JAPAN INTERNATIONAL COOPERATION AGENCY
MINISTRY OF WATER AND IRRIGATION
THE HASHEMITE KINGDOM OF JORDAN

THE STUDY ON WATER RESOURCES MANAGEMENT IN THE HASHEMITE KINGDOM OF JORDAN

FINAL REPORT VOLUME VI

SUPPORTING REPORT FOR

PART-A WATER RESOURCES MANAGEMENT MASTER PLAN

CHAPTER 6 WATER TRANSFER/SUPPLY SYSTEM

CHAPTER 7 INSTITUTIONAL AND LEGISLATIVE IMPROVEMENT

CHAPTER 8 EVALUATION OF PROPOSED MANAGEMENT PLANS

DECEMBER 2001

YACHIYO ENGINEERING CO.,LTD.

S S S J R 01-175

Exchange Rate Employed in the Study

US\$1.00=0.700JD=JP¥110 December, 2000

FINAL REPORT VOLUME VI SUPPORTING REPORT FOR

PART-A "WATER RESOURCES MANAGEMENT MASTER PLAN"

Chapter 6 Water Transfer/Supply System Chapter 7 Institutional and Legislative Improvement Chapter 8 Water Resources Management Master Plan

Table of Contents

	<u>page</u>
Supporting Report for "Chapter 6 Water Transfer/Supply System"	
Annex to 6.1 Current Water Transfer Systemin 12 Governorates	SA6-1
Annex to 6.2 Hydraulic Analysis on Current Inter-Governorate Transfer Line	SA6-9
Supporting Report for "Chapter 7 Institutional and Legislative Improvement"	
Annex to 7.1.2 Institutional and Legislative Improvement for Privatization	SA7-1
Annex to 7.2 Treated Wastewater Reuse in Agriculture	SA7-3
Annex to 7.3 Restriction of Groundwater Abstraction in Up/Mid Land	SA7-9
Supporting Report for "Chapter 8 Water Resources Management Master Plan"	
Annex to 8.1 Economic and Financial Evaluation	SA8-1
Annex to 8.1.1 Surface Water Development	SA8-7
Annex to 8.1.2 Water Conveyance	SA8-21
Annex to 8.1.3 Sea/Brackish Water Desalination	SA8-25
Annex to 8.1.4 Wastewater Reuse	SA8-29
Annex to 8.1.5 Overall Financial/Economic Evaluation	SA8-87
Annex to 8.2.1 Evaluation of Institutional and Legislative Measures for Privatization	SA8-107
Annex to 8.3 Environmental Evaluation	SA8-110

SUPPORTING REPORT FOR

CHAPTER 6 Water Transfer/Supply System

Supporting Report for Chapter 6 "Water Supply/Transfer System"

Contents

	Page
Annex to 6.1 Current Water Transfer Systemin 12 Governorates	SA6-1
Annex to 6.2 Hydraulic Analysis on Current Inter-Governorate Transfer Line	SA6-7

