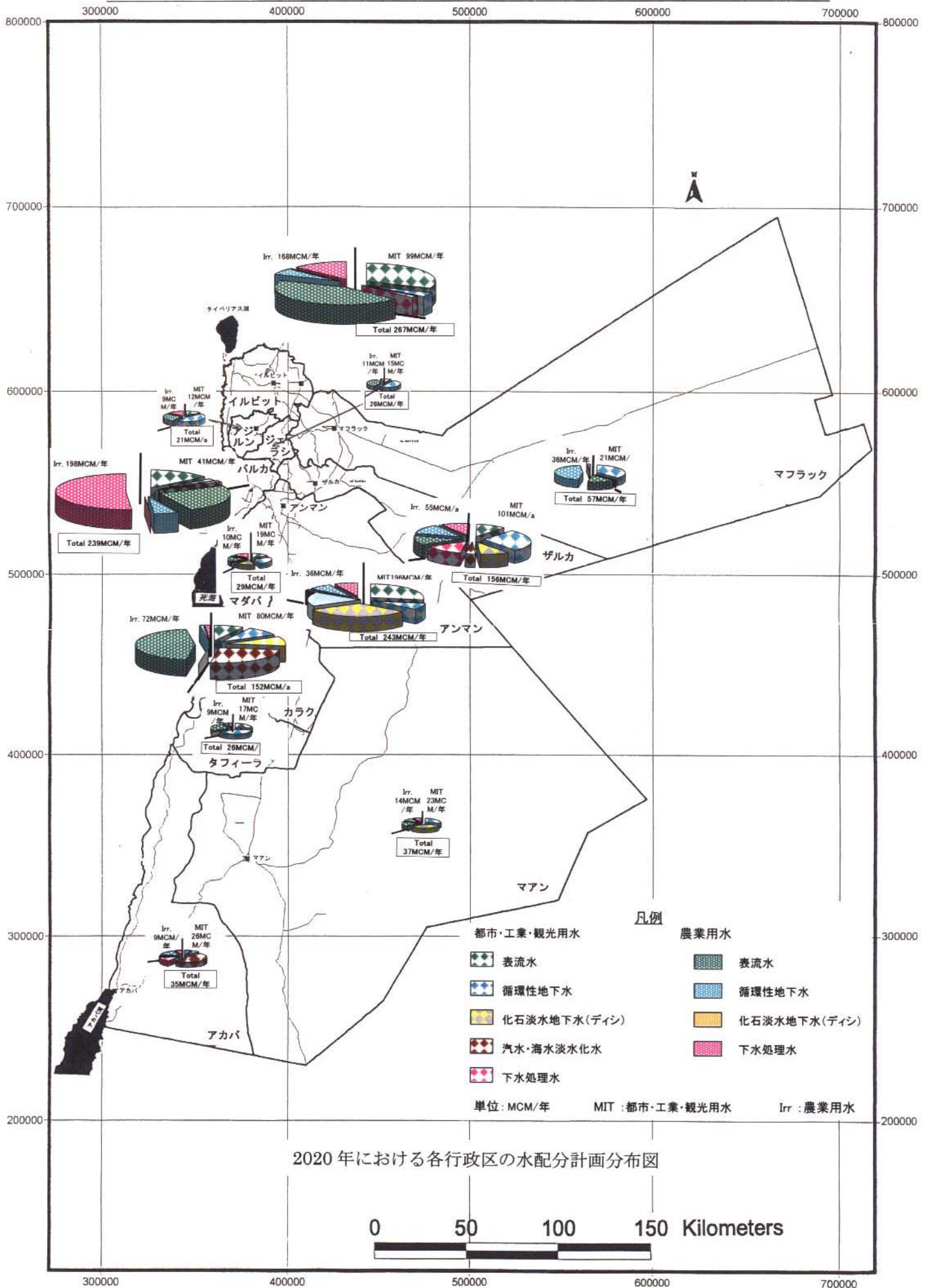


巻末資料目次

プレ F/S 対象プロジェクトの財務分析結果要約表.....	1
2020 年までに開発可能な表流水の分布図	2
循環性地下水の安全揚水量と現況揚水量（1998）分布図.....	3
推定化石淡水地下水開発ポテンシャル分布図	4
推定地下汽水ポテンシャル分布図.....	5
目標年次における下水処理水発生量分布図（シナリオー 1）	6
2020 年における各行政区の水配分計画分布図	7
水関連プロジェクトリスト(1)、短期 2001-2005	8
水関連プロジェクトリスト(2)、短期 2001-2005	9
水関連プロジェクトリスト(3)、短期 2001-2005	10
水関連プロジェクトリスト(4)、中期 2006-2010	11
水関連プロジェクトリスト(5)、中期 2006-2010	12
水関連プロジェクトリスト(6)、長期 20011-2020	13
水関連プロジェクトリスト(7)、その他プロジェクト.....	14
水関連プロジェクト位置図（短期、2001-2005）	15
水関連プロジェクト位置図（中期、2006-2010）	16
水関連プロジェクト位置図（長期、2006-2010）	17
水関連プロジェクト位置図（その他）	18



