

Fig. 3.12 ESTIMATED FLOOD IN CASE OF 5 YEAR PROBABLE FLOOD

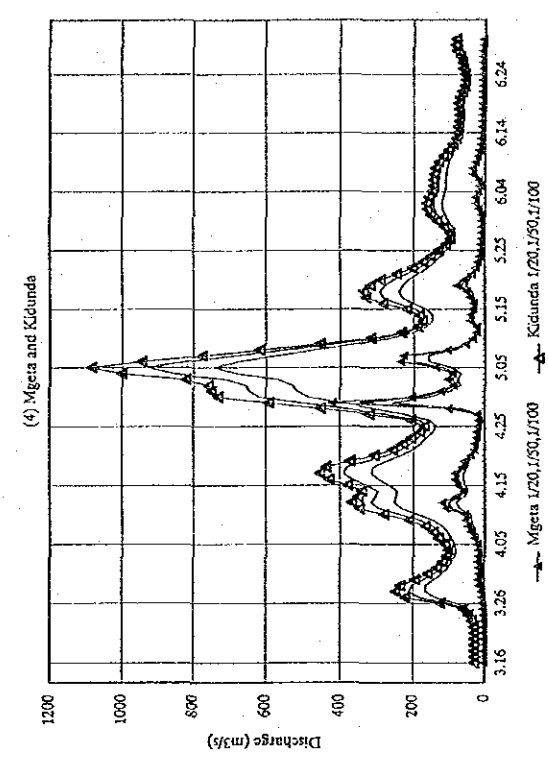
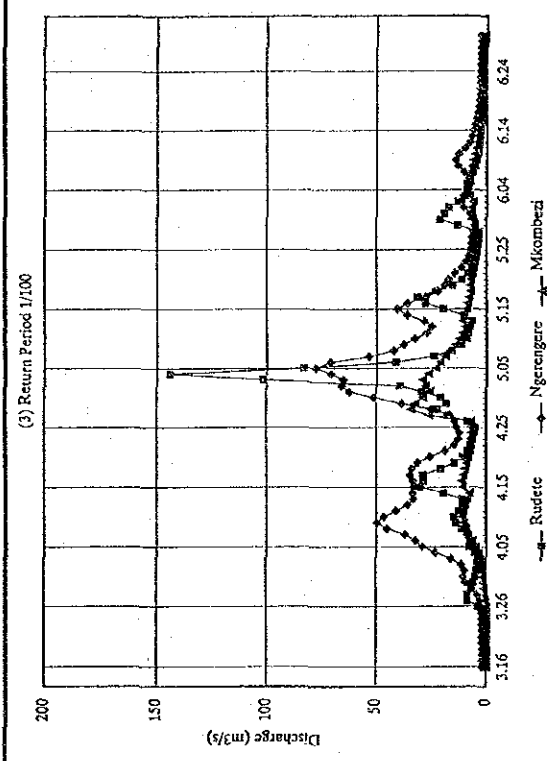
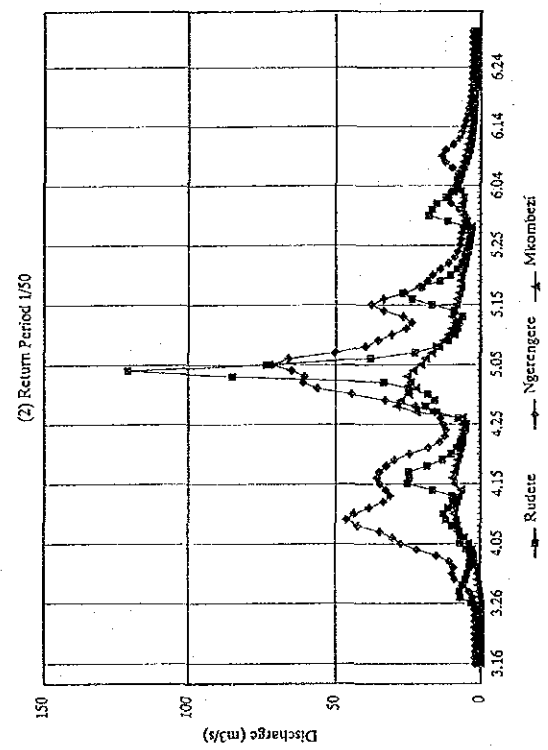
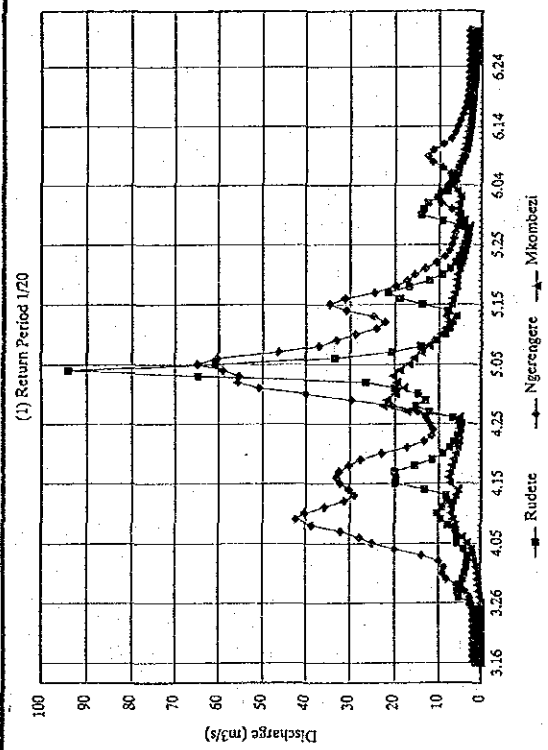


Fig. 3.13 FLOOD HYDROGRAPH AT PROPOSED DAM SITE

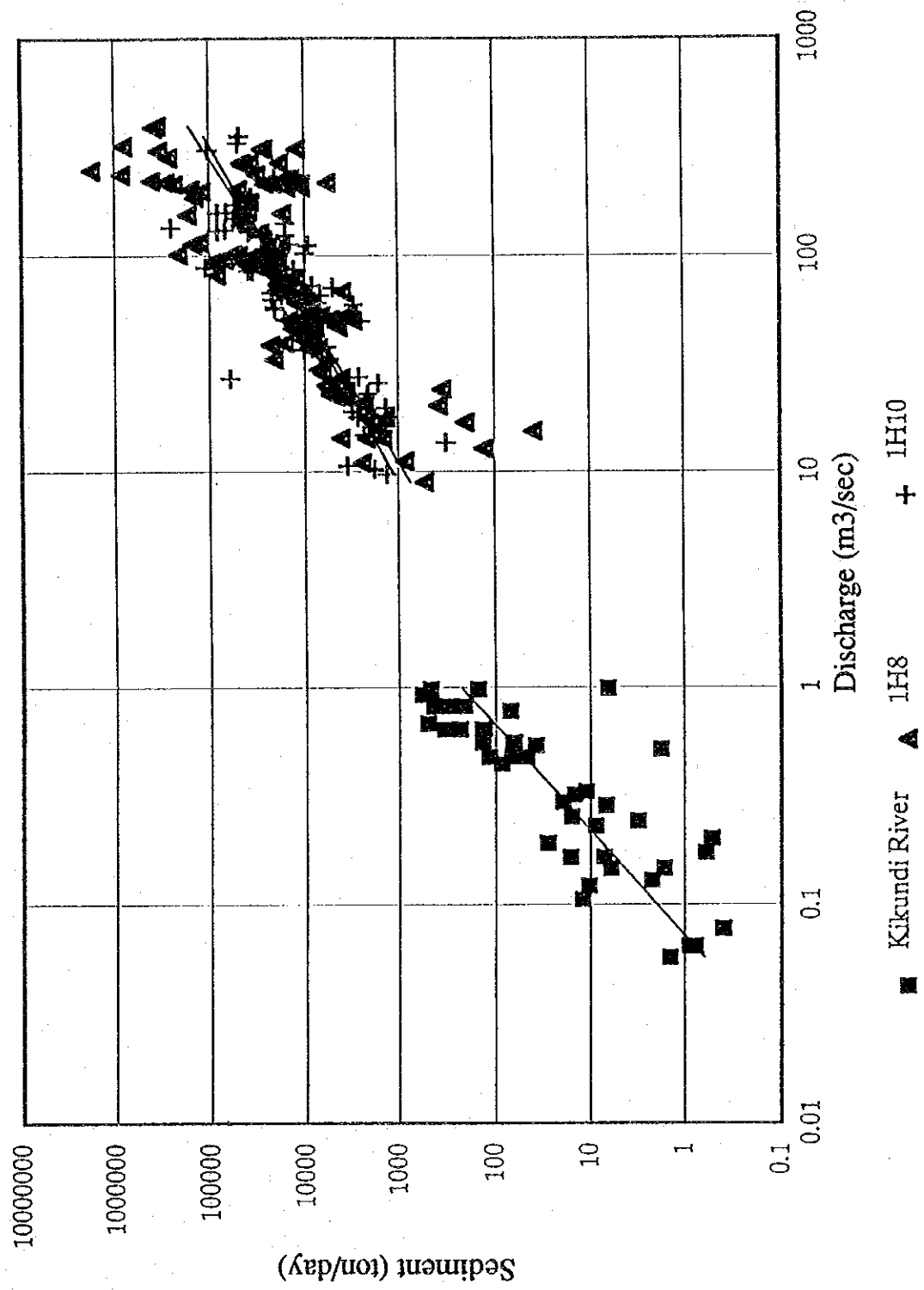


Fig. 3.14 RESULT OF SEDIMENT ANALYSIS

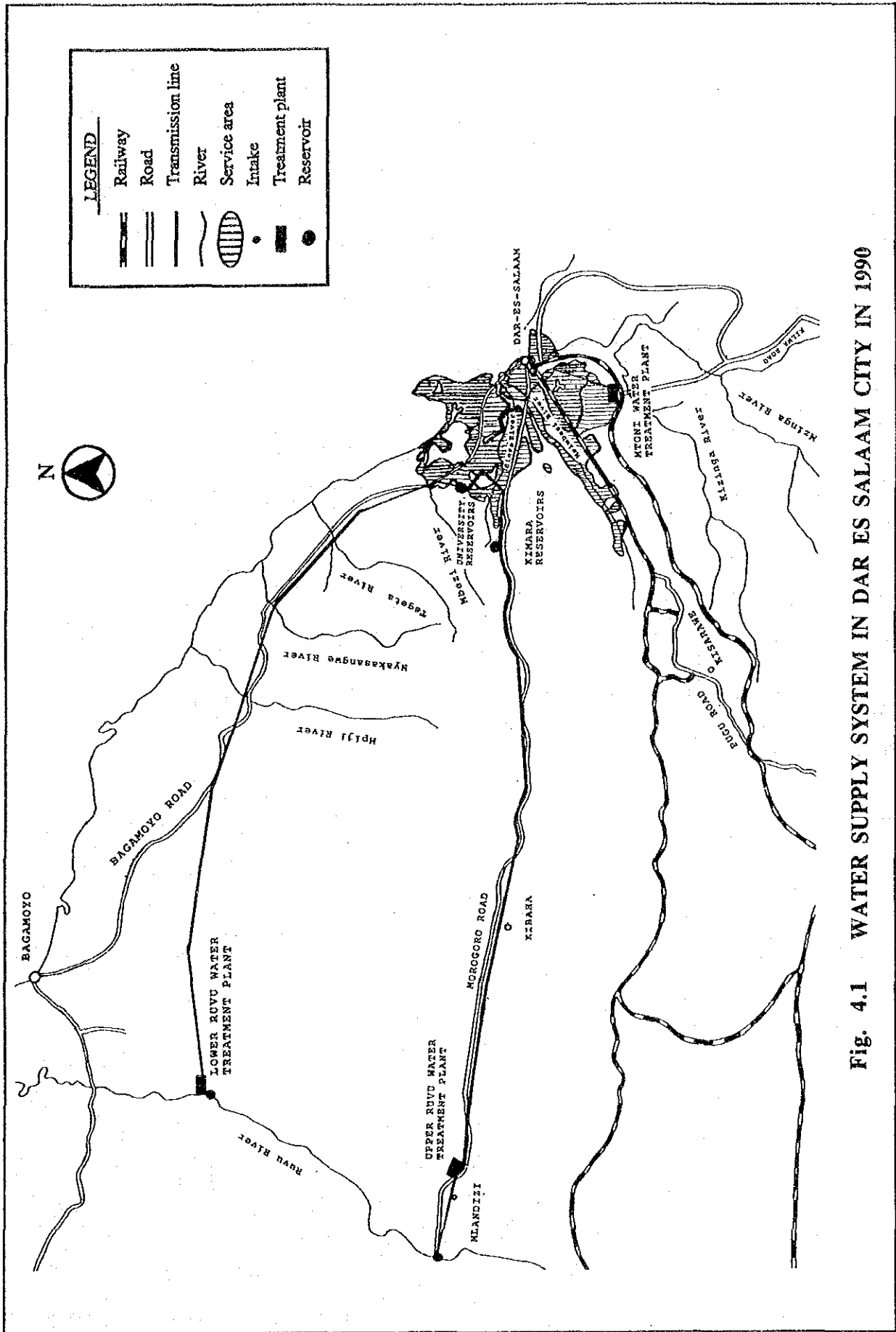
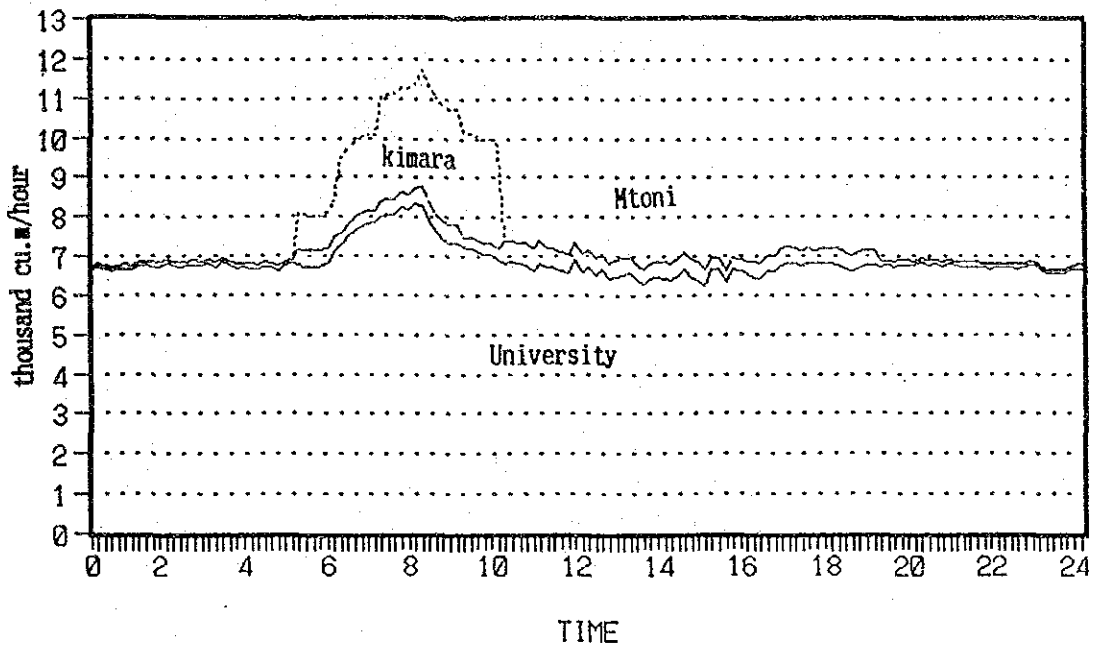
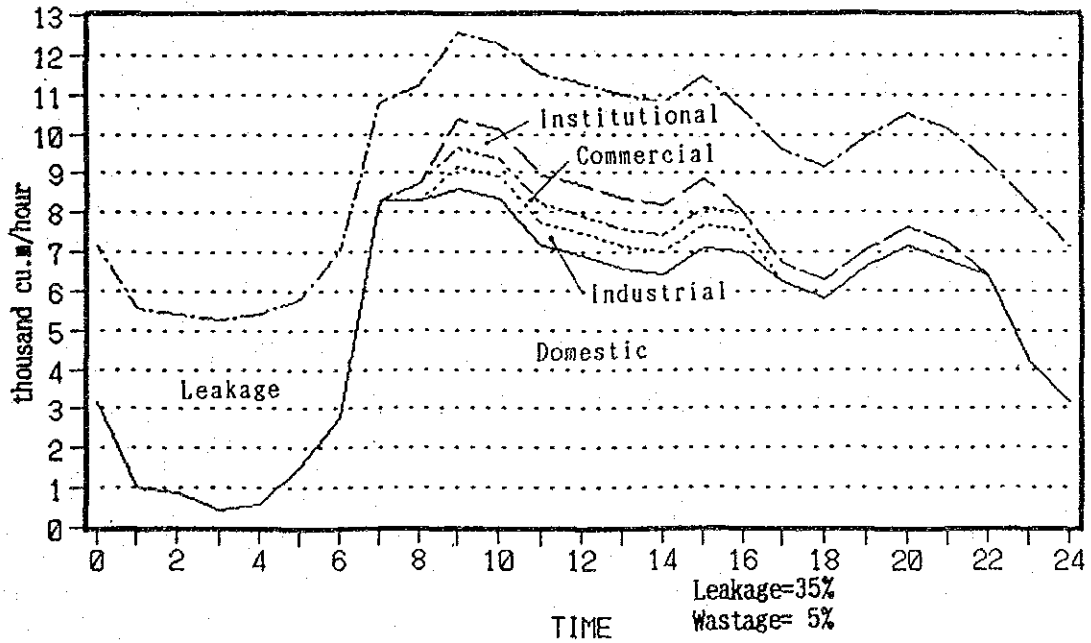


Fig. 4.1 WATER SUPPLY SYSTEM IN DAR ES SALAAM CITY IN 1990

Hourly Variation of Supply in 1990

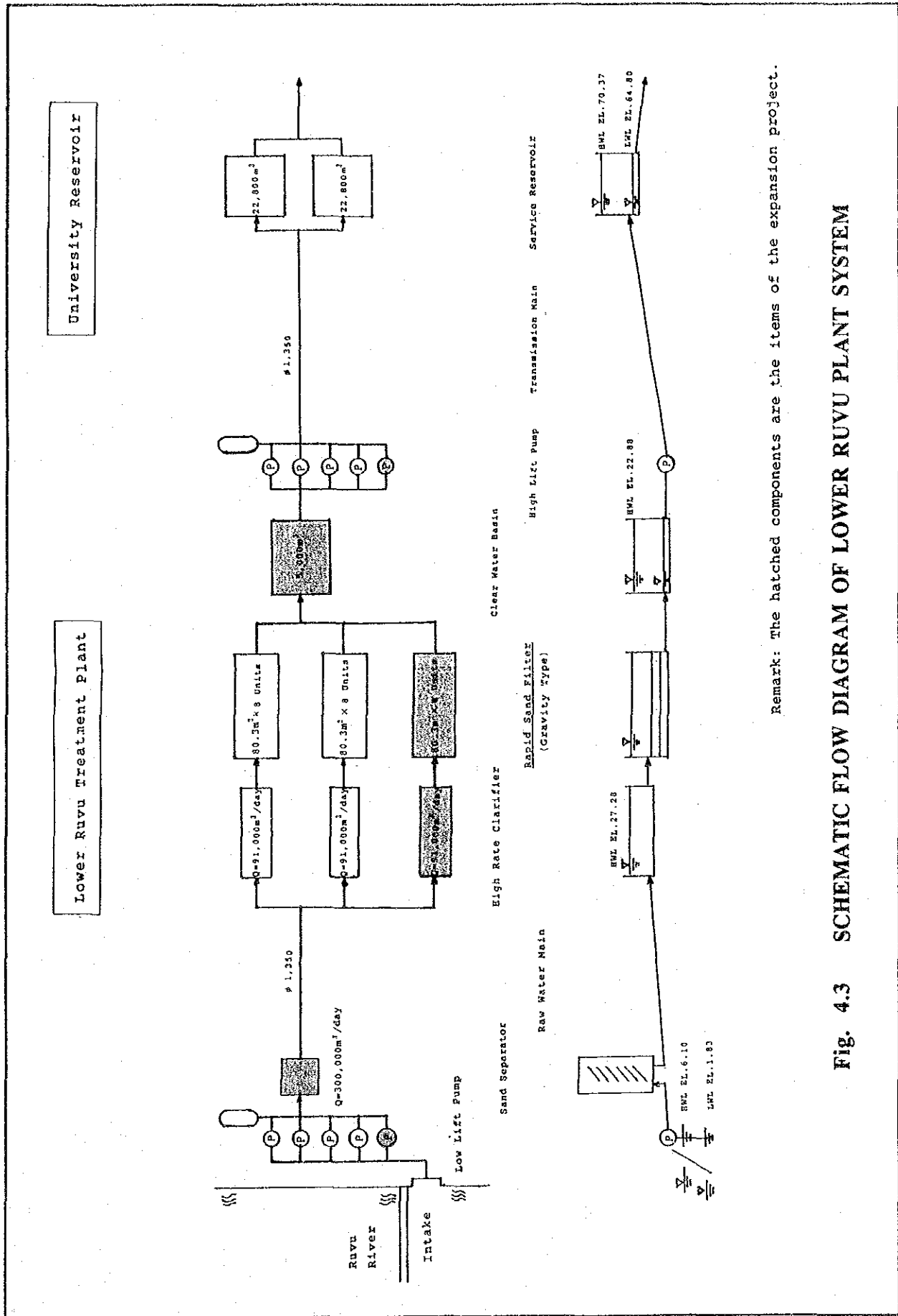


Hourly Variation of Consumption by Sectors in 1990



Source: The Study on Rehabilitation of Dar es Salaam Water Supply (JICA, 1991)

Fig. 4.2 HOURLY VARIATION OF SUPPLY AND CONSUMPTION IN DAR ES SALAAM WATER SUPPLY SYSTEM



Remark: The hatched components are the items of the expansion project.

Fig. 4.3 SCHEMATIC FLOW DIAGRAM OF LOWER RUVU PLANT SYSTEM

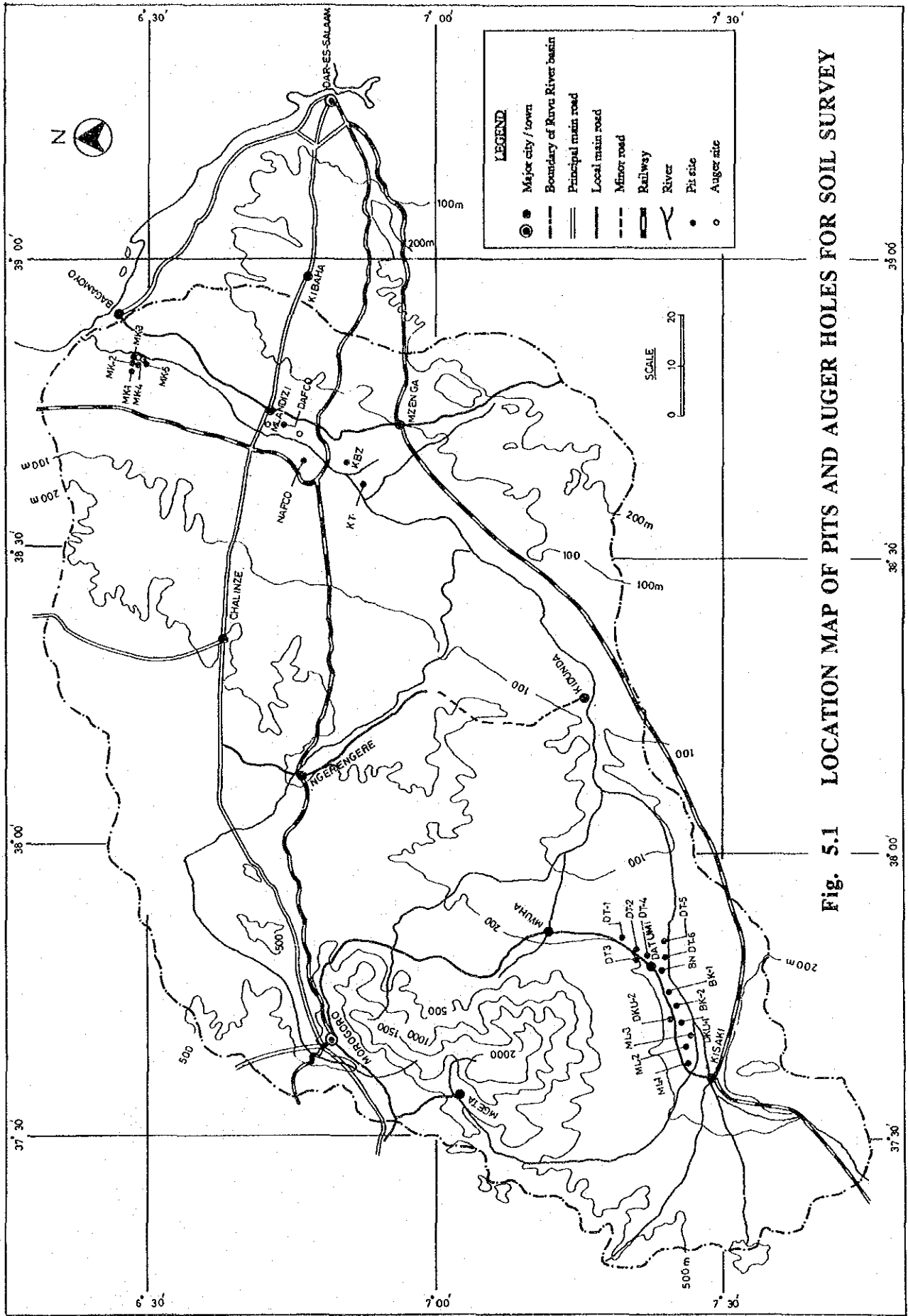


Fig. 5.1 LOCATION MAP OF PITS AND AUGER HOLES FOR SOIL SURVEY

Fig. 5.2 PRESENT CROPPING CALENDAR IN BAGAMOYO (1/4)

