

Mr. Seyffetin Aydın, Hydro-meteorologist

Mr. Makoto Suga, Geologist/ Hydrogeologist

Mr. Naoto Morioka, Agro-economist

LIST OF PARTICIPANTS OF THE SECOND MEETING

on March 22, 1995

at the Meeting Room, DSI-II

DSI II Regional Directorate

Mr. Hikmet Özgöbek, Regional Director  
Mr. Refik Safa, Director, Project Department  
Dr. İlker Atış, Director, Planning Department  
Mr. Arif. Uran, Geological Engineer, Planning Department  
Mr. Ahmet Tomar, Agro-economist, Planning Department  
Ms. Işık Erdem, Hydrologist, Planning Department  
Ms. İnci Gün, Civil Engineer, Planning Department,  
Dr. Hasan Baykal, Geological Engineer, Planning Department  
Mr. Esat Saraçoğlu, Civil Engineer, Planning Department

JICA Study Team

Mr. Toshihiro Tomita, Co-team Leader / O & M Expert  
Mr. Shuichi Matsushima, Irrigation / Water Management Expert  
Mr. Seyffetin Aydın, Hydro-meteorologist  
Mr. Makoto Suga, Geologist/ Hydrogeologist  
Mr. Kunihiko Ohno, Agronomist  
Mr. Naoto Morioka, Agro-economist  
Mr. Tetsunari Gejoh, Land Use Planner / Environmentalist  
Mr. Ko Watanabe, Coordinator  
Ms. Nakako Noda, Interpreter

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*[Signature]*

LIST OF PARTICIPANTS OF THE THIRD MEETING

on March 24, 1995

at the Meeting Room, DSI

DSI Ankara Investigation and Planning Department

Mr. Hüseyin Yavuz, Head, Investigation and Planning Department  
Mr. Dinçer Kulga, Deputy Head  
Mr. Cuma Çakmak, Director, Planning Section I  
Mr. Kerim Gülsüm, Director, Land Classification Section  
Mr. Ayhan Teker, Director, Flow Measurement and Hydrometeorology  
Mr. Tuncel Esen, Director, Agricultural Economy  
Ms. Filiz Aydınlıyım, Chemical Engineer  
Mr. Necuti Özçırpıcı, Director, Hydrology Section  
Mr. Günay Tuzcu, Director, Groundwater Planning  
Ms. Cansen Akkaya, Civil Engineer  
Mr. Fahrettin Eminoğlu, Agricultural Engineer  
Mr. Birsen Çuhadar, Geologist

JICA Study Team

Mr. Toshihiro Tomita, Co-team Leader / O & M Expert  
Mr. Shuichi Matsushima, Irrigation / Water Management Expert  
Mr. Seyffelin Aydın, Hydro-meteorologist  
Mr. Makoto Suga, Geologist/ Hydrogeologist  
Mr. Kunihiro Ohno, Agronomist  
Mr. Naoto Morioka, Agro-economist  
Mr. Tetsunari Gejoh, Land Use Planner / Environmentalist  
Mr. Ko Watanabe, Coordinator  
Ms. Nakako Noda, Interpreter

MINUTES OF MEETING  
FOR  
THE INTERIM REPORT  
ON  
THE KUÇUK MENDERES RIVER BASIN IRRIGATION PROJECT

Attachment-VI

In order to discuss the study results mentioned in the Interim Report which was prepared by the Study Team of the Japan International Cooperation Agency (JICA) in accordance with the Scope of Work (S/W) for the captioned study agreed upon between the General Directorate of State Hydraulic Works (DSI) and JICA, a meeting was held on August 23, 1995 at the meeting room of DSI in Ankara. The list of the attendants of the meeting is attached hereto. The meeting was opened and chaired by Mr. H. Yavuz, Head of Investigation and Planning Department of DSI. Upon the request by the chairman, Dr. K. Tokida, Study Administration, explained the procedure of the study and his mission to the Study Team. After this, Dr. Y. Kunihiro, Team Leader of the JICA Study Team, explained the contents of the Interim Report and the Report was basically accepted by DSI.

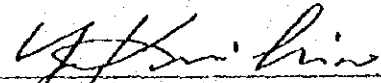
The followings are the main subjects discussed and agreed upon between DSI and the JICA Study Team through the meeting:

- (1) If there are any comments from DSI including the DSI Second Regional Directorate on the Interim Report, these will be informed to the JICA Study Team within 10 days.
- (2) These comments will be incorporated in the Phase-II Study, if these comments are appropriate in conformity with S/W.

