

*The Study on Water Resources Management in The Hashemite Kingdom of Jordan
Final Report/Supporting Report Part-A "Master Plan"*

Metric (Table 38 Filtered)		Item	Allocation	Hydraulic Analysis (m³/yr)																						
Year	Value			2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020		
Water Produced				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Industrial Water	1.0E			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Physical Losses (%)	0.24	0.23	0.22	0.21	0.21	0.20	0.19	0.18	0.17	0.16	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15		
Physical Losses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Administrative/Managerial Losses (%)	0.21	0.19	0.16	0.14	0.12	0.10	0.08	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05		
Administrative/Managerial Losses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Quantity Delivered	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Quantity Where Bills are Collected																										
Irrigation Water	1.0E			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Physical Losses (%)	0.24	0.23	0.22	0.21	0.21	0.20	0.19	0.18	0.17	0.16	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15		
Physical Losses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Administrative/Managerial Losses (%)	0.21	0.19	0.16	0.14	0.12	0.10	0.08	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05		
Administrative/Managerial Losses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Quantity Delivered	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Quantity Where Bills are Collected																										
Financial Analysis (JD at 2000 Prices)		Item	Allocation	Financial Analysis (JD at 2000 Prices)																						
Year	Percent			Amount	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Costs																										
Local Components	50%	152,964	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Foreign Components	42%	110,954	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Duty & Taxes	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Capital Costs		263,918	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Convertible Costs																										
O & M Costs																										
Total Costs																										
Revenues																										
Industrial Usage (Gt (m³))																										
Industrial Tariff (JD/m³)	1.0E	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000		
Industrial Revenue (JD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Irrigation Usage (Gt (m³))																										
Irrigation Revenue (JD)	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038		
Total Revenues (JD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Net Cash Flow (JD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Discounting (10%+10%)	0.90989	0.82645	0.75531	0.69301	0.62992	0.56447	0.51314	0.46881	0.42418	0.38154	0.34249	0.31165	0.28286	0.25353	0.22398	0.21703	0.19784	0.17988	0.16351	0.14864	0.13315	0.12002	0.11042	0.103527	0.10000	
Total Qty Delivered (m³)	126,518	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Unit Water Price (JD/m³)	45																									
Economic Analysis (JD at 2000 Prices)		Item	Allocation	Economic Analysis (JD at 2000 Prices)																						
Year	Percent			Amount	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Costs																										
Local Components	50%	152,988	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Foreign Components	42%	110,954	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Duty & Taxes	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Capital Costs		263,918	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Convertible Costs																										
O & M Costs																										
Total Costs																										
Revenues																										
Industrial Usage (Gt (m³))																										
Industrial Tariff (JD/m³)	1.0E	2,340	2,340	2,740	2,740	2,740	2,740	2,740	2,740	2,740	2,740	2,740	2,740	2,740	2,740	2,740	2,740	2,740	2,740	2,740	2,740	2,740	2,740	2,740		
Industrial Revenue (JD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Irrigation Usage (Gt (m³))																										
Irrigation Revenue (JD)	0.142	0.142	0.142	0.142	0.142	0.142	0.142	0.142	0.142	0.142	0.142	0.142	0.142	0.142	0.142	0.142	0.142	0.142	0.142	0.142	0.142	0.142	0.142	0.142		
Total Revenues (JD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Net Cash Flow (JD)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Discounting (10%+10%)	0.90989	0.82645	0.75531	0.69301	0.62992	0.56447	0.51314	0.46881	0.42418	0.38154	0.34249	0.31165	0.28286	0.25353	0.22398	0.21703	0.19784	0.17988	0.16351	0.14864	0.13315	0.12002	0.11042	0.103527	0.10000	
EIRR	4.086																									
NPV (JD)	316,628	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PV of Total Costs (JD)	145,363	0																								