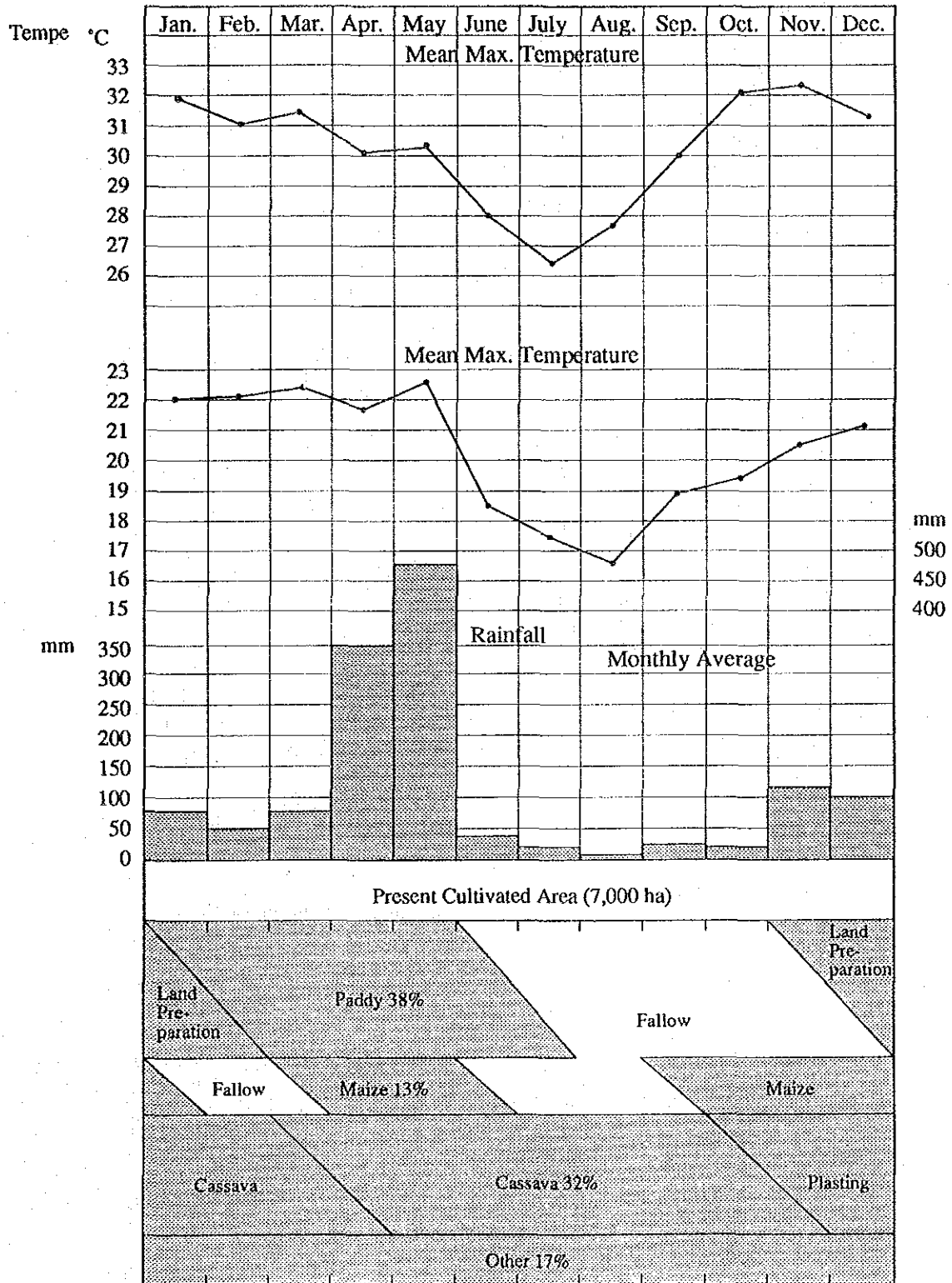


Fig. 5.2 PRESENT CROPPING CALENDAR IN MKUYUNI (2/4)

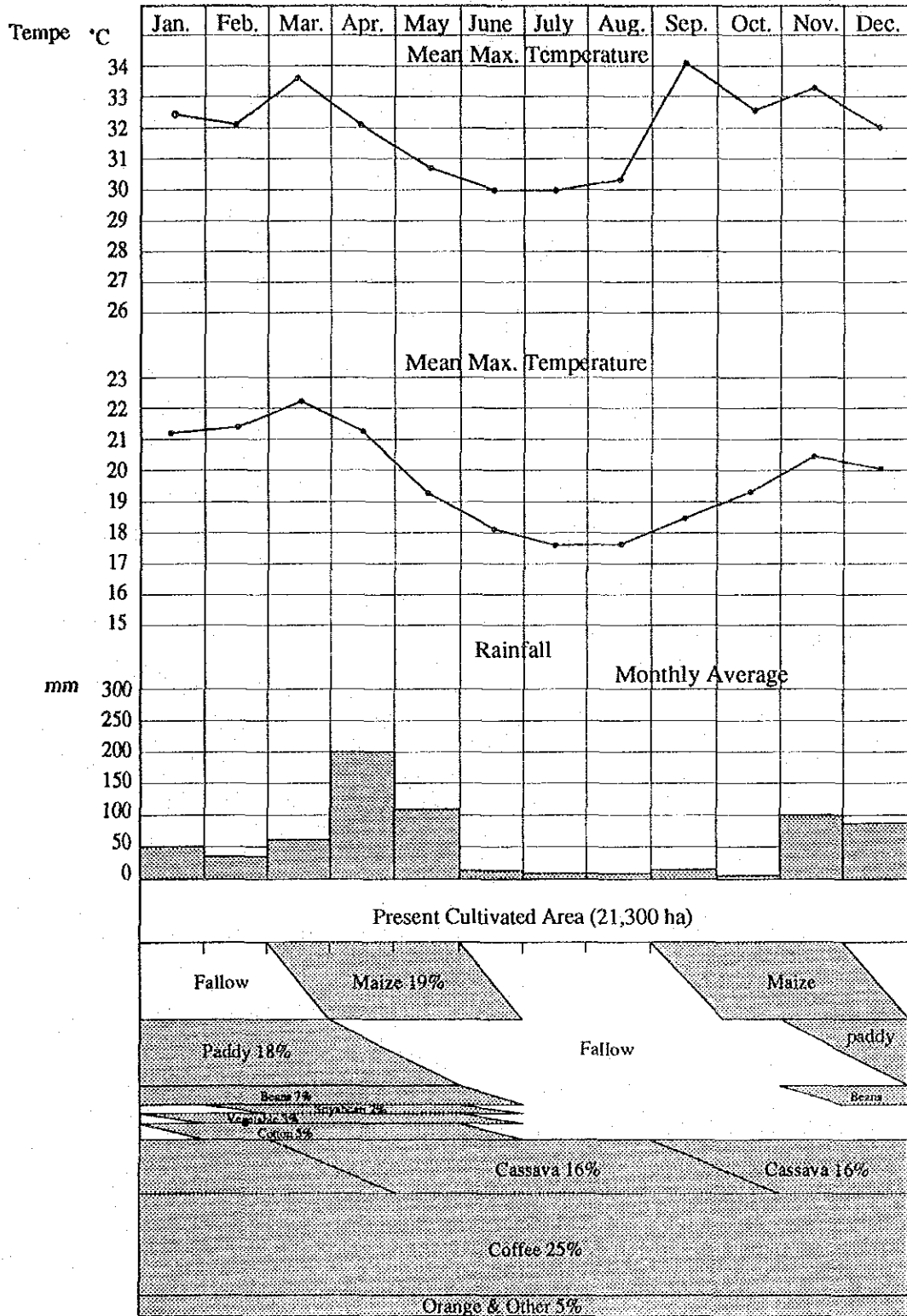


Fig. 5.2 PRESENT CROPPING CALENDAR IN MGETA PLAIN (3/4)

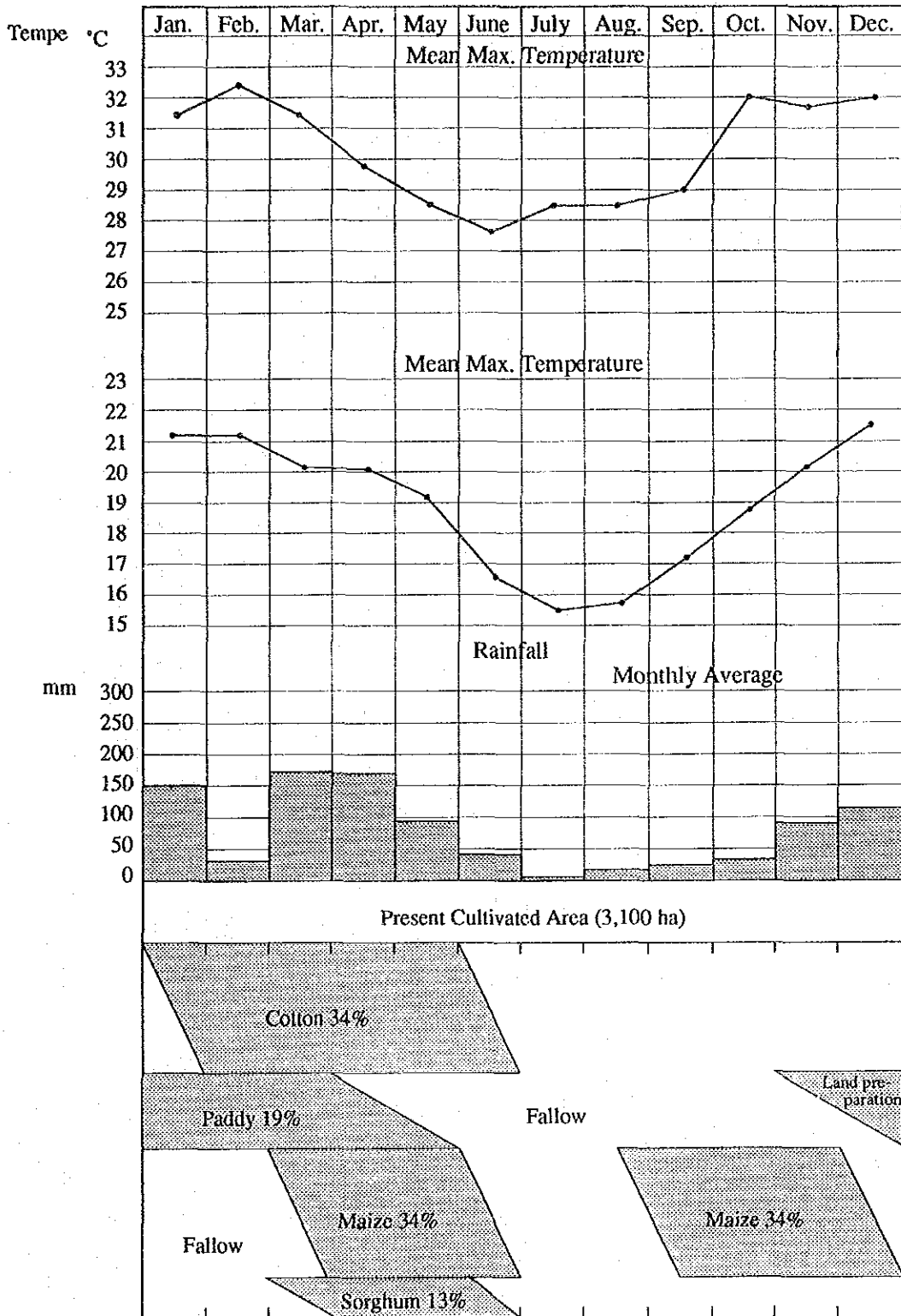
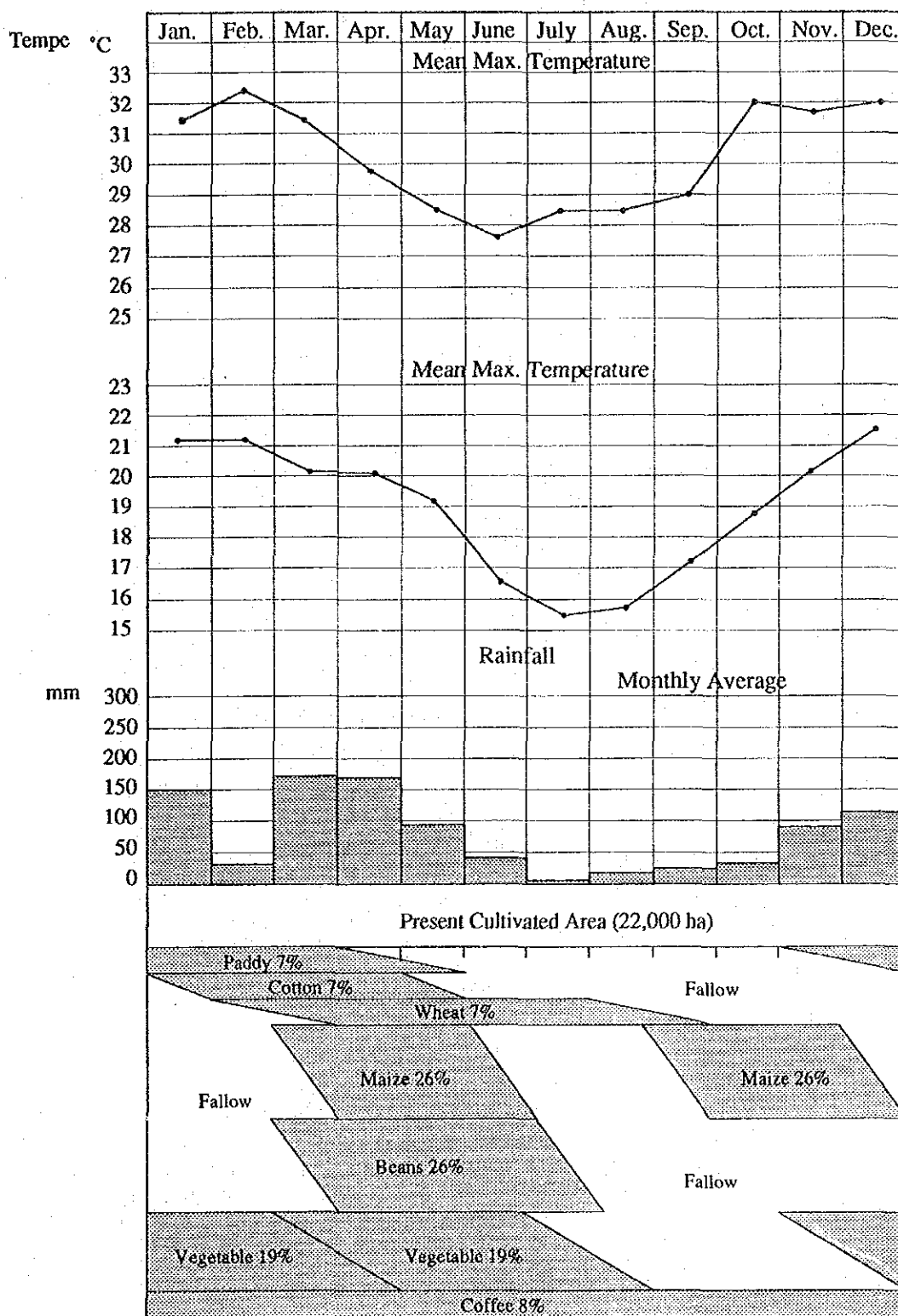


Fig. 5.2 PRESENT CROPPING CALENDAR IN ULUGURU WEST (4/4)