Ankara, August 24, 1995



Hüseyin Yavuz  
Head of Investigation and  
Planning department of DSI



Yasuhiko Kunihiro  
Team Leader of  
JICA Study Team



Kunihiro Tokida  
Study Administration  
JICA, Tokyo

## LIST OF ATTENDANTS

<u>Name</u>	<u>Position</u>
<u>Investigation and Planning Department of DSI</u>	
Mr. Hüseyin Yavuz	Head, Investigation and Planning Department
Ms. Şen Sülün	Deputy Head
Mr. Cuma Çakmak	Director, Planning Section I
Mr. Tuncay Soysal	Director, Planning Section II
Ms. Cansen Akkaya	Civil Engineer
Mr. Erbil Alpaslan	Civil Engineer
Mr. Ömer Ardic	Civil Engineer
Mr. Derya Denizli	Geologist
Ms. Gülsen Çuhadar	Geologist
Mr. Hamza Özgüler	Meteorologist
Ms. Filiz Aydınlyım	Chemical Engineer
Ms. Işıl Salihoglu	Environmentalist
Mr. Ibrahim Biroglu	Forestry Engineer
Mr. Mertkan Erdemli	Environmentalist
Mr. Mustafa Tanrıverdi	Civil Engineer
Mr. Fahrettin Eminoglu	Agricultural Engineer
Mr. Ali Çelik	Agricultural Engineer
Mr. Ramiz Çiftçi	Civil Engineer
Mr. Almettin Eker	Civil Engineer
<u>JICA Tokyo Head Office</u>	
Dr. Kunihiro Tokida	Study Administration
<u>JICA Turkey Office</u>	
Mr. Naoyoshi Sasaki	Resident Representative
<u>JICA Study Team</u>	
Dr. Yasuhiko Kunihiro	Team Leader
Mr. Toshihiro Tomita	Co-team Leader / O&M Expert
Dr. Shuichi Matsushima	Irrigation / Water Management Expert
Mr. Seyffetin Aydin	Hydro-meteorologist
Mr. Kunihiko Ohno	Agronomist
Mr. Tetsunari Gejo	Land Use Planner / Environmentalist
Miss. Nakako Noda	Interpreter

*R. T. Kuz*

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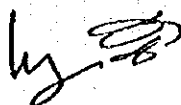
MINUTES OF MEETING  
FOR  
THE PROGRESS REPORT (II)  
ON  
THE KÜÇÜK MENDERES BASIN IRRIGATION PROJECT

Attachment-VII

In order to discuss the survey and study results mentioned in the Progress Report (II) which was prepared by the Study Team of the Japan International Cooperation Agency (JICA) in accordance with the Scope of Work (S/W) for the captioned survey and study agreed upon between the General Directorate of State Hydraulic Works (DSİ) and JICA, a meeting was held on October 19, 1995 at General Directorate of State Hydraulic Works (DSİ). The list of the attendants of the meeting is attached hereto. The meeting was opened and chaired by Mr. H. Yavuz, Head of Investigation and Planning Department of DSİ. Upon the request by the chairman, Mr. T. Tomita explained the contents of the Progress Report (II) and the Report was basically accepted by DSİ.

The followings are the main subjects discussed and agreed between DSİ and the Study Team through the meeting:

- (1) The conclusion on DSİ's comments and JICA's Reply on Interim Report in Attachment -VI of Progress Report (II) should be taken into account in the Draft Final Report.
- (2) The micaschist with crushed stone and asphalt center type core should be evaluated for both cost and economic perspectives in the Draft Final Report.
- (3) The breakdown of construction cost estimate including the unit prices for the major work items will be mentioned in the Draft Final Report.
- (4) The cultivation area of poplars shown on page-23 seems a little bit bigger than actual. This will be confirmed using the aerial photograph newly taken in 1995, if available to the Study Team.
- (5) The cropping pattern shown in Figure 4.1 will be modified by changing the cropping intensities of cereals from 5% to 10% and vegetables from 20% to 15%, if economically feasible.



