

Table 6.4.1 Preliminary Assessment of Projects Selected under Master Plan

Master Plan	Factors for Assessment										
	Contribution to project objectives	Urgency among rural communities	Technical adaptability of OIDA	Technical adaptability of Bureau of Agriculture	Technical adaptability of farmers	Fund requirement	Time requirement	Duplication with on-going projects	Social risk	Environmental impact	Total
Weighting Factor	2	3	2	2	2	3	1	1	2	3	
1. Irrigation Development Programme											
1-1 WUA Support Programme	3	4	5	3	4	5	5	4	4	4	86
1-2 Meki Irrigation and Rural Water Supply Project	5	4	3	3	2	2	2	5	2	2	61
2. Rain-fed Agriculture Improvement Programme											
2-1 Semi-Arid Farming Improvement Project	5	3	3	5	4	5	5	3	5	5	91
2-2 Community Seed Bank Project	4	4	2	3	3	5	5	2	2	5	77
2-3 Post-Harvesting Techniques Improvement Project	2	2	2	3	3	3	5	2	5	5	67
2-4 Community Pond Project	4	4	4	3	2	4	4	3	3	5	78
3. Animal Husbandry Modernization Programme											
3-1 Demonstration Unit Project	4	2	2	4	3	5	5	3	3	5	76
3-2 Forage Production Project	4	2	2	3	3	3	3	3	3	5	66
3-3 Improved Breed Promotion Project	2	2	2	3	2	3	4	3	3	5	61
4. Environmental Conservation Programme											
4-1 Environmental Monitoring Programme	5	2	3	3	2	5	5	5	5	5	82
4-2 Seedling Center Project	5	3	2	4	4	3	5	4	5	5	82
4-3 Watershed Management Programme	5	4	3	3	3	3	2	3	5	5	79
5. Capacity Building Programme for OIDA and Wareda Staff											
5-1 OIDA Engineers Training Programme											
5-2 OIDA Community Development Experts Training Programme											
5-3 Wareda Staff Training Programme											
5-4 Community Resource Mapping Project											
6. Community Development and Cooperative Promotion Programme											
6-1 Community Leader Training Programme	5	4	3	3	4	5	5	3	5	5	90
6-2 Visioning Workshop Programme	4	3	3	3	4	5	5	3	5	5	85
6-3 Drinking Water and Nutritional Improvement Programme	3	4	3	3	4	5	5	3	5	5	86
6-4 Community Center Project	3	3	3	2	3	3	3	4	5	5	72
6-5 Grain Bank Promotion Programme	2	2	2	3	2	3	3	4	3	5	61

Note : Qualitative rates are tentatively given at five (5) grades, i.e. 5 for positive (favourable) to 1 for negative (unfavourable)
The quantitative project evaluation will be made at the final stage of the Study from technical, economic, financial, environmental and sociological points of view. The results will be presented in Draft Final Report

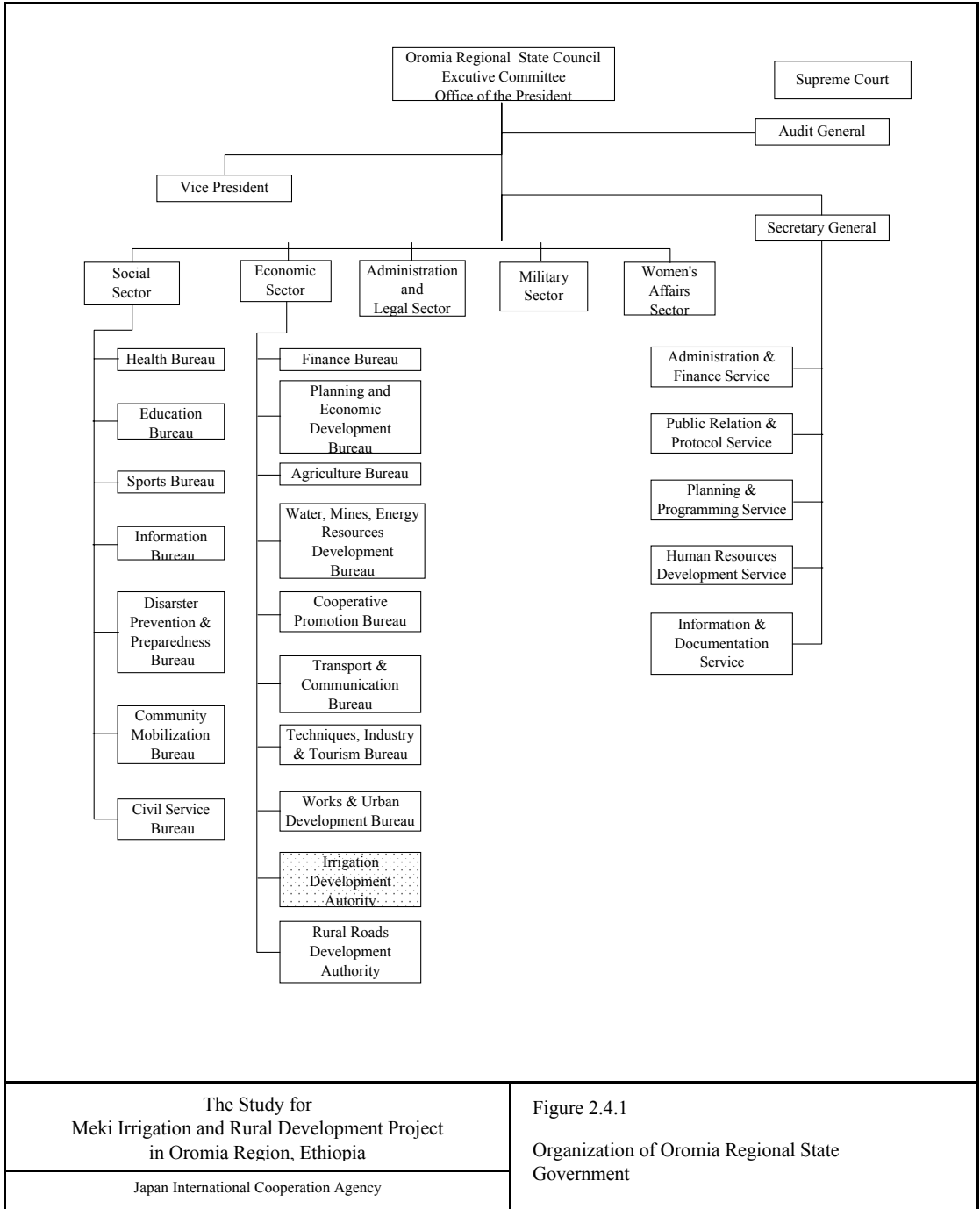
Table 7.2.1 Result of IEE of Meki Irrigation and Rural Development Project

Environmental Items	Catchment Area Region-I	Head Work Area Region-II	Meki River Channel Region-III	Irrigation Area Region -IV	L. Ziway system Region-V	R. Bulbula Channel Region-VI	Abijata-Shalla System Region-VII
A. PROBLEMS DUE TO PROJECT LOCATION							
1. Impacts on minority ethnic group	X	X	X	X	X	X	X
2. Resettlement	X	X	X	X	X	X	X
3. Impacts on land use	++/B	X	--/C	++/A	--/C	--/C	--/C
4. Impairment of transport system & existing infrastructure	X	++/C	-	++/C	X	X	X
5. Inundation of minerals	*	X	*	X	*	*	*
6. Inundation of historical assets	*	X	*	X	*	*	*
7. Encroachment on precious ecosystem	X	--/C	++/C	++/C	++/C	X	X
8. Watershed erosion & sedimentation	X	X	*	x	*	*	*
9. Conflicts with water supply rights	--/C	X	--/C	x	--/C	--/B	--/B
B. PROBLEMS RELATED TO CONSTRUCTION							
1. Air pollution, noise & vibration	*	--/C	X	--/C	*	*	*
2. Soil erosion & silt run off	X	--/C	--/C	--/C	--/C	X	*
3. Sanitation in workers' camp & wastes	X	--/C	X	X	X	X	*
4. Aesthetics & landscape	*	X	X	X	*	*	*
C. PROBLEMS DUE TO PROJECT OPERATIONS							
1. Change of river flow regime	*	--/B	--/A	*	--/B	--/A	--/A
2. Deterioration of down stream water quality	*	*	--/B	*	--/B	x	--/B
3. Depreciation of fisheries	*	X	--/C	*	--/B	x	--/B
4. Impacts on precious ecology	X	X	X	X	X	x	--/B
5. Eutrophication of back water flow	*	--/C	*	*	*	*	*
6. Vector borne parasitic diseases	X	--/C	X	--/C	*	*	*
7. Change of micro climate	X	X	X	X	X	X	X

Notes:

- ++/A : Upper parts stands for the direction of impacts and the lower part shows the magnitude of impacts
- A : Relatively high magnitude of impact expected
- B : Relatively moderate magnitude of impact expected
- C : Relatively low (minor) magnitude of impact expected
- X : No effect is expected
- * : No relationship
- ++ : Positive effect is expected
- : Negative effect is expected