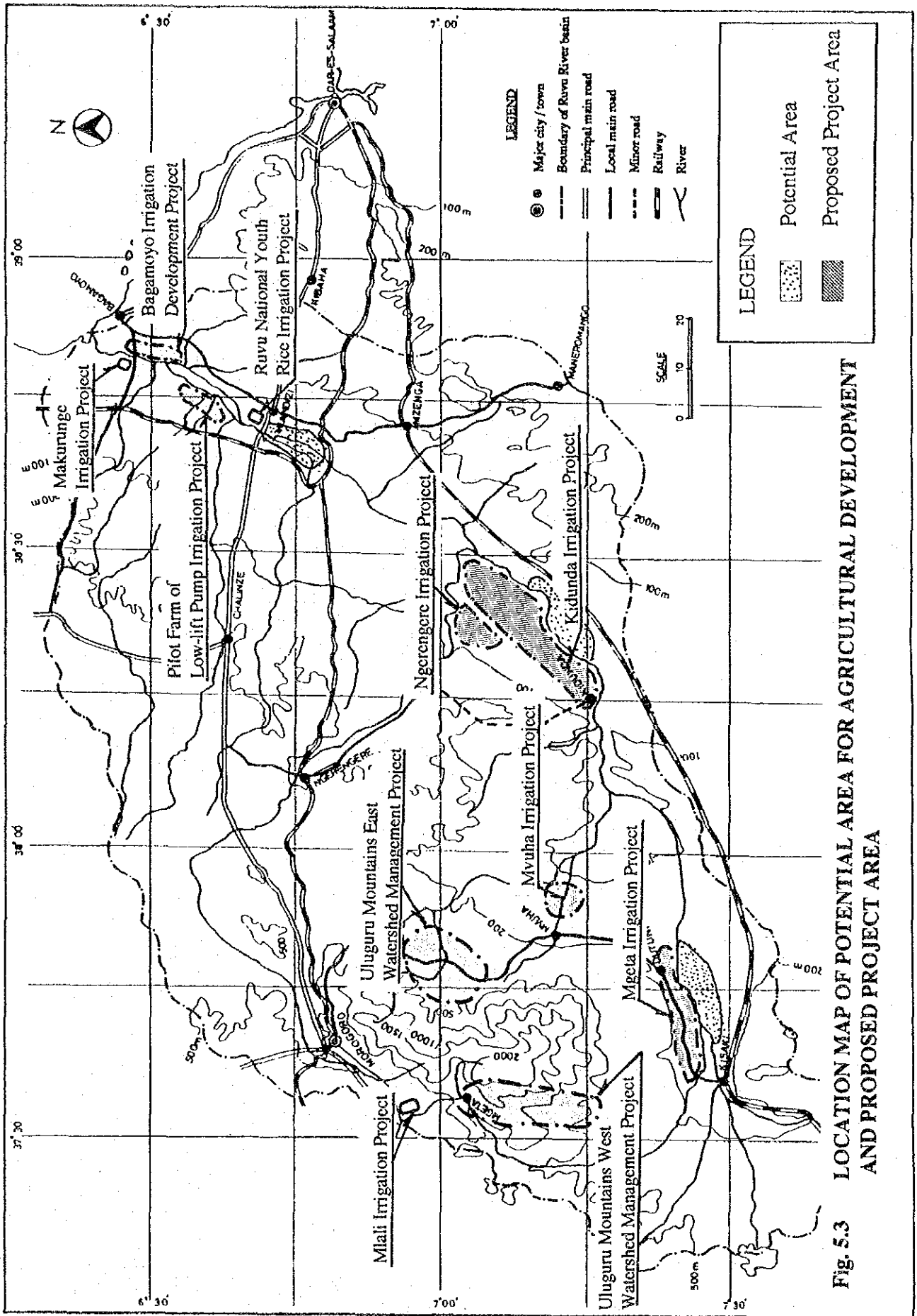


Fig. 5.3 LOCATION MAP OF POTENTIAL AREA FOR AGRICULTURAL DEVELOPMENT AND PROPOSED PROJECT AREA

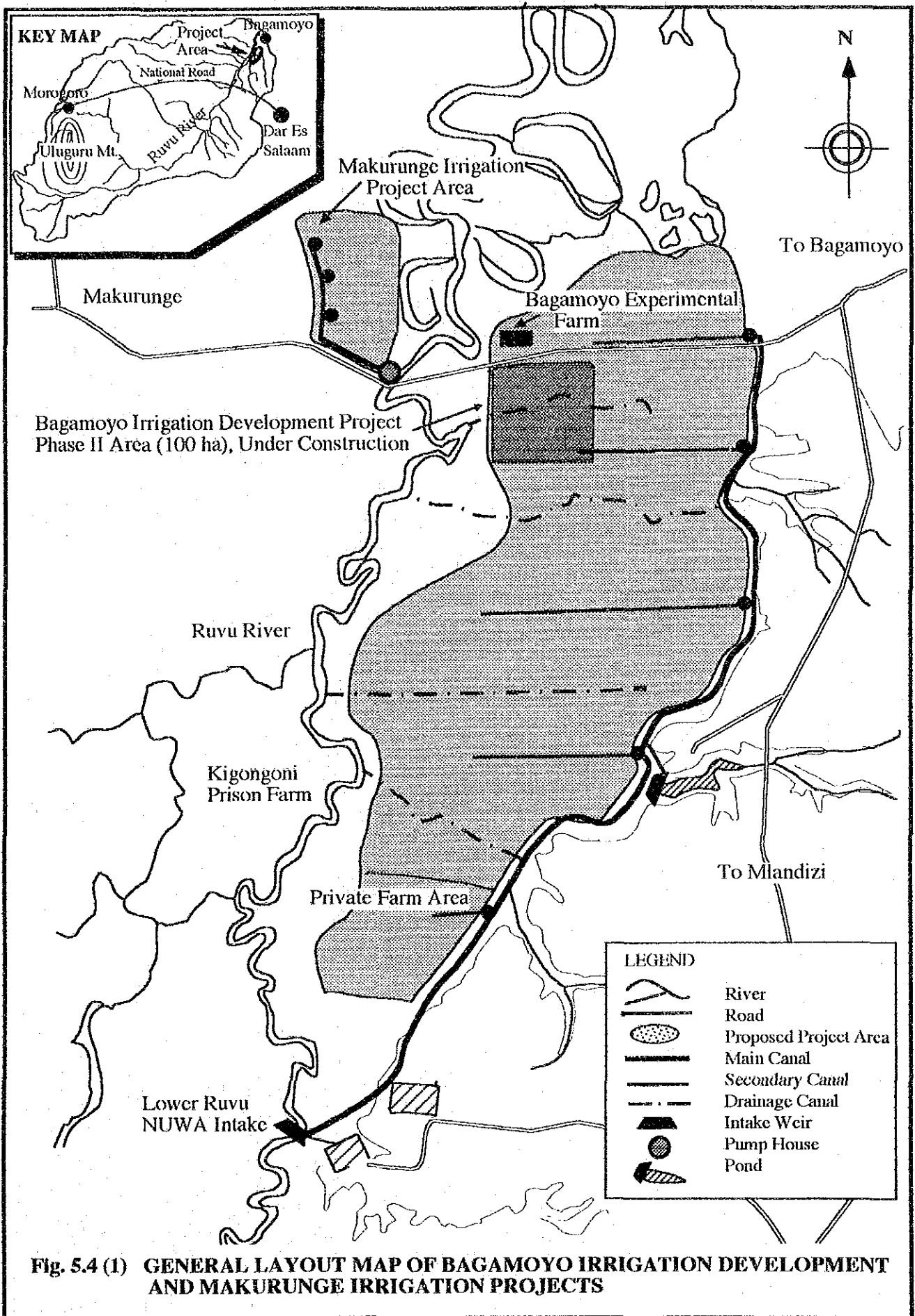


Fig. 5.4 (1) GENERAL LAYOUT MAP OF BAGAMOYO IRRIGATION DEVELOPMENT AND MAKURUNGE IRRIGATION PROJECTS

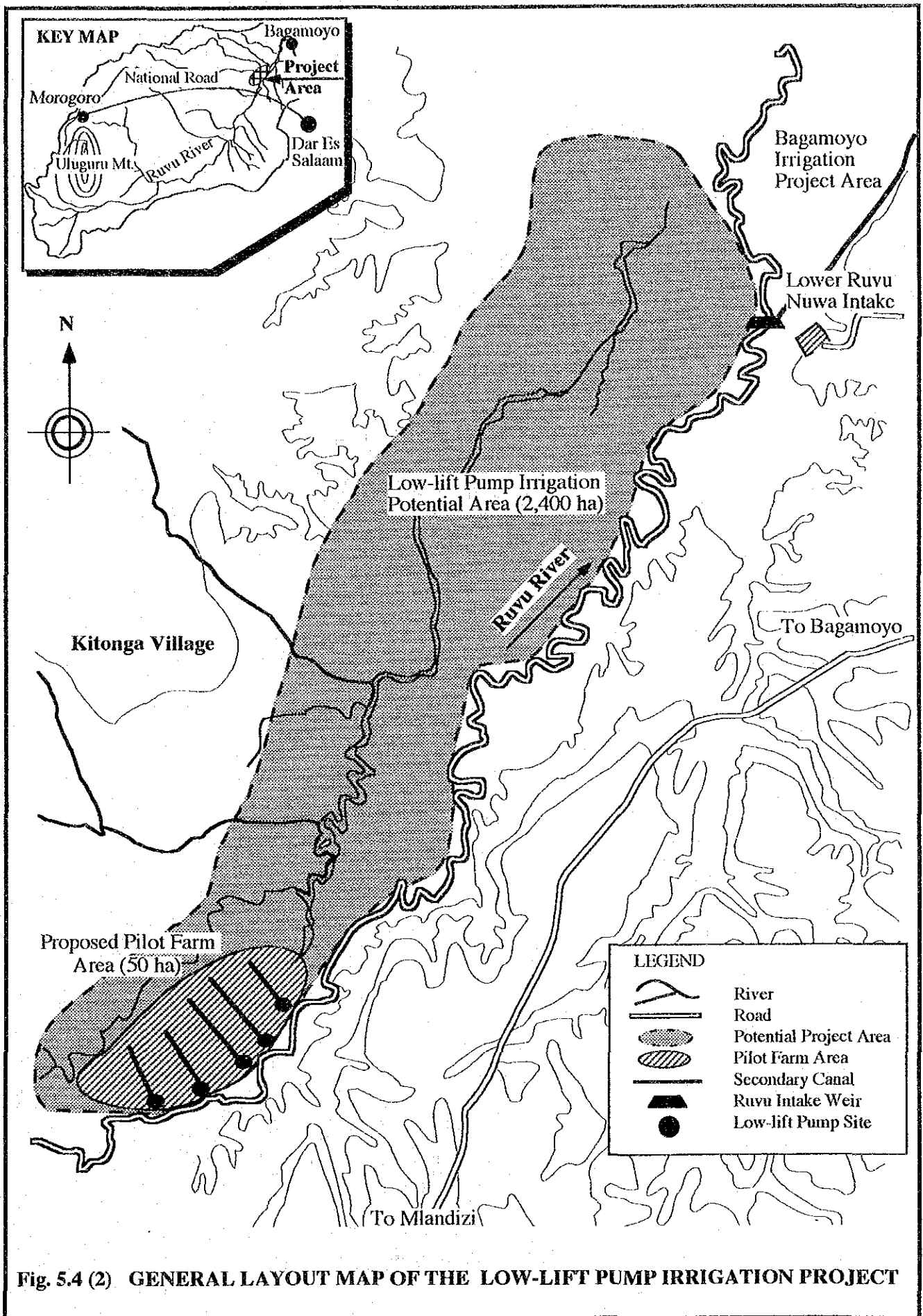


Fig. 5.4 (2) GENERAL LAYOUT MAP OF THE LOW-LIFT PUMP IRRIGATION PROJECT

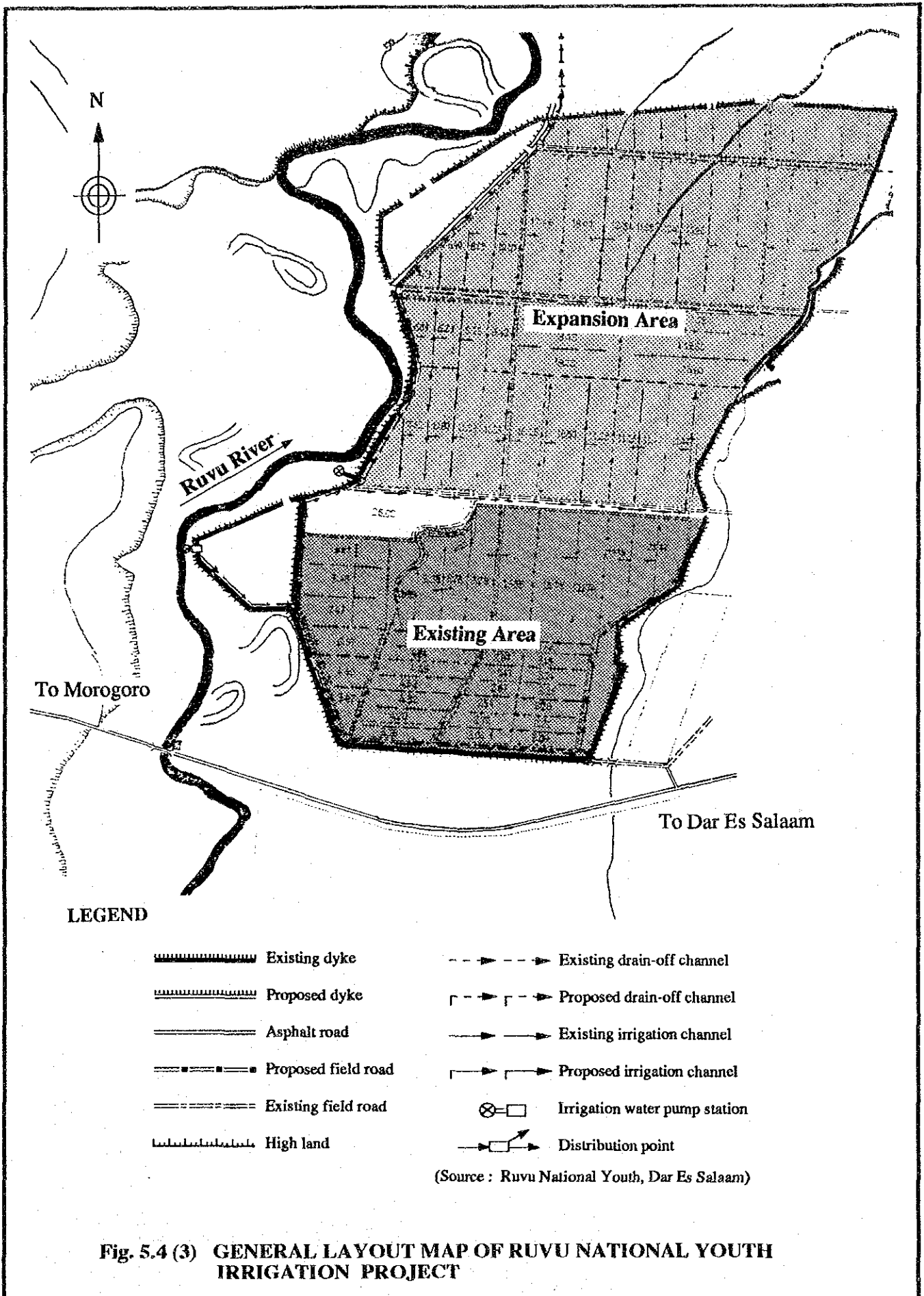


Fig. 5.4 (3) GENERAL LAYOUT MAP OF RUVU NATIONAL YOUTH IRRIGATION PROJECT

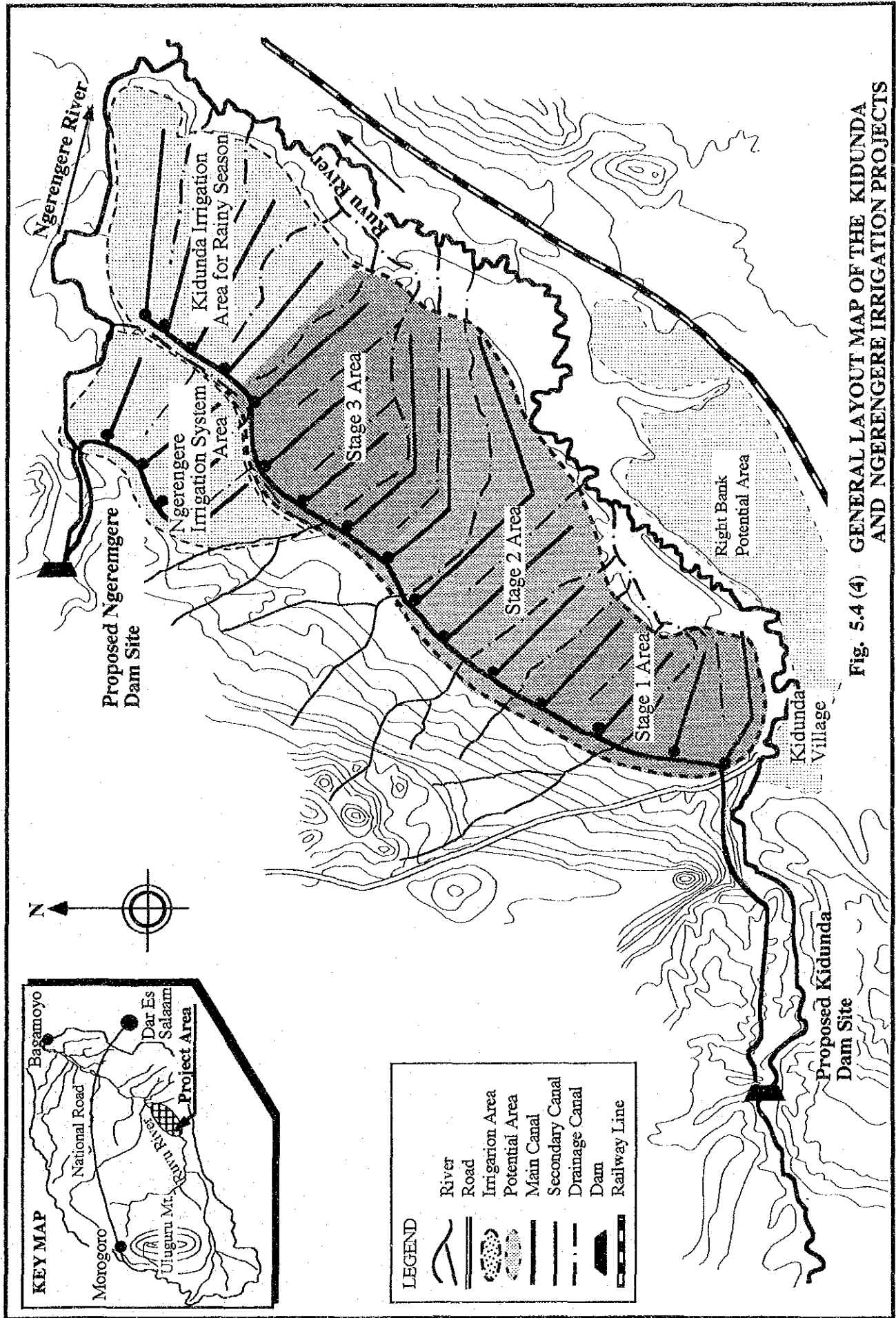


Fig. 5.4 (4) GENERAL LAYOUT MAP OF THE KIDUNDA AND NGERENGERE IRRIGATION PROJECTS

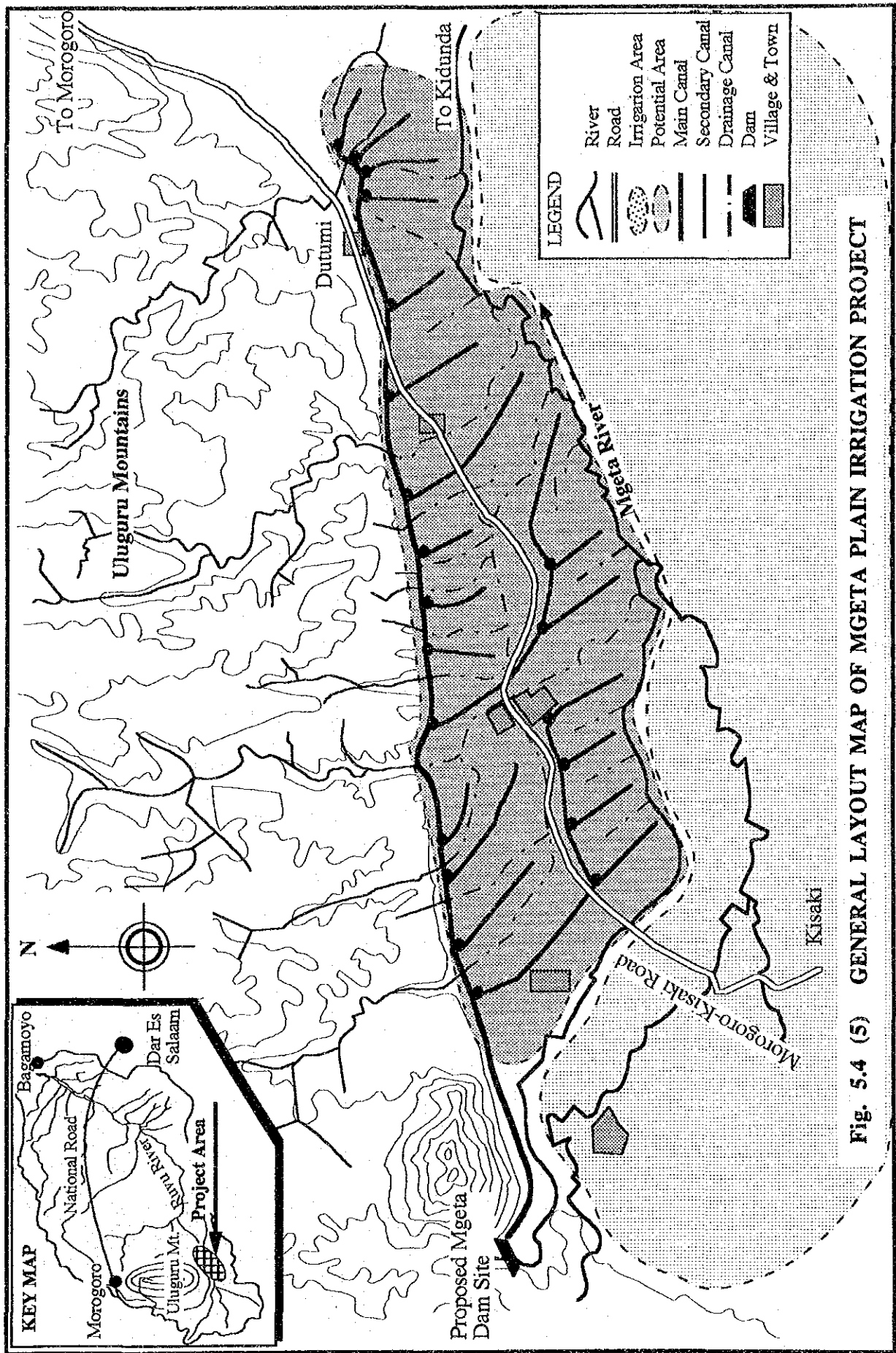


Fig. 5.4 (5) GENERAL LAYOUT MAP OF MGETA PLAIN IRRIGATION PROJECT

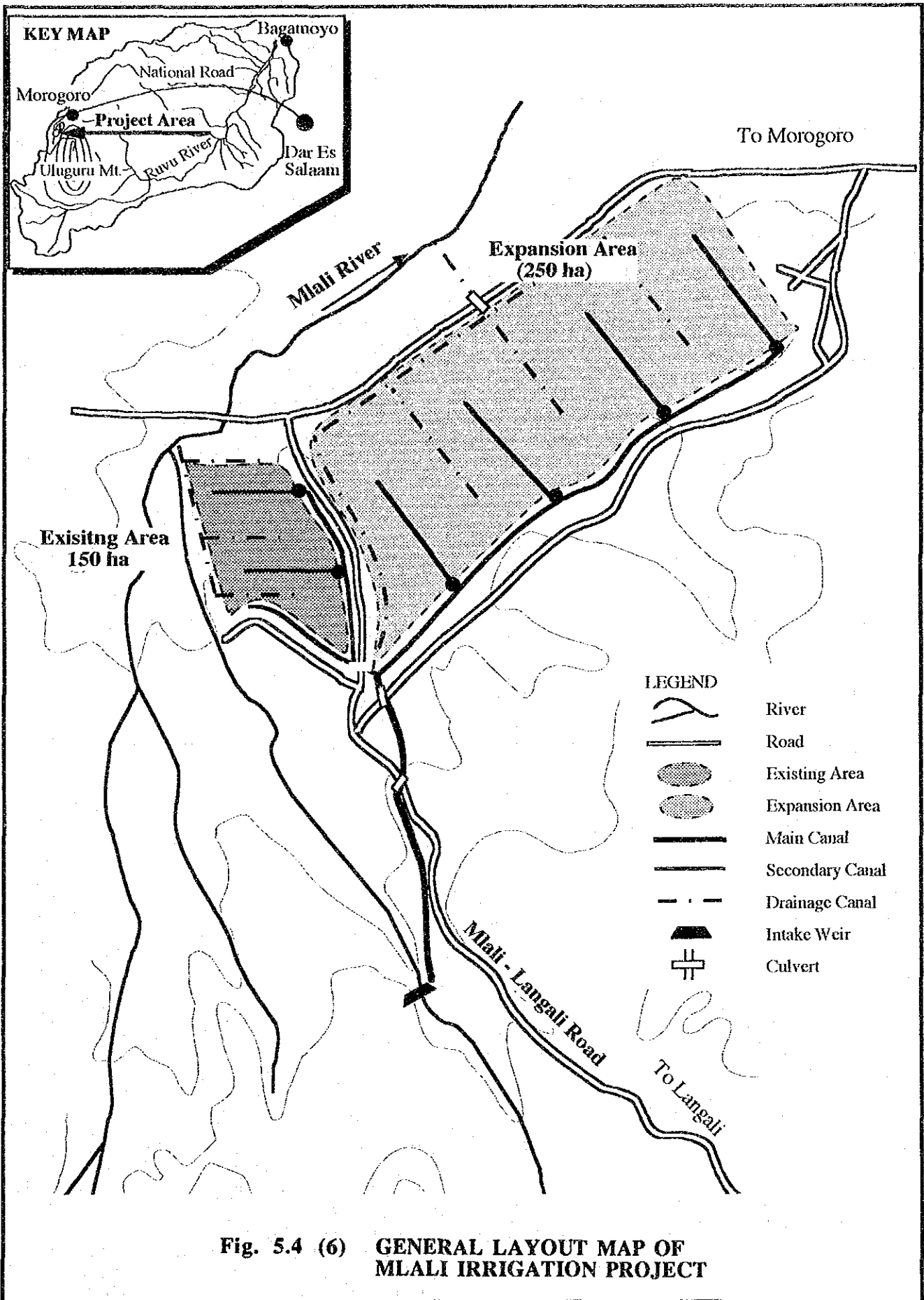


Fig. 5.4 (6) GENERAL LAYOUT MAP OF MLALI IRRIGATION PROJECT

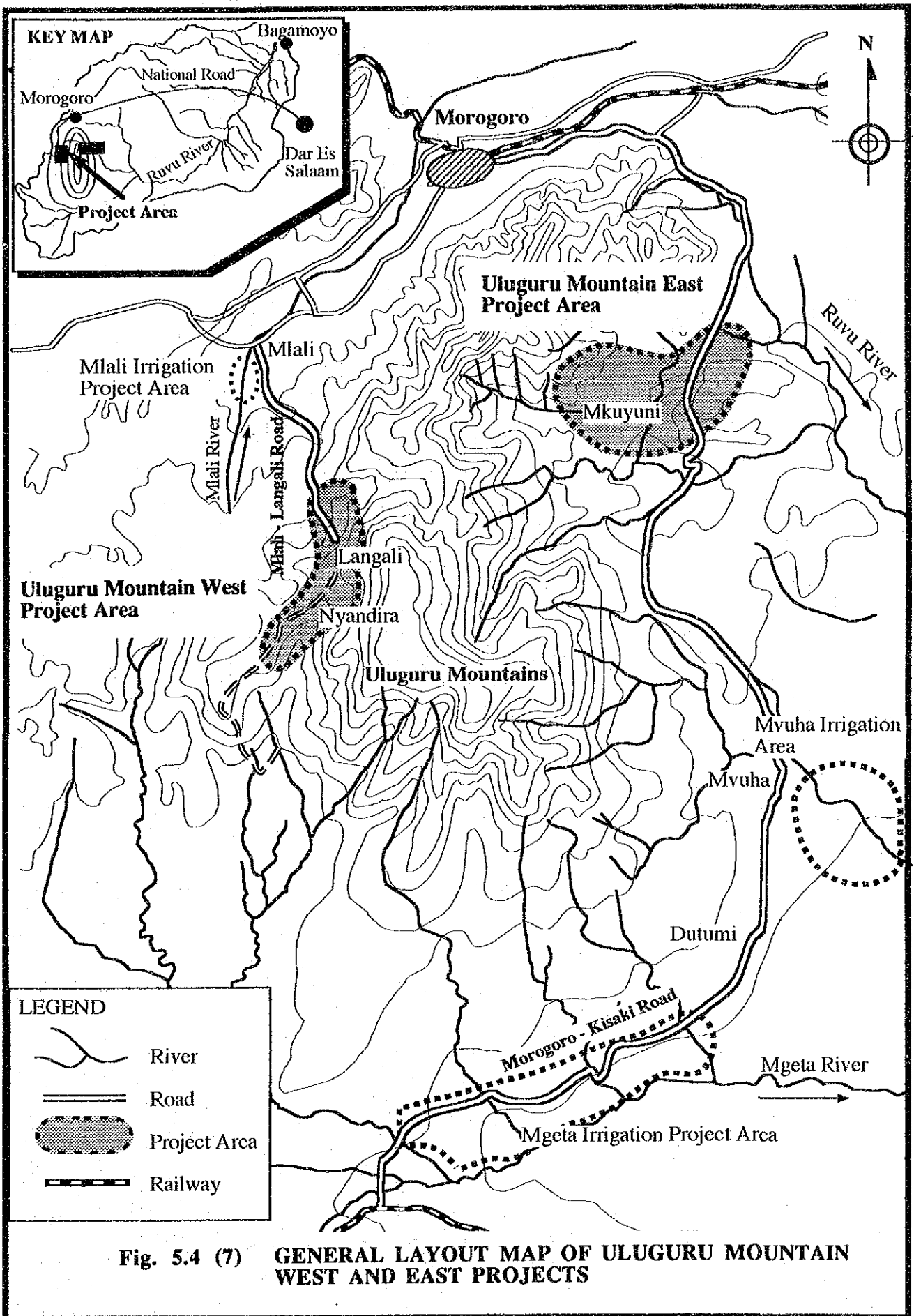
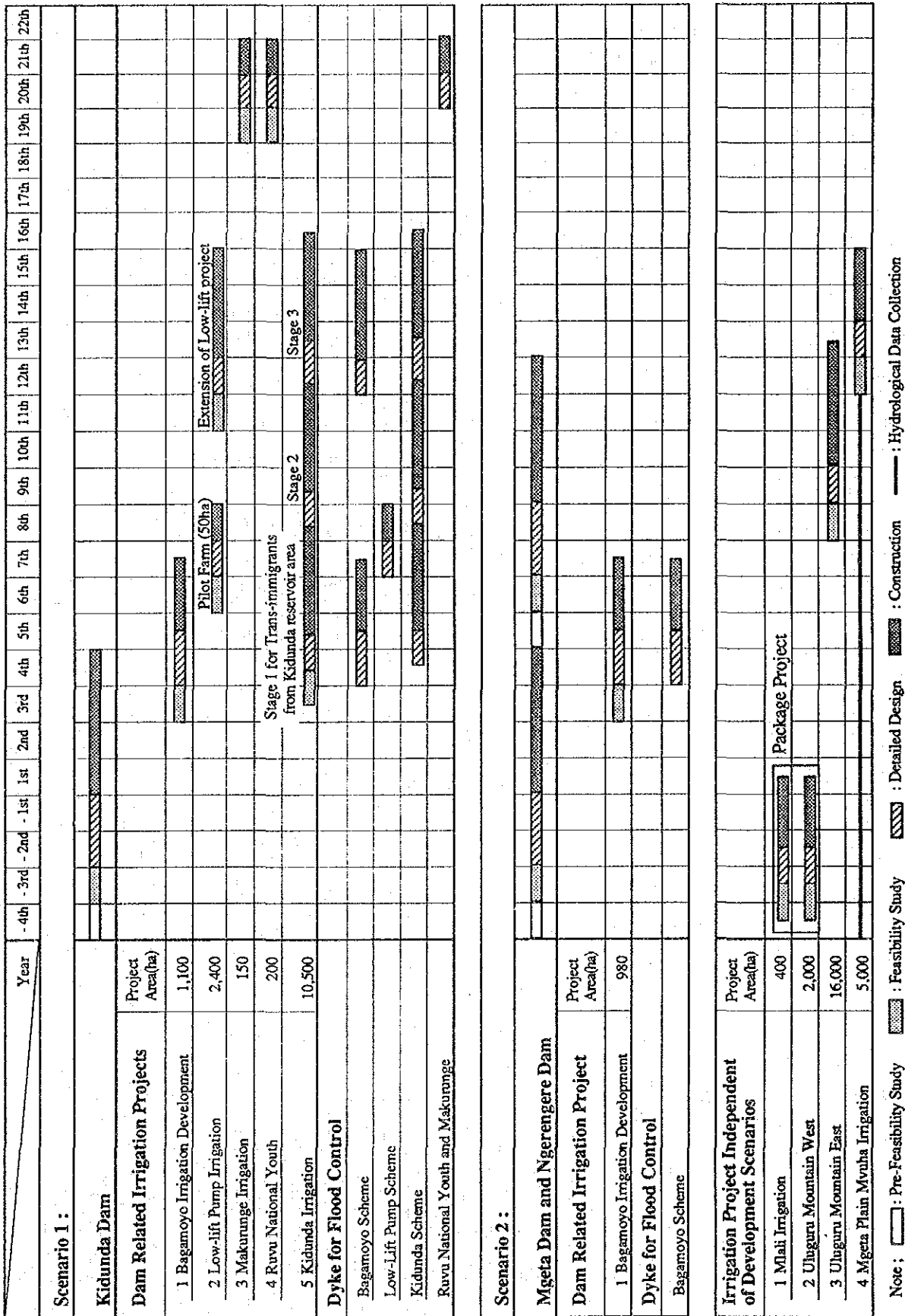