ANNEX to 6.1 Current Water Transfer Systems in 12 Governorates

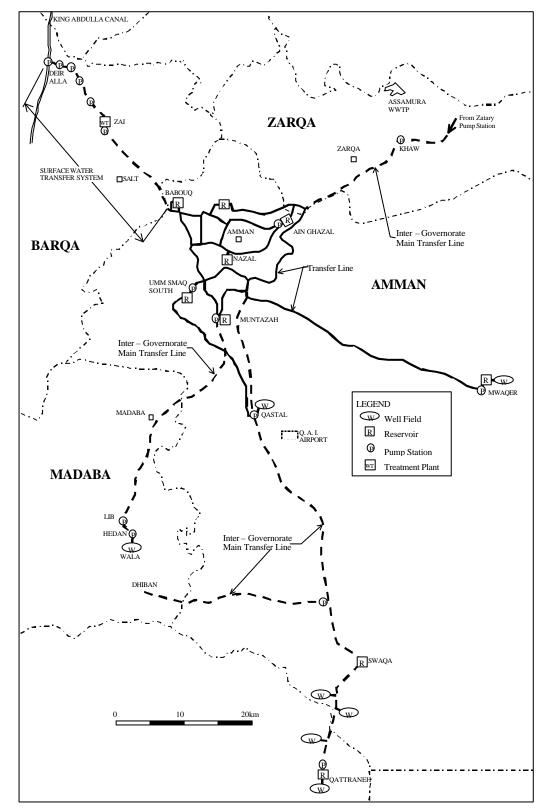


Fig. 6.1.2-A1 Current Groundwater Transfer System in Amman Governorate

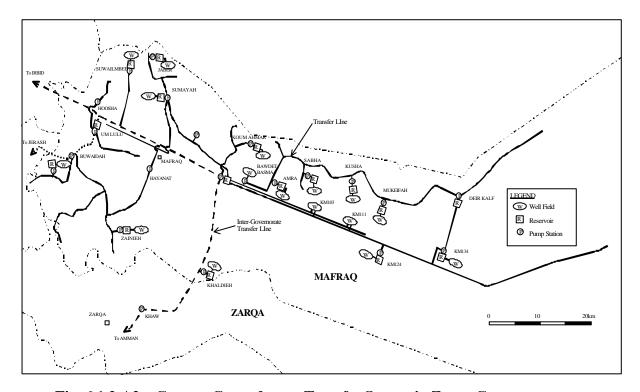


Fig. 6.1.2-A2 Current Groundwater Transfer System in Zarqa Governorate

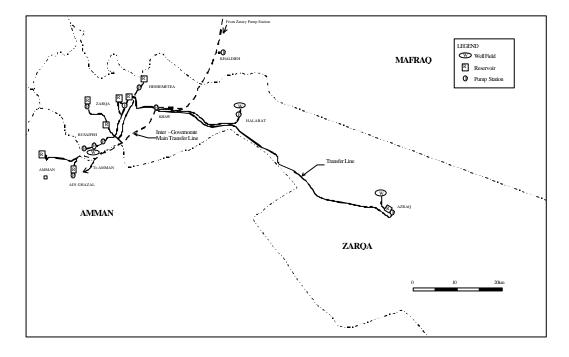


Fig. 6.1.2-A3 Current Groundwater Transfer System in Mafraq Governorate

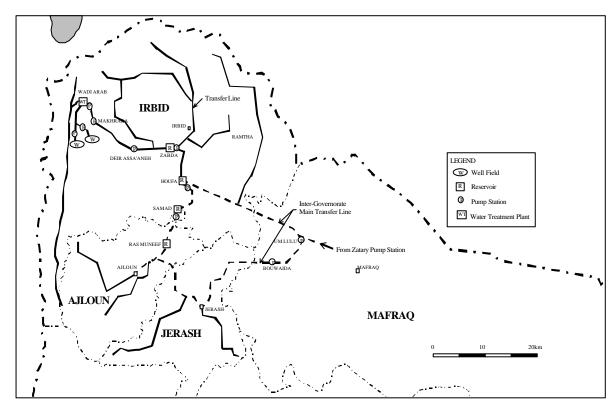


Fig. 6.1.2-A4 Current Groundwater Transfer System in Irbid, Ajloun and Jerash Governorates

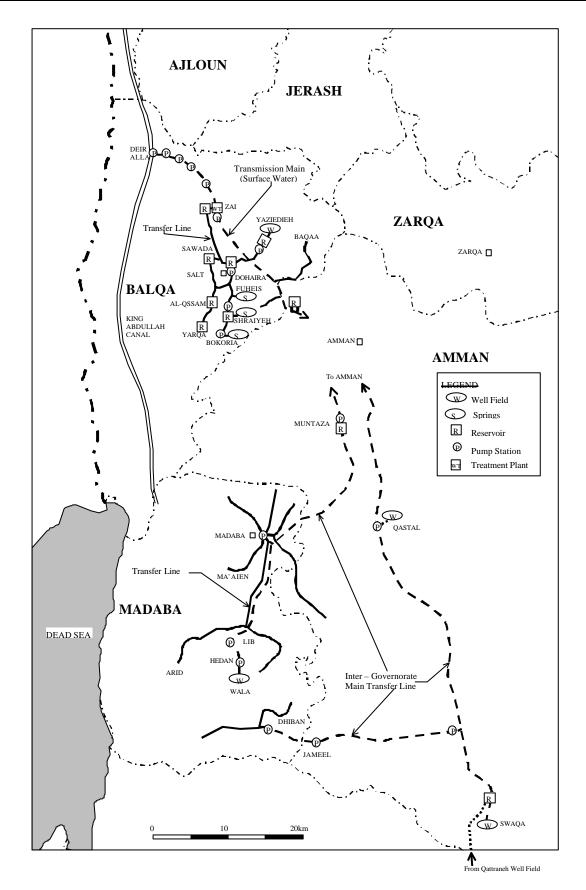


Fig. 6.1.2-A5 Current Groundwater Transfer System in Balqa and Madaba Governorates