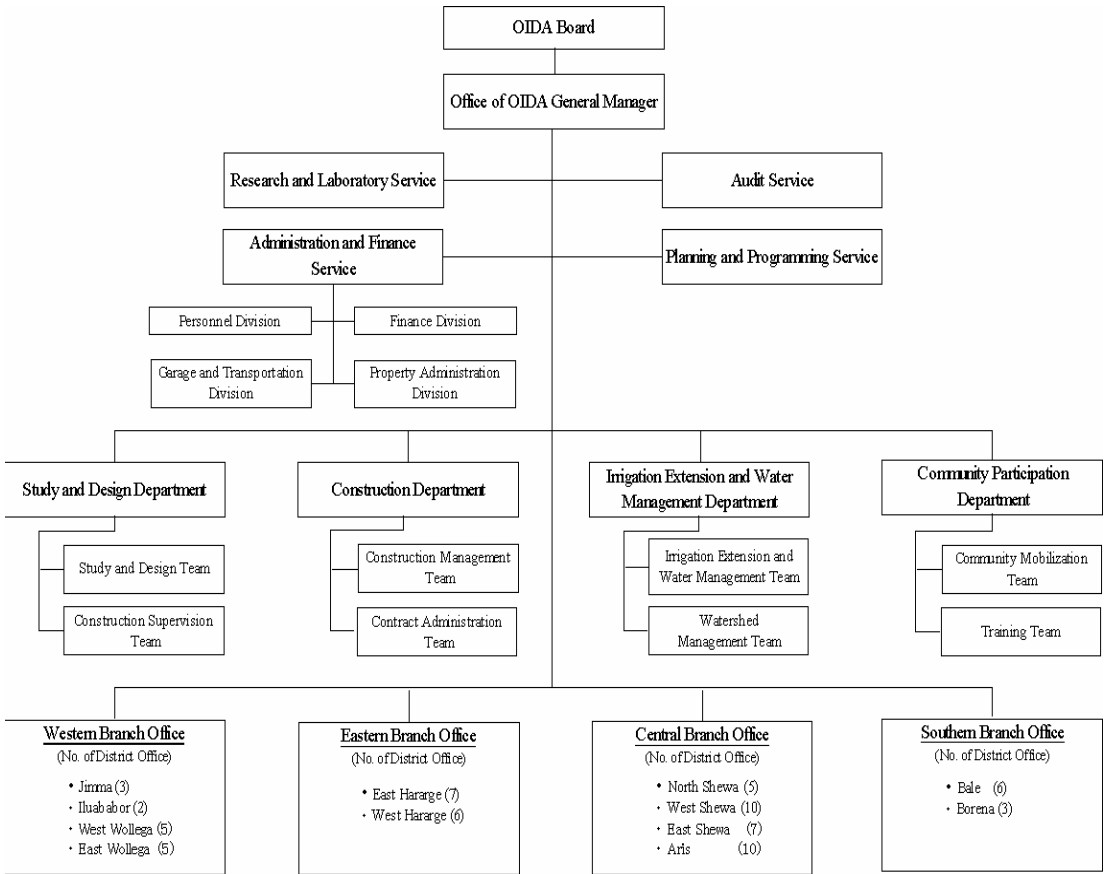
Figures



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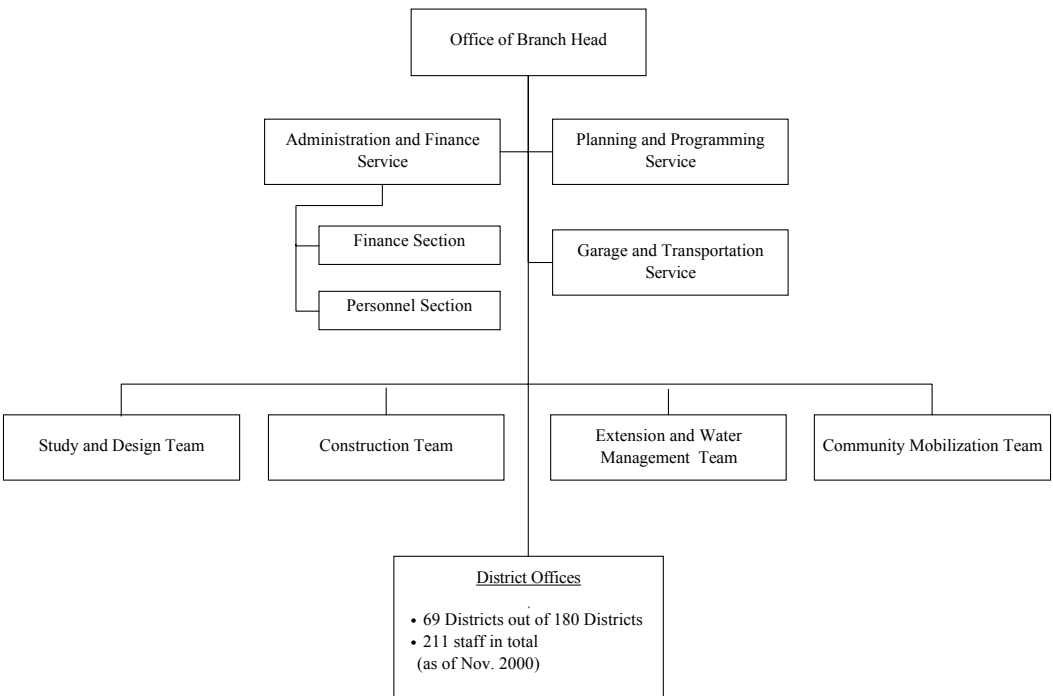
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Figure 2.4.1
Organization of Oromia Regional State
Government



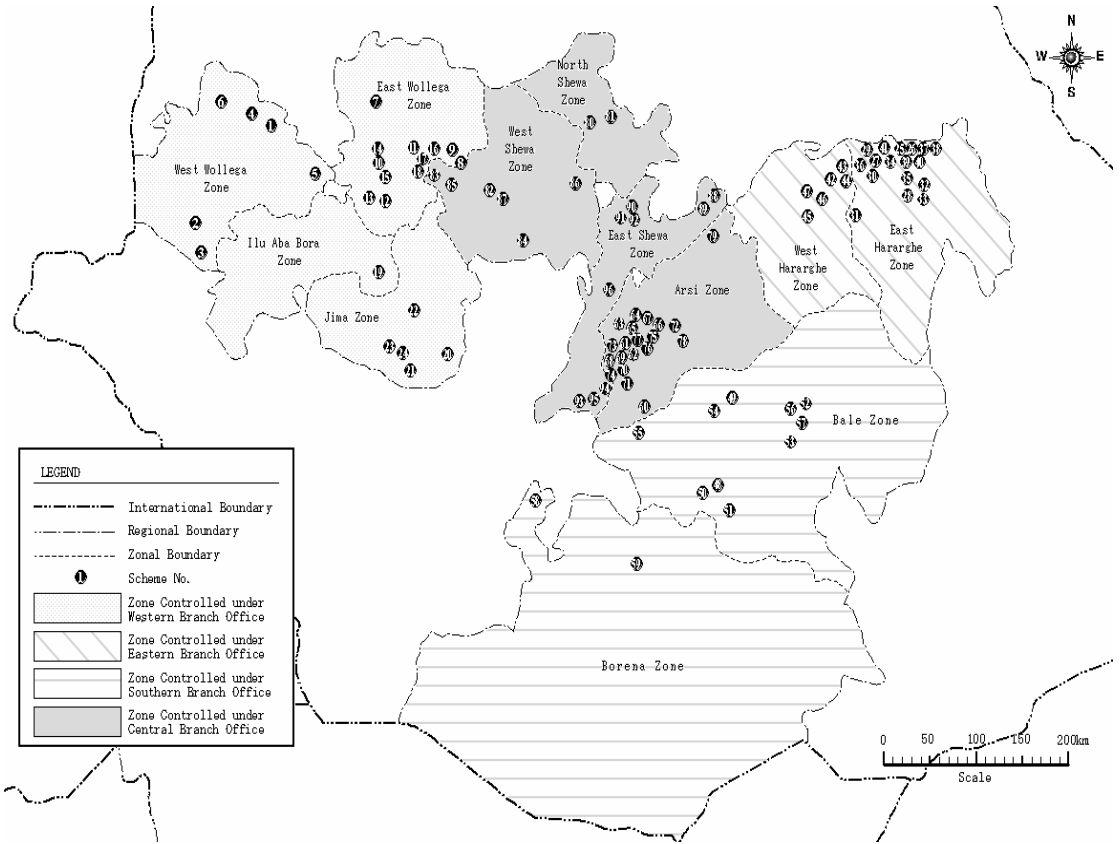
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Figure 2.4.2
Organization of OIDA Head Office Units and Branch



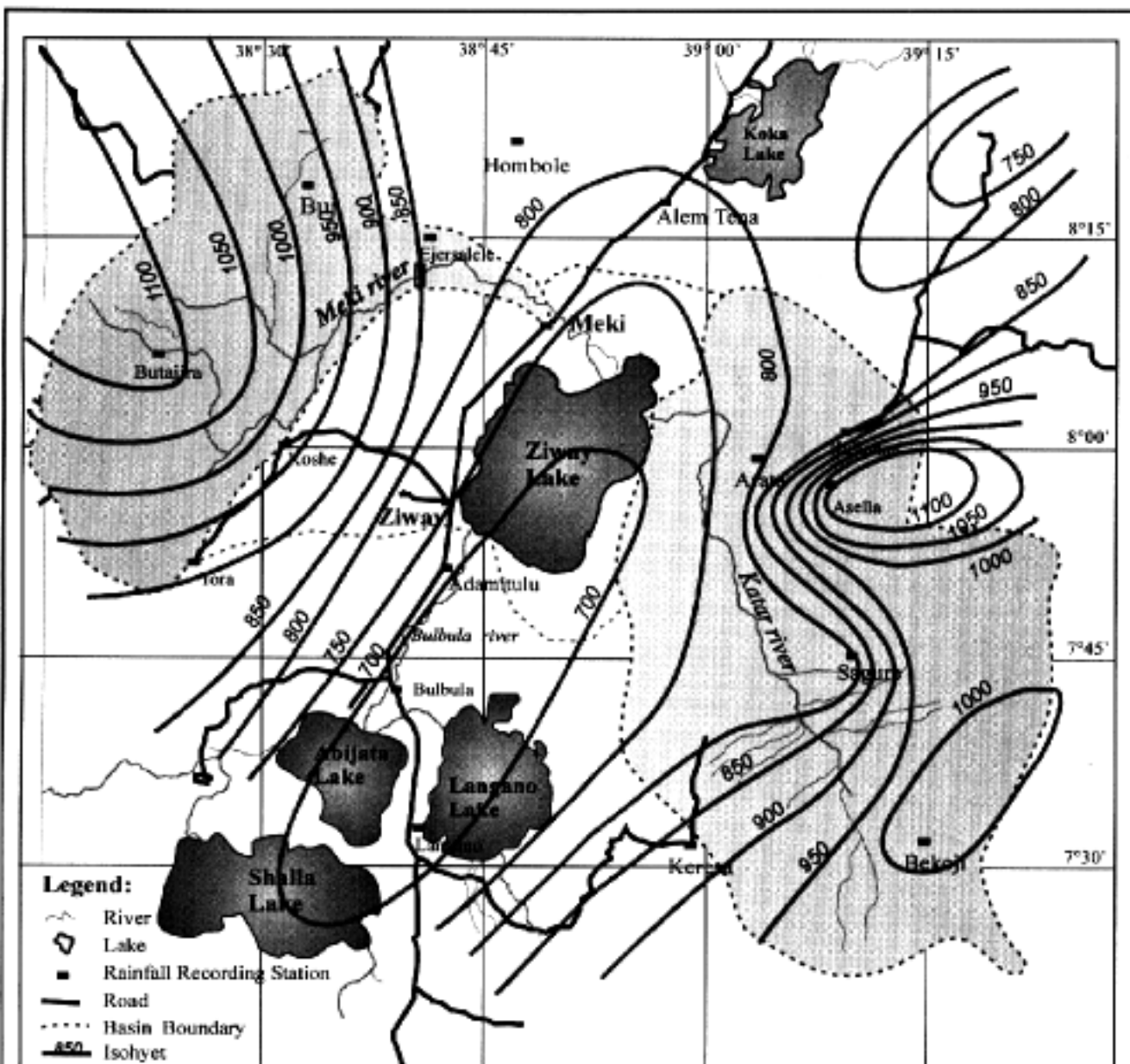
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Figure 2.4.3
Organization of OIDA Branch Office Units



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Figure 2.4.4
 Location of the Existing Irrigation Schemes in
 Oromia Region