Fig. 5.5 PROPOSED IMPLEMENTATION SCHEDULE OF IRRIGATION PROJECT BY SCENARIO



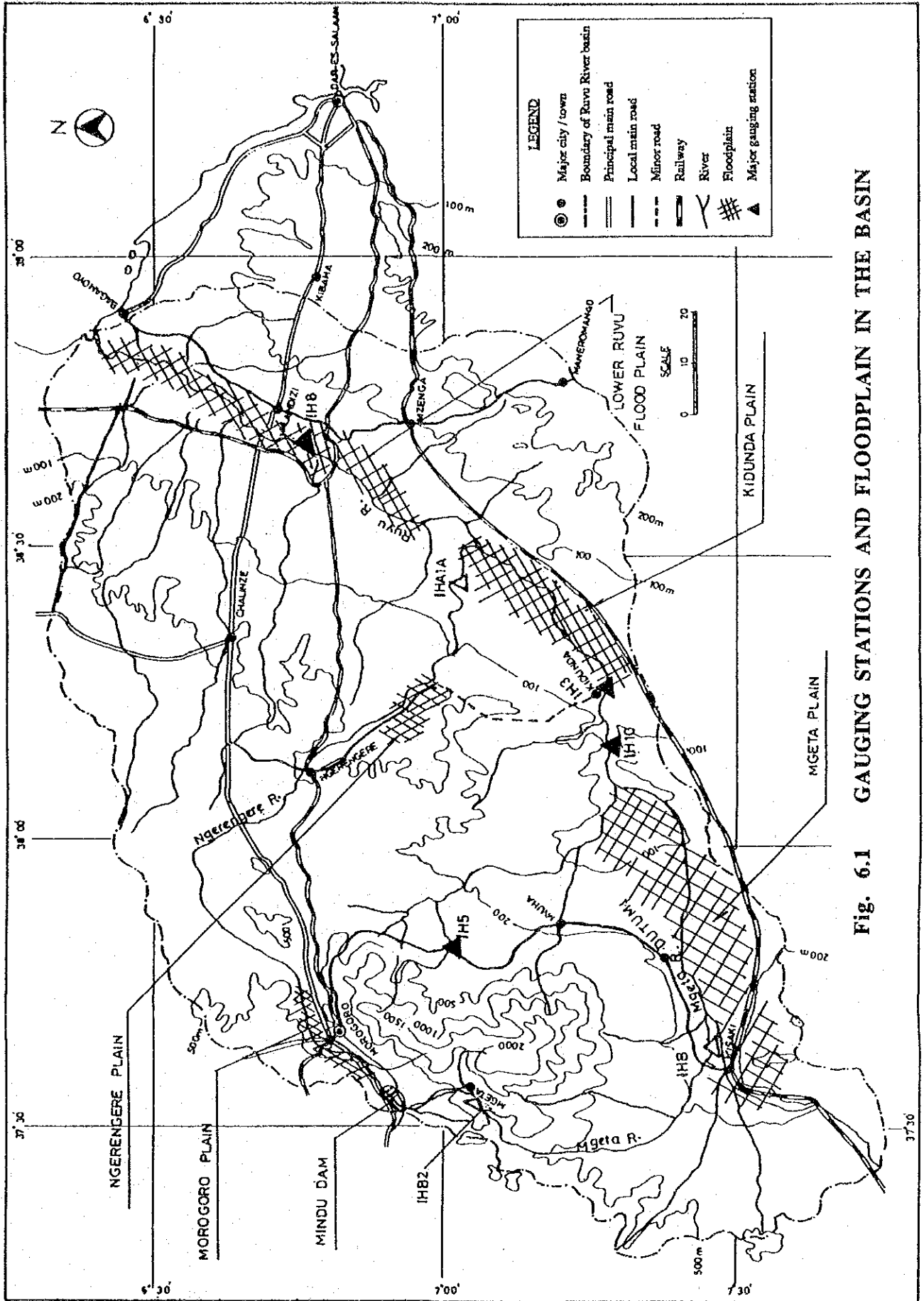


Fig. 6.1 GAUGING STATIONS AND FLOODPLAIN IN THE BASIN

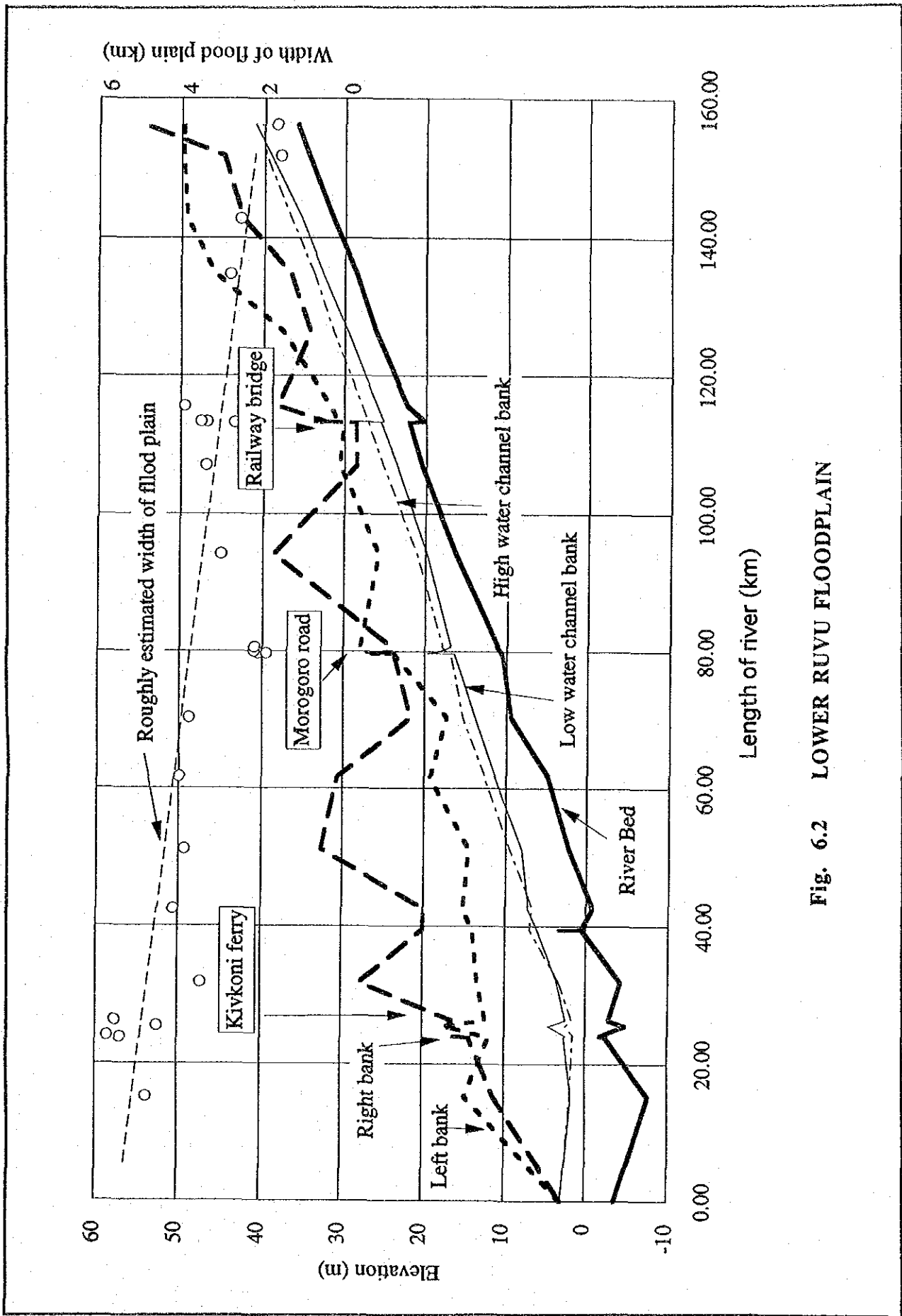
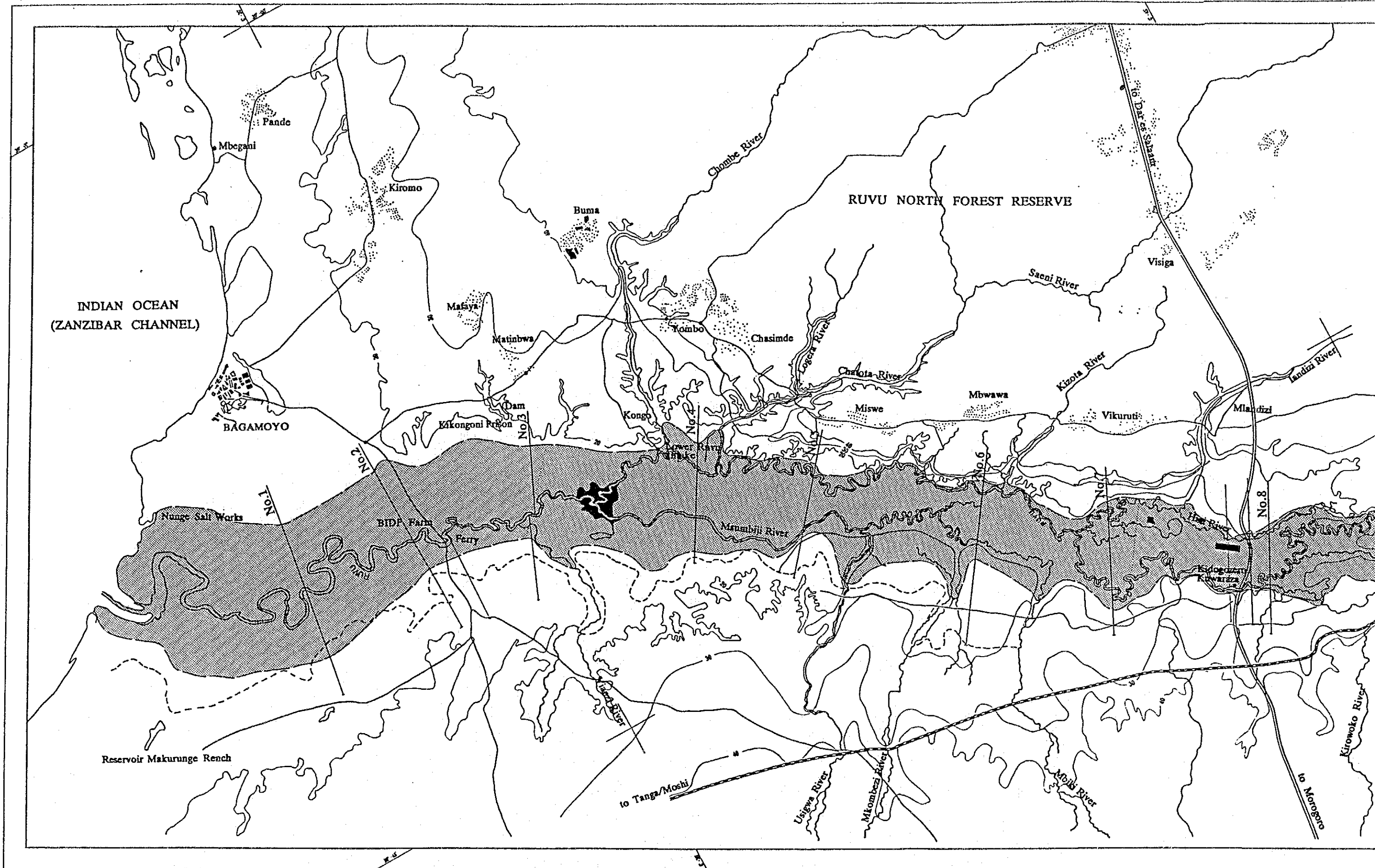
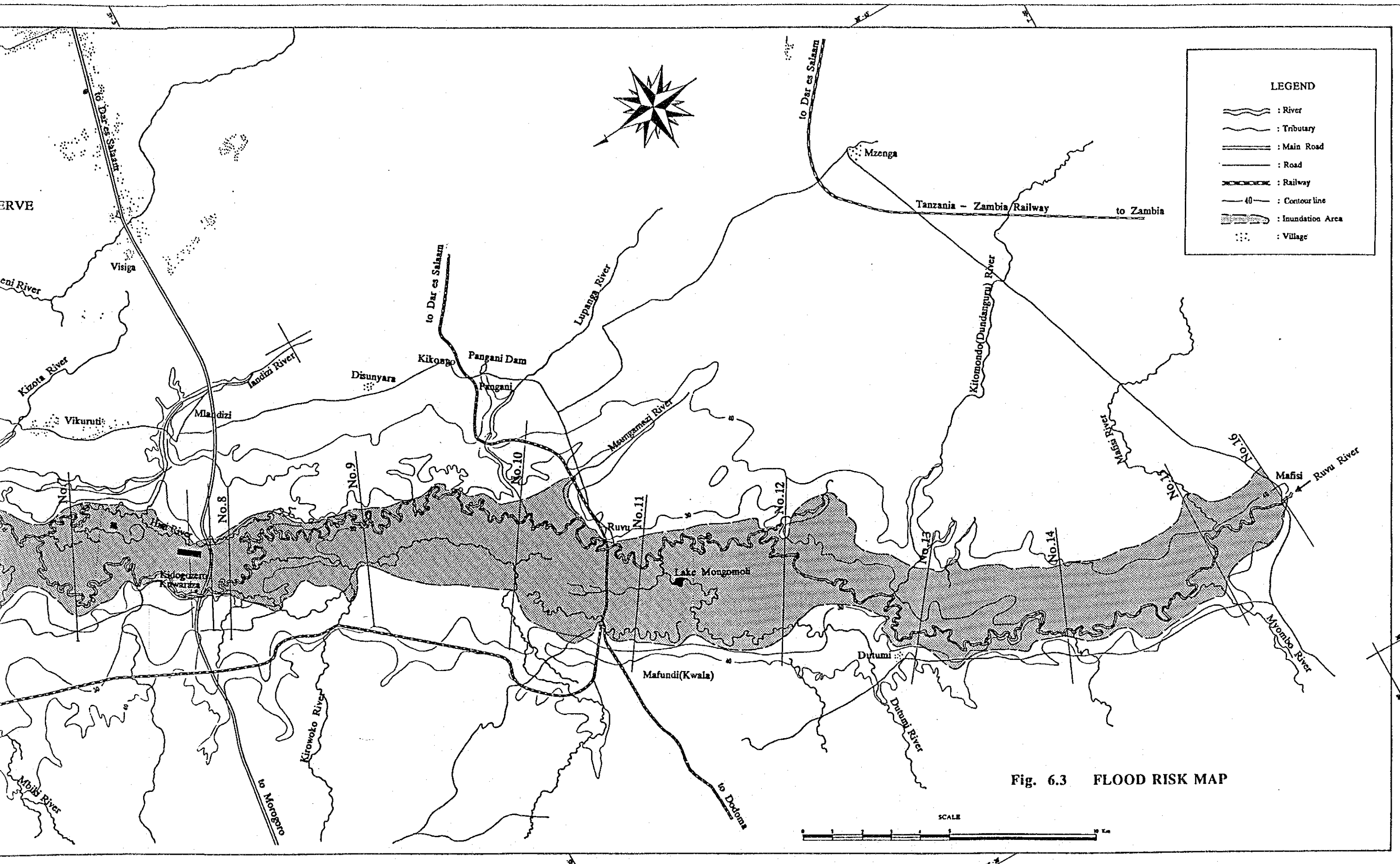


Fig. 6.2 LOWER RUVU FLOODPLAIN





LEGEND

- : River
- : Tributary
- : Main Road
- : Road
- : Railway
- : Contour line
- : Inundation Area
- : Village

Fig. 6.3 FLOOD RISK MAP

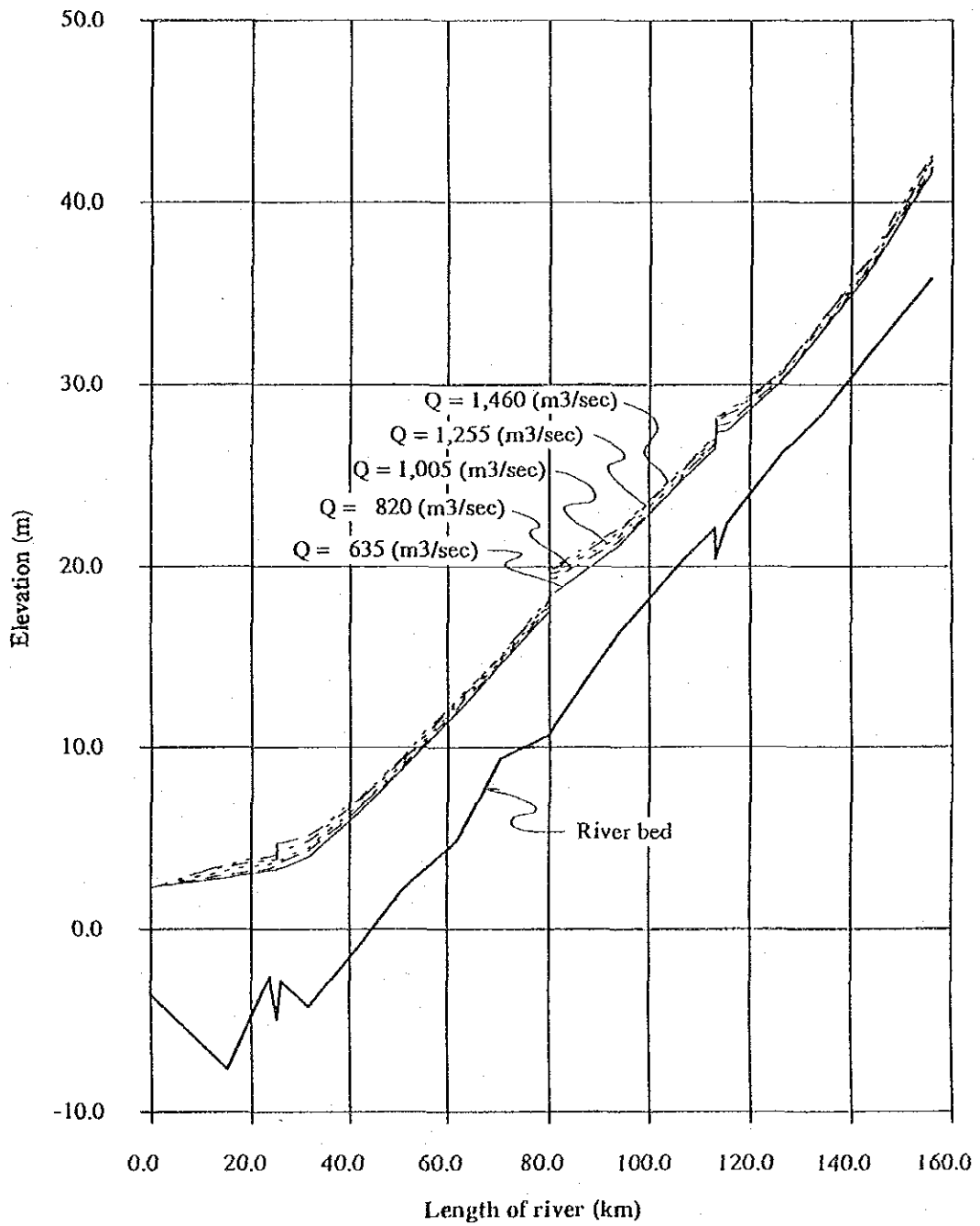


Fig. 6.4 RESULTS OF FLOOD ROUTINE ANALYSIS AT LOWER RUVU FLOODPLAIN

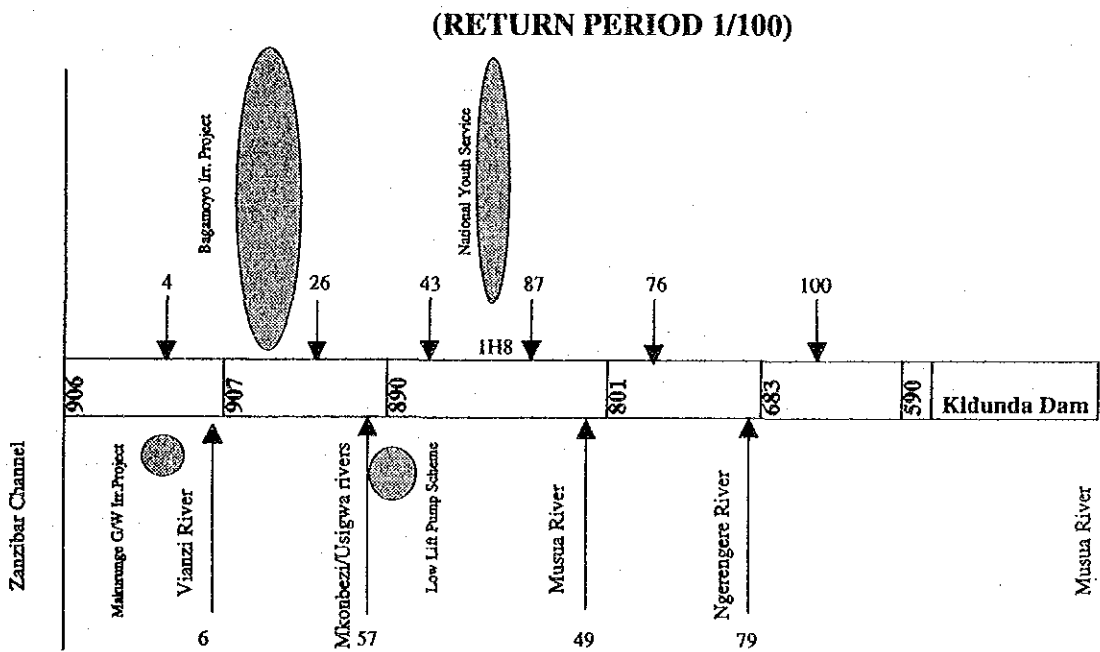
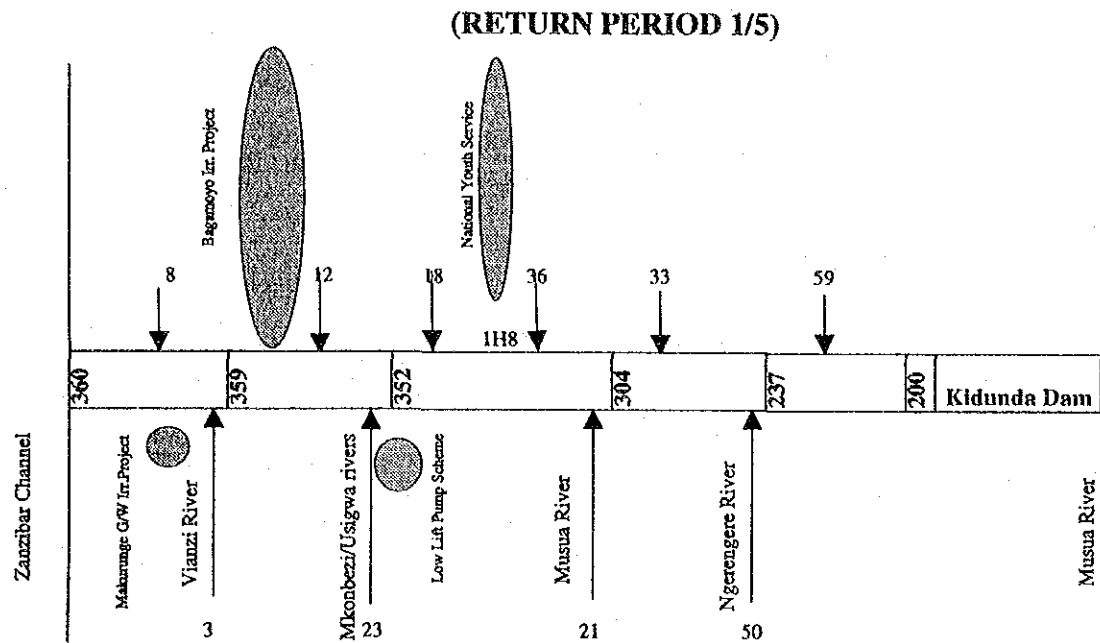
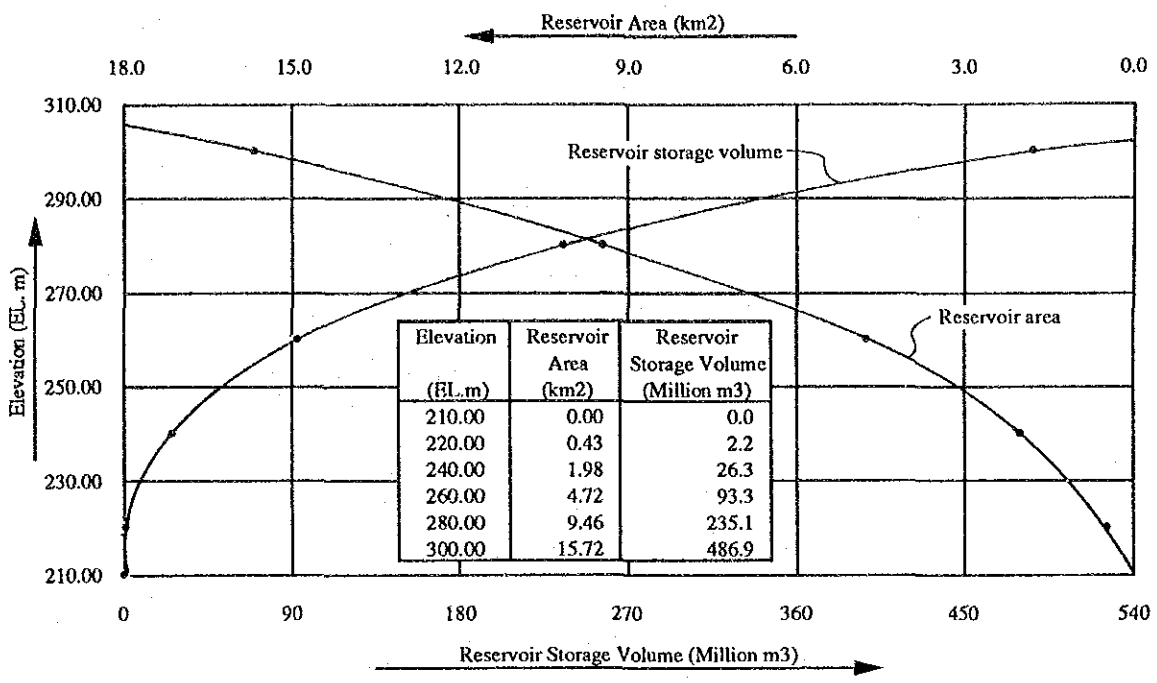
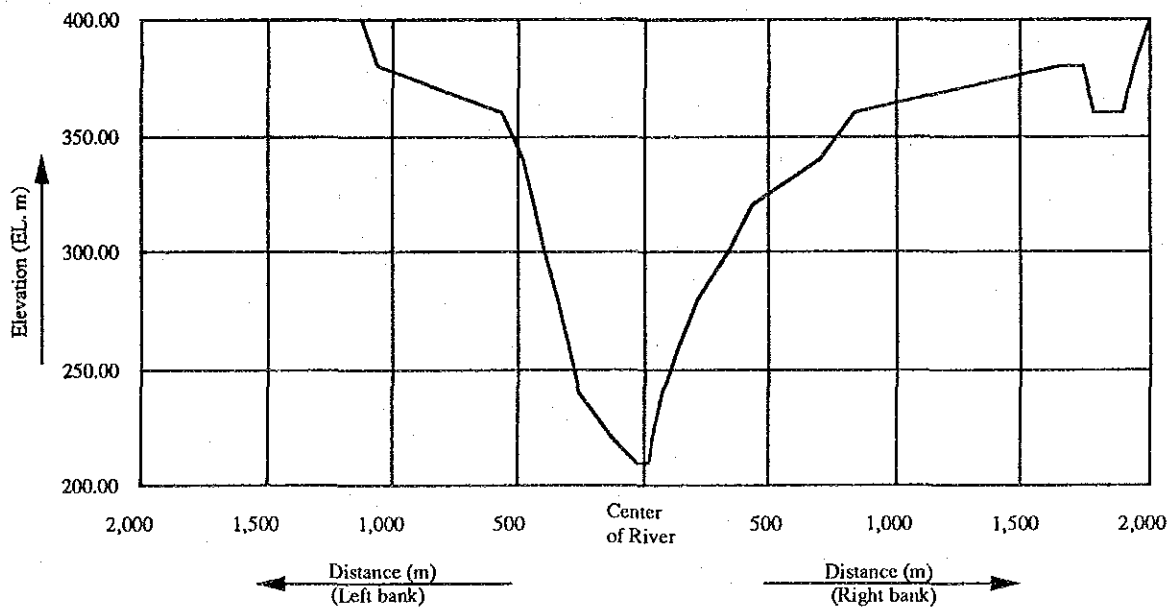


Fig. 6.5 FLOOD PEAK DISCHARGE AT LOWER RUVU FLOODPLAIN (AFTER KIDUNDA DAM)