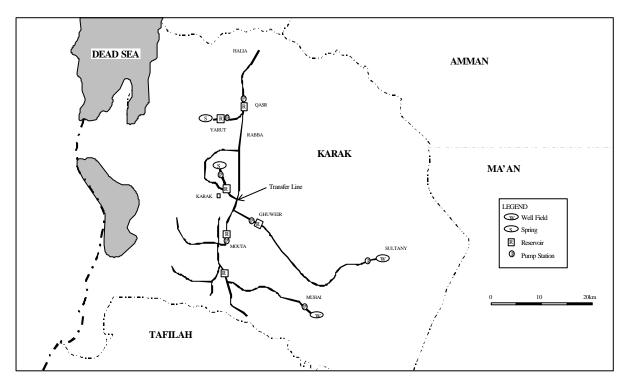


Fig. 6.1.2-A6 Current Groundwater Transfer System in Karak Governorate

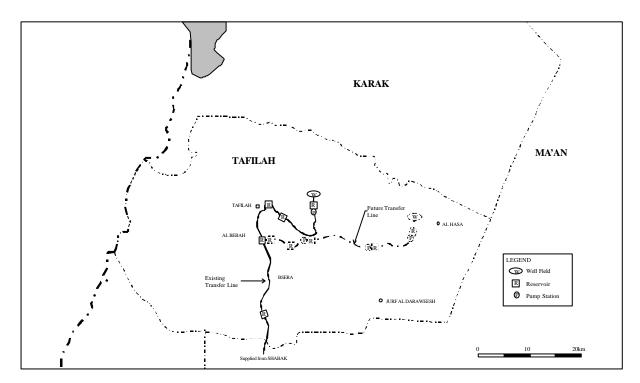


Fig. 6.1.2-A7 Current Groundwater Transfer System in Tafilah Governorate

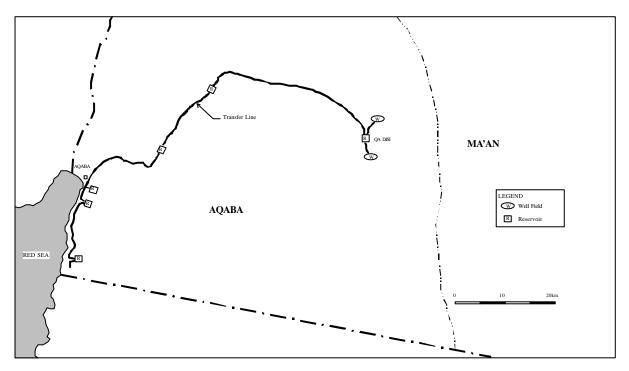


Fig. 6.1.2-A8 Current Groundwater Transfer System in Aqaba Governorate

ANNEX to 6.2 Hydraulic Analysis on Current Inter-Governorate Transfer Line

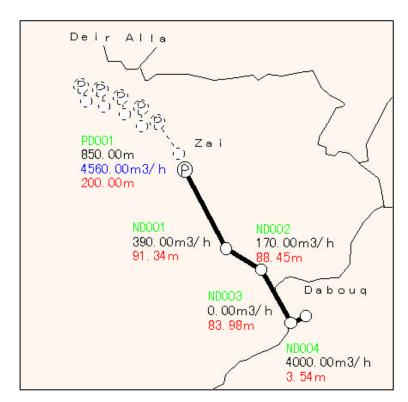


Fig. 6.2.2-A1a Deir Alla-Zai-Dabouq Transfer Line (node result)