List of Rainfall Recording Stations

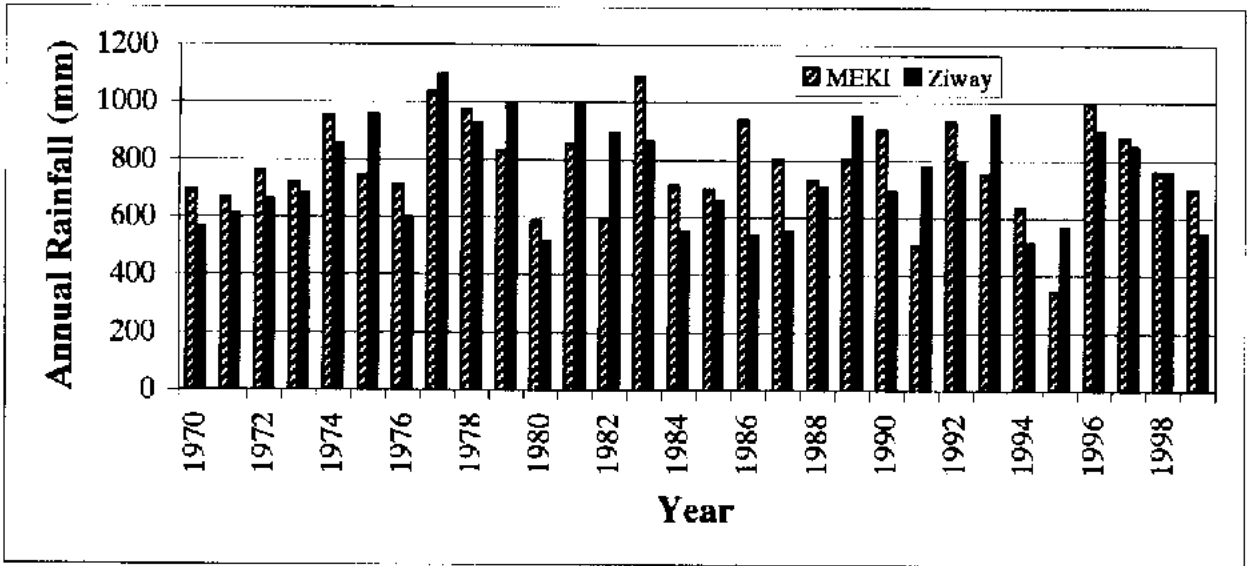
S.N.	Station Name	Coordinates		S.N.	Station Name	Coordinates	
		Latitude	Longitude			Latitude	Longitude
1.	Alem Tena	8° 18' N	38° 56' E	10.	Hombole	8° 22' N	38° 46' E
2.	Adamitulu	7° 51' N	38° 42' E	11.	Keresu	7° 33' N	38° 58' E
3.	Arata	7° 59' N	39° 04' E	12.	Koshe	8° 01' N	38° 32' E
4.	Asella	7° 57' N	39° 08' E	13.	Kulumsa	8° 04' N	39° 08' E
5.	Bekoji	7° 32' N	39° 15' E	14.	Langano	7° 31' N	38° 48' E
6.	Bui	8° 21' N	38° 33' E	15.	Meki	8° 09' N	38° 49' E
7.	Bulbula	7° 43' N	38° 40' E	16.	Sigure	7° 46' N	39° 09' E
8.	Butajira	8° 09' N	38° 22' E	17.	Tora	7° 52' N	38° 25' E
9.	Ejersalele	8° 15' N	38° 41' E	18.	Ziway	7° 56' N	38° 43' E

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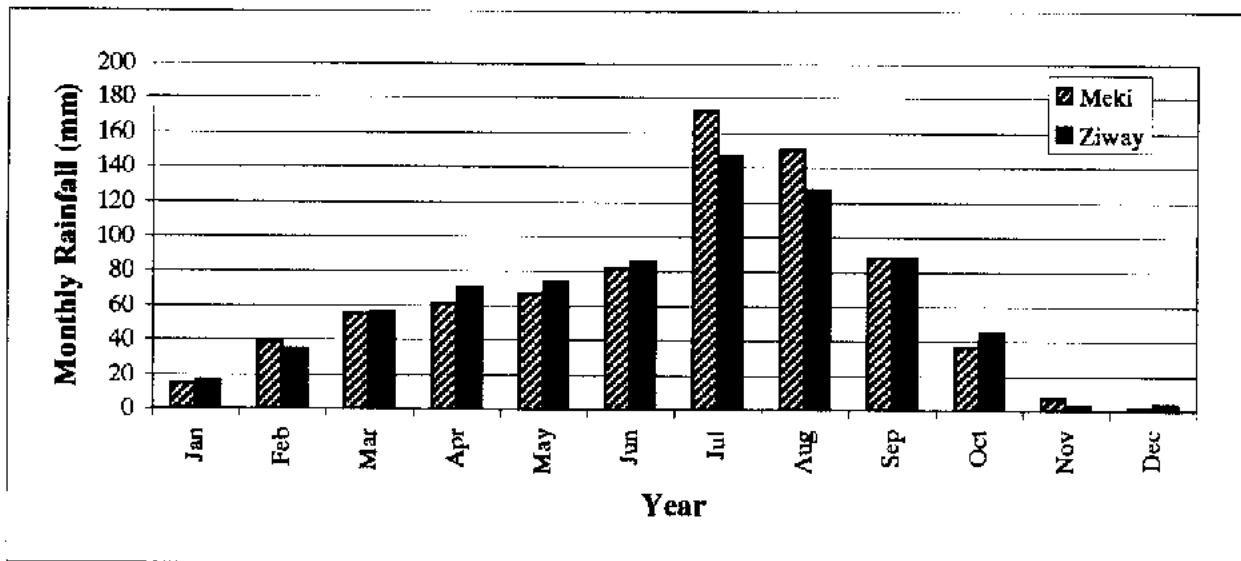
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Figure 3.1.1

Annual Isohyetal Map



(1) Annual Variation



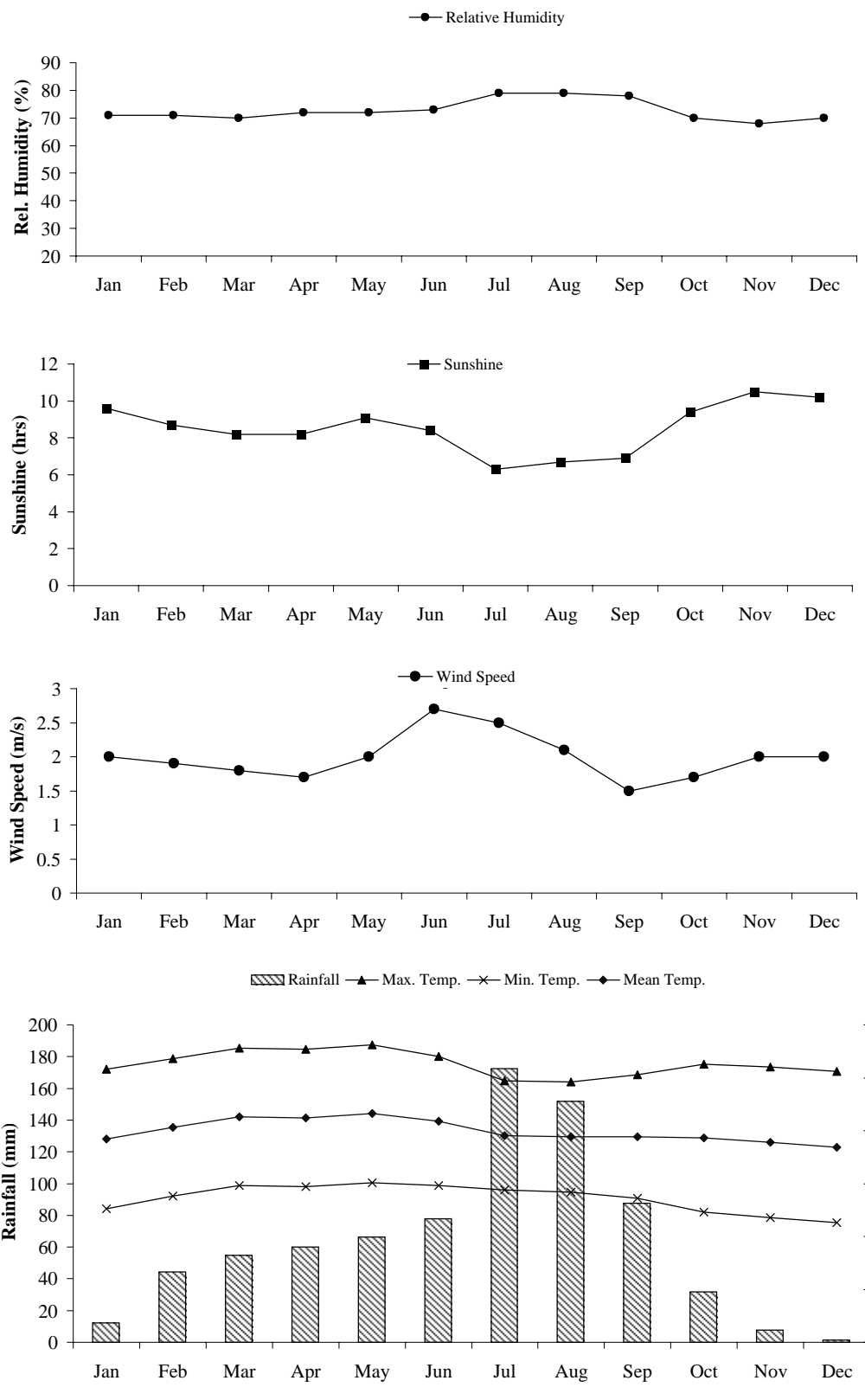
(2) Seasonal Variation

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Figure 3.1.2

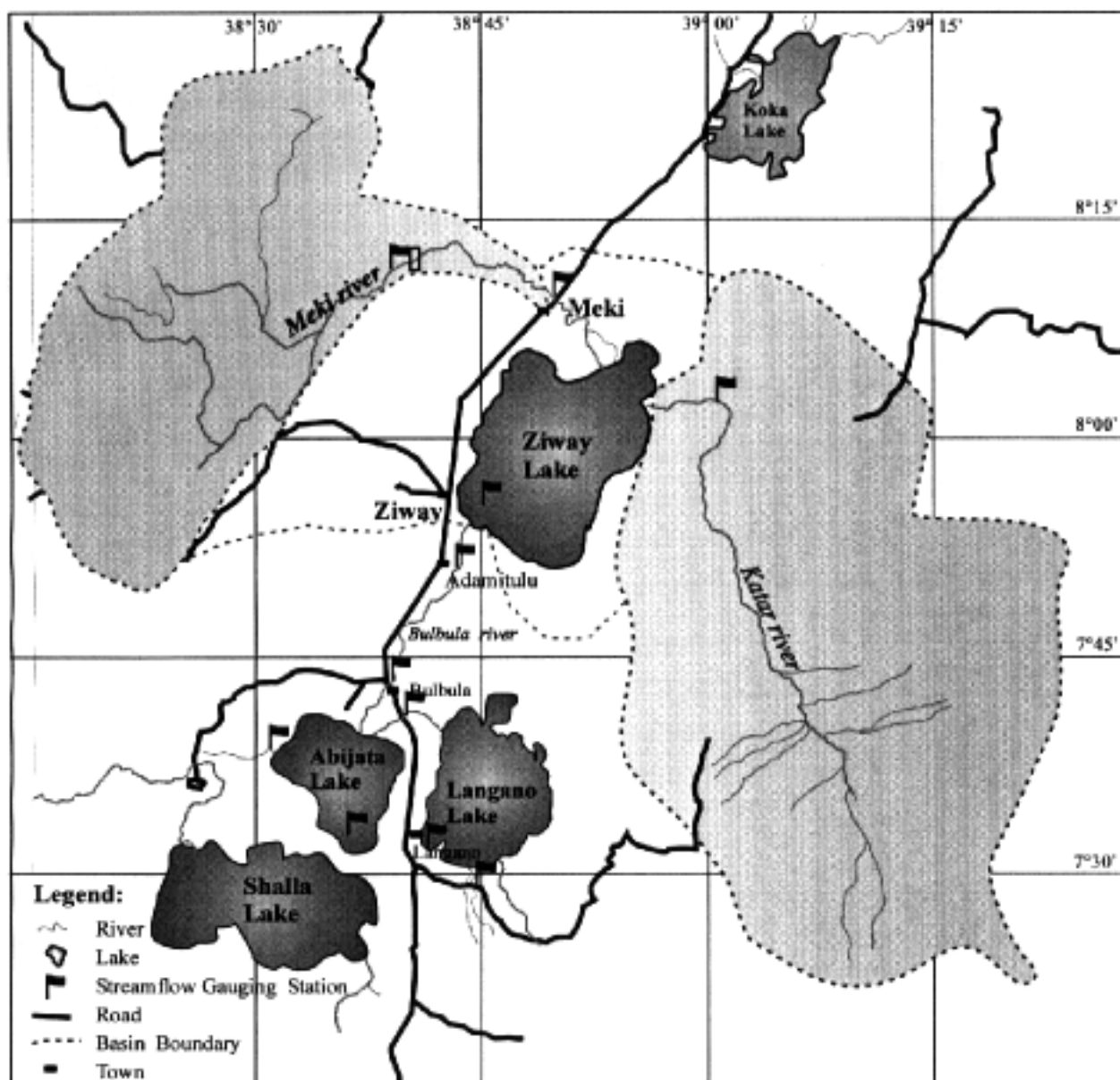
Annual and Seasonal Rainfall Variation at
the Meki and Ziway Stations