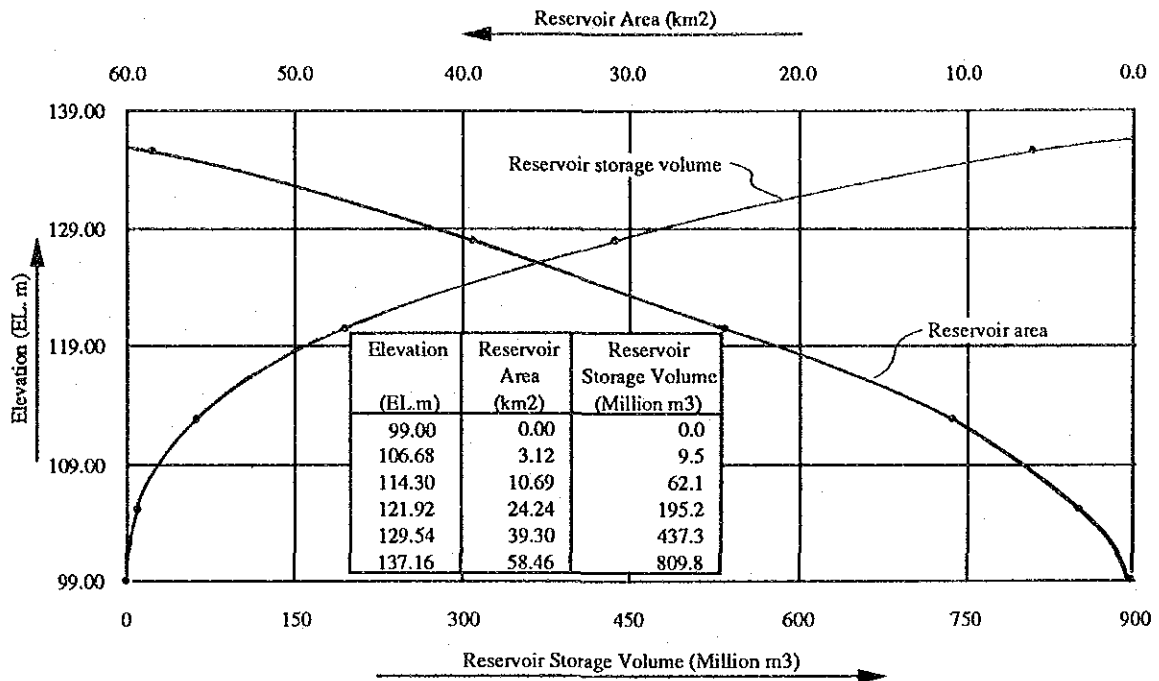


RESERVOIR STORAGE CURVE AT RUDEITE DAM SITE

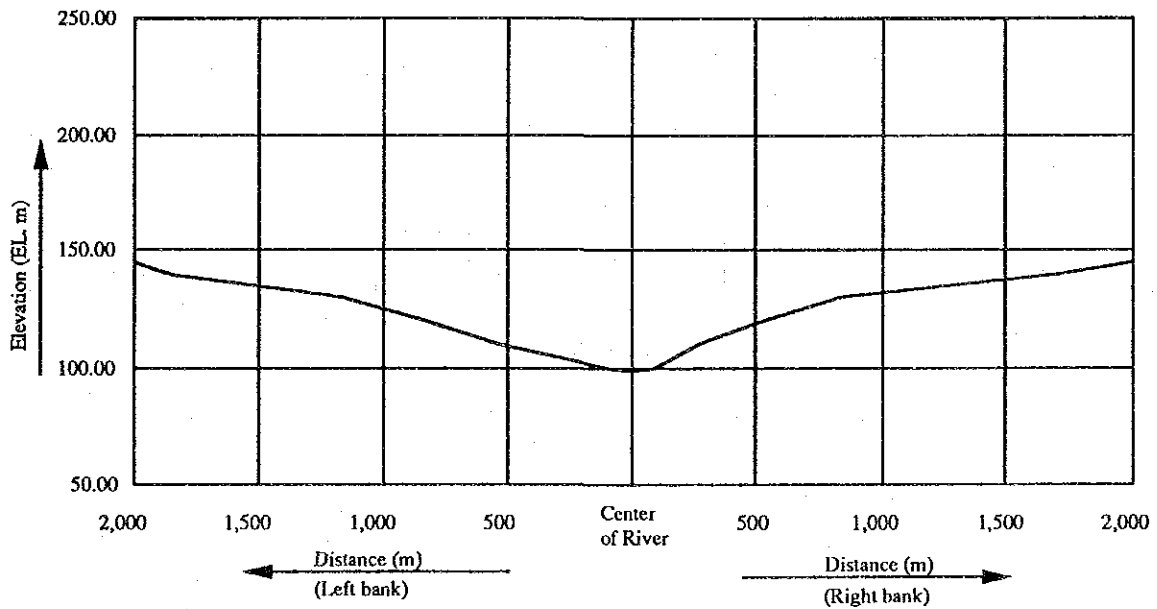


RIVER CROSS SECTION ALONG AXIS OF RUDEITE DAM

Fig. 7.2 RESERVOIR STORAGE CURVE AND RIVER CROSS SECTION AT THE RUDEITE DAM SITE

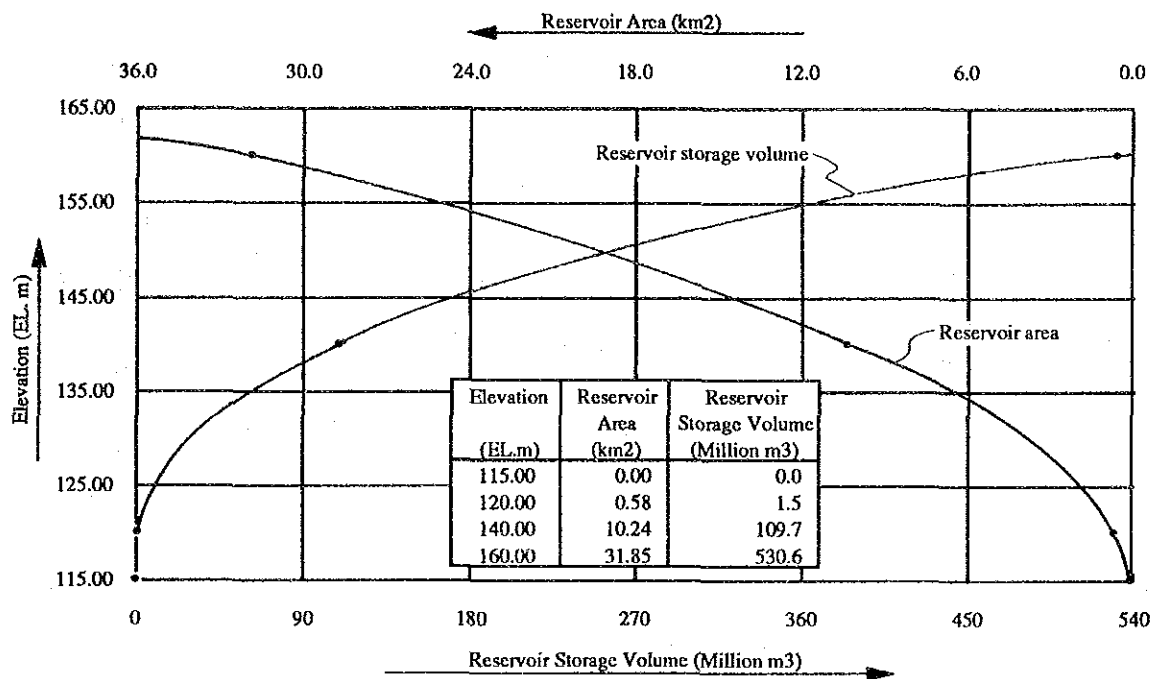


RESERVOIR STORAGE CURVE AT NGERENGERE DAM SITE

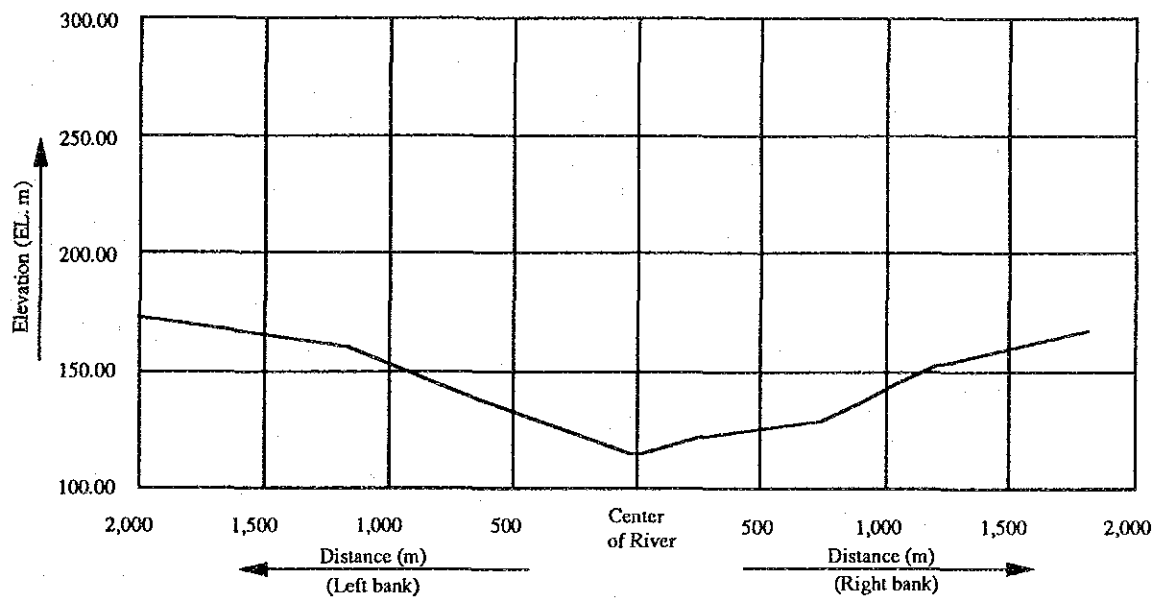


RIVER CROSS SECTION ALONG AXIS OF NGERENGERE DAM

Fig. 7.3 RESERVOIR STORAGE CURVE AND RIVER CROSS SECTION AT THE NGERENGERE DAM SITE

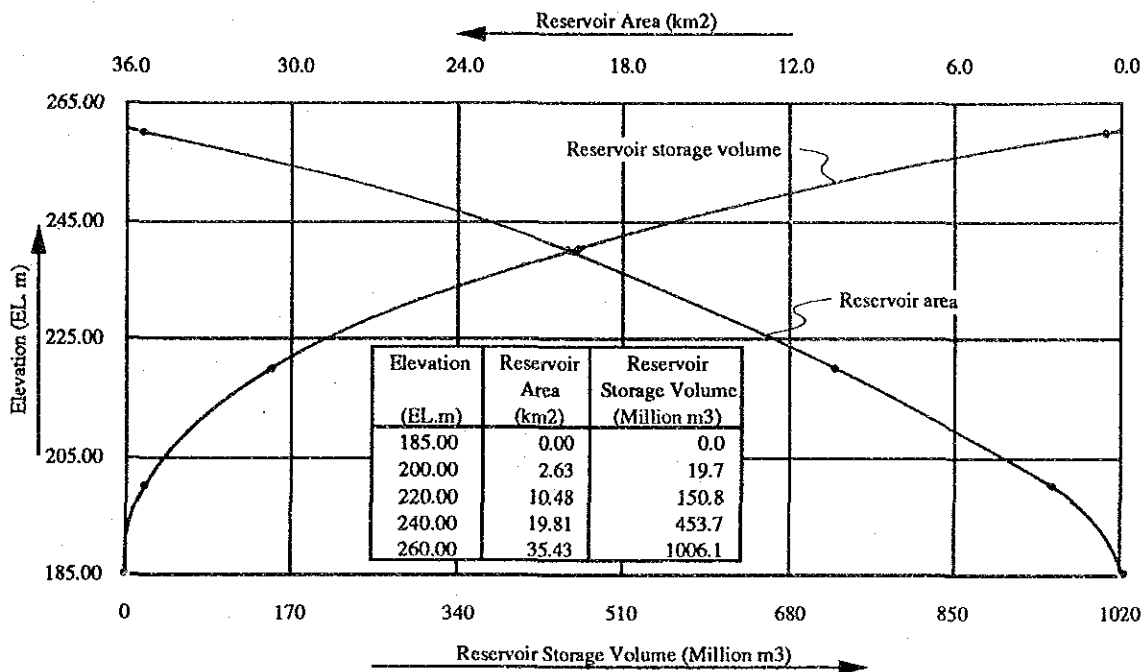


RESERVOIR STORAGE CURVE AT MKOMBEZI DAM SITE

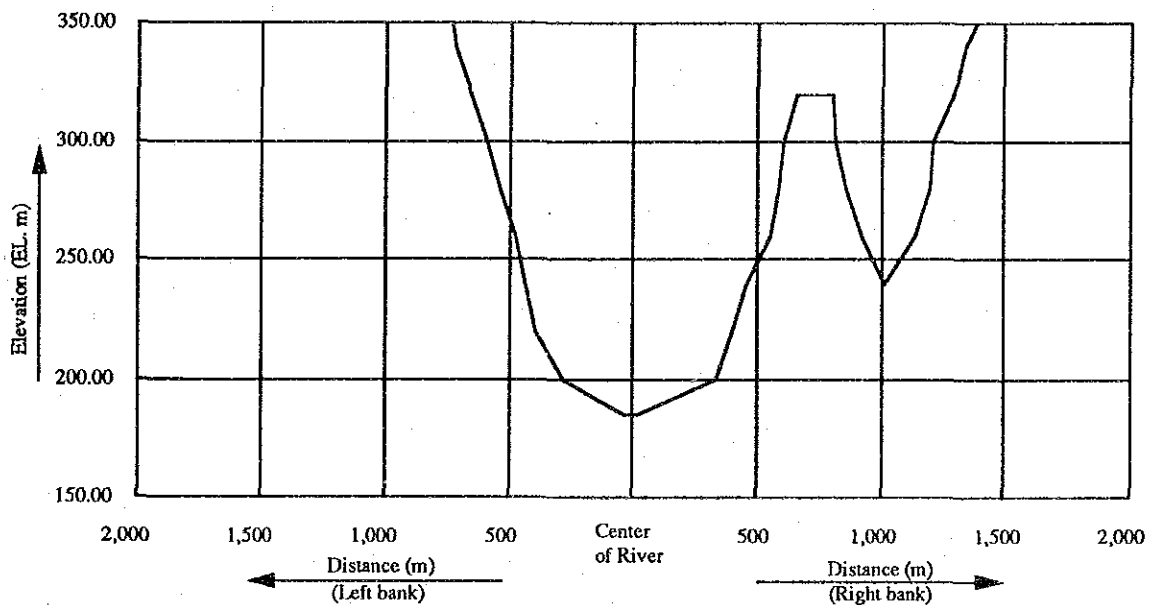


RIVER CROSS SECTION ALONG AXIS OF MKOMBEZI DAM

Fig. 7.4 RESERVOIR STORAGE CURVE AND RIVER CROSS SECTION AT THE MKOMBEZI DAM SITE

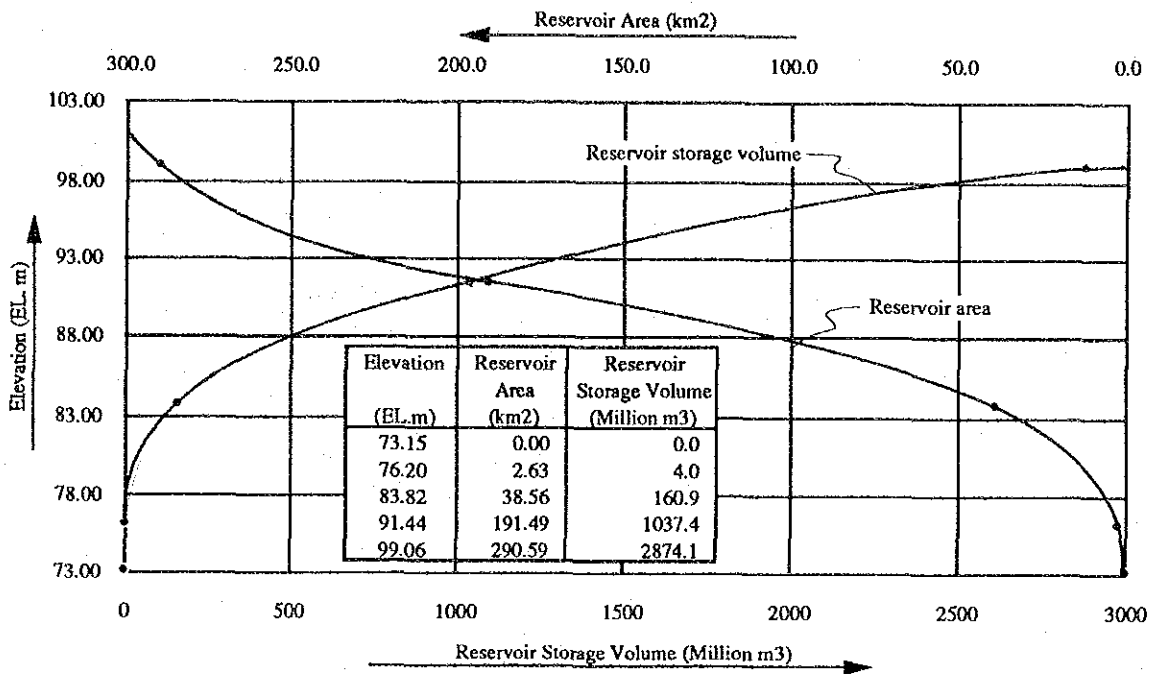


RESERVOIR STORAGE CURVE AT MGETA DAM SITE

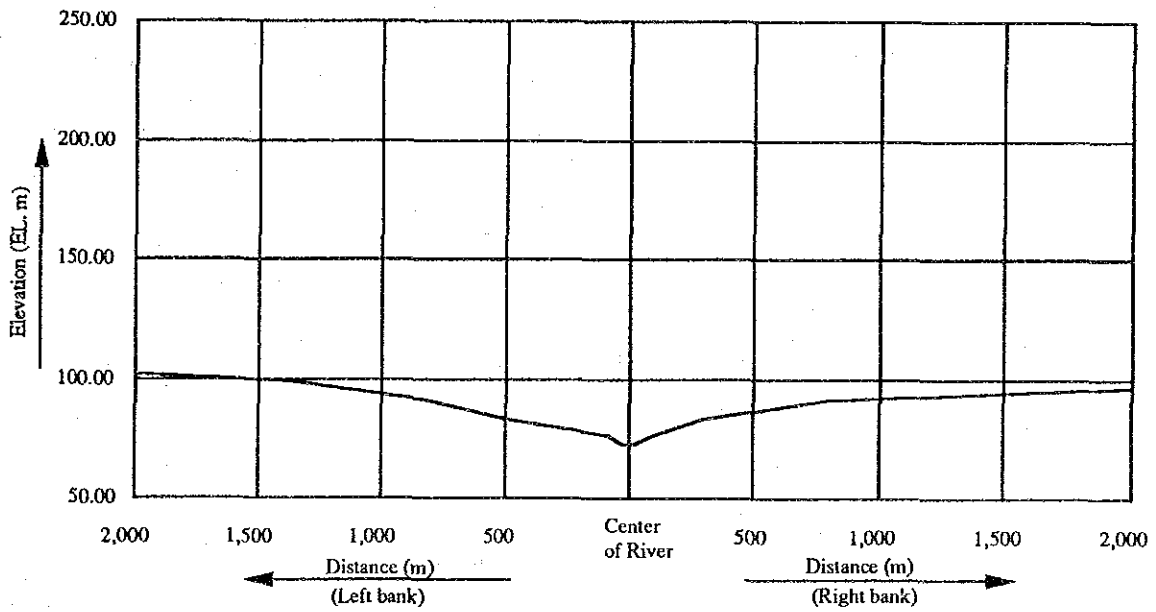


RIVER CROSS SECTION ALONG AXIS OF MGETA DAM

Fig. 7.5 RESERVOIR STORAGE CURVE AND RIVER CROSS SECTION AT THE MGETA DAM SITE



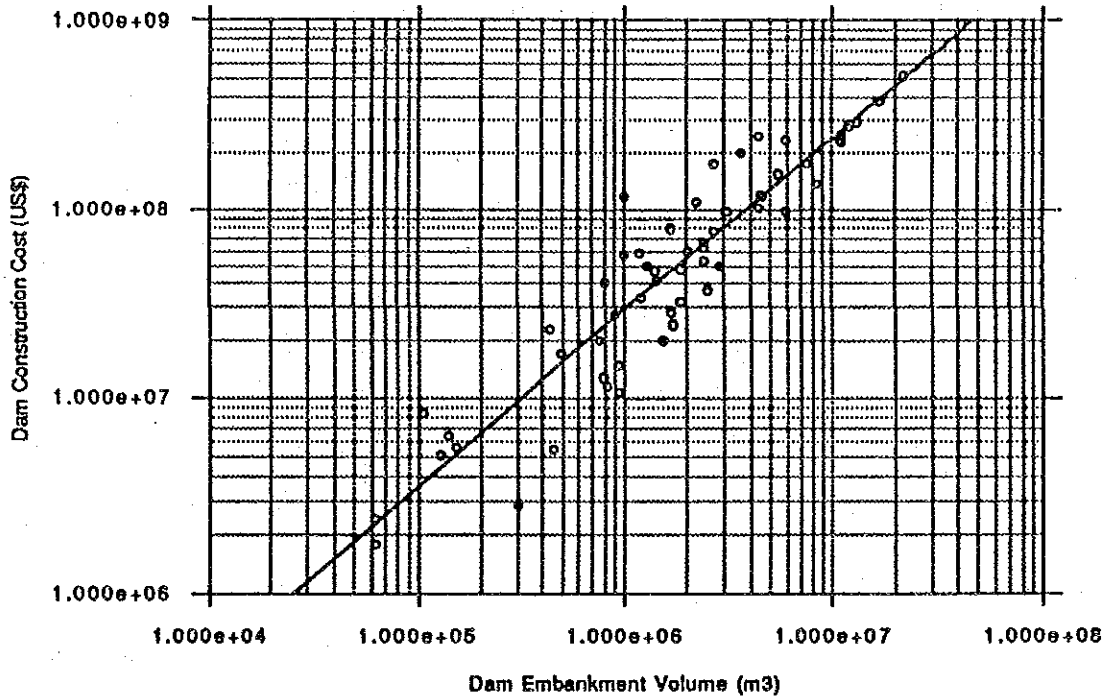
RESERVOIR STORAGE CURVE AT KIDUNDA DAM SITE



RIVER CROSS SECTION ALONG AXIS OF KIDUNDA DAM

Fig. 7.6 RESERVOIR STORAGE CURVE AND RIVER CROSS SECTION AT THE KIDUNDA DAM SITE

Filldam Construction Cost



Filldam Construction Cost :

$$C = 100 V^{0.92}$$

C : Construction Cost (US \$)

V : Embankment Volume (m³)

Source : The Study on the Water Resources Water Master Plan, Republic Kenya (July 1992)

Fig. 7.7 RELATION BETWEEN DAM EMBANKMENT VOLUME AND DAM CONSTRUCTION COST

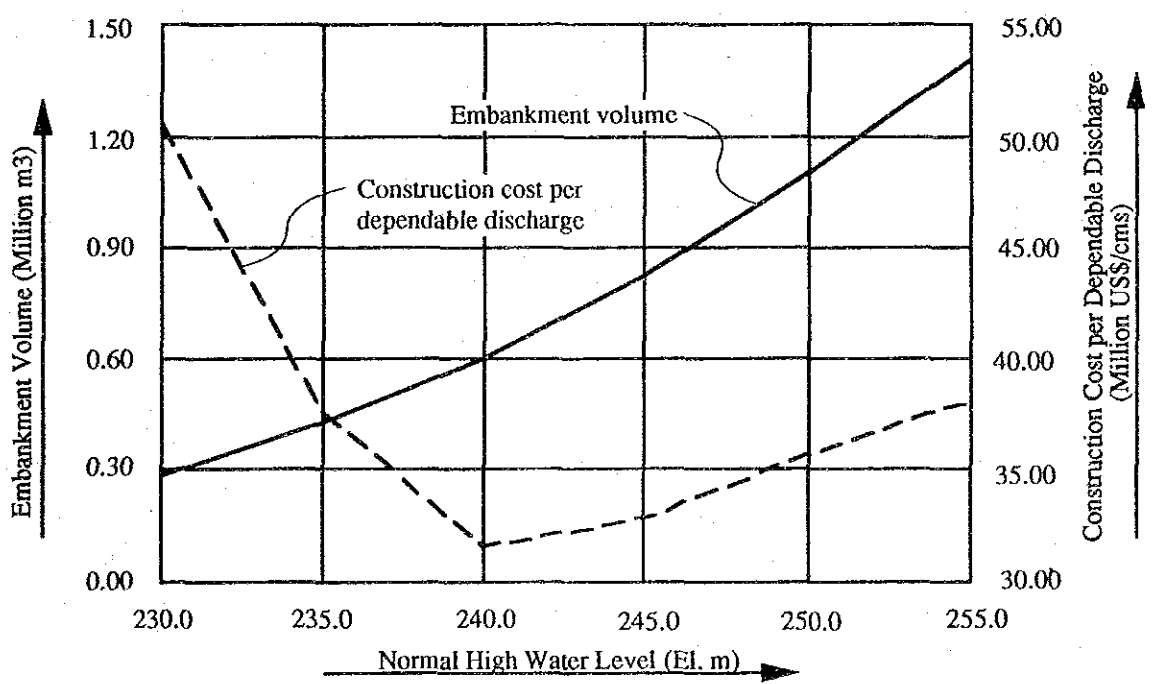
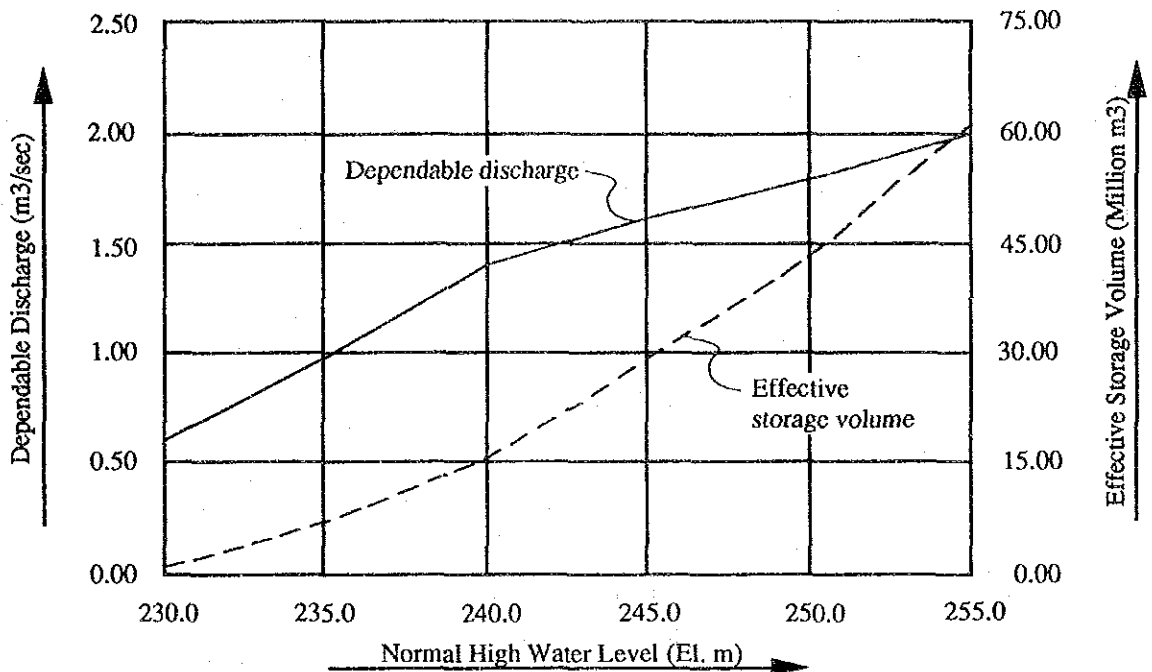


