The Climate Crisis, Awareness Raising and the Need for Political Leadership for Water Policy Reform

EcoPeace / Friends of the Earth Middle East
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Actions Taken

- **FoEME Study published in 2007**
  "Climate Change: A New Threat to Middle East Security" www.foeme.org
- **Resource guidebook produced specific to local situations targeting parliamentarians, ministries, municipalities, media & NGOs (HBS supported)**
- **Economic Analysis of Policy Options for Water Conservation in J,I &P (USAID supported)**

Factors Contributing to Potential Conflict or Cooperation

- **The existence of water agreements and their degree of *sustainability*;**
- **The influence of destabilizing economic and political factors, e.g., unemployment and mass migration due to agricultural decline and the large scale flooding of agricultural areas;**
- **The extent of national economic and political development, including the degree to which local institutional structures and infrastructure exist;**
- **A given political entity's ability to mitigate and/or adapt to climate change;**
- **Power relationships between the Parties involved; and**
- **Whether it is politically expedient at a given time to cooperate (or continue to cooperate) over water resources.**

Recommendations

- **Need to raise awareness on the 'multiplier impact' of climate change in the Eastern Mediterranean.**
- **Countries sharing scarce water resources need to reach agreements on fair water sharing with reduced water quantities in mind.**
- **Local, regional and international cooperation needed to avoid these threats: Re-examine AID priorities.**
- **Leadership needed by most industrialized nations to reduce CO2 emissions.**

Recommendations (cont'd)

National Action Needed as to Water:

- **Increased efficiency in the domestic sector – waterless toilets, grey water reuse, rainwater harvesting.**
- **Increase price of water (not just as emergency measure) and remove water subsidies and trade barriers on selected agricultural produce.**
- **Sewage treatment: Aim to achieve 95 percent sewage treatment at highest standards.**
- **Heavily invest in alternative livelihood opportunities for rural communities that make them less dependent on potable water for agriculture.**
- **Supply side solutions important but as last resort as are energy intensive / CO2 / discourage conservation.**

Findings of Economic Analysis

Over 1.2 bcm of water available if conservation measures would be put in place.

Over 500mcm in Israel, 300mcm in Jordan and 90 mcm in Palestine at less than marginal cost of water.

Identified Wedges: Israel

	Policy Wedge	Water Conserved by 2020 (mcm/year)			Cost Effectiveness (US$/m³)	Feasibility 1-Low 5-High
		Low	Medium	High		
Supply	Reduced water losses from leakages	29	51	73	0.45	4-5
	Reduced water losses from reservoirs	61	73	81	0.007	4-5
	Rooftop rainwater collection	4	7	13	2.14	1-2
Demand	Awareness raising	76	101	126	0.10	4-5
	Change in plants used in gardens	23	46	68	0.61	4-5
	Price increases in agricultural sector	70	138	200	0.30	3
	Grey water use (irrigation)	36	76	118	1.32	1-2
	Grey water use (toilets)	13	27	53	2.21	1
	Removal of trade restrictions	30	45	60	High	1
Unadjusted	Total - net cost less than desalination	289	454	608		
	Total - net cost more than desalination	53	110	186		
	Total	342	564	794		
Adjusted	Total - net cost less than desalination	246	386	517		
	Total - net cost more than desalination	45	94	158		
	Total	291	480	675		

Identified Wedges: Jordan

Policy Wedge		Water Conserved by 2020 (MCM)			Cost effectiveness (cent/ m^3)	Long-term Feasibility Index(1 = low, 5 = high)
		Low	Medium	High		
Supply	Wastewater reclamation in agriculture	50	75	100	55	4
	Municipal rain catchment	7	10	13	51	4
	Reduction of water conveyance loss	17	21	25	51	3
	Farmland renting by JVA	8	12	16	55	3
	Accountability of supplied water	10	13	16	60	4-5
Demand	Public awareness	12	17	22	45-50	4-5
	Gardening reform	25	31	37	45-50	2-3
	Grey water for domestic use/double toilet flushing	18	24	30	55-60	4-5
	Improved efficiency of irrigation	30	38	46	52	4-5
	Reform of agricultural water tariffs	40	47	54	55	4
Unadjusted	**TOTAL**	**217**	**288**	**359**		
Adjusted	**TOTAL**	**184**	**244**	**305**		

Identified Wedges: Palestine

	Annual MCM(average)	Cost effectiveness (cent/ m^3)	Long-term Feasibility Index(1 = low, 5 = high)
SUPPLY SIDE			
Wastewater reclamation for agriculture	39	55	4-5
Municipal rainwater catchments	9	52	4
Reduction of water conveyance loss	14.5	60	3--4
DEMAND SIDE			
Public awareness	14	45-50	4-5
Reduction of water for toilet flushing	21	55-60	4-5
Improved efficiency of irrigation	11	60	4-5
TOTAL (Unadjusted)	**108.5**		
TOTAL (Adjusted)	**92**		