水関連プロジェクトリスト(1)、短期 2001-2005

Table 10.1-2 (1) List of Water Projects in Short Term (2000 to 2005) ①

Note : Projects enclosed by thick line are selected for pre-F/S

Cand. Project for p-F/S	File No. of Invest. Program	No. attached by JICA	Project	Status	Compl. Year	Dev. Amount (MCM/a)	Project Cost (Million JD)	Invest. (JD/cum)	Project Description	Finance	Study	Technical Viability	Economic Viability	Environ. Viability	Political Viability	Total Ranking	Remarks
			Groundwater & Sea Water Desali. Projects														
	21		Wadi Mousa Water Supply	on-going	2000	6.6	9.0	1.4	Renewable groundwater development, surface water development and water conveyance from Jinteh well field to Wadi Mousa for the tourism at Petra	KFW, France, USAID, HKJ, Tendering	D/D						Renewable groundwater development should be urgent and temporary for the Tourism because the abstraction has exceeded the safe yield in this area.
	24		Lajoun Wells (Nonrenewable Fresh Fossil Groundwater Dev. At Karak)	on-going	2001	11	10.0	0.9	Supplying of fresh fossil Ram GW from Al-Lajoun to Amman via Karak. Drilling 5 deep wells of 1000m, Transmission pipe line of 43Km	HKJ, Tender Doc. under preparation	D/D						Three deep wells were drilled, numerical simulation has been done, groundwater quality is relatively good.
	67		Corridor Water Supply Project	on-going	2001	10	10.0	1.0	Groundwater Dev. of Basalt Aq. from 15 Corridor wells drilled in Zarqa Gov. in order to mitigate severe water shortage in Greater Amman.	HKJ, F/S done	D/D						This project should be urgent and temporary development for Amman area because the abstraction has exceeded the safe yield in this area.
	22		Community Infrastructure Project	on-going	2002	4	8.0	2.0	to supply domestic water to 28 urban settlements (Amman 18, Zarqa 4, Ruseifa 5, Aqaba 1) and 13 peri-urban settlements using groundwater	HKJ, WB, tendering	D/D						
	25		Wadi Zarqa Ma'in, Zara spring Project	under planning	2003	40	70.0	1.8	to utilize the water of springs and side wadis in Zara/Ma'in area for irrigation and tourism in JV. and Conveyance to Greater Amman area	USAID, HKJ	F/S ongoing						F/S is on-going by USAID. Cost estimation was reviewed in this Study.
	28		Desalination at Aqaba	under examin.	2004	5	27.3	5.5	Sea water desalination for domestic, industrial and tourists purpose in Aqaba	not secured, F/s on-going	F/S ongoing						
		G1	Brackish Groundwater Development for El Lajoun Oil Shale Project at Karak, Phase 1	not incl. in Invest. Prg.	2005	3	not clarified		Development of brackish groundwater in Deep Sandstone Aquifers, (R/D and K)	Private Sector	under Study						under study by MWI
		G2	Groundwater Development for Electric Power Stations in Zarqa Gov.	not incl. in Invest. Prg.	2005	1	not clarified		Renewable groundwater development from A7/B2 aquifer for electric power stations	Private Sector	F/S						
		G3	Groundwater Development for Industrial & Info-Technical Park near Ramtha	not incl. in Invest. Prg.	2005	7.5	not clarified		Renewable groundwater development for industries	Private Sector	F/S						It is recommended that the renewable groundwater should be substituted by the other water resources
	27		Dead Sea Water Infrastructure	cancelled in Invest. Prg.	2003	2	7.0	3.5	to convey GW from flowing wells at Kafrein to Suweimah for the purpose of touristic	HKJ, D/D done	D/D						
	29		Jafer and Shidia	cancelled in Invest. Prg.	2003	18	6.0	0.3	Renewable groundwater development from A7/B2 aquifer for Shidia Phosphate Company	Private Sector, D/D done	D/D						It is recommended that the renewable groundwater should be substituted by the other water resources
	(7) cancelled		Groundwater Reduction Program I	under planning	2005	-50	18.0	-0.4	Reduction of renewable groundwater abstraction in the Upland. To be implemented in Amman-Zarqa Basin (AZB) and other areas taking USAID's action plan for AZB into consideration. The projects include Irrigation Advisee Services (IAS), Wells buy-out, abstraction limoyation and others	not secured	Action Plan done by USAID for AZB in '01						Cancelled in Inv. Pro. But, USAID (ARD) has done comprehensive study in Amman/Zarqa Basin and formulating measures. JICA examined the applicability to the other areas.
			Groundwater and Sea Water Desali. Projects Total			38.1	Note : Cancelled Projects in the Investment Program are not included in the Total										
Cand. Project for p-F/S	File No. of Invest. Program	No. attached by JICA	Surface water Projects	Status	Compl. Year	Dev. Amount (MCM/a)	Project Cost (Million JD)	Invest. (JD/cum)	Project Description	Finance	Study	Technical Viability	Economic Viability	Environ. Viability	Political Viability	Total Ranking	Remarks
	14		Wala Dam	on-going	2002	10	22.0	2.2	Construction of dam of 45m in height at Mujib Basin for recharge to A7/B2 aquifer by impounding the floodwater	Arab F., HKJ, D/D done	D/D						
	13		Mujib Dam	on-going	2002	35	47.0	1.3	Construction of dam of 62m in height at Mujib Basin for supplies for future industrial and agricultural needs in the S. Ghors	Arab F., HKJ	D/D						
	15		Tannur Dam	on-going	2003	16	21.7	1.4	Construction of dam of 60m in height at Wadi Hasa for supplies for agricultural needs in the South Ghors by impounding the floodwater	Arab F., HKJ, D/D done	D/D						
	20		Wadi Araba Development Project	under planning	2004	4	12.0	3.0	Exploitation of surface water and shallow groundwater, Rehabilitation of 18Km extension project and Wadi Araba pumping station for develop. of 6000 dunums irrigated area	HKJ, TOR done	D/D						
	26		Feedan Dam	under examin.	2004	6	8.4	1.4	to store floodwater, additional studies required	not secured	F/S						
	62		Wehda Dam	under planning	2005	108	151.0	1.4	to construct the rock fill dam of 100m inheight at the Yarmouk River, Power generation is 8 Mega Watts	Arab F., HKJ, D/D done	D/D						
	63		Desalination Conveyor to Urban Jordan (50 + 10 MCM/a), Peace Project	under examin.	2005?	27	100.0	3.7	to build the needed conveyance system to transfer desalinated 60MCM/a water from Israel to the urban areas	not secured, Israeli side on-going	F/S						60-33(present supply amount)=27
	(23) cancelled		Sakeb Municipality	cancelled in Invest. Prg.	2001	1	4.0	4.0	Construction of water supply system and infrastructure supplemented by tankers and rain water storage	not secured, F/S done	F/S						
			Surface water Projects Total			206	Note : Cancelled Projects in the Investment Program are not included in the Total										