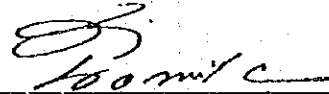
- (6) As proposed in the Progress Report (II), irrigation supply system excluding main canals will be of closed type. The closed conduit type of main canal will also be considered as far as economically justifiable.
- (7) For the use of asbestos pipe for the irrigation water conveyance, it should be checked according to international standard from the viewpoint of irrigation water quality. If the result is suitable, it should be recommended.
- (8) The method of conjunctive use of surface water and groundwater for irrigation will be studied and mentioned in the Draft Final Report.
- (9) The wetlands of downstream of the project area should be evaluated under Section 4.10.3 Environmental Impact Assessment.

Ankara, October 19, 1995



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Hüseyin Yavuz  
Head of Investigation and  
Planning department of DSI



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Toshihiro Tomita  
Deputy Team Leader of  
JICA Study Team

## LIST OF PARTICIPANTS

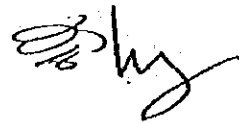
on October 17, 1995  
at DSI-II, Izmir

### DSI II Regional Directorate

Mr. Hikmet Özgöbek, Regional Director  
Dr. Ahmet H. Alpaslan, Deputy Regional Directorate  
Mr. Refik Safa, Director, Project Department  
Dr. İker Atış, Director, Planning Department  
Mr. Ali Fuat Kılıçkarakurt, Chief Engineer, Planning Department  
Ms. İnci Glin, Civil Engineer, Planning Department,  
Mr. Hasan Mirza, Soil Specialist, Planning Department  
Mr. Ahmet Tomar, Agro-economist, Planning Department  
Ms. Işık Erdem, Meteorologist, Planning Department  
Dr. Hasan Baykal, Geological Engineer, Planning Department  
Mr. Esat Saraçoğlu, Civil Engineer, Planning Department  
Ms. Firuzan Regay, Geological Engineer, Groundwater Department

### JICA Study Team

Mr. Toshihiro Tomita, Co-team Leader / O & M Expert  
Mr. Shuichi Matsushima, Irrigation / Water Management Expert  
Mr. Seyffetin Aydın, Hydro-meteorologist  
Mr. Naoto Morioka, Agro-economist  
Mr. Msahiro Omiya, Design Engineer / Cost Estimator  
Mr. Tetsunari Gejo, Land Use Planner / Environmentalist  
Mr. Ko Watanabe, Coordinator  
Ms. Nakako Noda, Interpreter





## LIST OF ATTENDANTS

on October 19, 1995

at DSI, Ankara

### DSI, ANKARA

#### Department of Investigation and Planning

Mr. Hilseyin Yavuz	Head
Mr. Diñer Kulga	Deputy Head
Mr. Cuma Çakmak	Director, Planning Section I
Mr. Ali Dönmez	Director, Mapping Section
Mr. Ali Çelik	Agro-economist
Mr. Fahrettin Eminođlu	Drainage and Land Class Specialist
Ms. Cansen Akkaya	Civil Engineer
Mr. Erbil Alpaslan	Civil Engineer
Mr. Arif Birol Eken	Civil Engineer

#### Department of Water Supply and Sewage

Ms. Işıl Salihođlu	Director, Env. Prob. and Water Poll. Control Section
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#### Department of Geotechnical Services and Groundwater

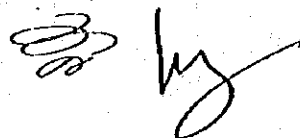
Mr. Eral Şekerciöđlu	Deputy Head
Mr. Çetin Hızlı	Director, Construction Materials Section
Ms. Derya Denizli	Geologist

### DSI-II Regional Directorate

Dr. Ilker Atış	Director, Planning Section II
Mr. Ali Fuat Küçükkarakurt	Chief Engineer

### JICA Study Team

Mr. Toshihiro Tomita	Co-team Leader / O&M Expert
Dr. Shuichi Matsushima	Irrigation / Water Management Expert
Mr. Naoto Morioka	Agro-Economist / Project Economist
Mr. Seyffetin Aydın	Hydro-meteorologist
Mr. Tetsunari Gejo	Land Use Planner / Environmentalist
Mr. Masahiro Omiya	Design Engineer / Cost Estimator
Ms. Nakako Noda	Interpreter
Mr. Ko Watanabe	Coordinator
Mr. Emre Ege Smekal	Interpreter



MINUTES OF MEETING  
FOR  
THE DRAFT FINAL REPORT  
ON  
THE KÜÇÜK MENDERES RIVER BASIN IRRIGATION PROJECT

In order to discuss the study results mentioned in the Draft Final Report which was prepared by the Study Team of the Japan International Cooperation Agency (JICA) in accordance with the Scope of the Work for the captioned study agreed upon between the General Directorate of State Hydraulic Works (DSI) and JICA, a meeting was held on March 13, 1996 at the meeting room of DSI in Ankara. The list of the attendants of the meeting is attached hereto. The meeting was opened and chaired by Mr. H. Yavuz, Head of Investigation and Planning Department of DSI. After this, Dr. Y. Kunihiro, Team Leader of the Study Team, explained the contents of the Draft Final Report under the supervision of Dr. K. Tokida, Study Administration of JICA, and the Report was basically accepted by DSI.