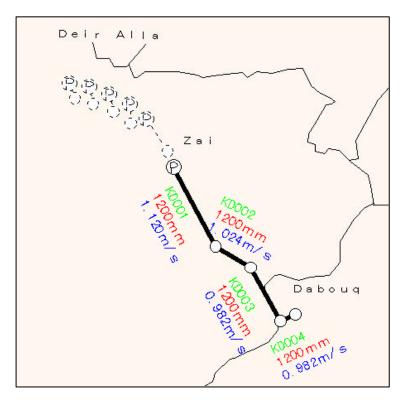


Fig. 6.2.2-A1b Deir Alla-Zai-Dabouq Transfer Line (pipeline result)

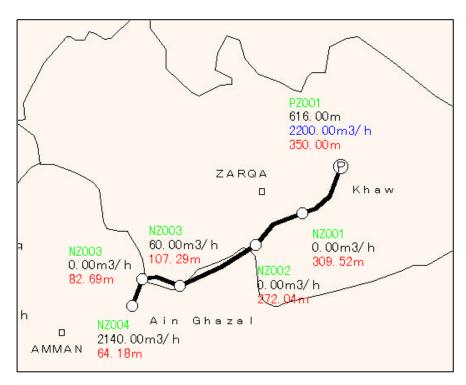


Fig. 6.2.2-A2a Khaw-Ain Ghazal Transfer Line (node result)

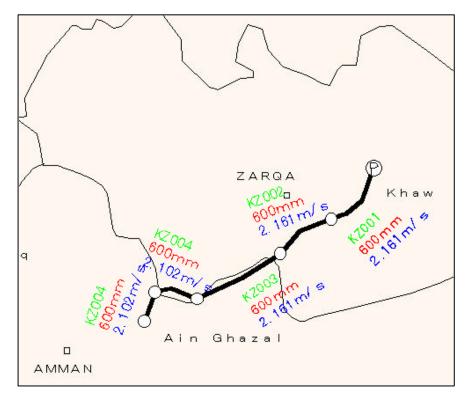


Fig. 6.2.2-A2b Khaw-Ain Ghazal Transfer Line (pipeline result)

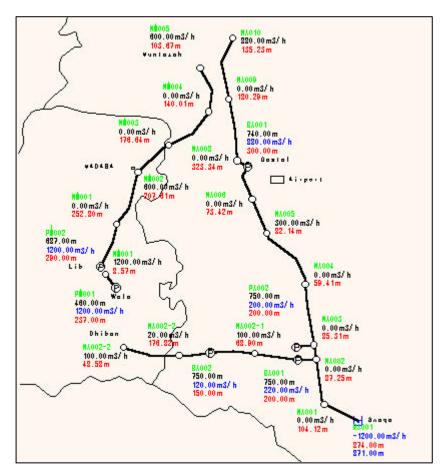


Fig. 6.2.2-A3a Swaqa-South Amman and Wala-Muntazah Transfer Line (node result)

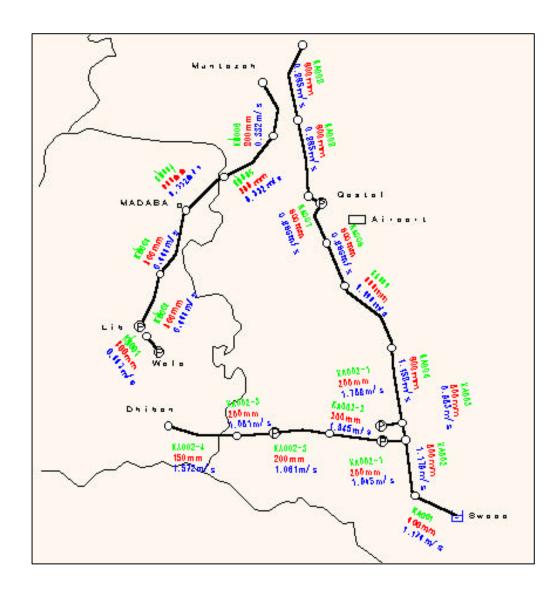


Fig. 6.2.2-A3b Swaqa-South Amman and Wala-Muntazah Transfer Lines (pipeline result)

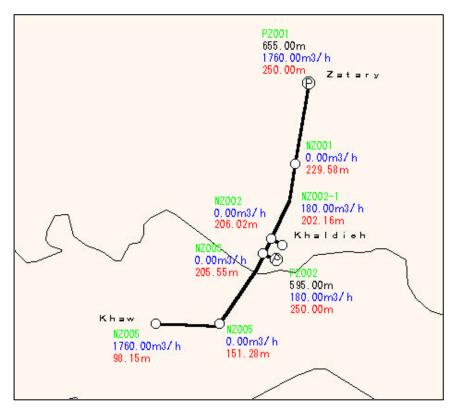


Fig. 6.2.2-A4a Zatary-Khaw Transfer Line (node result)