For the ranking criteria, refer to Table 10.1-1

水関連プロジェクトリスト(2)、短期 2001-2005

Table 10.1-2(2) List of Water Projects in Short Term (2000 to 2005) ②

Note : Projects enclosed by thick line are selected for pre-F/S

Cand. Project for p-F/S	File No. of Invest. Program	No. attached by JICA	Wastewater Projects	Status	Compl. Year	Add. Efflu. Amount. (MCM/a)	Project Cost (Million JD)	Invest. (JD/cum)	Project Description	Finance	Study	Technical Viability	Economic Viability	Environ. Viability	Political Viability	Total Ranking	Remarks	
	44		Irbid Stage I, Phase 1 (Wadi Arab TP and Wadi Hassan TP)	on-going	2000	4.6 by 2005	43.0	5.2	Construction of TP at Wadi Araba, Wadi Hassan	KFW, HKJ	D/D						Wadi Arab TP has been constructed in 1999. W. Arab TP Capa. : 7.7MCM/a. W. Hassan TP Capa : 0.6. Total Capa in Stage 1 : 8.3MCM/a	
	37		On-going Rehabilitation Various Cities (Wastewater Treatment Project)	on-going	2000	(5)	30.0	6.0	Rehabilitation and construction of sewer infrastructure network of various cities, Amman, Zarqa, Mafraq, Irbid, Ajloun, Jerash, Balqa, Karak	EIB, HKJ, D/D done	D/D							
	50		Wadi Mousa Wastewater Project	on-going	2000	0.7 by 2005	19.6	14.0	Approx. 86Km of wastewater collection networks, approx. 22.5Km conveyance system, TP of 3400m ³ /day, for 4 towns and small communities in Petra	USAID, D/D done	D/D						Design Production Capacity in Stage 1 : 1.4MCM/a	
	39		Ain Gazel Pre-Treatment Plant and Conveyer	on-going	2001	0	45.0		Wastewater conveyer of 32.5Km, Tunnel of 4.75Km, Upgrading of pre-treatment works	KFW, HKJ, D/D done	D/D							
	59		Madaba TP Upgrade and Expansion, Phase 1	under planning	2003	0.5 by 2005	6	6	Construction of TP of 7600m ³ /day	Korea, D/D done	D/D						Capacity of Upgrading in Stage 1 : 1MCM/a, Existing Capacity : 1.2MCM/a, Total increased Capacity by 2003 : 2.2MCM/a	
	57		Upgrading Mafraq TP	under planning	2003	0.2 by 2005	5.5	5.5	Construction of TP, re-use program	USAID, HKJ, F/S done	F/S						Design Production Capacity : 1.0MCM/a	
	60		Ramtha TP Upgrade & Expansion, Phase 1	under planning	2003	0.7 by 2005	6.0	3.0	Construction of collection networks	France, HKJ, D/D done	D/D						Capacity of Upgrading in Stage 1 : 2MCM/a, Existing Capacity : 0.7MCM/a, Total increased Capacity by 2003 : 2.7MCM/a	
	51		Na'ur and Adjacent Areas Wastewater Project	under planning	2003	0.6 by 2005	18.0	9.0	Wastewater collection network of 65Km, TP of 3200m ³ /day	Italia, D/D done	D/D						Design Production Capacity : 2.0MCM/a	
	40		South Amman Wastewater Project Phase I : Jiza - Talbiya (Al Jeza Phase 1)	under planning	2003	1.8 by 2005	11.0	5.5	Construction of collection networks and TP, Re-use program	Italia, HKJ, Low Income Areas Programs	D/D						Design Production Capacity in Phase 1 : 2.0MCM/a	
	55		Dead Sea Wastewater Infrastructure (Dead Sea East Coast)	under planning	2003	0.6 by 2005	7.0	5.8	Construction of TP of 4360m ³ /day, re-use network for landscape irrigation (gardening)	USAID, D/D done	D/D						Design Production Capacity : 1.2MCM/a	
	54		Aqaba Wastewater Project (Central)	under planning	2004	2.0 by 2005	12	2.4	Expansion of TP, main trunk lines and collection network, Re-use program	USAID, D/D done	D/D						Design Production Capacity : 5.0MCM/a, Existing Production Capacity : 1.9MCM/a, Total Production Capacity : 6.9MCM/a	
	53		Community Infrastructure Wastewater Project	under planning	2004	(1)	10.0	10.0	Construction of networks and TP for the refugee camps in Jordan including public education at Talbieh, Marka, Gaza, Azmi Al-Mufti and El-Soukhneh.	WO, D/D done	D/D							
	52		Jordan Valley Community Waste Management Project	under planning	2004	(1)	2.0	2.0	Construction of small-scaled community TP, Re-use program, involvement of private sector	CIDA, HKJ, D/D done	D/D							
	64		Upgrading Kufranja and Ajlun TP, Phase 1	under examin.	2004	1.3 by 2005	12.0	6.0	Construction of new collection networks, TP, installation of TSE disposal and/or re-use system, The Project Area covers all areas within catchments of the Yarmouk R. and the Jordan R.	not secured, under study	F/S Under Study						F/S is ongoing by KFW, Design Production Capacity in Phase 1 : 2.0MCM/a, Existing Production Capacity : 0.8MCM/a, Total Production Capacity by 2004 : 2.8MCM/a	
	38		Upgrading and Expansion of As-Samra TP, Phase 1	under planning	2005	5 by 2005	105.0	3.5	to provide more adequate treatment facilities for Amman - Zarqa area up to year 2015, As-Samra TP to be operated by BOT system, 5MCM/a will be reused in the vicinity of TP	Private Sector, USAID, D/D	D/D						Capacity of Upgrading in Stage 1 : 30MCM/a, Existing Capacity : 46MCM/a, Total increased Capacity by 2005 : around 80MCM/a	
*	58		Upgrading Ma'an TP	under examin.	2004	included below	6.0	4.0	Construction of TP, collection system, pumping station. Reuse program is also included.	not secured	not yet		5	4	5	5	19	F/S has not been done. Design Production Capacity : 1.5MCM/a, Existing Production Capacity : 0.5MCM/a, Total Production Capacity by 2004 : 2.0MCM/a
*	(58)		Treated Wastewater Reuse Scheme of Ma'an	proposed by JICA	2004	0.6 by 2005	0.06	0.1	Reuse program of treated wastewater in the vicinity of the TP for irrigation.	not secured	not yet		5	4	4	5	18	F/S has not been done. Design Production Capacity : 1.5MCM/a, Existing Production Capacity : 0.5MCM/a, Total Production Capacity by 2004 : 2.0MCM/a
	58		Upgrading Tafila TP	under examin.	2005	included in W6	6.0	4.0	Construction of TP, collection system, pumping station. Reuse program is not included.	not secured	F/S						Quantity of sewage is small, Design Production Capacity : 1.5MCM/a, Existing Production Capacity : 0.3MCM/a, Total Production Capacity by 2004 : 1.8MCM/a	
	49		Sakeb Wastewater System (Jerash West)	under examin.	2005	0.9 by 2005	16.0	6.7	Construction of wastewater collection system, conveyance, TP, listed in the Invest. Prg. In 1997	almost secured (Italy)	D/D						New Construction, Design Production Capacity : 2.4MCM/a	
		W1 (23)	Construction of Dair Alla Treatment Plant	not incl. in Invest. Prog.	2005	1.8 by 2005	25.4	6.4	Construction of new collection networks, TP, re-use system for irrigation, implemented in 2 phases, the cost written in left column shows phase 1 work	not secured, F/S done	F/S						to be implemented in two Phases, Final Effluent Amount in 2020 : 4MCM/a, Total Investment Cost : 33.8Mil JD, Effluent amount in Phase 1 : 3MCM/a, Investment Cost of	
		W2 (26)	Aqaba South Coast TP, Phase 1	not incl. in Invest. Prog.	2003	0.2 by 2005	1.40	3.40	Construction of TP, force main and PS, the figures show phase 1	USAID	F/S						to be implemented in two Phases, TP capacity in Phase 1 (2002) : 0.4 MCM/a, Final Effluent Amount in 2020 : 0.8MCM/a, Total Investment Cost : 2.7Mil JD	
		W3 (3)	Treated Wastewater Reuse Scheme of As-Samura TP in Jordan Valley	Proposed by USAID	2005	10 by 2005	2.0	0.2	Reuse for irrigation in Southern Jordan Valley through KTR, Zarqa River and KAC, 5MCM/a will be reused in the vicinity of TP.	not secured	on-going by USAID						Existing Reuse by 1998 in JV : 46MCM/a, Future Reuse including Zarqa TP in JV by 2020 : 123MCM/a, Study is on-going by USAID (ARD)	
*		W4 (1)	Treated Wastewater Reuse Scheme of Abu-Nusier TP	Proposed by JICA	2004	0.6 by 2005	0.06	0.1	Reuse program of treated wastewater in the vicinity of the TP for irrigation.	not secured	not yet		5	4	4	5	18	Reuse amount : 1.5MCM/a by 2020
*		W5 (5)	Treated Wastewater Reuse Scheme of Fuhis TP	Proposed by JICA	2004	0.6 by 2005	0.01	0.02	Reuse program of treated wastewater in the vicinity of the TP for irrigation.	not secured	not yet		5	5	4	5	19	Reuse amount : 1.2MCM/a by 2020, TP will be expanded by 2010
*		W6 (15)	Treated Wastewater Reuse Scheme of Tafila TP	Proposed by JICA	2005	0.5 by 2005	0.1	0.2	Reuse program of treated wastewater in the vicinity of the TP for irrigation.	not secured	not yet		5	3	4	5	17	Reuse amount : 1.3MCM/a by 2020
*		W7 (17)	Treated Wastewater Reuse Scheme of Wadi Essir TP	Proposed by JICA	2003	0.3 by 2005	0.01	0.04	Reuse program of treated wastewater in the vicinity of the TP for irrigation.	not secured	not yet		5	5	4	5	19	Reuse amount : 0.9MCM/a by 2020, TP will not be expanded by 2020.
						Total Additional Effluent including increase of Effluent from the Existing TPs during 1998 to 2005		112 by 2005										