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Figure 3.1.3
Average Climate Parameters in the Study Area



List of Streamflow Gauging Stations

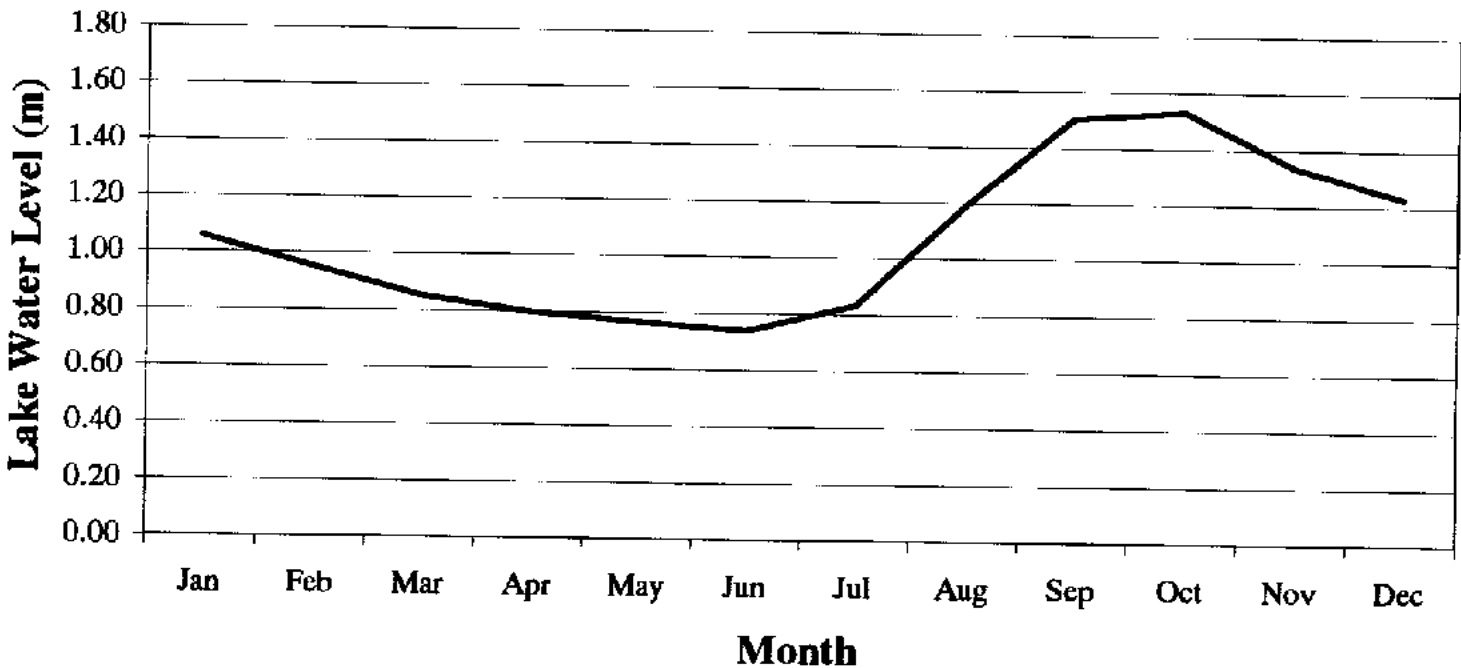
S.N	River/Lake	Station	Coordinates		Drainage	Remarks
			Latitude	Longitude		
1.	Meki	Dugda	8°12'N	38°42'E	2,040	Abandon
2.	Meki	Meki Village	8°09'N	38°50'E	2,433	
3.	Katar	Abura	8°04'N	39°03'E	3,350	
4.	Lake Ziway	Bochessa	7°54'N	38°45'E	7,380	
5.	Kekersitu	Adamitulu	7°51'N	38°43'E	7,488	
6.	Bulbula	Bulbula	7°43'N	38°38'E	8,155	Abandon
7.	Lake Langano	Near Hotel	7°32'N	38°41'E	2,006	
8.	Gedemso	Near Langano	7°28'N	38°44'E	213	Abandon
9.	Horakelo	Near Bulbula	7°41'N	38°40'E	2,050	
10.	Lake Abijata	Aroessa	7°33'N	38°36'E	10,744	
11.	Gogessa	Near Judu	7°38'N	38°32'E		

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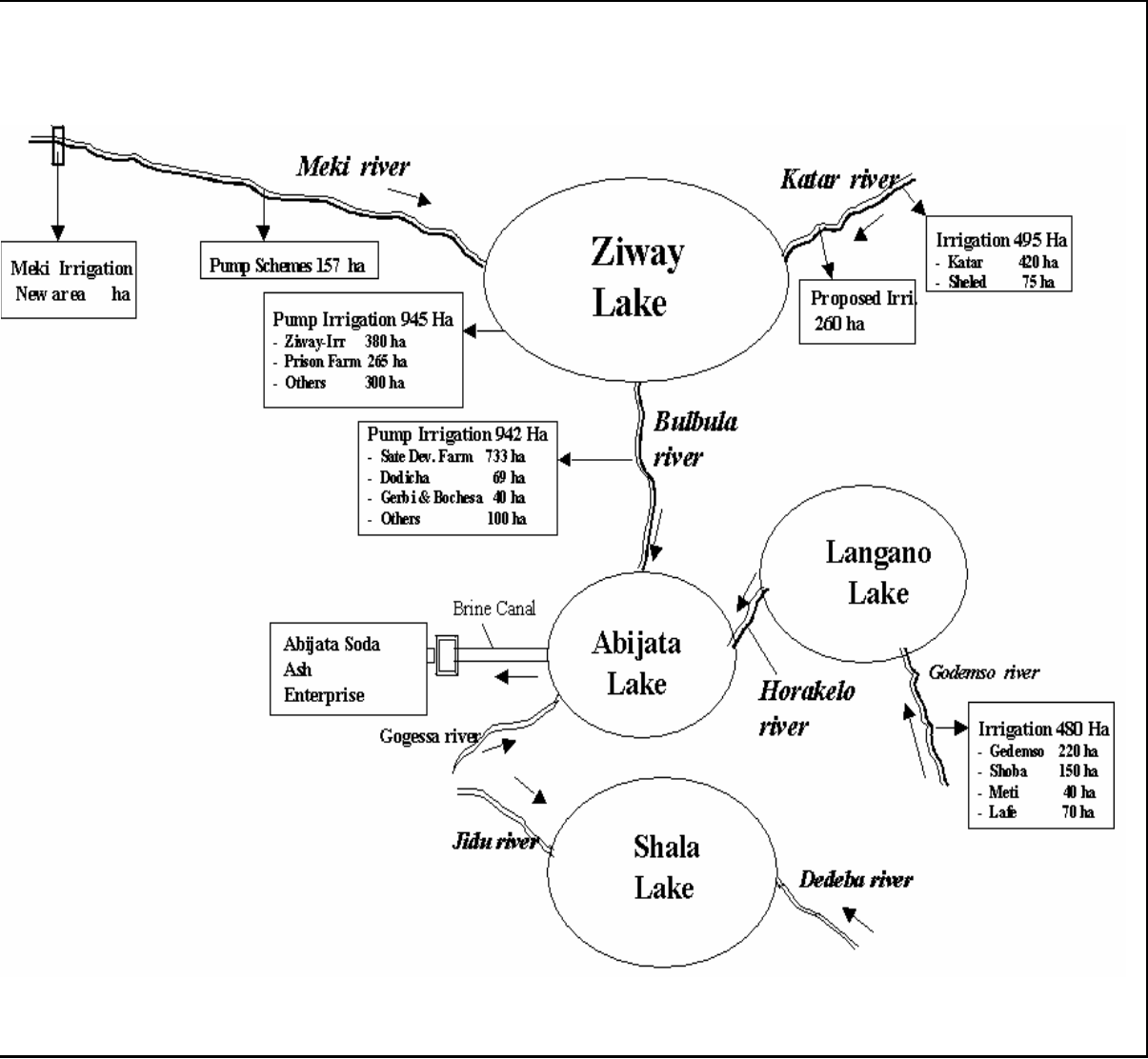
Figure 3.1.4

Location of Streamflow Gauging Stations



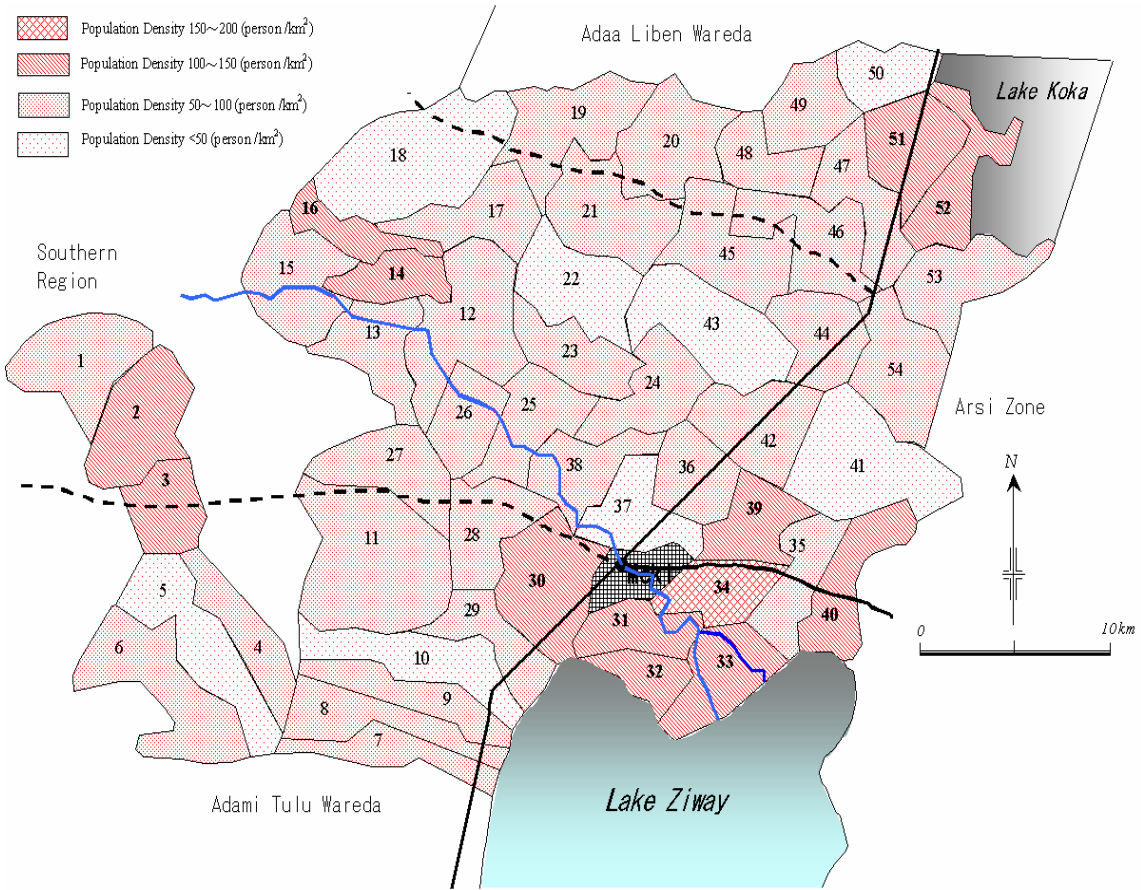
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Figure 3.1.5
 Seasonal Variation of Water Level of
 the Ziway Lake