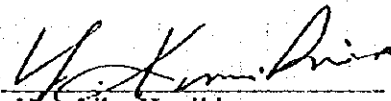
The followings are the main subjects discussed and agreed upon between DSI and the Study Team through the meeting:

- (1) The discount rate of 8 % applied in the economic evaluation made in the Draft Final Report should be changed to 5% following the DSI standard.
- (2) For the reservoir operation study, the Study Team applied other method than the DSI criteria.
- (3) Olive price mentioned in the Report will be revised to the recently available one.
- (4) Groundwater modelling was made using the data available to the Study Team from DSI by the end of field survey of the Phase II Study. Both parties understood that further study would be made in future, if necessary.
- (5) If there are any comments from DSI (including the DSI Second Regional Directorate) on the Draft Final Report, these will be informed to the JICA Study Team within 10 days, and will be incorporated in the Final Report, if these comments are appropriate in conformity with S/W.

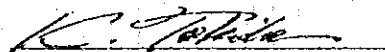
Ankara, March 14, 1996



Hüseyin Yavuz  
Head of Investigation and  
Planning Department of DSI



Yasuhiko Kunihiro  
Team Leader of  
JICA Study Team



Kunihiro Tokida  
Study Administration  
JICA, Tokyo

**LIST OF PARTICIPANTS FOR  
THE PRESENTATION OF DRAFT FINAL REPORT**

**Department of Investigation and Planning of DSI Ankara**

Mr. Hüseyin Yavuz	Head
Mr. Dinçer Kulga	Deputy Head
Mr. Cuma Çakmak	Director, Planning Section I
Ms. Cansen Akkaya	Civil Engineer
Mr. Tuncel Esen	Director, Agricultural Economy Section
Mr. Ali Çelik	Agro-economist
Mr. Arif Birol Eken	Agricultural Engineer
Mr. Fahrettin Eminoğlu	Agricultural Engineer
Mr. Derya Denizli	Geologist
Mr. Mustafa Yurdagül	Hydrogeologist
Mr. Hasan Kırmızıtaş	Hydrogeologist
Mr. Nurettin Kaya	Hydrogeologist
Mr. Yaşar Dinçbay	Forestry Engineer
Ms. Filiz Aydınlıyım	Chemical Engineer
Ms. Işıl Salihoğlu	Director, Environmental Section
Mr. Şerafettin Canaz	Civil Engineer
Mr. Necati Özçirpcı	Director, Hydrology Section
Mr. Hüseyin Çelik	Civil Engineer
Mr. Çetin Hızlı	Director, Construction Materials
Ms. Late Çullu	Civil Engineer
Mr. Alamettin Eker	Civil Engineer
Mr. Mustafa Tanrıverdi	Civil Engineer
Ms. Fatma Adıgüzel	Civil Engineer

**DSI-II Regional Directorate**

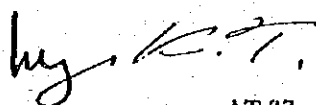
Mr. Hikmet Özgöbek	Regional Director
Dr. Ahmet H. Alpaslan	Deputy Regional Directorate
Dr. İlker Atış	Director, Planning Department
Mr. Ali Fuat Küçükçarakurt	Chief Engineer, Planning Department
Ms. İnci Gün	Civil Engineer, Planning Department

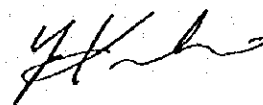
**JICA Tokyo Head Office**

Dr. Kunihiro Tokida	Study Administration
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**JICA Study Team**

Dr. Yasuhiko Kunihiro	Team Leader
Mr. Toshihiro Tomita	Co-Team Leader/ O&M Expert
Dr. Shuichi Matsushima	Irrigation/Water Management Expert
Mr. Seyfettin Aydın	Hydro-meteorologist
Mr. N. Morioka	Agro-economist













JICA