For the ranking criteria, refer to Table 10.1-1

水関連プロジェクトリスト(3)、短期 2001-2005

Table 10.1-2(3) List of Water Projects in Short Term (2000 to 2005) ③

Note : Projects enclosed by thick line are selected for pre-F/S

Cand. Project for p-F/S	File No. of Invest. Program	No. attached by JICA	Rehabilitation & Conveyance Projects	Status	Compl. Year	Dev. Amount (MCM/a)	Project Cost (Million JD)	Invest. (JD/cum)	Project Description	Finance	Study	Technical Viability	Economic Viability	Environ. Viability	Political Viability	Total Ranking	Remarks
	5		On-going Rehabilitation - Zarqa Governorate	on-going	2001	not clarified	(35.0)		Rehabilitation and expansion of water supply system in Mun. of Zarqa, Russeifa, Hashemiya, Sukhna, and Shnellar Refugee Camp	not secured (Japan)	D/D						
	71		Tabaqat Fahil - Irbid	on-going	2001	not clarified	18		Water conveyance	HKJ	D/D						
	32		Dier Alla - Zai Amman II (Conveying of Peace Water)	on-going	2002	(45)	65.0	(1.4)	to increase the scheme supply capacity from 45MCM/a to 90MCM/a, Water source is from Peace Water	JICA, GKW, D/D done	D/D						
	70		KAC Siphon Upgrading	under examin.	2002	(20)	3.5	(0.18)	Upgrading of siphon system of the King Abdulla Canal	not secured	F/S						
	35		Rehabilitation of Southern Ghors Irrigation Stage I	under examin.	2003	(45)	(9.0)	(0.2)	Rehabilitation of Water supply system for Irrigation of 46800 dunumus	not secured, F/S done	F/S						
	36		Rehabilitation of Hisban-Kafrein Irrigation Project	under planning	2003	(11)	(5.0)	(0.45)	Rehabilitation of existing pipe network and study on surface water development of W. Hisban by constructing storage facility	WO, HKJ	F/S soon						
	68		Dead Sea Water Treatment Plant	under planning	2003	not clarified	10.0		Construction of water treatment plant of 15MCM/a for touristic purpose in the East Coast of Dead Sea, raw water will be supplied from Mujib and Wala Reservoirs	Private Sector	M/P, F/S to be done Private Sec.						
	10		Amman Municipal Water Network Restructuring Phase 1	on-going	2004	(18)	(126.0)	(7.0)	Overall rehabilitation of water supply system in Amman for water loss reduction	WB, USAID, EIB, KFW and HKJ, D/D done	D/D						
	11		Mujib Weir Conveyor and Southern Ghors Infrastructure	under planning	2004	(55)	67.2	(1.2)	Utilization of base and flood flow of Wadi Mujib Wadi Wala & Hasa for the purpose of touristic industrial and agricultural	Arab F., ISBD & other Arab C. Tender Dec.	D/D						
	34		Jordan Rift Valley Improvement Project	under examin.	2005	not clarified	35.0		to specify means and actions for maximization of returns from sustainable development of JRV	not secured, F/S not yet	F/S soon						Study project
	(33) cancelled		Amman Municipal Water Network Rehabilitation II	cancelled in Invest. Prg.	2004	(1)	32.0	(32)	to reduce physical water loss to less than 15% by the rehabilitation of the distribution network system	not secured, F/S done	D/D						
Rehabilitation & Conveyance Projects Total						(194)	Note : Cancelled Projects in the Investment Program are not included in the Total										
Cand. Project for p-F/S	File No. of Invest. Program	No. attached by JICA	Technical & Private Sector Management Projects	Status	Compl. Year	Dev. Amount (MCM/a)	Project Cost (Million JD)	Invest. (JD/cum)	Project Description	Finance	Study	Technical Viability	Economic Viability	Environ. Viability	Political Viability	Total Ranking	Remarks
	3		The Governorate Support Section (GS)	on-going	2002	0	9.2		Improvement of drinking water Supply through transferring experience gained in Amman Water and Wastewater Management Contract and OMS (Operations Management Support) Project to other Governorates	GTZ, KFW	D/D						
	4		Planning and Management Unit (PMU)	under planning	2003	0	4.0		Establishing of qualified Planning & Management Unit for appropriate utilization of funds necessary coordination with donors and implementation of rehabilitation program	EU	F/S						
	9		Amman Water and Wastewater Management Contract	on-going	2003	0	23.0		A performance-based management contract with private sector for the provision of water and wastewater services in Amman	USAID	D/D						
Technical & Private Sector Management Projects Total						0											
Cand. Project for p-F/S	File No. of Invest. Program	No. attached by JICA	Monitoring Project	Status	Compl. Year	Dev. Amount (MCM/a)	Project Cost (Million JD)	Invest. (JD/cum)	Project Description	Finance	Study	Technical Viability	Economic Viability	Environ. Viability	Political Viability	Total Ranking	Remarks
*		M1	National Control System Integrating Surface and Groundwater Phase 1	Proposed by JICA	2005	0	8.4		Construction of nation wide monitoring and control system of the Water Trunk Line, Phase 1 before completion of Disi Amman Water Conveyor (6)	not secured, not studied	not yet	4	3	5	5	17	Centralized controle is essential for the water resources management
		M2	Surface Water Quality Monitoring System	Proposed by USAID	2005	0	not clarified		Comprehensive Surface water monitoring system proposed in WQIC Project (financed by USAID) which was completed in 1995	not secured	done						refer to "Water Monitoring System Adwquency,1995, WQICP"
		M3	Groundwater Quality Monitoring System	Proposed by USAID	2005	0	not clarified		Comprehensive Groundwater monitoring system proposed in WQIC Project (financed by USAID) which was completed in 1995	not secured	done						refer to "Water Monitoring System Adwquency,1995, WQICP"
		M4	Improvement of Monitoring Equioment for Water Pollution Protection	on-going by JICA	2003	0	4.4		Construction of water quality monitoring stations, Provision of laboratory analysis equipment and Construction of Monotoring Center	not secured (Japan?)	B/D done by JICA						Basic design has been completed in 2000 by JICA