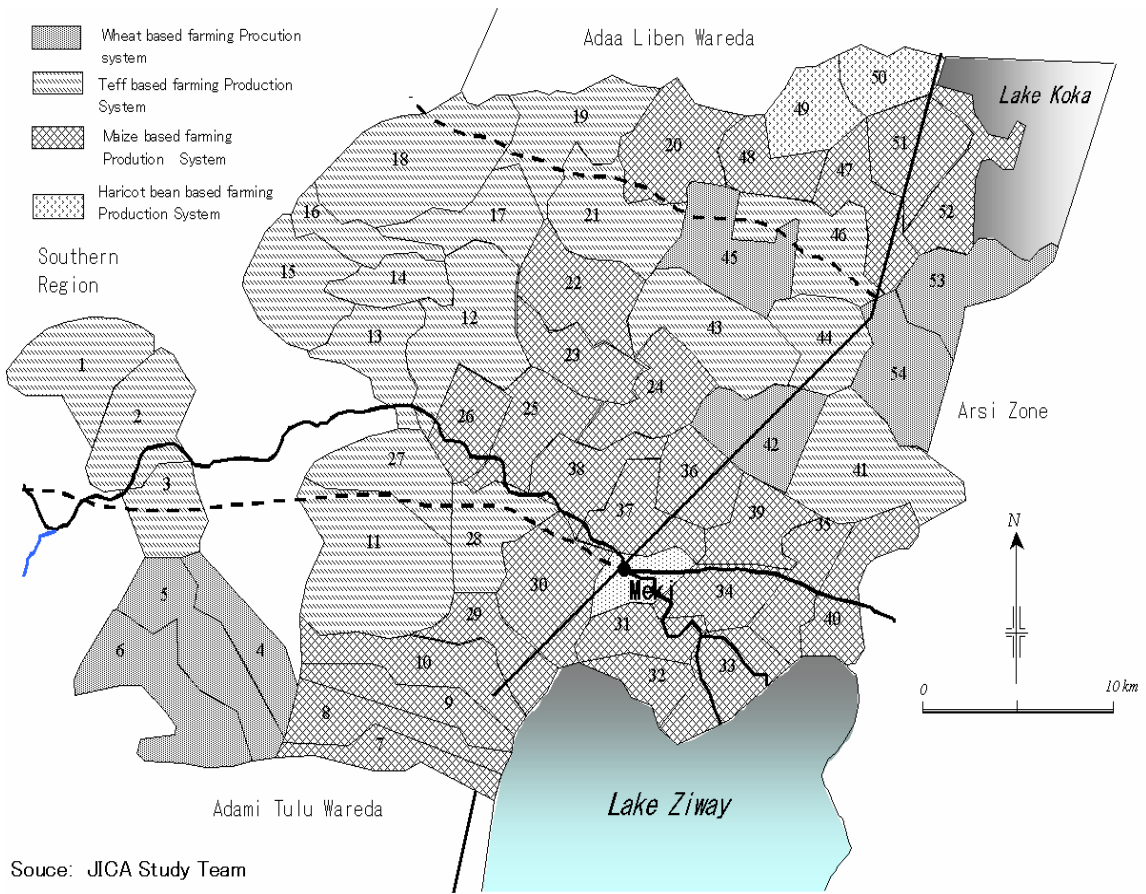
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Figure 3.1.6
 Water Use in the Meki-Ziway-Abijata System



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Figure 3.2.1
 Population Density by Peasant Association in
 Dugda Bora Warada, Year 1994

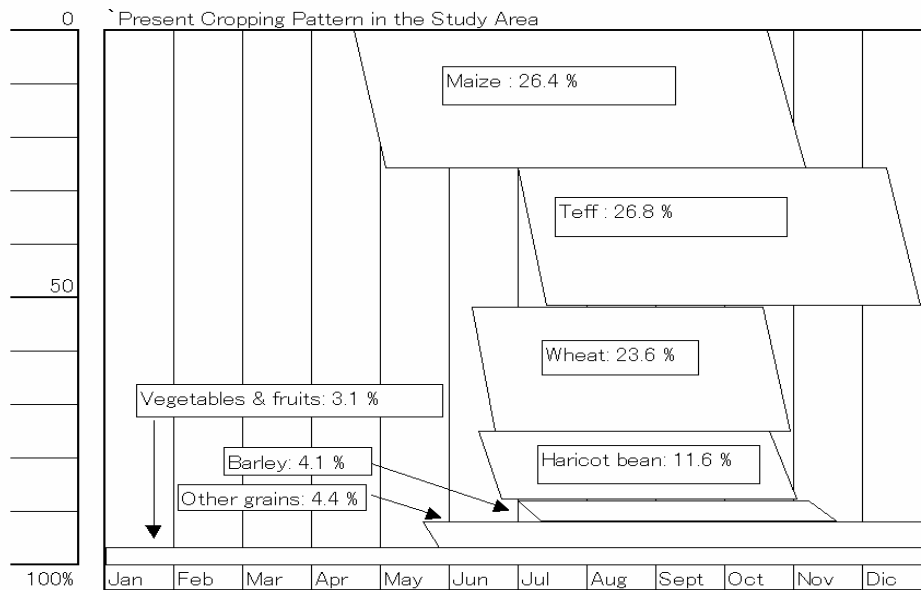
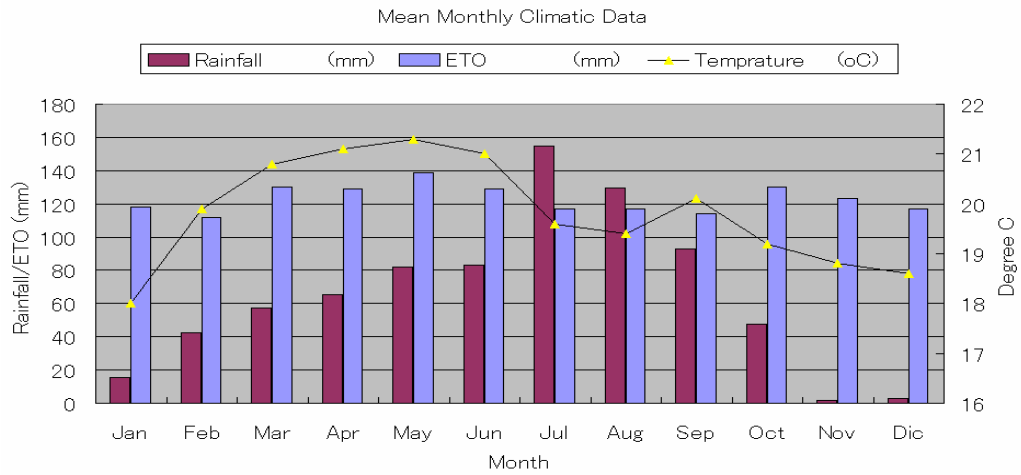


Source: JICA Study Team

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Figure 3.3.1
Crop Production Zone in the Study Area