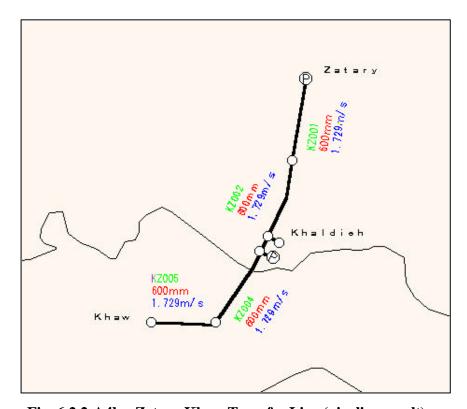


Fig. 6.2.2-A4b Zatary-Khaw Transfer Line (pipeline result)

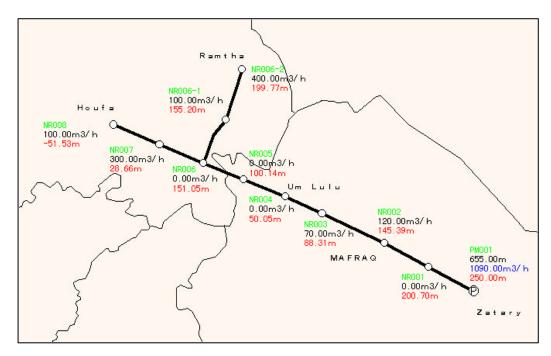


Fig. 6.2.2-A5a Zatary-Houfa Transfer Line (node result)

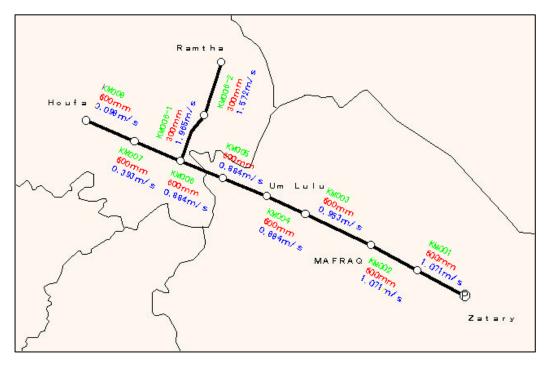


Fig. 6.2.2-A5b Zatary-Houfa Transfer Line (pipelien result)

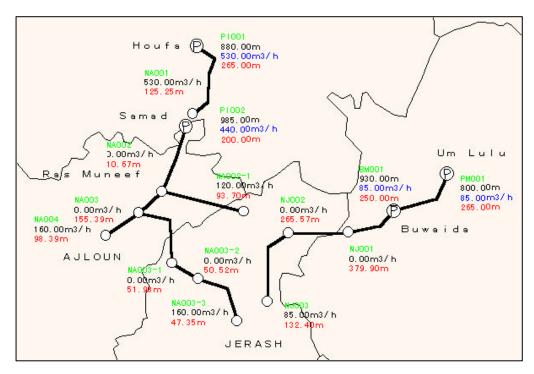


Fig. 6.2.2-A6a Um Lulu-East Jerash and Houfa-Ajloun-Jerash Transfer Lines (node result)

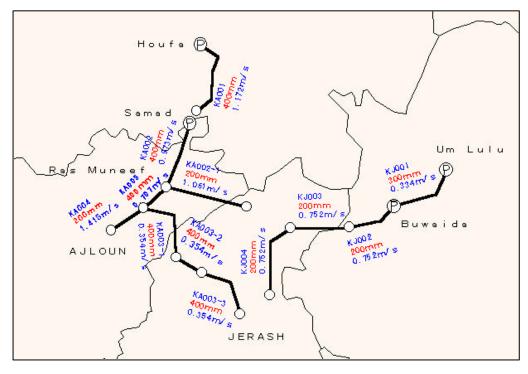


Fig. 6.2.2-A6b Um Lulu-East Jerash and Houfa-Ajloun-Jerash Transfer Lines (pipeline result)