For the ranking criteria, refer to Table 10.1-1

水関連プロジェクトリスト(4)、中期 2006-2010

Table 10.1-2(4) List of Water Projects in Mid Term (2006 to 2010) ①

Note : Projects enclosed by thick line are selected for pre-F/S

Cand. Project for p-F/S	File No. of Invest. Program	No. attached by JICA	Project	Status	Compl. Year	Dev. Amount (MCM/a)	Project Cost (Million JD)	Invest. (JD/cum)	Project Description	Finance	Study	Technical Viability	Economic Viability	Environ. Viability	Political Viability	Total Ranking	Remarks
			Groundwater and Brackish Groundwater Desalination Projects														
	6		Disi Amman Water Conveyer	under planning	2006	100	437.5	4.4	Supplying an average of 100MCM/a of fresh fossil GW from Disi to Amman, a distance of more than 300Km. BOT doc. Prepared	BOT or Libya and Iran, D/D done	D/D						
*	17		Deep Groundwater Investigation	under examin.	2006	5	13.0	8.0	Development of nonrenewable Ram aquifer system in the Northern area of Jordan	not secured	not yet	3	3	3	4	13	not applicable because it is almost Study Project
		G1'	Brackish Groundwater Development for El Lajoun Oil Shale Project at Karak, Phase II	not incl. in Invest. Prg.	2010	11	not clarified		Development of brackish groundwater in Deep Sandstone Aquifers. (R/D and K)	Private Sector	under Study						under study by MWI
	(7) cancelled		Groundwater Reduction Program II	under planning	2010	-32	12.0	-0.4	Reduction of renewable groundwater abstraction in the Upland. To be implemented in Amman-Zarqa Basin (AZB) and other areas taking USAID's action plan for AZB into consideration. The projects include Irrigation Advisey Services (IAS), Wells buy-out,	not secured	Action Plan done by USAID for AZB in '01						Cancelled in Inv. Pro. But, USAID (ARD) has done comprehensive study in Amman/Zarqa Basin and formulating measures. JICA examined the applicability to the other areas.
*	(31) cancelled		Miscellaneous Small Projects - Supply Expansion	cancelled in Invest. Prg.	2010	10	110.0	11.0	Construction of new water resources (wells) and upgrade of the existing ones in order to meet the increasing water demand through Jordan	not all secured, mainly HKJ	not yet	3	2	2	3	10	As the project is nation wide scale, it is not applicable for F/S.
			Groundwater Projects Total			84	Note : Cancelled Projects in the Investment Program are not included in the Total										
			Surface Water Projects														
*	18		Small Dams (Ibn Hamad, Karak, Meddien)	under examin.	2008	9	13.0	1.4	to maximize the use of the floodwater in the catchments through the construction of storage /recharge small dam in the Eastern Highlands	not secured, F/S not yet	not yet	2	4	4	4	14	It is not easy economically and technically
	(65) cancelled		Storage on Jordan river and Side Wadis (Peace Project)	cancelled, but to be re-examined	2010?	30	70.0	2.3	Construction of storage system on the Jordan River, side wadis, conveyer system, increasing the efficiency of KAC, to be done by 2010, it is categorized in "Peace Water"	not secured, under study	F/S under Study						This project is cancelled in the Investment Program up to 2010. But its implementation should be examined as the Mid Term Project.
			Surface Water Projects Total			39	Note : Cancelled Projects in the Investment Program are not included in the Total										
			Rehabilitation & Conveyance Projects														
	12		Wadi Al Arab - Irbid Municipal Water Supply	under examin.	2006	(20)	27.0	(1.4)	Reallocation of water of 20MCM/a from Mukheiba Well Field to Irbid	not secured	F/S						substituted by above project
*	69		Al Wahda Dam Water Supply Project/Irbid	under examin.	2009	(20)	27.0	(1.4)	Conveyance of water from Wahda Dam to Irbid with 3000m ³ /h treatment plant, transmission pumps of 580m in head and 2850m ³ /h in capacity, 27Km transmission line, reservoirs of 110,000m ³	not secured	not yet	5	4	4	5	18	Hydraulic analysis is done. F/S for water Supply has not done yet.
*	30		Miscellaneous Small Projects, Network Expansion	under examin.	2010	not clarified	(25)		Construction of new water networks throughout of Jordan in order to meet the increasing water demand	not secured, to be HKJ and others	not yet	3	2	3	3	11	As the project is nation wide scale, it is not applicable for F/S.
*		C1	Disi Amman Water Conveyer Branch to Ma'an and Madaba	Proposed by JICA	2010	(29)	8.8	(0.3)	Construction of transmission main, pump station and reservoir	not secured	not yet	4	5	4	2	15	
			Rehabilitation & Conveyance Projects Total			(69)											
			Technical & Private Sector Management Projects														
	1		Water Feasibility, Design and Assessment Studies	on-going	2008	0	34.0		to prepare technical, economic, and environmental F/S, D/D and Tender Doc. for the water system and networks	USAID, KFW, EIP	D/D						
*	(8) cancelled		Municipal Water Networks Rehabilitation (Several Cities)	cancelled in Invest. Prg.	2009	(35)	238.0	(6.8)	Reduction of physical losses in the network in the towns and cities (Karak, Tafeliah, Ma'an, Madaba & South Amman), Replacement and rehabilitation of water systems components such as transmission mains, distribution networks, pump stations and reservoirs	not secured	not yet	5	3	4	5	17	Rehabilitation has been completed in some of major cities, Irbid, Zarqa, Ramtha, Salt, Mafraq and some parts of Amman
*	(2) cancelled		Wastewater Feasibility, Design and Assessment Studies	cancelled in Invest. Prg.	2010	0	14.0		Country wide study project for wastewater	not secured	not yet	3	2	4	3	12	As the project is nation wide scale, it is not applicable for F/S.
			Technical & Private Sector Management Projects Total			0	Note : Cancelled Projects in the Investment Program are not included in the Total										
			Monitoring Project														
*		M1'	National Control System Integrating Surface and Groundwater Phase 2	Proposed by JICA	2008	0	18.2		Construction of nation wide monitoring and control system of the Water Trunk Line, Phase 2 after completion of Disi Amman Conveyer (6)	not secured, not studied	not yet	4	3	5	5	17	Centralized controle is essential for the water resources management