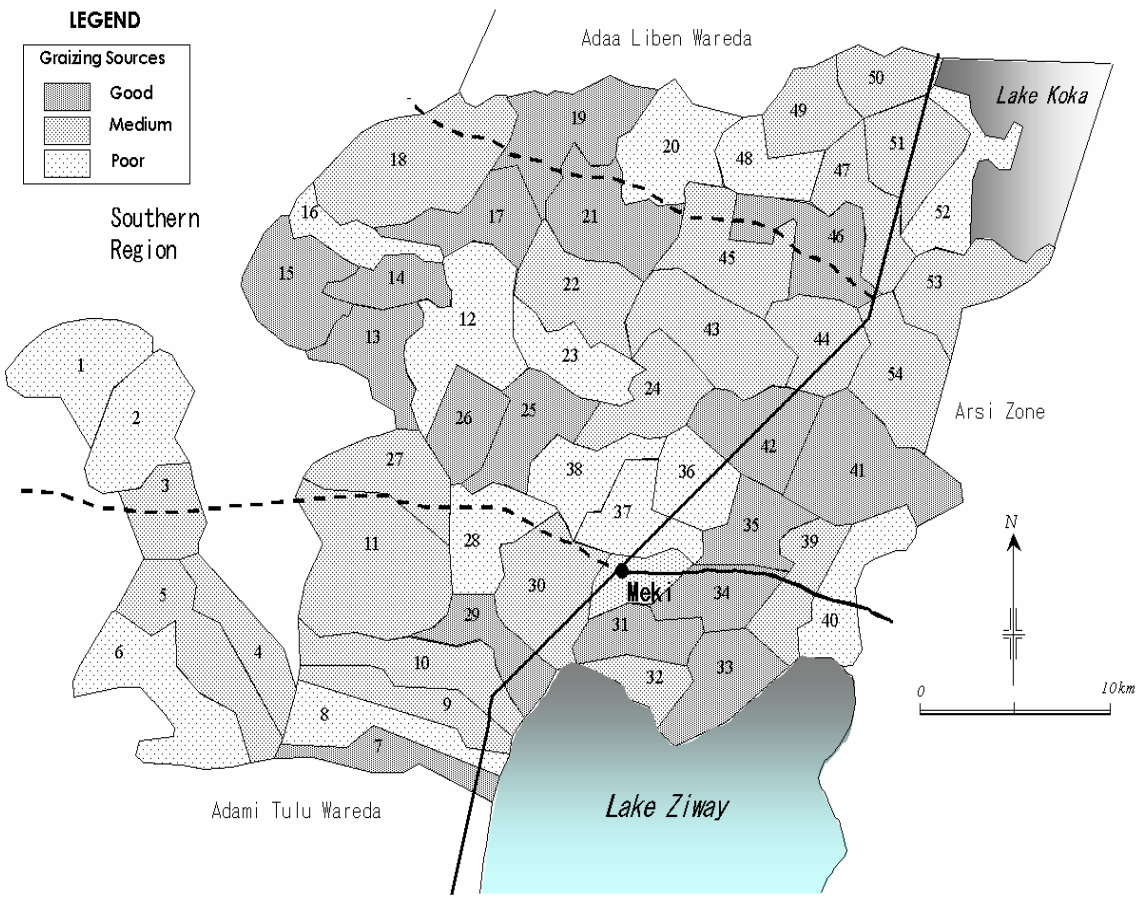
Source: JICA Study Team

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Figure 3.3.2

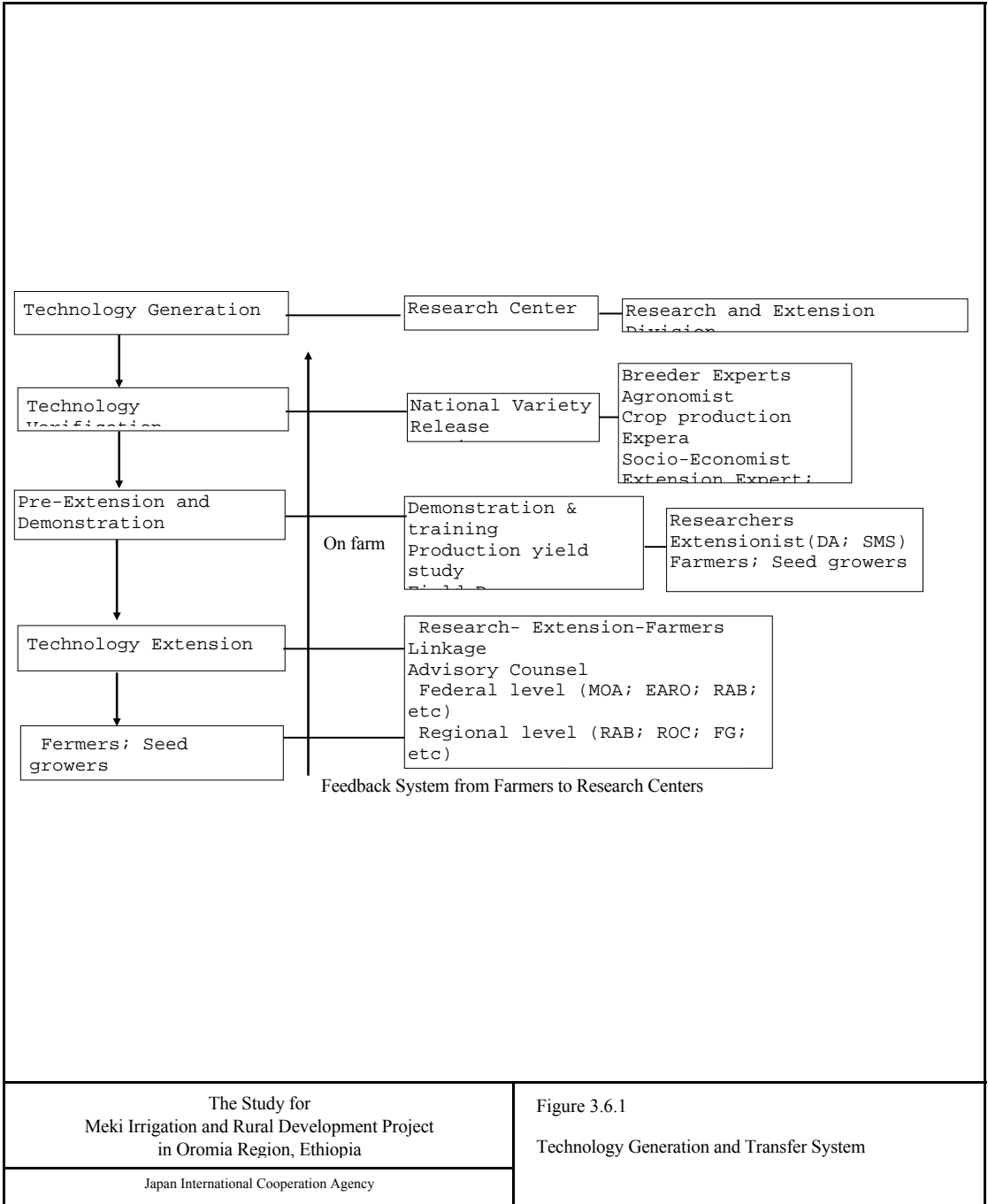
Present Cropping Pattern in the Study Area



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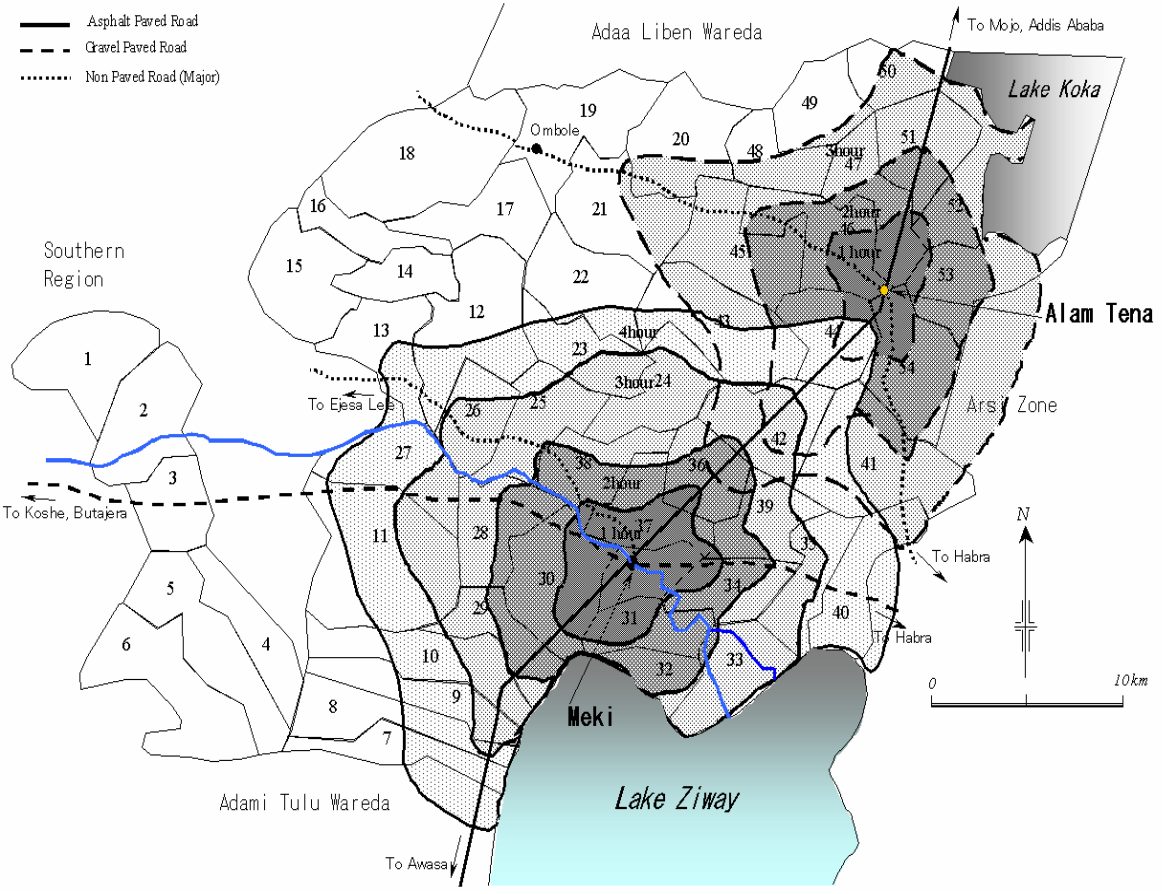
Figure 3.5.1
Grazing Sources in Duguda Bora Wareda



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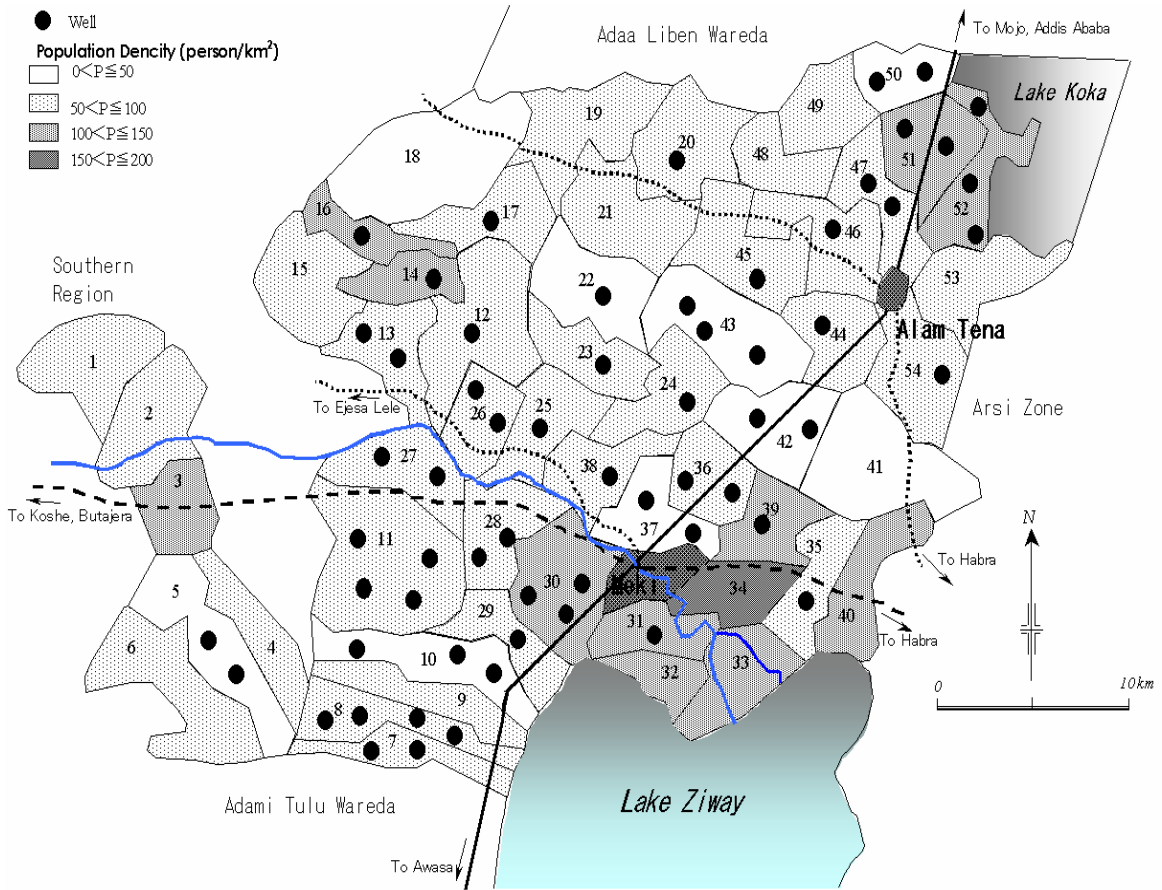
Figure 3.6.1
Technology Generation and Transfer System



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Figure 3.7.1
 Accessibility to Meki and Alam Tena