Fig. 7.8 COMPARISON OF DAM DEVELOPMENT SCALE FOR RUDETE DAM

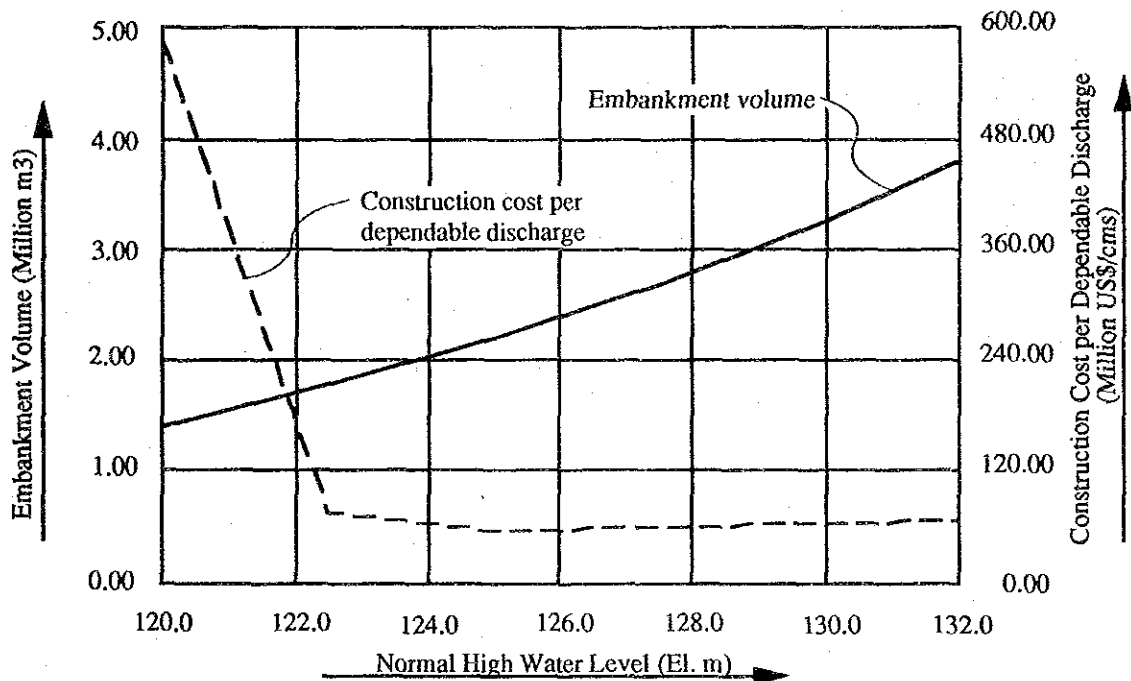
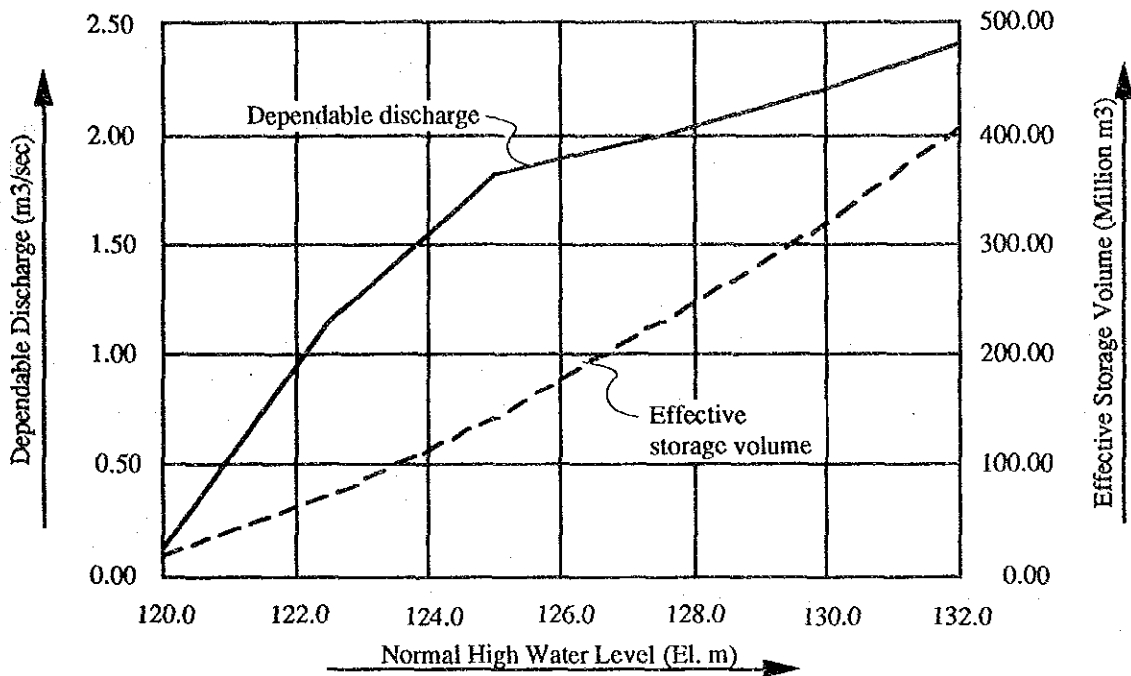


Fig. 7.9 COMPARISON OF DAM DEVELOPMENT SCALE FOR NGERENGERE DAM

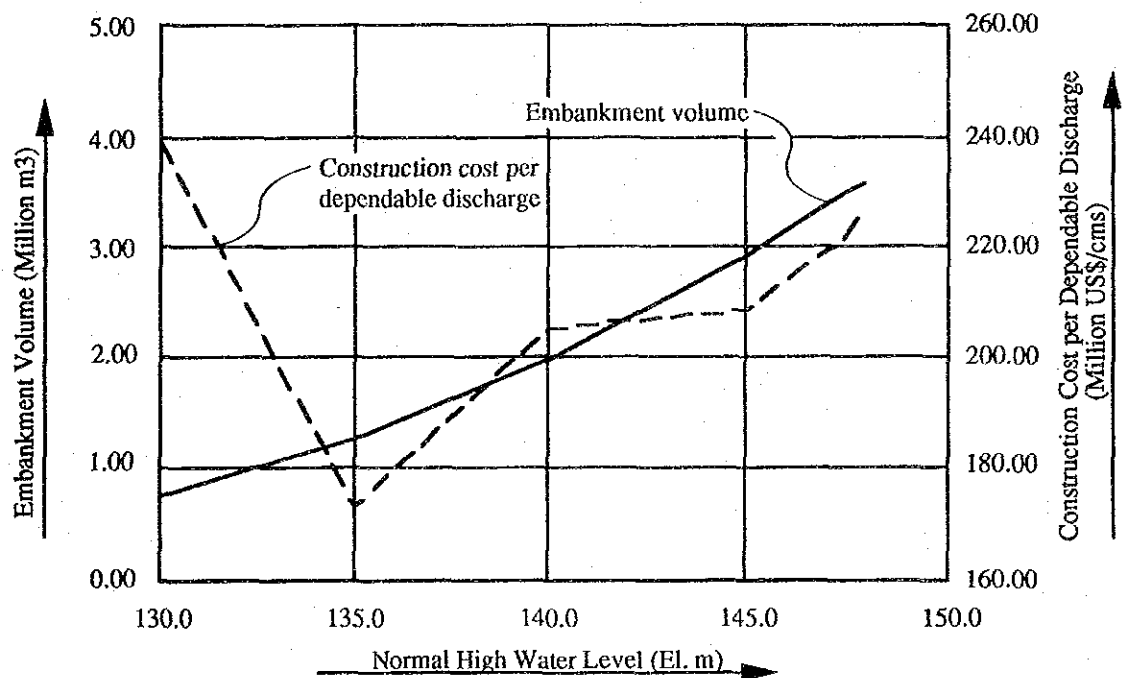
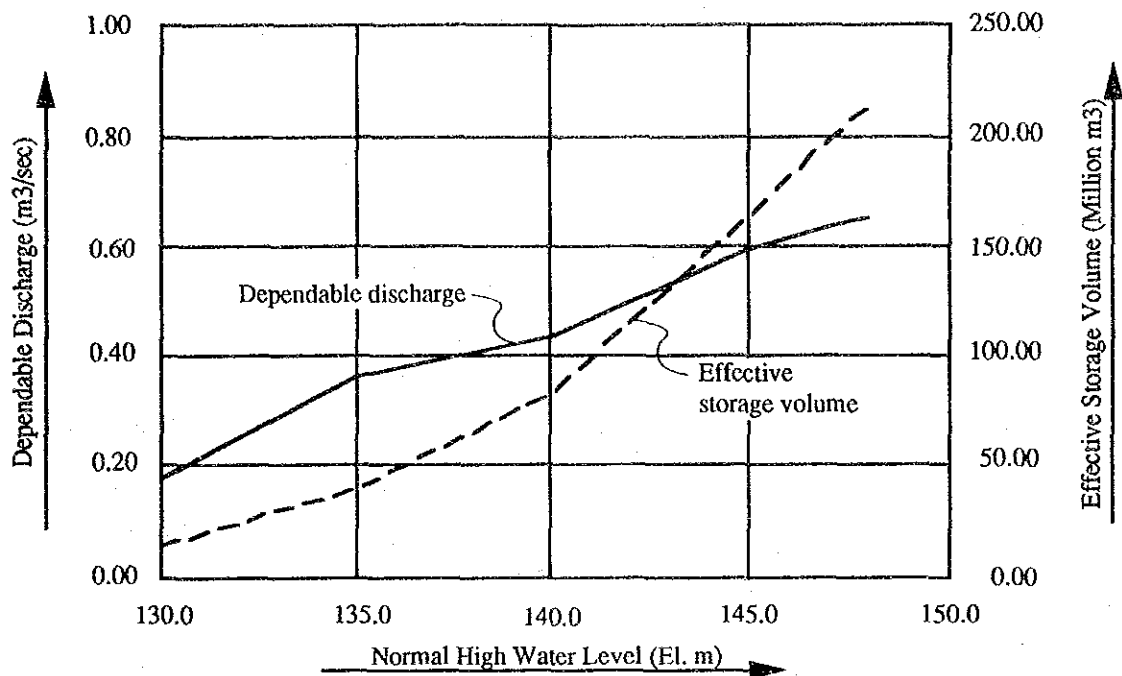


Fig. 7.10 COMPARISON OF DAM DEVELOPMENT SCALE FOR MKOMBEZI DAM

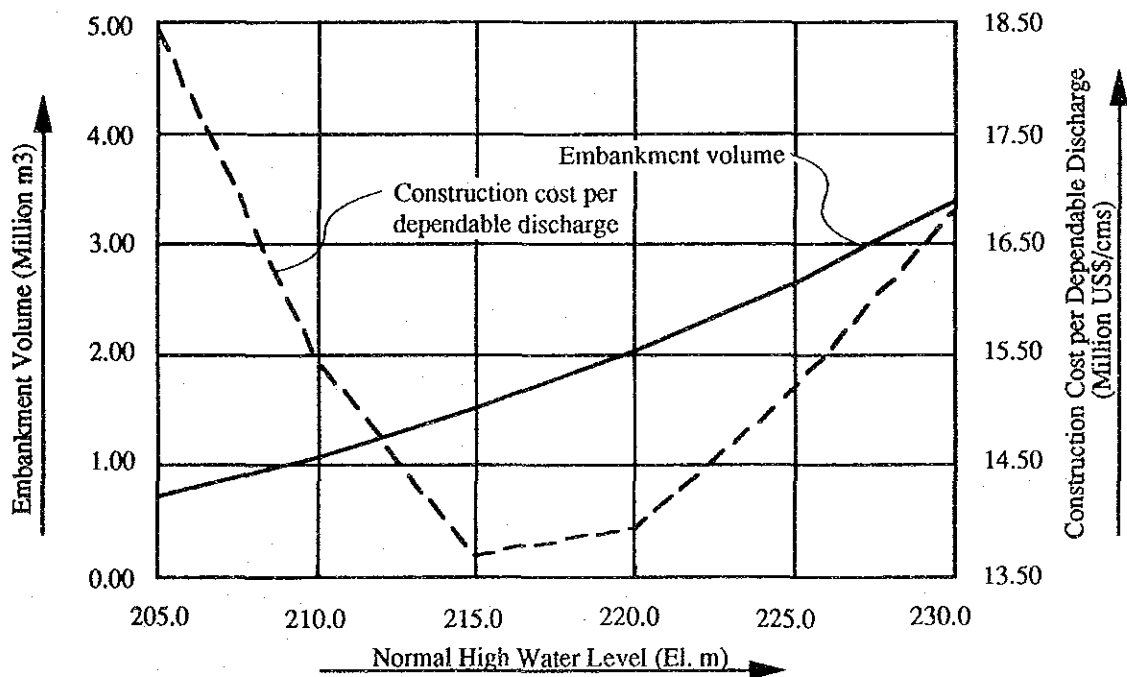
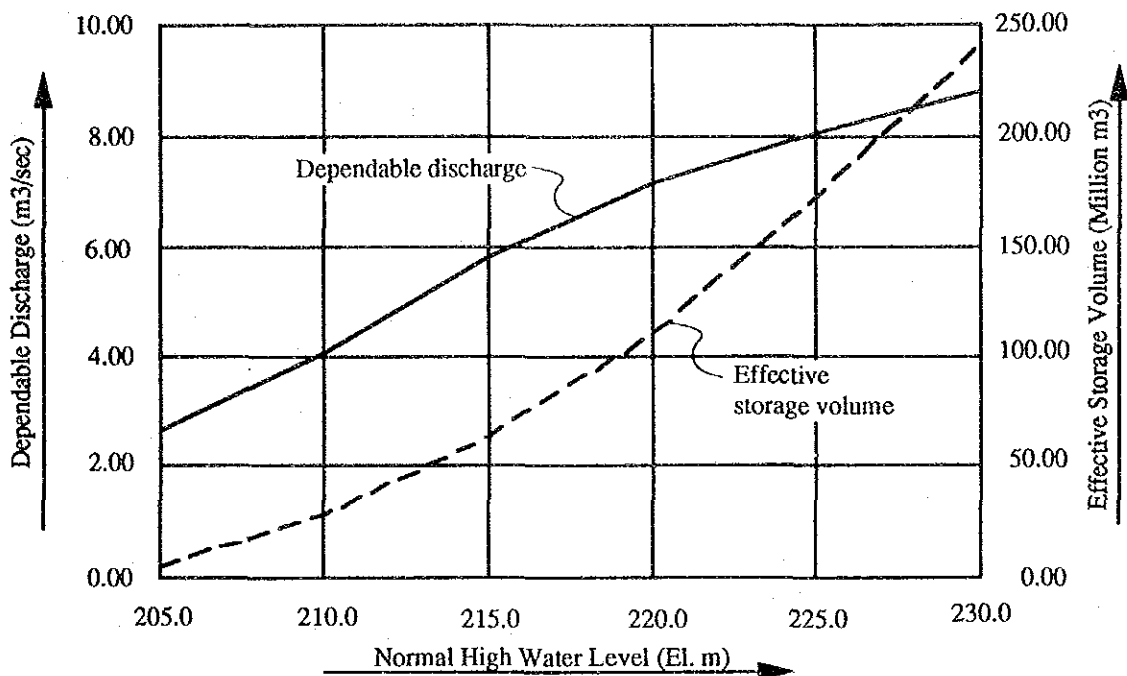


Fig. 7.11 COMPARISON OF DAM DEVELOPMENT SCALE FOR MGETA DAM

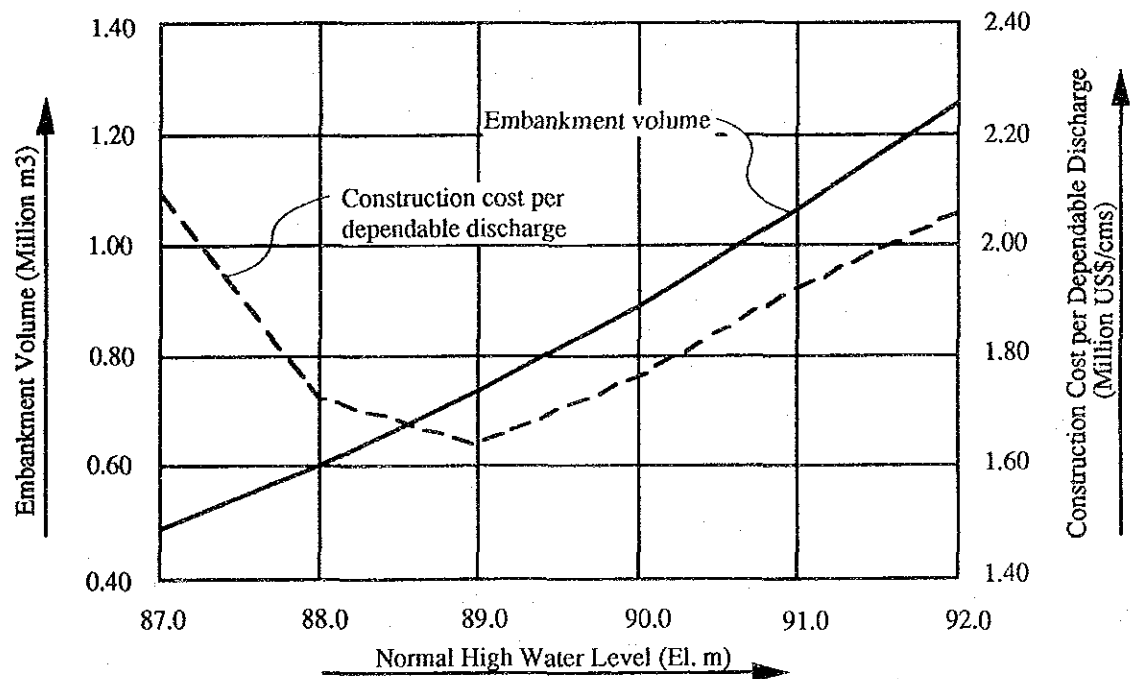
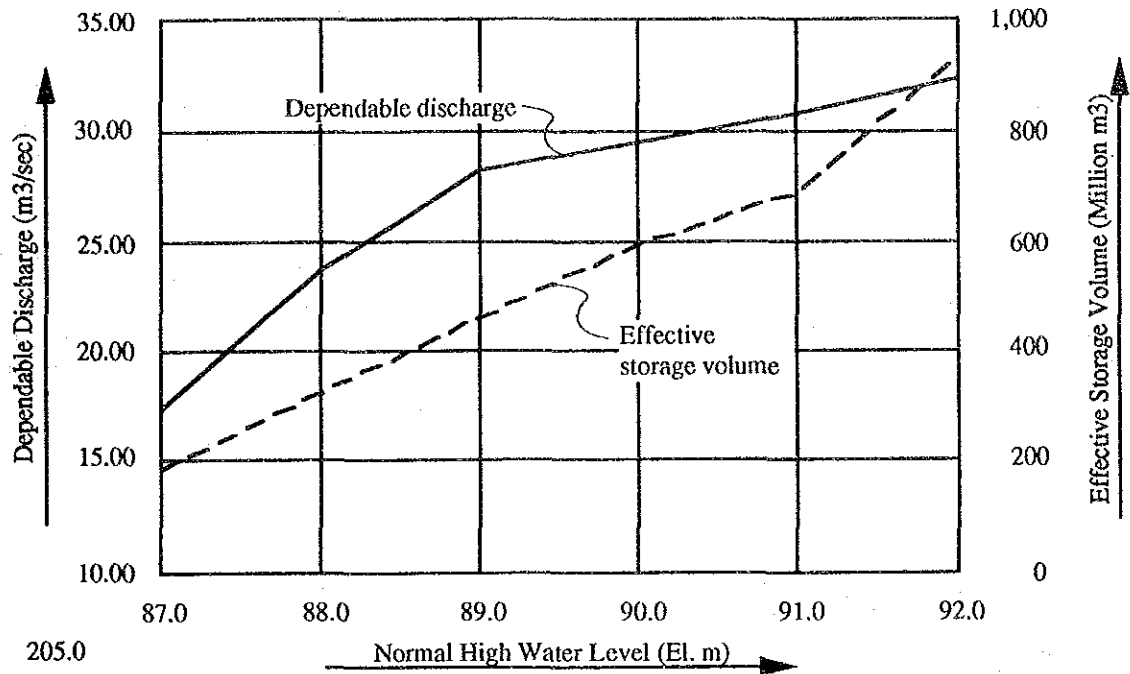
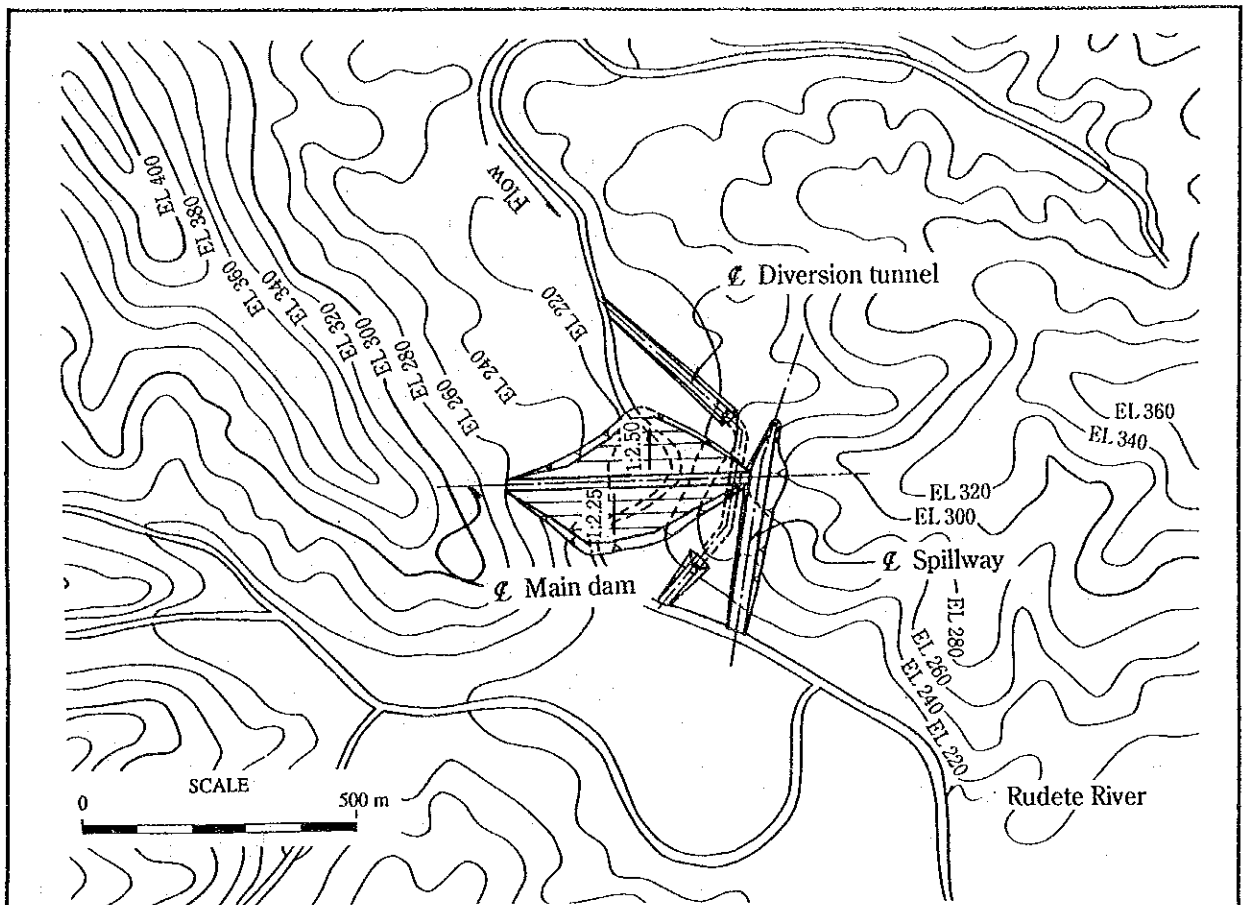
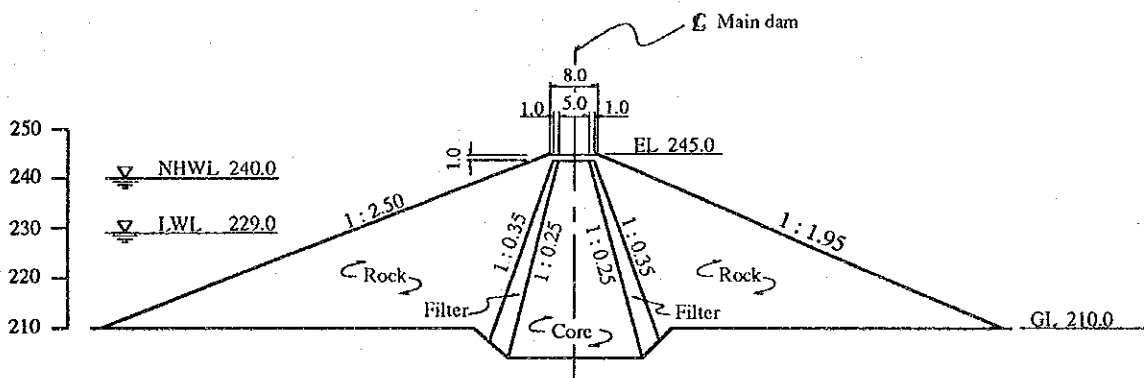