For the ranking criteria, refer to Table 10.1-1

水関連プロジェクトリスト(5)、中期 2006-2010

Table 10.1-2(5) List of Water Projects in Mid Term (2006 to 2010) ②

Note : Projects enclosed by thick line are selected for pre-F/S

Cand. Project for p-F/S	File No. of Invest. Program	No. attached by JICA	Wastewater Projects	Status	Compl. Year	Add. Efflu. Capa. (MCM/a)	Project Cost (Million JD)	Invest. (JD/cum)	Project Description	Finance	Study	Technical Viability	Economic Viability	Environ. Viability	Political Viability	Total Ranking	Remarks
	45		Irbid Stage II (Wadi Shallala TP) Phase 1	under planning	2006	4.8 by 2010	48.0	8.7	Building the interceptors and networks for 3 villages, Construction of Wadi Shallala TP. Treated sewage will be reused in JV.	KFW, HKJ, F/S done	F/S						Capacity of Upgrading in Stage 1 : 5.5MCM/a
	56		Upgrading and Expansion of Karak Treatment Plant	under planning	2007	0.5 by 2010	6.0	6.0	Construction of TP, collection system, pumping station and re-use program	KFW, HKJ, F/S & D/D will start soon	D/D soon						Capacity of Upgrading : 1.0MCM/a, Existing Capacity : 0.4MCM/a, Total Capacity by 2007 : 1.4MCM/a
	41		South Amman Wastewater Project Phase 1 : Stage 2 (North Queen Alia Airport Treatment Plant)	under examin.	2008	0.8 by 2010	44.2	6.4	to construct sewerage system, wastewater network of 500Km and TP including re-use system for irrigation	not secured, D/D done	D/D						Capacity of Treatment Plant : 11MCM/a
	46		Mazar, Mu'ta and Aldaniya Wastewater Projects (Al Mazar Al Shamali)	under examin.	2008	1.1 by 2010	28.7	14.4	Construction of wastewater colleon networks, conveyance and TP	not secured, F/S will be done soon	F/S soon						Capacity of Treatment Plant : 1.5 to 2.0MCM/a
	43		Jordan Valley Sanitation - South Shunah and Ghor Nimerine (Shuna South)	under examin.	2008	1.6 by 2010	24.7	10.7	Construction of sewers, TP at South Shunah, Ghor Nimerine and re-use system	not secured, D/D done	D/D						Capacity of Treatment Plant : 2.3MCM/a
	61		Abu-Nusier WWTP Upgrade & Expansion	under examin.	2008	1.0 by 2010	2.8	1.9	Upgrading and expansion of TP, Re-Use program is not included	not secured, D/D done	D/D						Capacity of Treatment Plant : 1.5MCM/a, F/S for re-use is not yet. Invest. & Operation cost are low
	42		Jordan Valley Sanitation - North Shunah (North Jordan Valley) Phase 1	under examin.	2009	3.6 by 2010	40.0	10.0	Construction of sewers of 300Km, TP at North Shunah and re-use system	not secured, D/D done	D/D						Capacity of Treatment Plant in Phase 1 : 4.0MCM/a
	40'		South Amman Wastewater Project Phase 1 : Jiza - Talbiya (Al Jeza, Phase 2)	under planning	2010	0.7 by 2010	8.3	5.5	Expansion of collection networks and TP, Re-use program	Italia, HKJ, Low Income Areas	D/D						Design Production Capacity in Phase 2 : 1.5MCM/a, Investment Cost of Phase 2 : 8.3Mill JD based on unit cost in Phase 1
	48		Miscellaneous Small Projects (Wastewater Project)	under examin.	2010	not clarified	44.0		Construction of new wastewater networks, conveyor lines, house connections within the whole Jordan	not secured, D/D done	D/D						
		W8 (4)	Extension of Baqa Treatment Plant	not incl. Inv. Prog.	2006	2.9 by 2010	22.1	3.2	Construction of TP, Networks, Pipeline, Dam/Storage	not secured	F/S						New TP Capacity : 7MCM/a, Existing Capacity : 5MCM/a, Total Capacity by 2006 : 12MCM/a, Total Investment Cost : 22.1Mill JD
*		W9 (5)	Extension of Fuhis Treatment Plant	not incl. Inv. Prog.	2010	0.3 by 2010	not clarified		Construction of TP, Networks	not secured	Not yet	4	3	4	3	14	New TP Capacity : 0.5MCM/a, Existing Capacity : 0.8MCM/a, Total Capacity by 2010 : 1.3MCM/a, Total Investment Cost : 22.1Mill JD
		W10 (7)	Expansion of Jerash (East) Treatment Plant	not incl. Inv. Prog.	2010	0.7 by 2010	10.3	4.9	Construction of TP and Networks, to be reused in JV	not secured	Design Report						New TP Capacity : 2MCM/a, Existing Capacity : 0.7MCM/a, Total Capacity by 2010 : 2.7MCM/a, Total Investment Cost : 10.3Mill JD
		W11 (14)	Expansion of Salt Treatment Plant	not incl. Inv. Prog.	2010	0.9 by 2010	12.1	8.1	Construction of TP, Networks	not secured	Design Report						New TP Capacity : 1.5MCM/a, Existing Capacity : 2.5MCM/a, Total Capacity by 2010 : 4MCM/a, Total Investment Cost : 12.1Mill JD
		W12 (25)	Construction of Kofur Asad Treatment Plant	not incl. in Invest. Prg.	2010	3.0 by 2010	38.2	8.9	Construction of new collection networks, TP, re-use system for irrigation, to be continued until 2020	not secured, F/S done	F/S						New TP Capacity : 4.3MCM/a by 2007, Total Investment Cost : 38.2Mill JD
*		W13 (34)	Construction of Wadi Zarqa Treatment Plant (without re-use scheme)	not incl. in Invest. Prg.	2009	4.0 by 2010	60	1.1	Construction of new TP, conveyance system, Discharging TSE to KTR and to be re-used in JV, 5MCM/a will be reused in the vicinity of TP. Implemented in two phases. Phase 2 will be implemented	not secured	Not yet	5	4	5	4	18	New TP Capacity : 55MCM/a by 2009, Investment Cost : about 62Mill JD, Reuse scheme of treated wastewater is under planning by USAID
		W14 (35)	Construction of Mazar, Muta, Adaniya Treatment Plants	not incl. in Invest. Prg.	2009	0.6 by 2010	10.3	8.6	Construction of new TP, collection System	not secured	Site invest. Done						New TP Capacity : 1.2MCM/a by 2009, Investment Cost : 10.3Mill JD
		W3' (3)	Treated Wastewater Reuse Scheme of As-Samura and Zarqa TPs in Jordan	Proposed by USAID	2010	3.5 by 2010	7.0	0.2	Reuse for irrigation in Southern Jordan Valley through KTR, Zarqa River and KAC, 10MCM/a will be reused in the vicinity of both TPs in the Upland area.	not secured	on-going by USAID						Existing Reuse by 1998 in JV : 46MCM/a, Future Reuse from As-Samura and Zarqa TPs in JV by 2020 : 123MCM/a. Study is on-going by USAID (ARD).
*		W4' (1)	Treated Wastewater Reuse Scheme of Abu-Nusier Treatment Plant	Proposed by JICA	2010	0.4 by 2010	0.04	0.1	Reuse program of treated wastewater in the vicinity of the TP for irrigation.	not secured	not yet	5	4	4	5	18	Reuse amount : 1.5MCM/a by 2020
*		W5' (5)	Treated Wastewater Reuse Scheme of Fuhis Treatment Plant	Proposed by JICA	2010	0.3 by 2010	0.01	0.02	Reuse program of treated wastewater in the vicinity of the TP for irrigation.	not secured	not yet	5	5	4	5	19	Reuse amount : 1.2MCM/a by 2020, TP will be expanded by 2010
*	58'		Treated Wastewater Reuse Scheme of Ma'an Treatment Plant	Proposed by JICA	2010	0.3 by 2010	0.03	0.1	Reuse program of treated wastewater in the vicinity of the TP for irrigation.	not secured	not yet	5	3	4	5	17	Reuse amount : 1.9MCM/a by 2020
*		W6' (15)	Treated Wastewater Reuse Scheme of Tafila Treatment Plant	Proposed by JICA	2010	0.4 by 2010	0.1	0.2	Reuse program of treated wastewater in the vicinity of the TP for irrigation.	not secured	not yet	5	3	4	5	17	Reuse amount : 1.3MCM/a by 2020
*		W7' (17)	Treated Wastewater Reuse Scheme of Wadi Essir Treatment Plant	Proposed by JICA	2010	0.2 by 2010	0.01	0.04	Reuse program of treated wastewater in the vicinity of the TP for irrigation.	not secured	not yet	5	5	4	5	19	Reuse amount : 0.9MCM/a by 2020, TP will not be expanded by 2020.
						Total Additional Effluent including increase of Effluent from the Existing Treatment Plants	65 by 2010										

For the ranking criteria, refer to Table 10.1-1

水関連プロジェクトリスト(6)、長期 2011-2020

Table 10.1-2(6) List of Water Projects in Long Term (2011 to 2020)