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Metrics (JOD-10 Millions)																																								
Hydrologic Analysis (m³/year)																																								
Item		Allocation		2008		2009		2010		2011		2012		2013		2014		2015		2016		2017		2018		2019														
Water Produced		0	0	1,364,753	1,476,335	1,575,917	1,742,938	1,919,960	2,091,983	2,264,883	2,416,825	2,575,871	2,715,718	2,855,564	2,995,411	3,115,257	3,273,556	3,411,868	3,550,141	3,688,483	3,820,394																			
Industrial Water	0.80	80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
Physical Losses (%)		8.24	8.23	8.22	8.31	8.31	8.30	8.35	8.38	8.17	8.16	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15														
Physical Losses		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
Administrative/Managerial Losses (%)		8.21	8.19	8.18	8.14	8.12	8.10	8.09	8.08	8.07	8.06	8.05	8.05	8.05	8.05	8.05	8.05	8.05	8.05	8.05	8.05	8.05	8.05	8.05	8.05	8.05	8.05													
Administrative/Managerial Losses		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
Quality Delivered		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
Quality Water Bills are Collected		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
Injection Water	1.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
Physical Losses (%)		8.24	8.22	8.22	8.21	8.21	8.20	8.18	8.18	8.17	8.16	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15	8.15													
Physical Losses		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
Administrative/Managerial Losses (%)		8.21	8.19	8.18	8.14	8.12	8.10	8.09	8.08	8.07	8.06	8.05	8.05	8.05	8.05	8.05	8.05	8.05	8.05	8.05	8.05	8.05	8.05	8.05	8.05	8.05	8.05													
Administrative/Managerial Losses		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
Quality Delivered		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
Quality Water Bills are Collected		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
Financial Analysis (JD at 2000 Prices)				Item		Period		Amount		2008		2009		2010		2011		2012		2013		2014		2015		2016		2017		2018		2019		2020						
Cards																																								
Total Components		58%	327,912	0	0	385,624	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0										
Foreign Components		47%	258,128	0	0	315,414	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0										
Duty & Taxes		0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
Total Capital Costs		58%	320,740	0	0	311,338	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0										
Capital Cards		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
O & M Costs		0	0	0	0	0	0	33,624	33,654	33,654	33,654	33,654	33,654	33,654	33,654	33,654	33,654	33,654	33,654	33,654	33,654	33,654	33,654	33,654	33,654	33,654	33,654	33,654	33,654	33,654	33,654									
Total Costs		0	0	0	0	0	0	311,338	311,338	311,338	311,338	311,338	311,338	311,338	311,338	311,338	311,338	311,338	311,338	311,338	311,338	311,338	311,338	311,338	311,338	311,338	311,338	311,338	311,338	311,338										
Reserves																																								
Industrial Usage Qty (m³)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
Industrial Toffiff (JD/m³)		1,000	1,008	3,068	1,880	1,800	1,000	1,008	1,008	1,008	1,008	1,008	1,008	1,008	1,008	1,008	1,008	1,008	1,008	1,008	1,008	1,008	1,008	1,008	1,008	1,008	1,008	1,008	1,008	1,008										
Industrial Reserves (JD)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
Injection Usage Qty (m³)		0	0	0	0	0	0	87,213	97,330	1,103,142	1,256,516	1,436,771	1,581,948	1,735,523	1,948,820	2,060,697	2,172,574	2,284,451	2,396,328	2,508,306	2,618,847	2,728,418	2,841,213	2,950,370	3,061,411	3,172,471	3,283,530	3,394,589	3,505,648	3,616,717	3,727,786	3,838,855	3,949,924	3,949,924						
Injection Toffiff (JD/m³)		0.012	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010									
Injection Reserves (JD)		0	0	0	0	0	0	87,773	97,873	111,931	122,958	14,388	15,999	17,599	19,498	20,907	21,728	22,548	23,368	24,188	25,008	25,828	26,648	27,468	28,288	29,108	29,928	30,748	31,568	32,388	33,208	34,028	34,848	35,668	36,488	37,308				
Total Reserves (JD)		0	0	0	0	0	0	87,773	97,873	111,931	122,958	14,388	15,999	17,599	19,498	20,907	21,728	22,548	23,368	24,188	25,008	25,828	26,648	27,468	28,288	29,108	29,928	30,748	31,568	32,388	33,208	34,028	34,848	35,668	36,488	37,308				
Net Cash Flow (JD)		0	0	0	0	0	0	-311,038	-248,031	-23,781	-22,623	-21,068	-19,444	-17,755	-15,995	-14,186	-12,997	-11,798	-10,599	-9,398	-8,198	-7,000	-5,802	-4,604	-3,406	-2,208	-1,008	0	0	0	0	0	0	0	0	0	0			
Discounting (DR=10%)		0.90000	0.89645	0.75131	0.68301	0.62092	0.56487	0.51316	0.46651	0.42410	0.38554	0.35180	0.31863	0.28906	0.26313	0.23899	0.21765	0.19741	0.17718	0.15794	0.13761	0.11738	0.09715	0.07702	0.05709	0.03716	0.01713	0.00710	0.00710	0.00710	0.00710	0.00710	0.00710	0.00710	0.00710	0.00710	0.00710			
Total Qty Delivered (m³)		0	0	0	0	0	0	1,071,288	1,185,329	1,240,734	1,415,338	1,574,987	1,728,348	1,881,765	2,070,821	2,189,691	2,308,368	2,427,238	2,546,199	2,664,858	2,782,525	2,900,081	3,017,637	3,135,183	3,252,749	3,370,307	3,487,862	3,505,941	3,623,499	3,741,047	3,858,596	3,976,144	4,093,692	4,211,239	4,328,787	4,446,335	4,563,883	4,681,431	4,800,026	4,918,544
ERB		4%																																						
Net JV (JD)		1,453,412	0	0	-25,687	88,648	81,534	81,702	85,558	88,228	88,925	90,374	92,092	93,792	95,500	97,292	98,074	98,852	99,629	100,397	101,165	101,932	102,699	103,466	104,233	105,000	105,767	106,534	107,301	108,068	108,835	109,602	109,369	109,136	109,903	110,670	111,437	112,204		
PU of Total Cost (JD)		54,159	0	0	123,887	22,986	20,894	18,597	17,290	15,700	14,473																													