Fig. 7.12 COMPARISON OF DAM DEVELOPMENT SCALE FOR KIDUNDA DAM

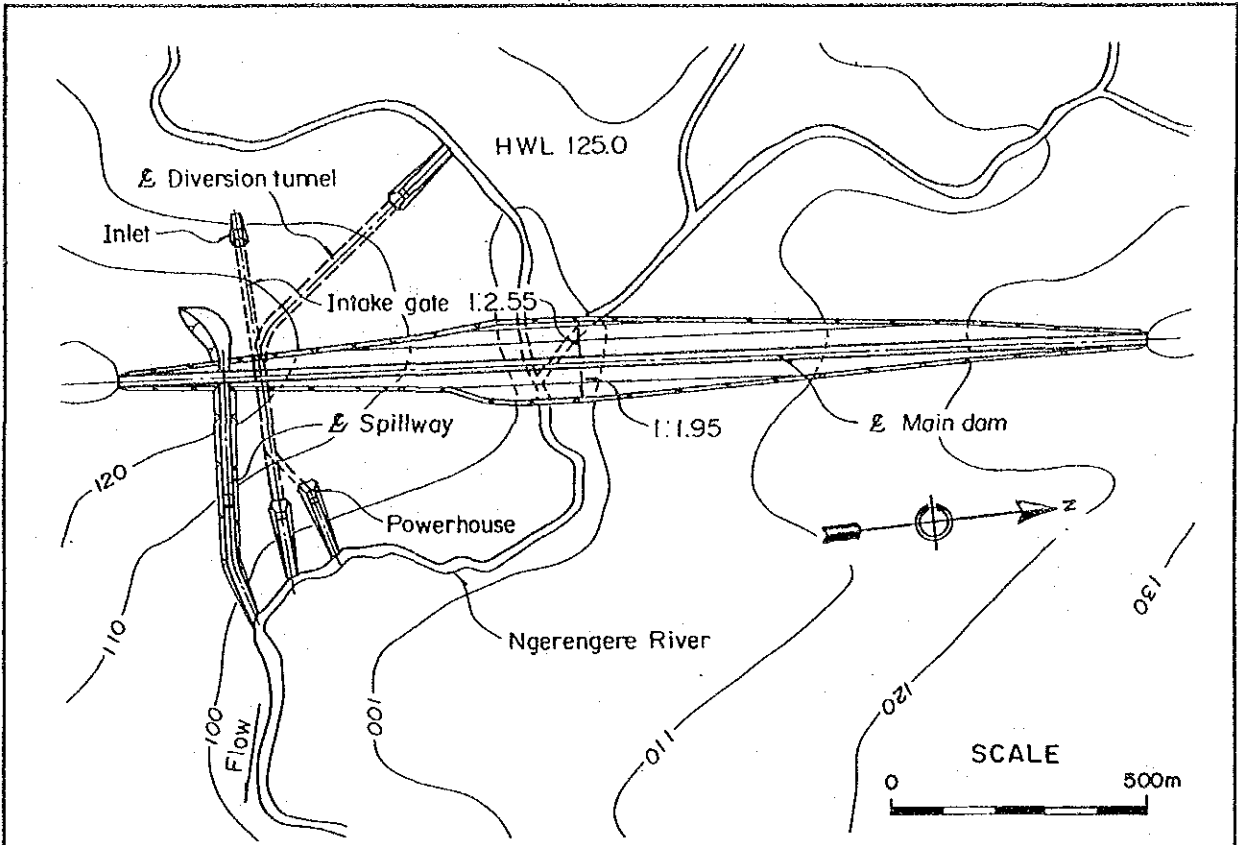


GENERAL PLAN OF RUDETE DAM

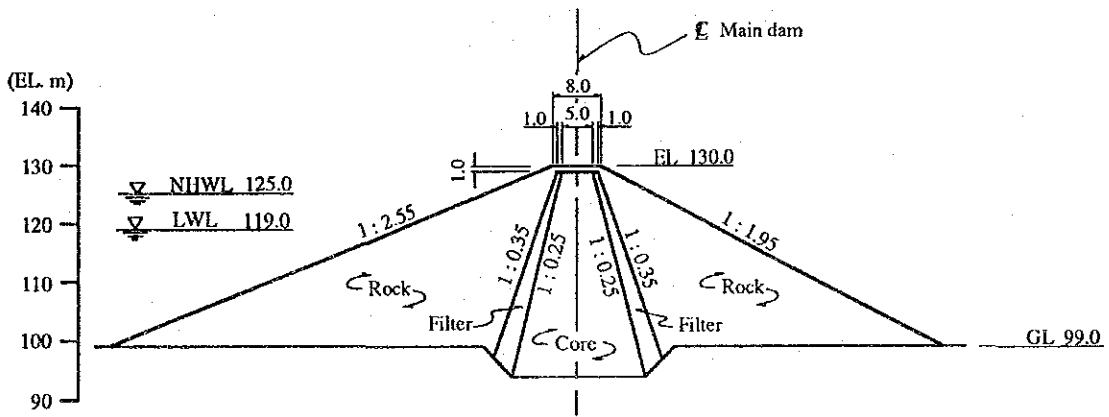


TYPICAL SECTION OF RUDETE DAM

Fig. 7.13 GENERAL PLAN OF RUDETE DAM

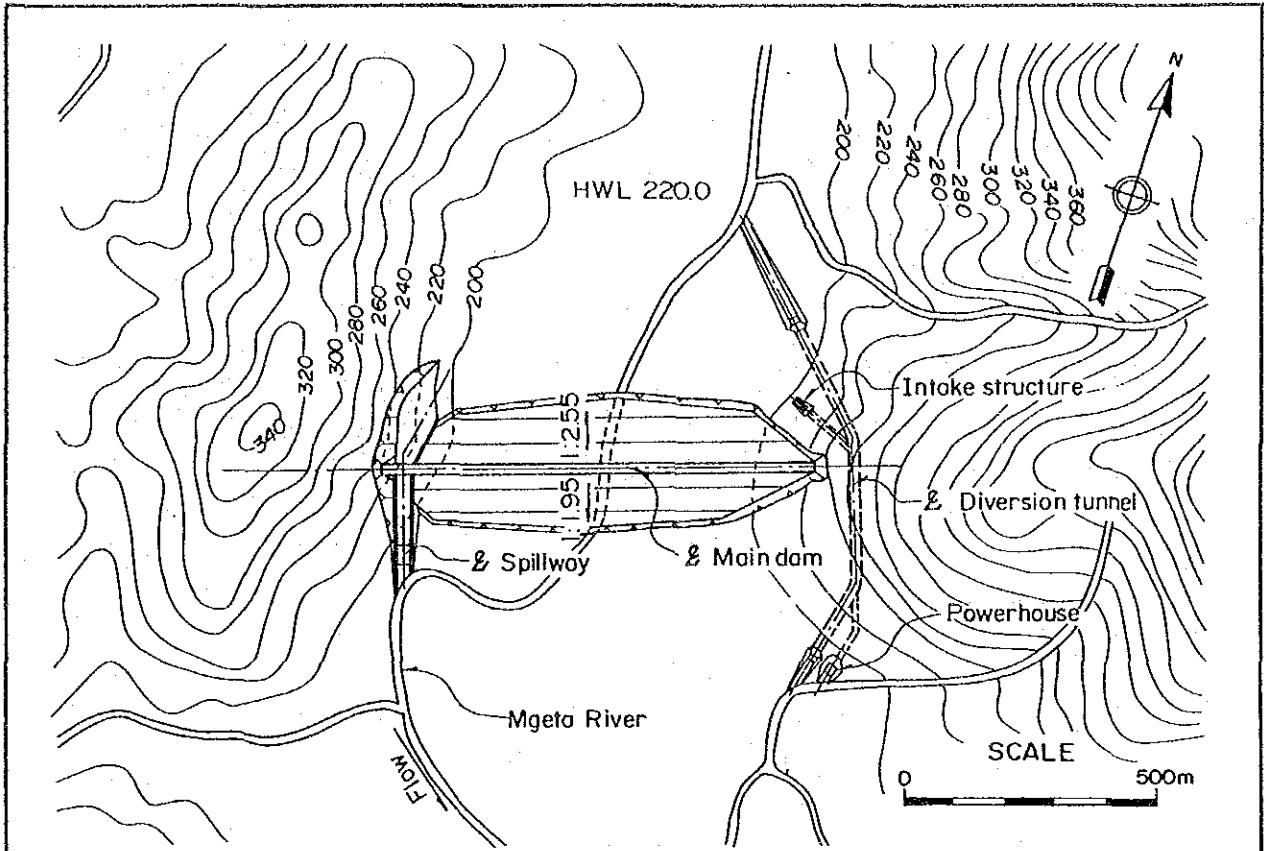


GENERAL PLAN OF NGERENGERE DAM

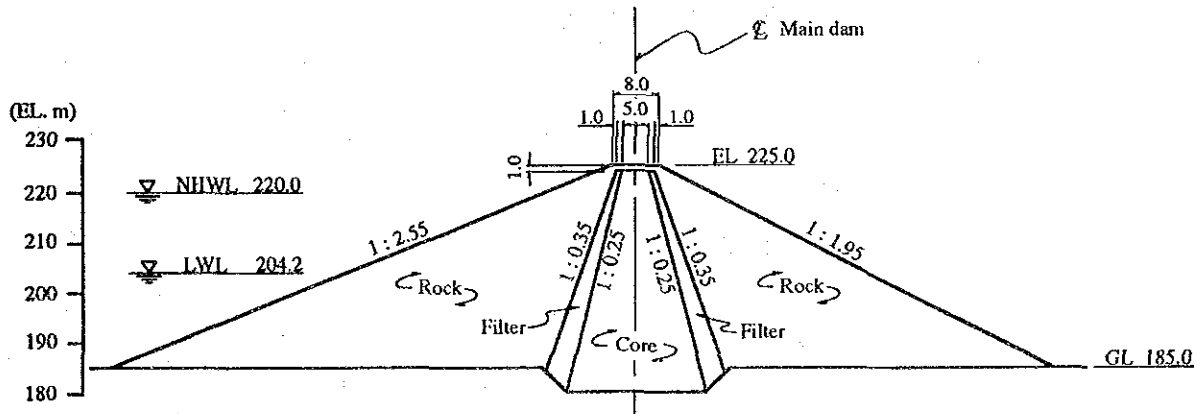


TYPICAL SECTION OF NGERENGERE DAM

Fig. 7.14 GENERAL PLAN OF NGERENGERE DAM

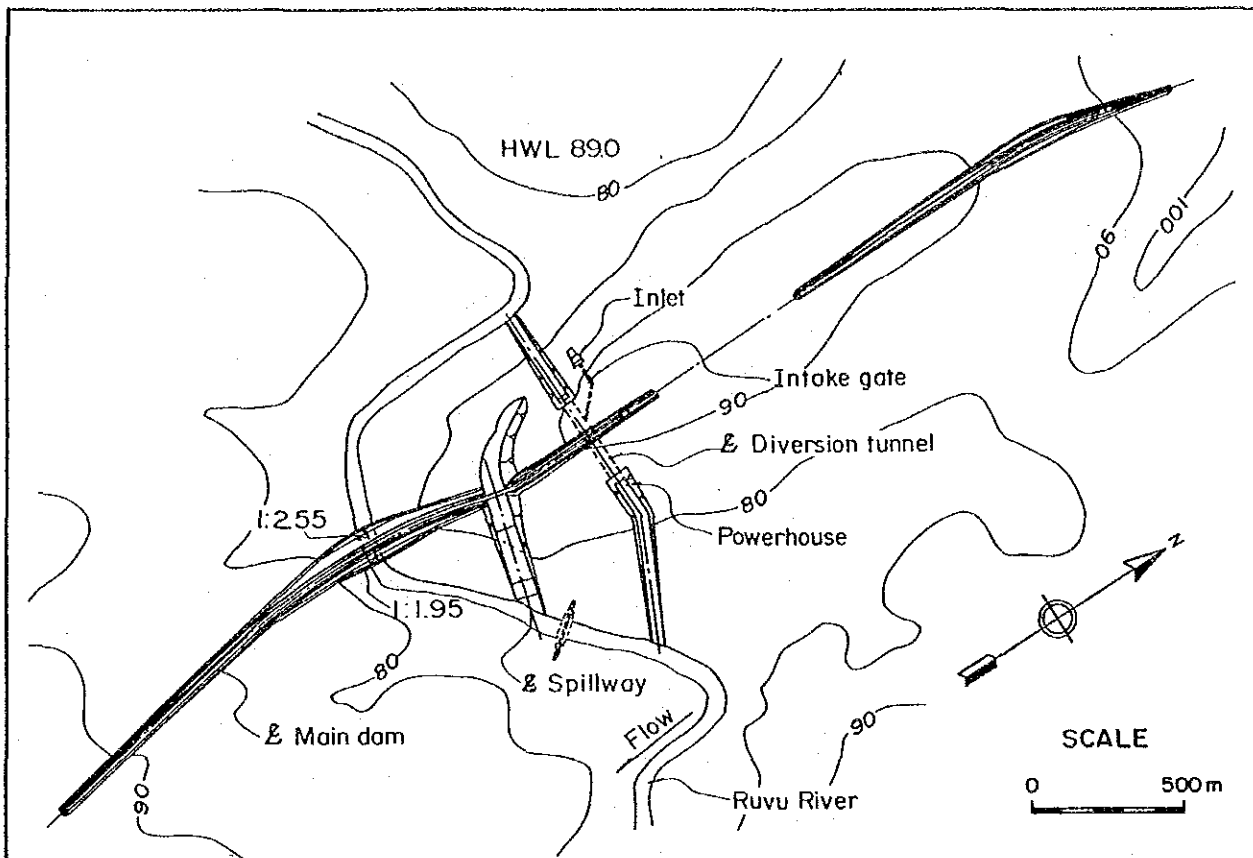


GENERAL PLAN OF MGETA DAM

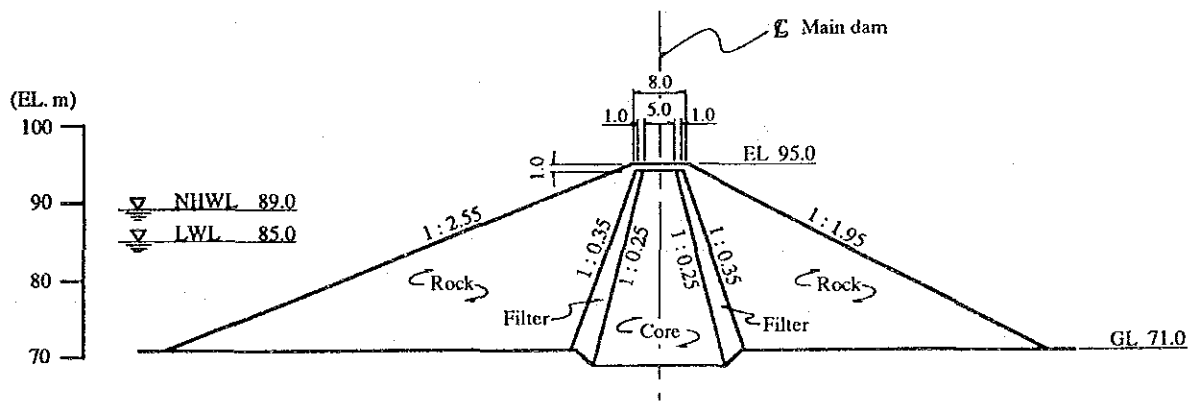


TYPICAL SECTION OF MGETA DAM

Fig. 7.15 GENERAL PLAN OF MGETA DAM



GENERAL PLAN OF KIDUNDA DAM



TYPICAL SECTION OF KIDUNDA DAM

Fig. 7.16 GENERAL PLAN OF KIDUNDA DAM

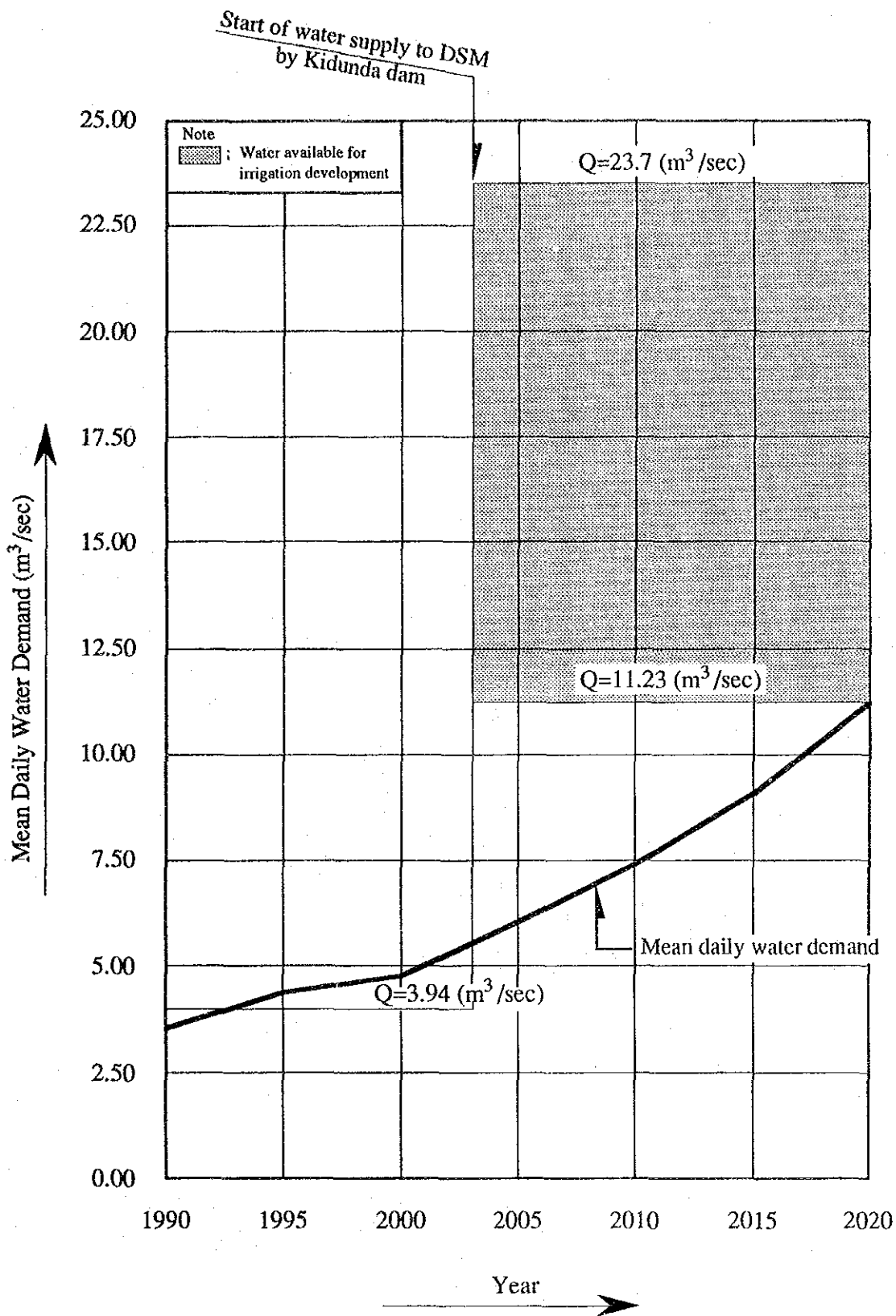


Fig. 8.1 MUNICIPAL WATER DEMAND AND WATER SUPPLY FOR DAR ES SALAAM IN CASE OF DEVELOPMENT SCENARIO-1

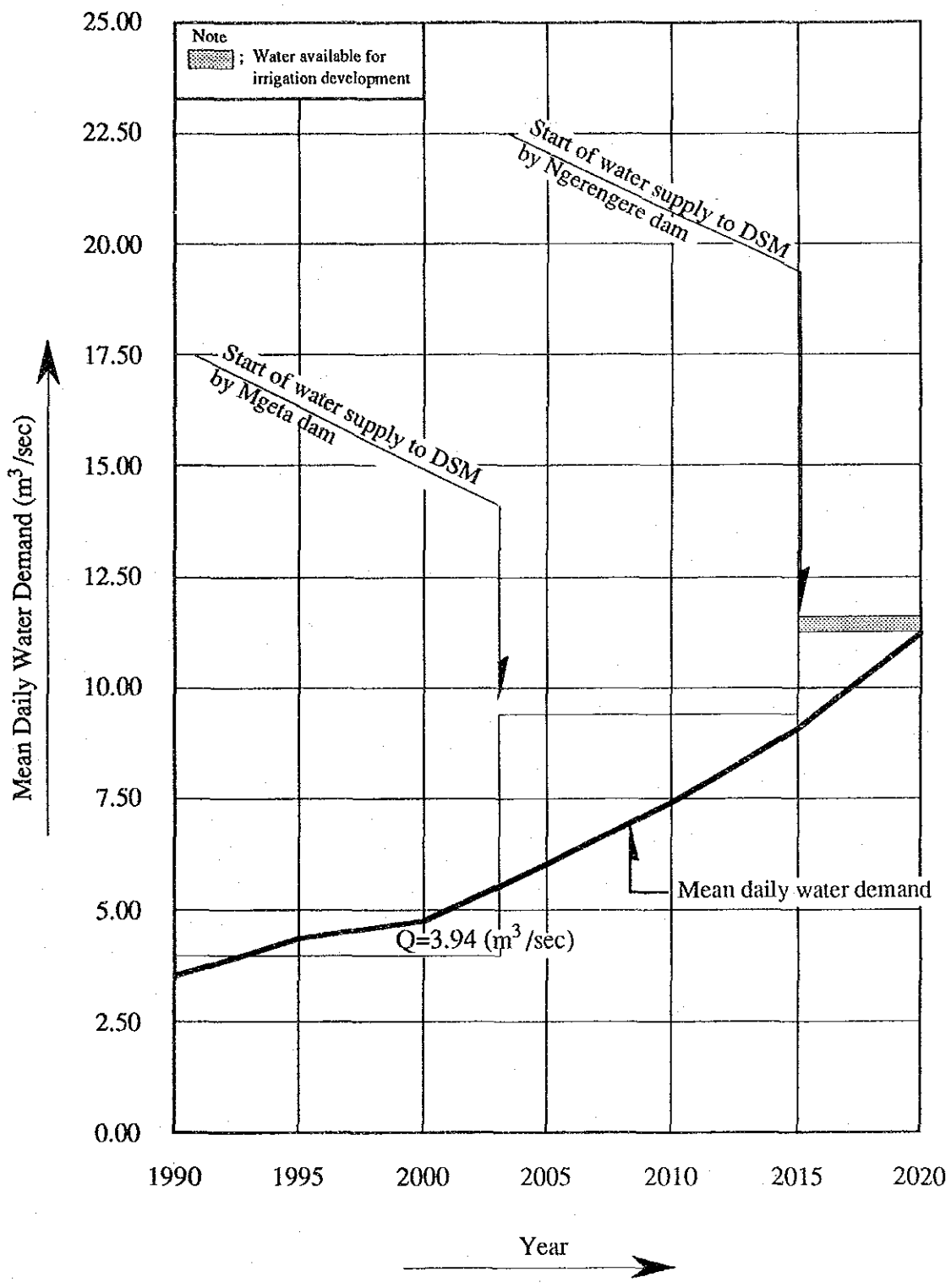


Fig. 8.2 MUNICIPAL WATER DEMAND AND WATER SUPPLY FOR DAR ES SALAAM IN CASE OF DEVELOPMENT SCENARIO-2

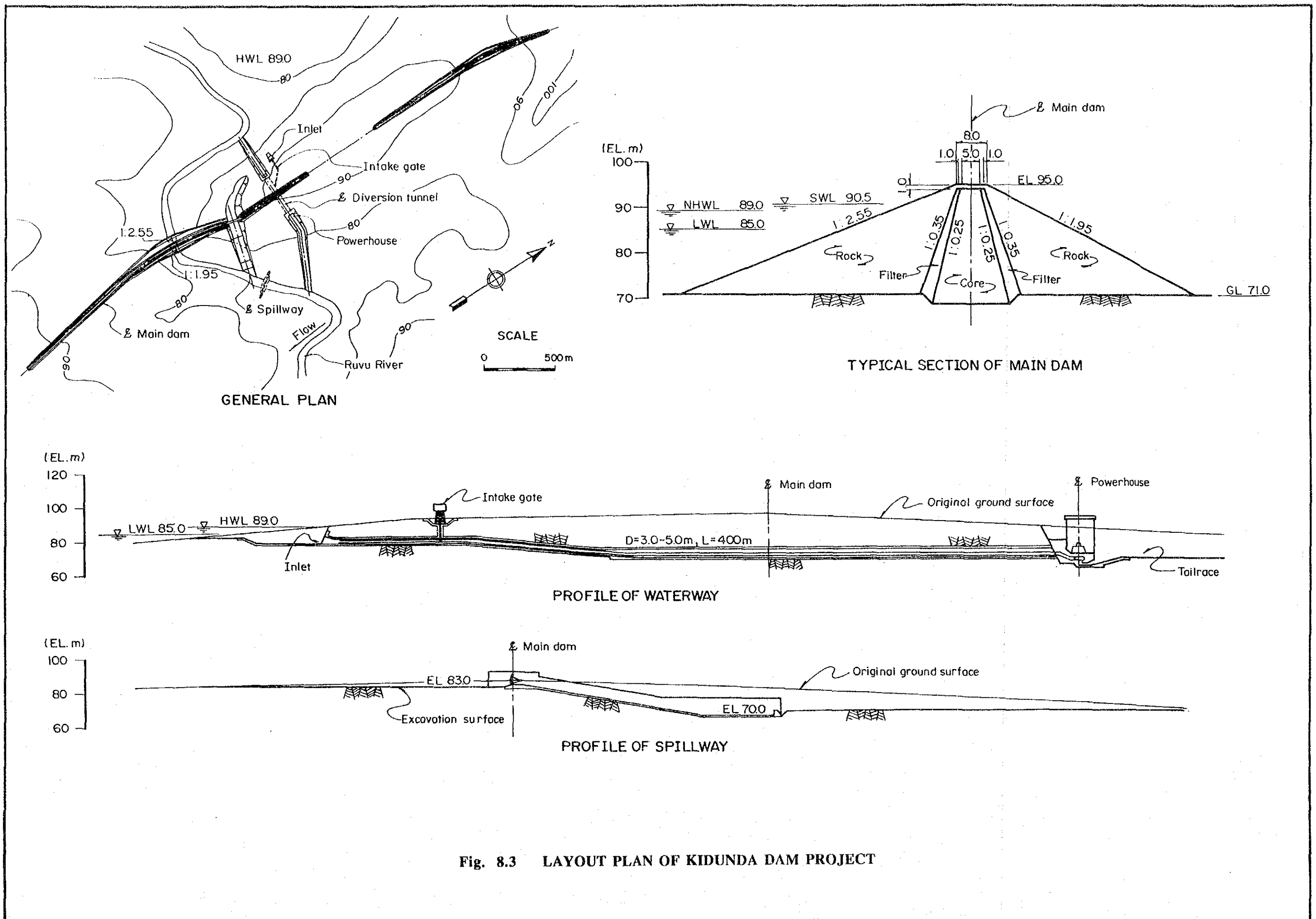


Fig. 8.3 LAYOUT PLAN OF KIDUNDA DAM PROJECT

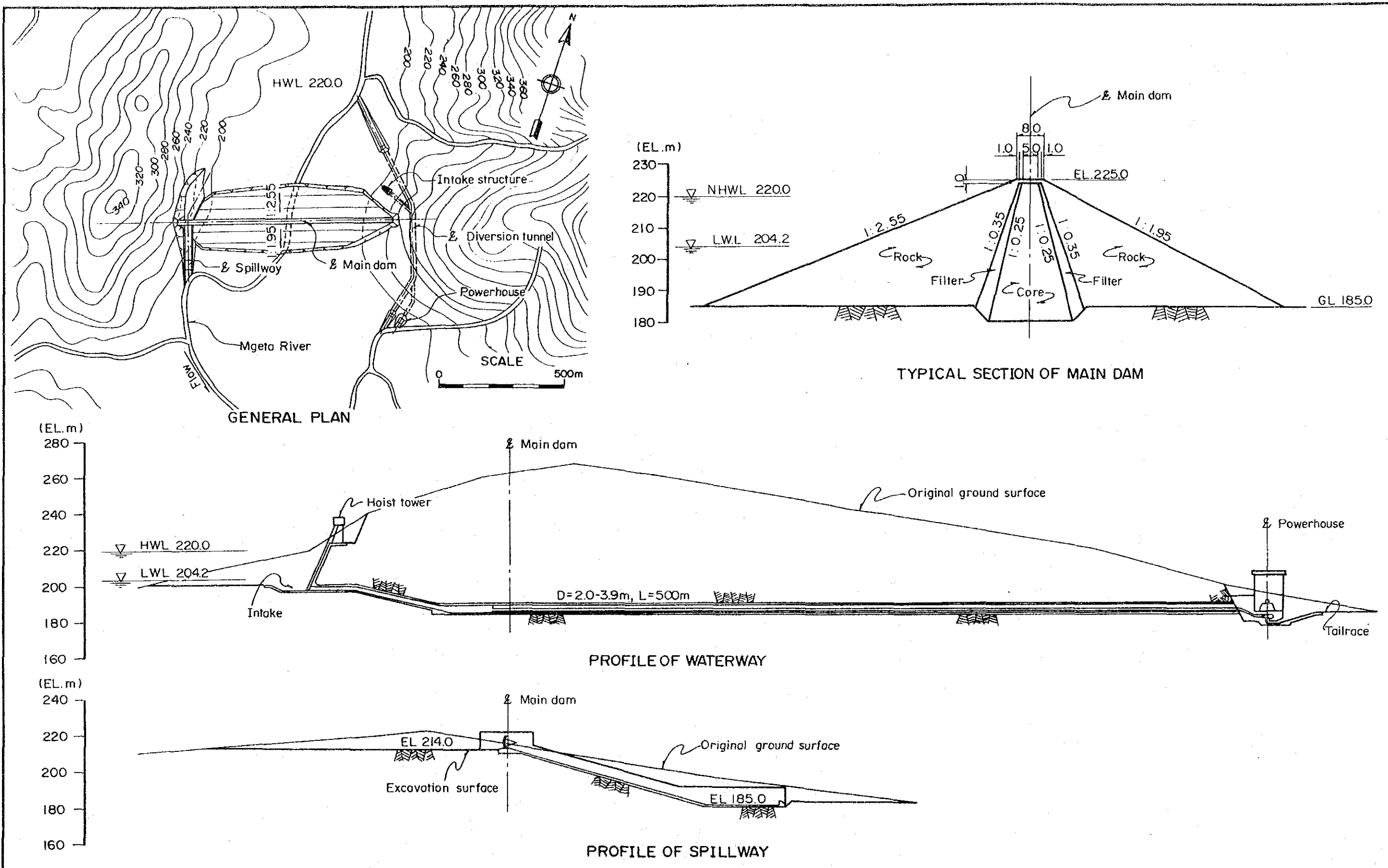


Fig. 8.4 LAYOUT PLAN OF MGETA DAM PROJECT

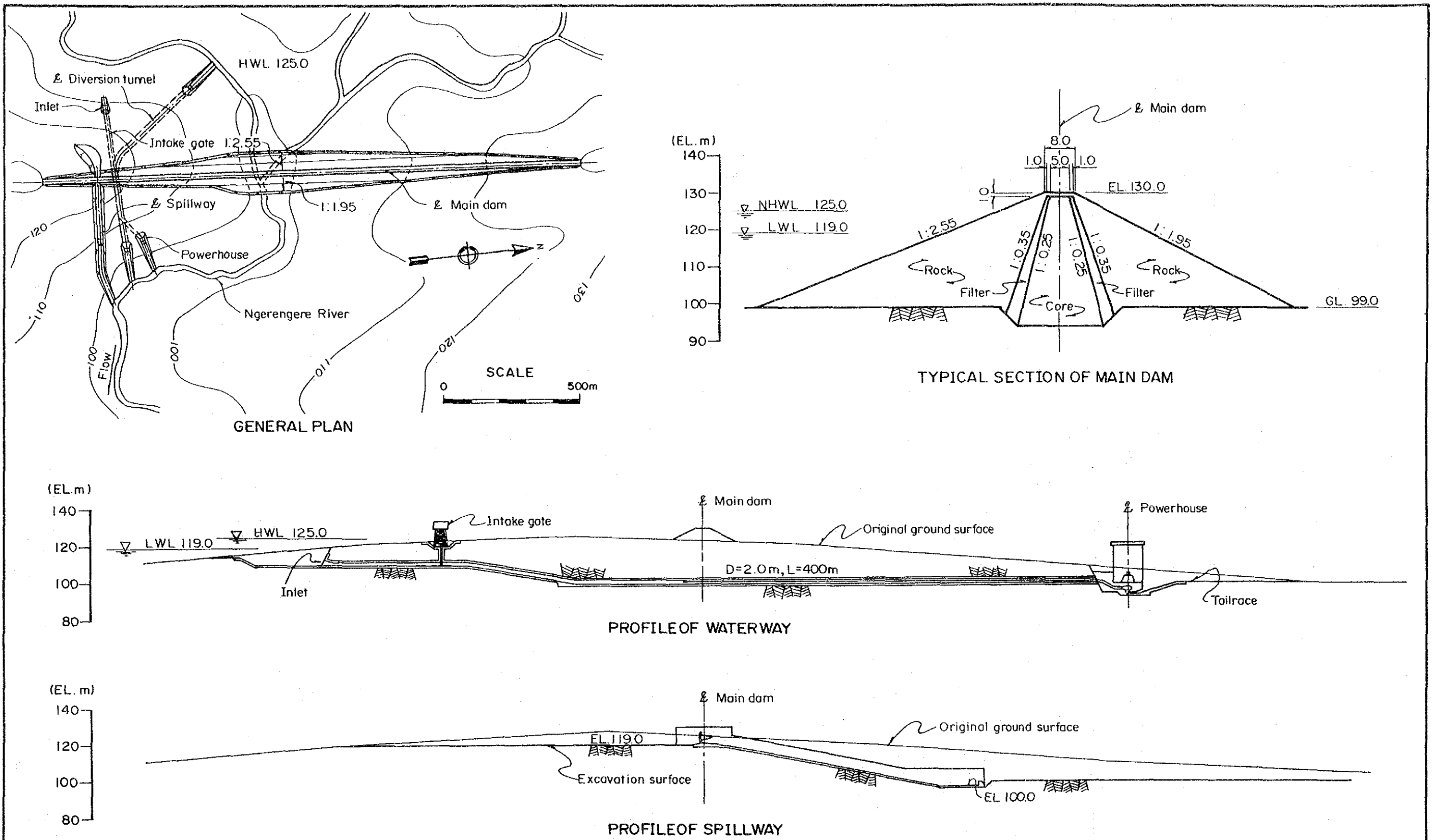


Fig. 8.5 LAYOUT PLAN OF NGERENGERE DAM PROJECT

Fig. 8.6 CONSTRUCTION SCHEDULE FOR KIDUNDA DAM

Description	-2nd Year				-1st Year				1st Year				2nd Year				3rd Year				4th Year			
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
Detailed Design					D/P																			
Land Acquisition & Compensation					Land																			
Mobilization/Demobilization																								
Preparatory Works																								
Access Road																								
Diversion/Intake Tunnel																								
Main Dam																								
Spillway/Concrete Dam																								
Metal Work																								
Powerhouse/Generating Equipment																								

Fig. 8.7 CONSTRUCTION SCHEDULE FOR MGETA DAM

Description	-2nd Year				-1st Year				1st Year				2nd Year				3rd Year				4th Year			
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
Detailed Design					D/P																			
Land Acquisition & Compensation					Land																			
Mobilization/Demobilization									Mobil.															Demobil.
Preparatory Works									Prep.															
Access Road												Access.												
Diversion/Intake Tunnel									Exc.			River Diversion												Gate Close
Main Dam									Exc. Tunnel			Exc. Tunnel Conc.												Outlet