Note : Projects enclosed by thick line are selected for pre-F/S

Cand. Project for p-F/S	File No. of Invest. Program	No. attached by JICA	Project	Status	Compl. Year	Dev. Amount (MCM/a)	Project Cost (Million JD)	Invest. (JD/cum)	Project Description	Finance	Study	Technical Viability	Economic Viability	Environ. Viability	Political Viability	Total Ranking	Remarks	
Groundwater & Sea Water Desali. Projects																		
*	28		Desalination at Aqaba (Long Term)	Proposed by JICA	2014	12	66	5.5	Sea water desalination for domestic, industrial and touristic purposes in Aqaba	not secured	not yet	4	2	3	4	13	Cost is evaluated in this Study.	
	6		Production Increase of Disi Amman Water Conveyer	under planning	2020	25	not clarified		Supplying an additional 25MCM/a of fresh fossil GW from Disi to Amman, a distance of more than 300Km. BOT doc. prepared	BOT or Libya and Iran, D/D done	D/D						Additional Conveyance of 25MCM/a	
	16		Hisban and Kafrein Desalination Plant	under examin.	2015	9	18.9	2.1	for domestic purpose in Greater Amman Area and tourism in Dead Sea, to be conveyed to Amman through existing pipeline of Zarga/Ma'in Project	not secured	F/S done by JICA						Development amount and cost estimation has been reviewed and updated in the Master Plan	
		G1"	Brackish Groundwater Development for El Lajoun Oil Shale Project at Karak, Phase III, IV	not incl. in Invest. Prg.	2020	25	not clarified		Development of brackish groundwater in Deep Sandstone Aquifers. (R/D and K)	Private Sector	under Study						under study by MWI	
	(7) cancelled		Groundwater Reduction Program III	under planning	2020	-63	25.0	-0.4	Reduction of renewable groundwater abstraction in the Upland. To be implemented in Amman-Zarqa Basin (AZB) and other areas taking USAID's action plan for AZB into consideration. The projects include Irrigation Advisory Services (IAS), Wells buy-out, abstraction limitation and others	not secured	Action Plan done by USAID for AZB in '01						Cancelled in Inv. Pro. But, USAID (ARD) has done comprehensive study in Amman/Zarqa Basin and formulating measures. JICA examined the applicability to the other areas.	
Groundwater and Sea Water Desali. Projects Total						-4												
Surface Water Projects																		
	(19) cancelled		Water Harvesting, Badia Region	cancelled, but to be re-examined	2015?	15	20.3	1.2	to identify practical techniques for Artificial Recharge impounding the floodwater at by dykes in Badia region	USAID, F/S done, partly D/D done	D/D						This project is cancelled in the Investment Program up to 2010. But its implementation should be examined as the Long Term Project	
Wastewater Projects																		
	64'		Upgrading Kufranja and Ajlun WWTP, Phase 2	under examin.	2016	0.9 by 2020	3.0	6.0	Expansion of existing TP meeting the sewage amount up to year 2020	not secured	F/S Under Study						F/S is ongoing by KfW, Design Production Capacity in Phase 2: 0.5MCM/a, Existing Production Capacity: 2.8MCM/a, Total Production Capacity by 2004: 2.8MCM/a, Capacity of Upgrading in Stage 1: 2MCM/a, Existing Capacity: 2.2MCM/a, Total increased Capacity by 2013: 4.2MCM/a	
	59'		Madaba WWTP Upgrade and Expansion, Phase 2	under examin.	2013	1.7 by 2020	12.0	6.0	Expansion of existing TP meeting the sewage amount up to year 2020	not secured	F/S						Capacity of Upgrading in Phase 2: 1MCM/a, Existing Capacity: 2.7MCM/a, Total increased Capacity by 2013: 3.7MCM/a	
	60'		Ramtha WWTP Upgrade & Expansion, Phase 2	under examin.	2013	1.1 by 2005	3.0	3.0	Expansion of existing TP meeting the sewage amount up to year 2020	not secured	F/S						Capacity of Upgrading in Phase 2: 1MCM/a, Existing Capacity: 2.7MCM/a, Total increased Capacity by 2013: 3.7MCM/a	
	44'		Irbid Stage I, Phase 2 (Wadi Arab TP and Wadi Hassan TP)	under examin.	2011	4.6 by 2020	25.5	5.2	Expansion of existing TP meeting the sewage amount up to year 2020	not secured	F/S						Wadi Arab TP Expansion: 4.5MCM/a, Wadi Hassan Expansion: 0.4MCM/a, Existing Capacity: 8.3MCM/a, Total Capacity by 2011: 13.2MCM/a	
	42'		Jordan Valley Sanitation - North Shunah (North Jordan Valley) Phase 2	under examin.	2016	1.1 by 2020	10.0	10.0	Expansion of existing TP meeting the sewage amount up to year 2020	not secured	F/S						Capacity of Upgrading in Phase 2: 1MCM/a, Existing Capacity: 4MCM/a, Total increased Capacity by 2016: 5MCM/a	
	45'		Irbid Stage II (Wadi Shallala TP) Phase 2	under examin.	2017	1.7 by 2020	8.7	8.7	Expansion of existing TP meeting the sewage amount up to year 2020	not secured	F/S						Capacity of Upgrading in Phase 2: 1MCM/a, Existing Capacity: 5.5MCM/a, Total increased Capacity by 2018: 6.5MCM/a	
		W15 (22)	Construction of Dair Abi Said Treatment Plant	not incl. in Invest. Prog.	2012	1.6 by 2020	15.6	8.7	Expansion of existing TP meeting the sewage amount up to year 2020	not secured	F/S						Capacity of TP: 1.8MCM/a	
		W1' (23)	Expansion of Dair Alla Treatment Plant	not incl. in Invest. Prog.	2017	0.9 by 2020	8.4	8.4	Expansion of existing TP meeting the sewage amount up to year 2020	not secured, F/S done	F/S						Additional expansion of capacity in Phase 2: 1MCM/a, Existing Capacity: 3MCM/a, Total Capacity by 2017: 4MCM/a	
		W16 (31)	Construction of Torra Treatment Plant	not incl. in Invest. Prog.	2012	1.8 by 2020	19.1	9.6	Construction of TP, collection networks, Dam/storage and re-use program	not secured	F/S						Design Production Capacity: 2MCM/a, Total Investment Cost: 19.1Mill JD	
		W3" (3)	Treated Wastewater Reuse Scheme of As-Samura and Zarqa TPs in Jordan	Proposed by USAID	2020	31 by 2020	6.2	0.2	Reuse for irrigation in Southern Jordan Valley through KTR, Zarqa River and KAG. 15MCM/a will be reused in the vicinity of both TPs in the Upland area	not secured	on-going by USAID						Existing Reuse by 1998 in JV: 46MCM/a, Future Reuse from As-Samura and Zarqa TPs in JV by 2020: 123MCM/a, Study is on-going by USAID (ARD)	
*		W4" (1)	Treated Wastewater Reuse Scheme of Abu-Nusier TP	Proposed by JICA	2020	0.3 by 2020	0.03	0.1	Reuse program of treated wastewater in the vicinity of the TP for irrigation.	not secured	not yet	5	4	4	5	18	Reuse amount: 1.5MCM/a by 2020	
*		W5" (5)	Treated Wastewater Reuse Scheme of Fuhis TP	Proposed by JICA	2020	0.3 by 2020	0.01	0.02	Reuse program of treated wastewater in the vicinity of the TP for irrigation.	not secured	not yet	5	5	4	5	19	Reuse amount: 1.2MCM/a by 2020, TP will be expanded by 2010	
*	58"		Treated Wastewater Reuse Scheme of Ma'an TP	Proposed by JICA	2020	0.6 by 2020	0.06	0.1	Reuse program of treated wastewater in the vicinity of the TP for irrigation.	not secured	not yet	5	3	4	5	17	Reuse amount: 1.9MCM/a by 2020	
*		W6" (15)	Treated Wastewater Reuse Scheme of Tafila TP	Proposed by JICA	2020	0.3 by 2020	0.01	0.2	Reuse program of treated wastewater in the vicinity of the TP for irrigation.	not secured	not yet	5	3	4	5	17	Reuse amount: 1.3MCM/a by 2020	
*		W7" (17)	Treated Wastewater Reuse Scheme of Wadi Essir TP	Proposed by JICA	2020	0.2 by 2020	0.01	0.04	Reuse program of treated wastewater in the vicinity of the TP for irrigation.	not secured	not yet	5	5	4	5	19	Reuse amount: 0.9MCM/a by 2020, TP will not be expanded by 2020.	
Total Additional Effluent including increase of Effluent from the Existing TPs						69												
Rehabilitation & Conveyance Projects																		
*		C2	Upgrading of Inter-Governorates Transfer Line Phase 1	Proposed by JICA	2014	(18)	11.9	(0.7)	Construction of transmission main, pump station and reservoir	not secured	not yet	4	4	4	2	14		
*		C3	Upgrading of Inter-Governorates Transfer Line Phase 2	Proposed by JICA	2019	(82)	80.8	(1.0)	same as above	not secured	not yet	4	4	4	2	14		
Rehabilitation & Conveyance Projects Total						(100)												