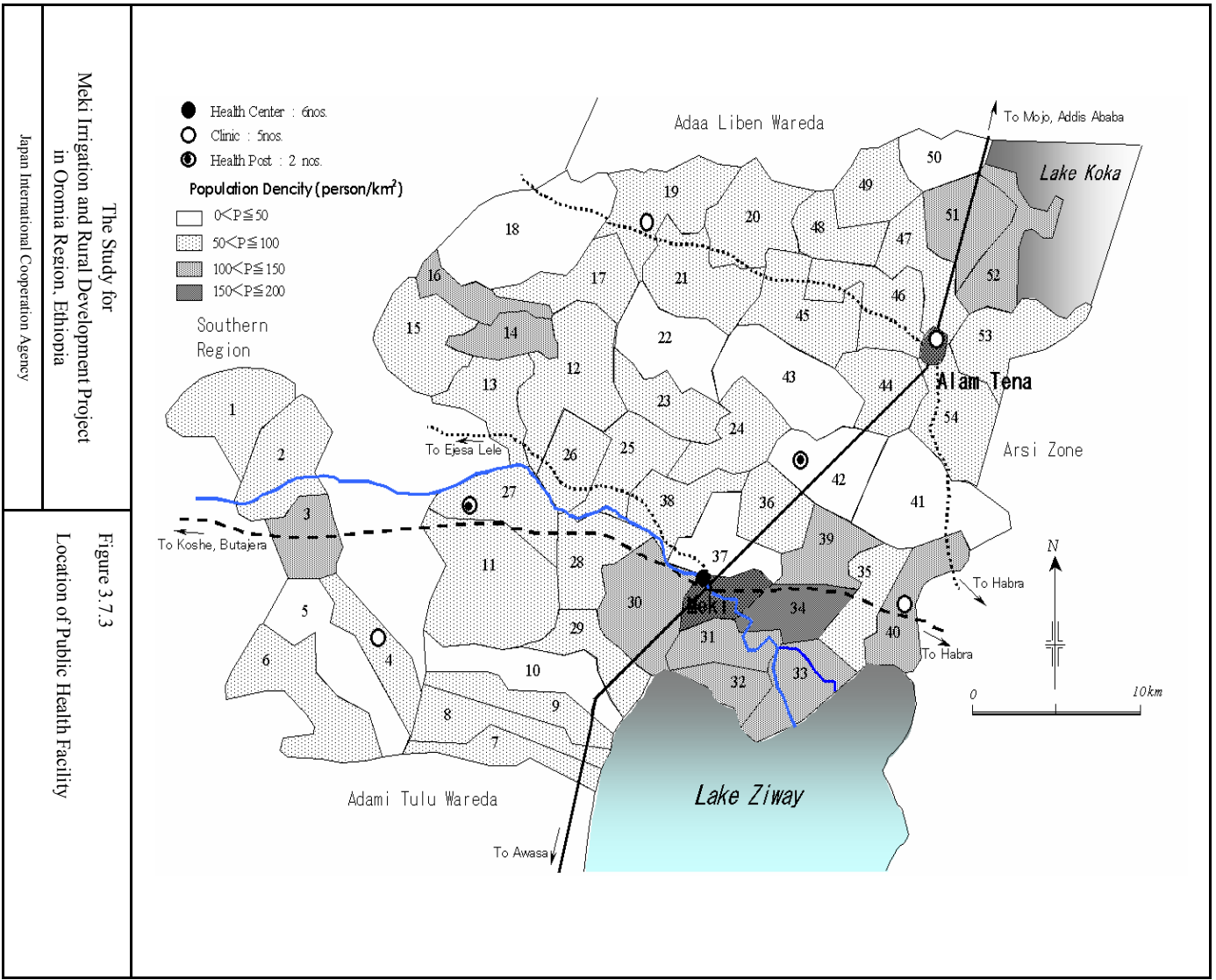


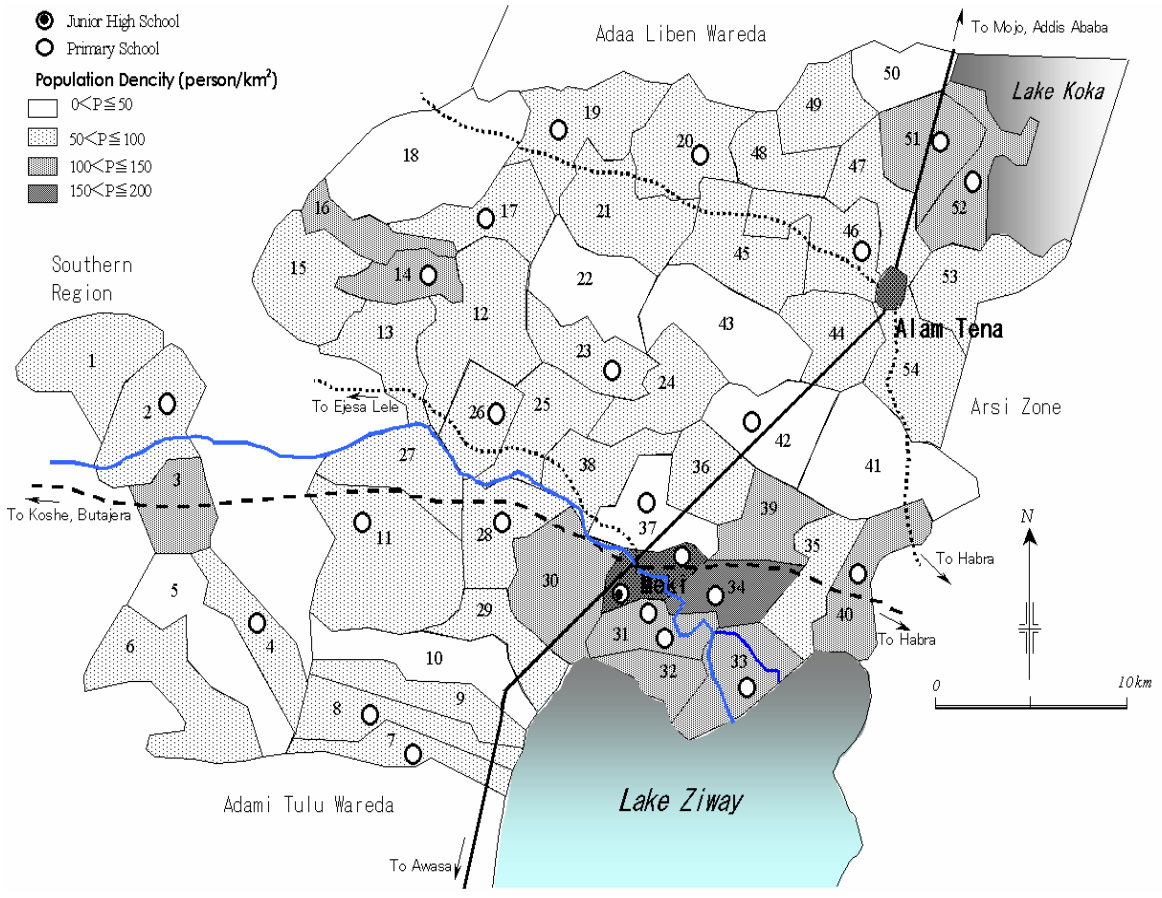
- Well
- Population Density (person/km²)
 - 0 $P \le 50$
 - ▤ 50 $P \le 100$
 - 100 $P \le 150$
 - 150 $P \le 200$

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Figure 3.7.2
Location of Rural Water Supply Facility

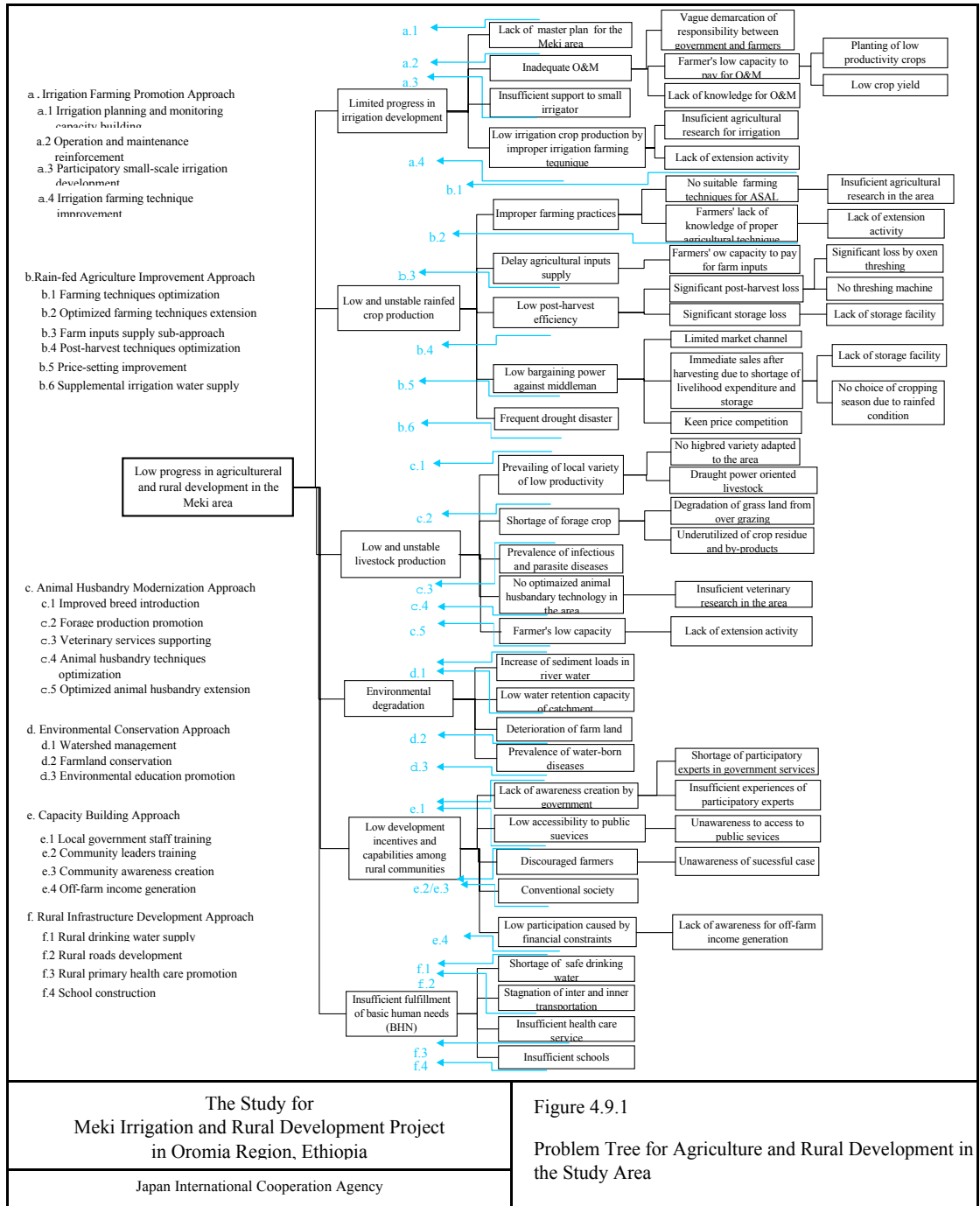


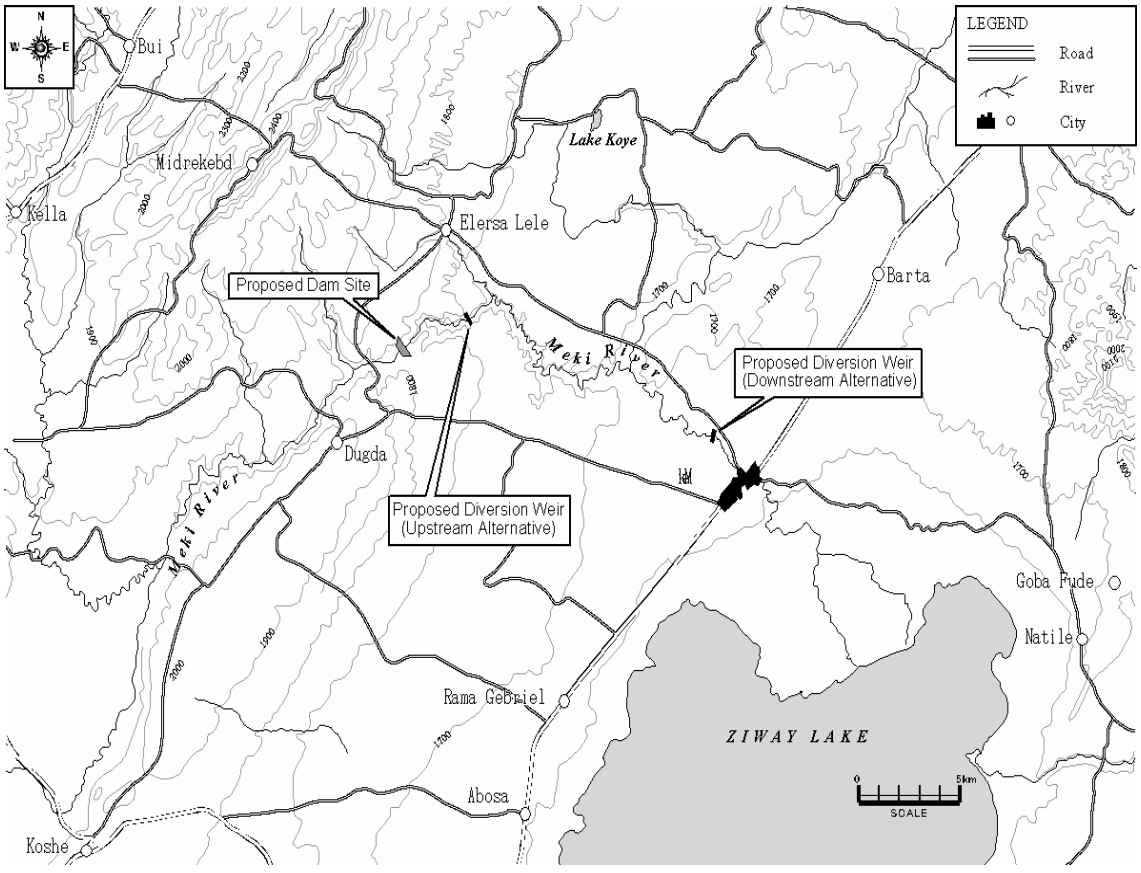


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Figure 3.7.4
 Location of Schools