Spillway/Concrete Dam									Exc.			Exc.												
Metal Work												Gr.				Emb.								
Powerhouse/Generating Equipment												Exc.				Conc.								Gates
																								Outlet
																								Test
																								G/E

Fig. 3.8 CONSTRUCTION SCHEDULE FOR NGERENGERE DAM

Description	7th Year				8th Year				9th Year				10th Year				11th Year				12th Year							
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV				
Detailed Design																												
Land Acquisition & Compensation																												
Mobilization/Demobilization																												
Preparatory Works																												
Access Road																												
Diversion/Intake Tunnel																												
Main Dam																												
Spillway/Concrete Dam																												
Metal Work																												
Powerhouse/Generating Equipment																												

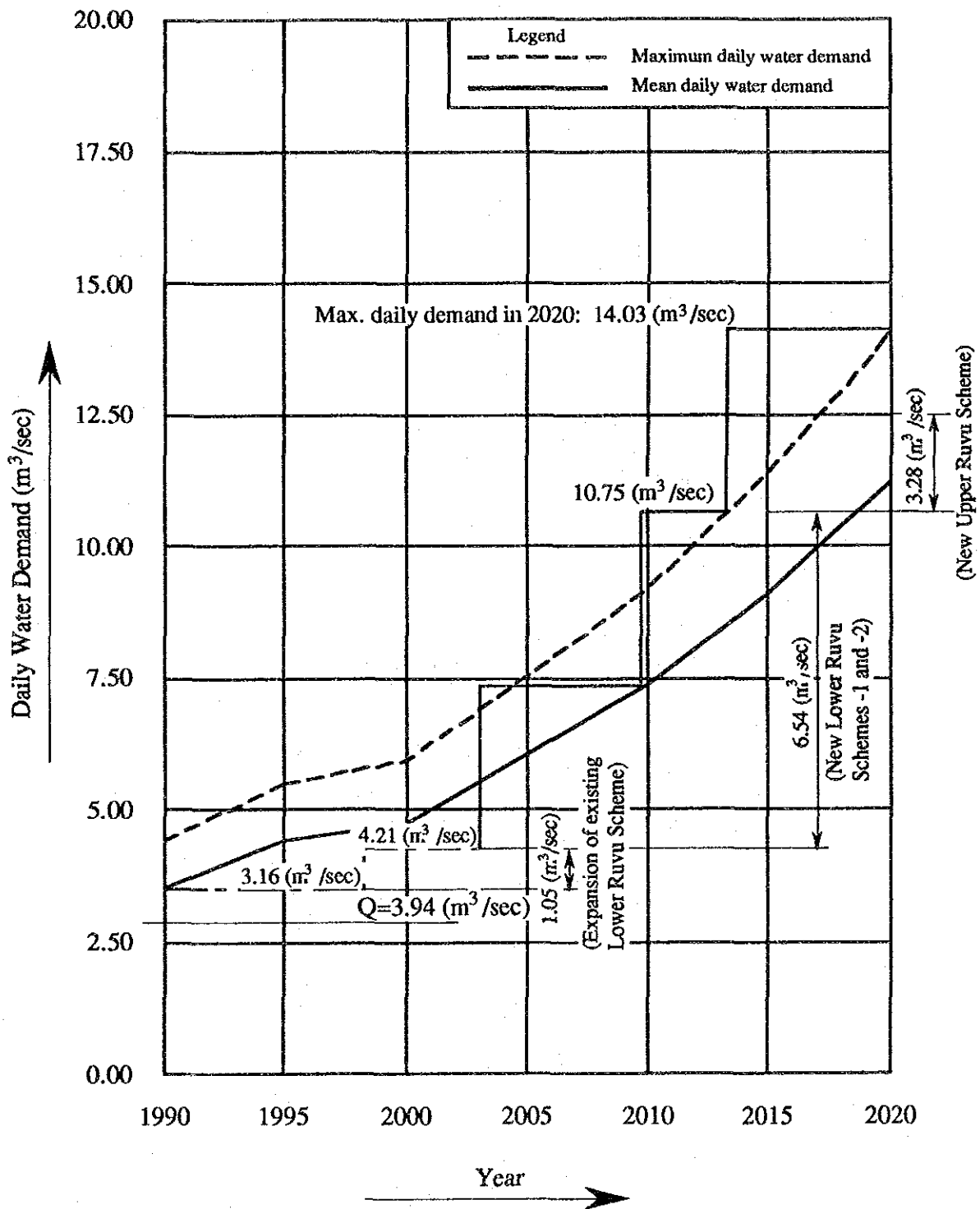


Fig. 8.9 EXPANSION PLAN OF WATER CONVEYANCE FACILITY OF DAR ES SALAAM WATER SUPPLY SYSTEM

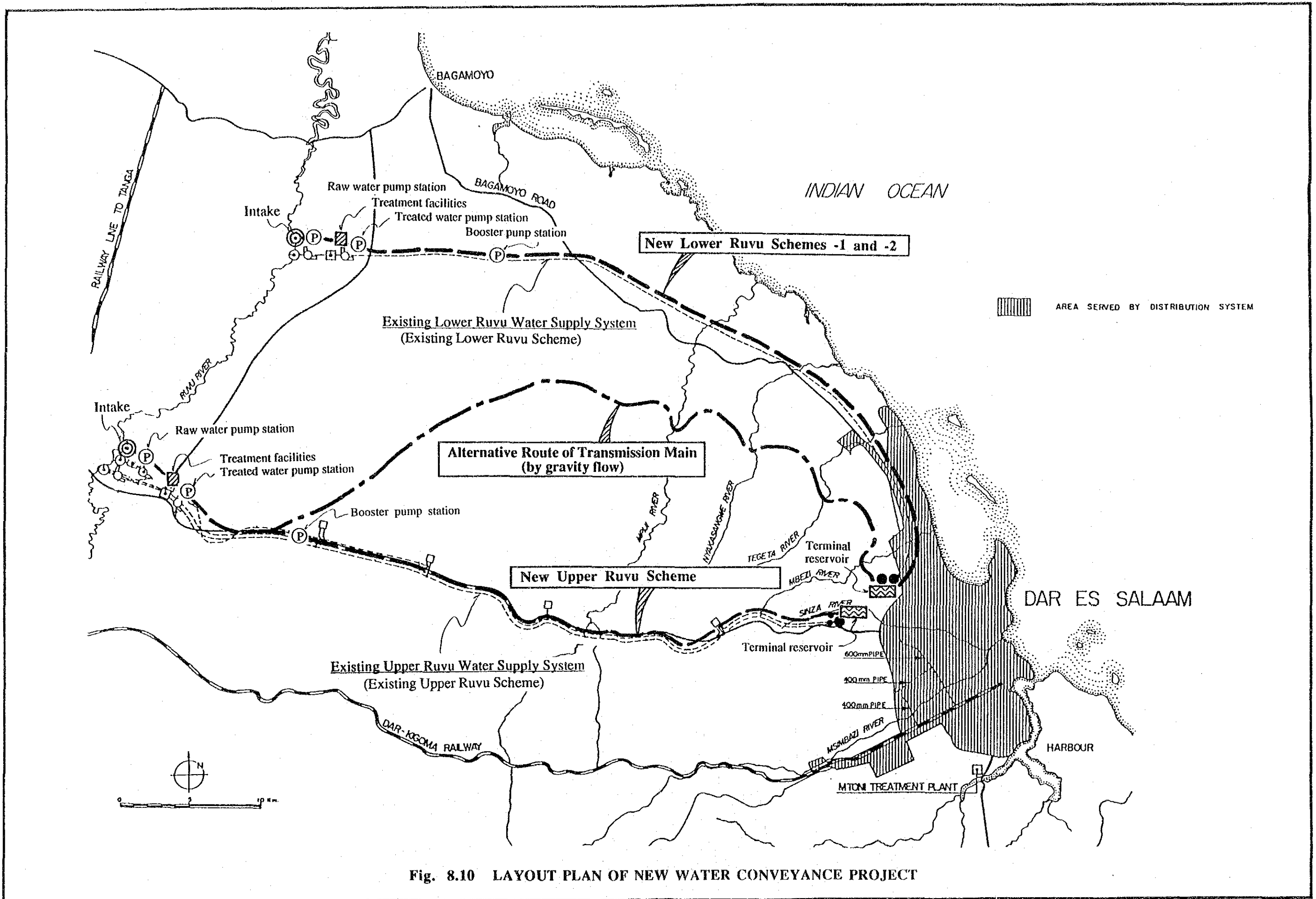


Fig. 8.10 LAYOUT PLAN OF NEW WATER CONVEYANCE PROJECT

Fig. 8.11 IMPLEMENTATION PLAN BY DEVELOPMENT SCENARIO

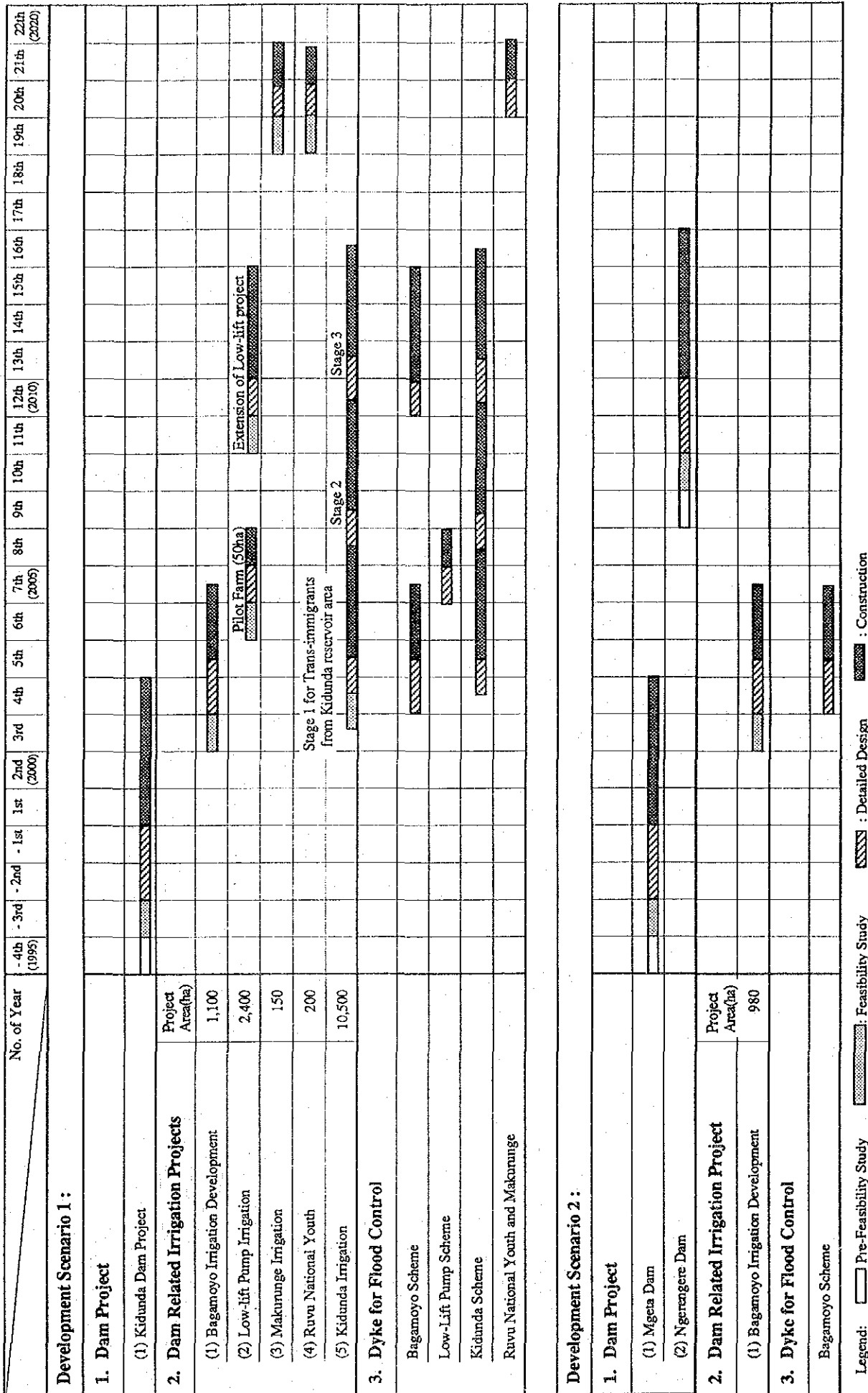


Fig. 8.12 IMPLEMENTATION PLAN OF WATER CONVEYANCE PROJECT

Water Conveyance Project	No. of Year																									
	-4th (1995)	-3rd	-2nd	1st	2nd (2000)	3rd	4th	5th	6th	7th (2005)	8th	9th	10th	11th	12th (2010)	13th	14th	15th	16th	17th	18th	19th	20th	21th	22th (2020)	
(1) New Lower Ruvu Scheme-1																										
(2) New Lower Ruvu Scheme-2																										
(3) New Upper Ruvu Scheme																										

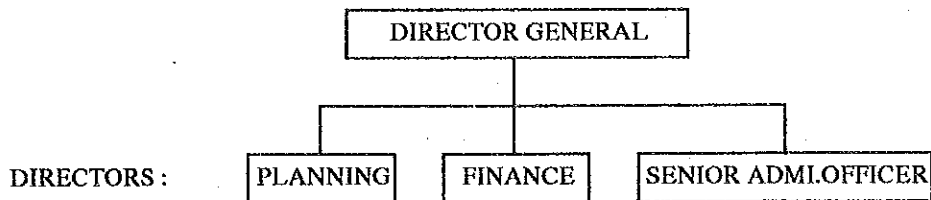


Fig. 9.1 SIMPLIFIED ORGANIZATION OF RUBADA

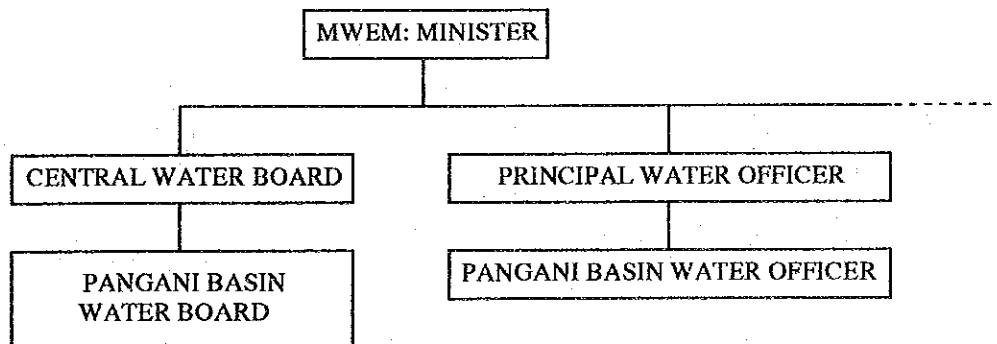


Fig. 9.2 SIMPLIFIED ORGANIZATION OF PBWA AND PBWO

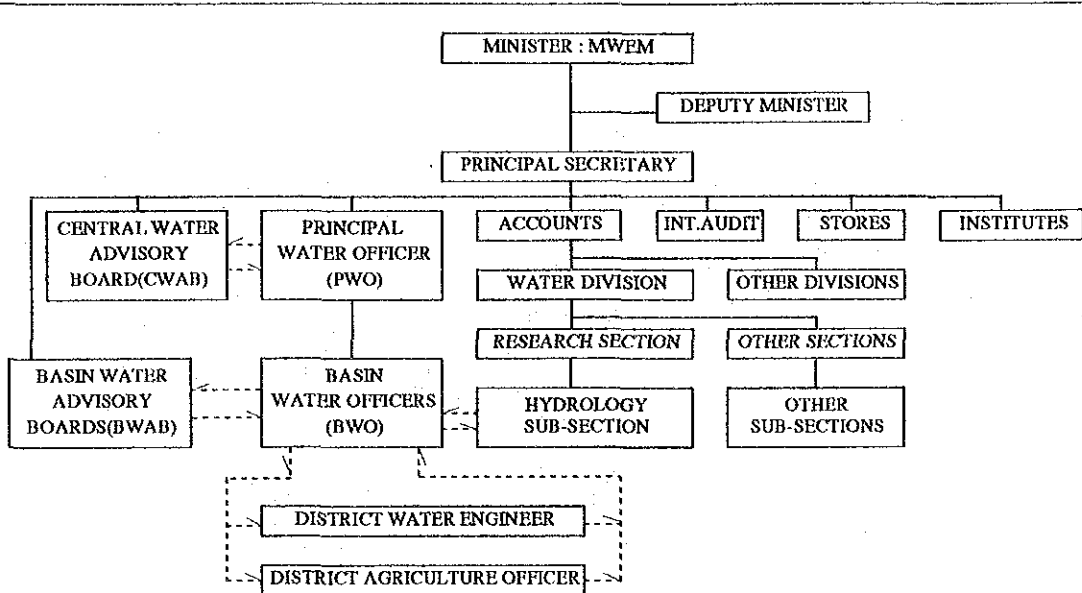
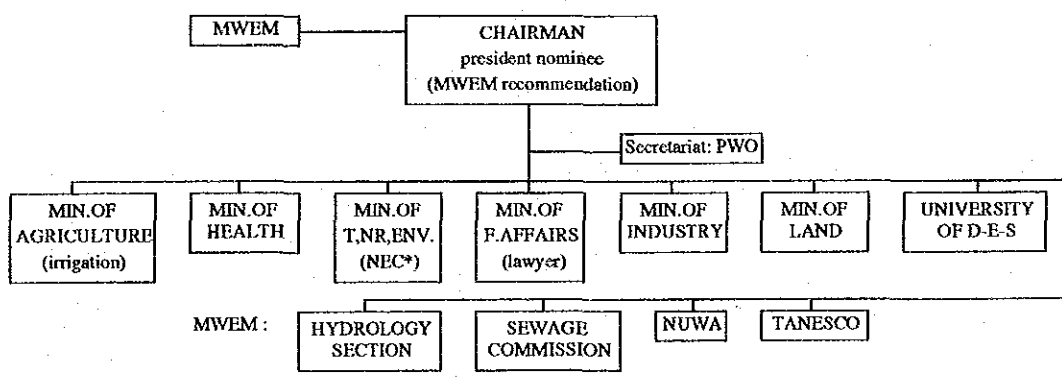
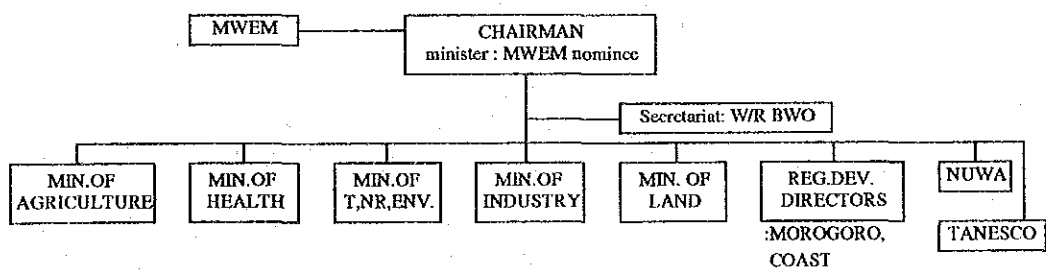


Fig. 9.3 (A) SIMPLIFIED ORGANIZATION OF THE EXISTING MWEM



NB : members are appointed by minister of MWEM
 number of members: M are $10 \leq M < 15$
 * NATIONAL ENVIRONMENT COUNCIL

Fig. 9.3 (B) SIMPLIFIED ORGANIZATION OF THE PRESENT CWAB



NB : members are appointed by minister of MWEM
 number of members: M are $7 \leq M < 10$

Fig. 9.3 (C) SIMPLIFIED ORGANIZATION OF THE WAMI/RUVU BWAB

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