For the ranking criteria, refer to Table 10.1-1

水関連プロジェクトリスト(7)、その他プロジェクト

Table 10.1-2(7) List of Other Water Projects which are still in Conceptual Stage

Note : Projects enclosed by thick line are selected for pre-F/S

Cand. Project for p-F/S	File No. of Invest. Program	No. attached by JICA	Groundwater Projects	Status	Compl. Year	Dev. Amount (MCM/a)	Project Cost (Million JD)	Invest. (JD/cum)	Project Description	Finance	Study	Technical Viability	Economic Viability	Environ. Viability	Political Viability	Total Ranking	Remarks
		O1	Brackish Groundwater Development in Jordan Valley Floor	to be examined					Partly implemented by private farms. This scheme includes discharging trunk canal of the brain to the Dead Sea.	Private sector, F/S not yet	not yet	3	3	2	4	12	Private sectors are implementing the desalination projects by their own expenses. Environmental impacts should be examined and assessed.
		O2	Brackish Groundwater Development in the North Wadi Araba	to be examined					Brackish groundwater development from the Alluvial Aquifer in the rented land to Israel in the North Wadi Araba for Irrigation	not secured	not yet	3	3	2	1	9	Brackish groundwater is directly used for irrigation of fruits, but almost unknown
		O3	Brackish Groundwater Development in the South Wadi Araba	to be examined					Brackish groundwater development from the Alluvial Aquifer in the rented land to Israel in the South Wadi Araba for Irrigation	not secured	not yet	4	3	2	1	10	Brackish groundwater is directly used for irrigation of fruits, but almost unknown
		O4	Deep Groundwater Development in Wadi Araba Area	Preliminary study	2005?	6?			Exploitation of deep nonrenewable groundwater and/or shallow groundwater for irrigation project by Interigence Dept.	not secured, under study	Hydro-geological Survey	2	3	3	4	12	Survey is on-going by MWI
		O5	Groundwater Development in Musaitbeh Well Field	Preliminary study		8			Groundwater development from A7/B2 aquifer in the Dead Sea Basin, numerical simulation has been done	not secured, GW analysis done	Numerical analysis done	1	4	1	4	10	It is recommended that this scheme should be re-considered because the abstraction has exceeded the safe yield in this basin.
		O6	Disi-Aqaba Hydro-powered RO Desalination Scheme	concept		16	58.0	3.6	Conveyance of brackish groundwater abstracted from Khreim and Kurnub Aq. From Disi to Aqaba, Desalination of brackish groundwater by the electricity to be born by hydro-potential energy between Disi and Aqaba.	not secured, idea	concept	2	3	3	4	12	Potential and quality of brackish GW. in the Khreim should be identified prior to p-F/S or comprehensive study should be done in full scale F/S.
Cand. Project for p-F/S	File No. of Invest. Program	No. attached by JICA	Sea Water Development Projects	Status	Compl. Year	Dev. Amount (MCM/a)	Project Cost (Million JD)	Invest. (JD/cum)	Project Description	Finance	Study	Technical Viability	Economic Viability	Environ. Viability	Political Viability	Total Ranking	Remarks
		O7	The Red Sea-Dead Sea Canal Project (RSDSC)	Preliminary study		851	3500.0	4.1	Conveyance of sea water from Red Sea to Dead Sea : 180Km, pumping station : 60m ³ /sec, Seawater Desalination using hydrostatically assisted RO, Desalinated water transmission line : 300Km.	not secured, F/S not yet	concept	2	3	2	2	9	Trilateral Economic Committee of Jordan, Israel and UN provided concepts, major contribution to supply water to Jordan, Israel and PA, to restore the Dead Sea Level
		O8	Aqaba Hybrid Sea Water Pumped-Storage Scheme with Hydro-powered RO Desalination	concept		100	410.0	4.1	Pumping up seawater in the reservoir located in Upland using the electricity in Off-peak, Seawater desalination using hydrostatically assisted RO, Desalinated water transmission line	not secured, idea	concept	2	3	3	3	11	It becomes attractive when regional electricity supply network will be realized and ample surplus power supply at night will be occurring
		O9	Development of Deep Sea Water	concept					Development of deep sea water including much mineral which will be obtained in the process of the thermal heat exchange of the deep sea water.	not secured, idea	concept	1	2	3	3	9	Investigation and study not yet
Cand. Project for p-F/S	File No. of Invest. Program	No. attached by JICA	Regional Water Projects	Status	Compl. Year	Dev. Amount (MCM/a)	Project Cost (Million JD)	Invest. (JD/cum)	Project Description	Finance	Study	Technical Viability	Economic Viability	Environ. Viability	Political Viability	Total Ranking	Remarks
		O10	Water Conveyance from Turkey by Tanker or Huge Water Bag or Tanker	concept					Purchasing of water from turkey and conveyance by tankers or bags to Haifa in Israel, transmission line from Haifa to Dier Alla PS	not secured, idea	concept	2	2	4	2	10	Multi-lateral project with Jordan, Turkey and Israel
		O11	Water Conveyance from Turkey by Pipe Line	concept					Purchasing of water from turkey and conveyance by pipeline through Syrian territories	not secured, idea	concept	2	2	4	2	10	Multi-lateral project with Jordan, Turkey and Syria
		O12	Water Conveyance from Euphrates River in Iraq by Pipe Line (from Al-Qaim Post)	concept		160			Conveyance of water from Euphrates River in Iraq through pipe line, to be implemented into two stages	not secured, idea	concept	2	2	3	2	9	By-lateral project with Jordan and Iraq
		O13	Mediterranean-Dead Sea Canal Hydropower and Sea Water Desalination Project	Preliminary study		100	410.0	4.1	Conveyance of sea water from Mediterranean Sea to Dead Sea through Open Canal and Tunnel Conduit : 100Km, pumping station, Seawater Desalination using hydrostatically assisted RO, Desalinated water transmission line	not secured, study done by Israel	concept	2	2	2	1	7	Multi-lateral project with Jordan, Israel and PA
		O14	Arab Diversion	cancelled					Conveyance from Hashabani River in Lebanon and Banias River in Golan Heights to Yarmouk River through Tunnel Conduit, planned before 1964	not secured	abolish-ed	1	1	1	1	4	abolished project in 1960'

For the ranking criteria, refer to Table 10.1-1