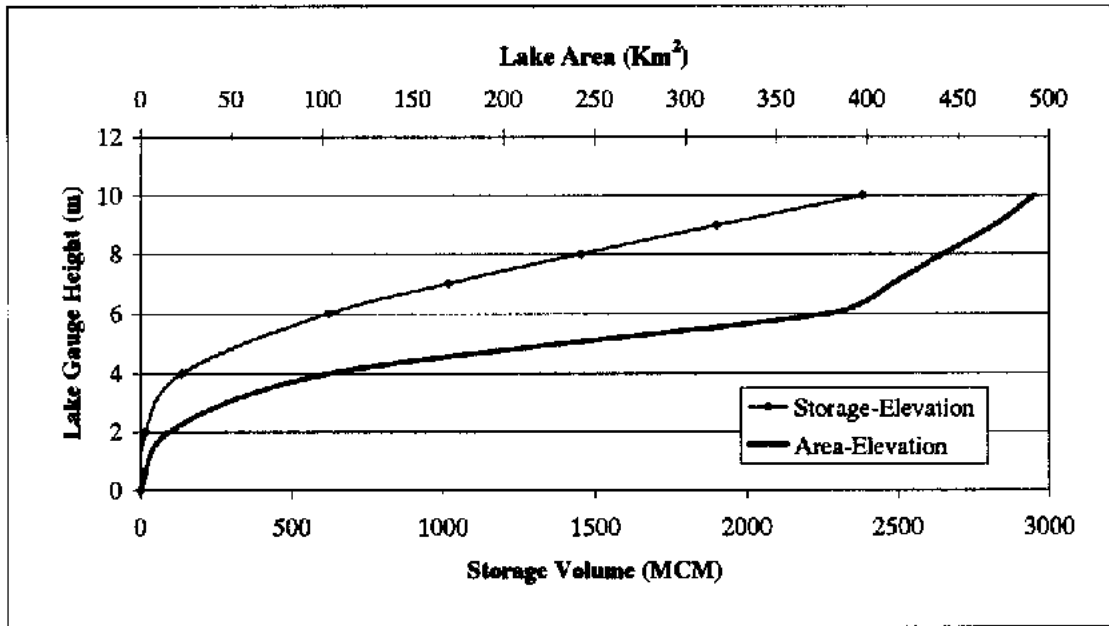




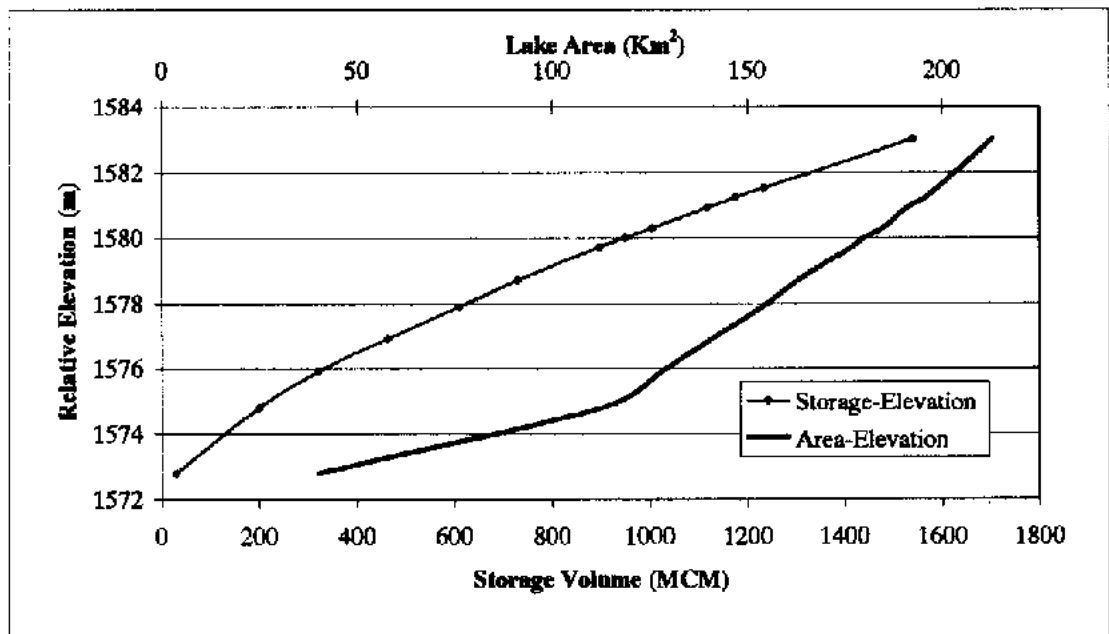
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Figure 5.2.1
 Location of Candidate Water Resources Facility



(1) Ziway Lake



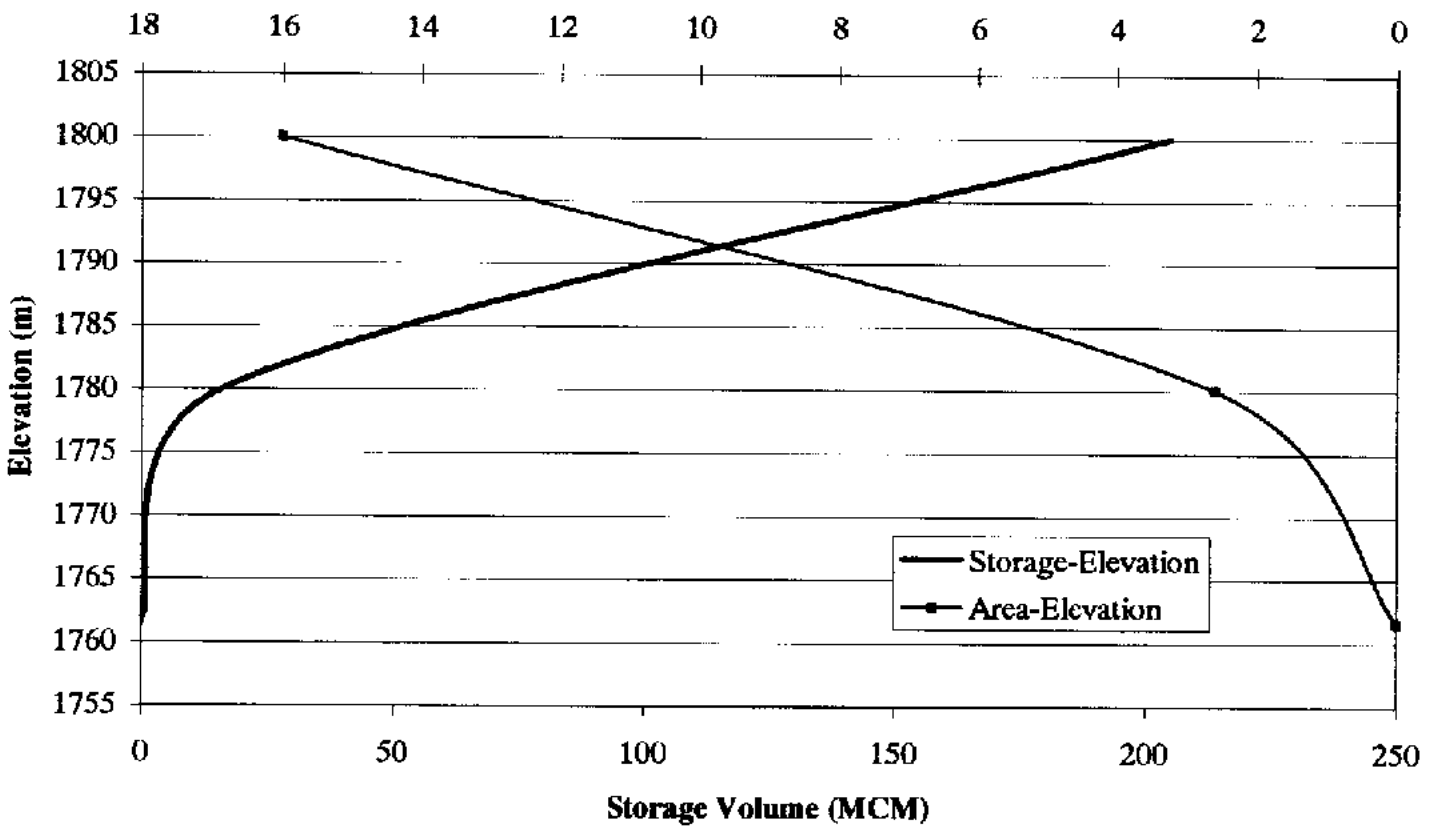
(2) Abijata Lake

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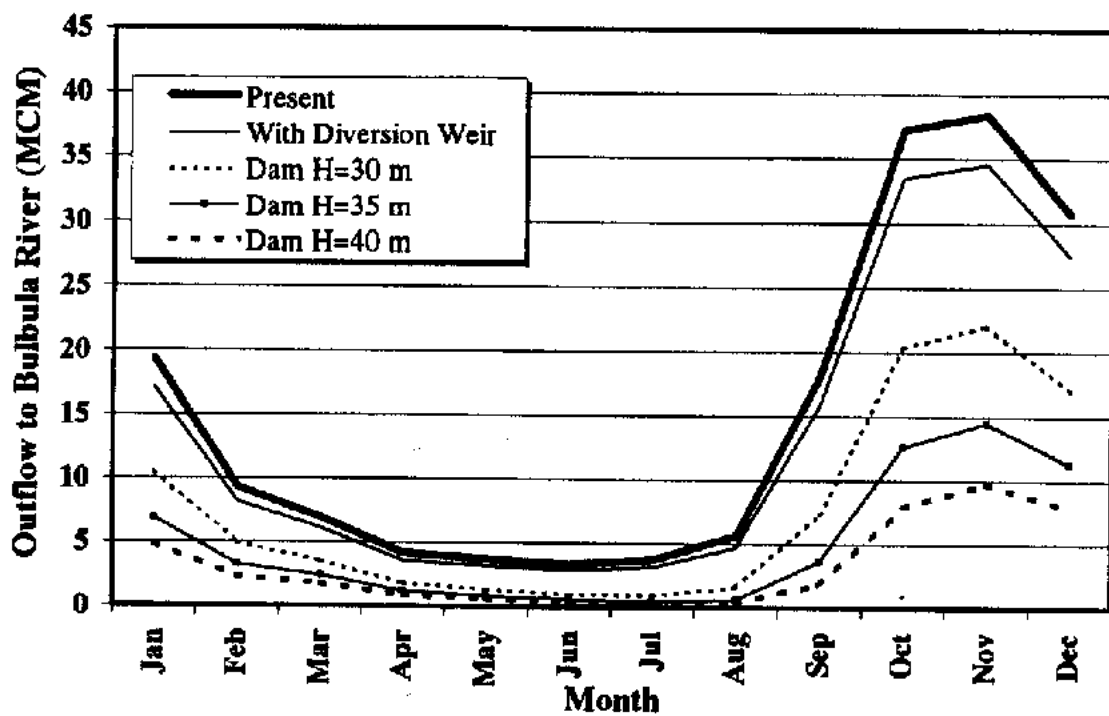
Figure 5.3.1

Storage Characteristics Curve of the
Ziway and Abijata Lake



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Figure 5.3.2
 Storage Characteristics Curve of the
 Proposed Dam



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Figure 5.4.1

Seasonal Reduction of the Bulbula River
Discharge under Different Cases