



**Mediterranean Dialogue On Framing  
Sustainability In Water Policy Evaluation  
( SWAP )**

# Policy evaluation Results

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# Methodology of evaluation

Indicators were measured but we simplified :



**No change**



**Favorable change**



**Unfavorable change**



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# Moroccan case study









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# Environmental Dimension

Moroccan case study

Dim	OBJECTIVES	INDICATORS	State
ENV	Improve water quality	Salinity of ground water	
		Water use efficiency index related to agriculture (at farm)	
	Preserve water for ecosystem functions	Water quantity consumed per hectares	
		Surface equipped by modern irrigation practices	
	Preserve water resources	Non sustainable water exploitation index	
		Ground water level evolution	



Favorable change







Unfavorable change

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# Social Dimension

Moroccan case study

Dim	OBJECTIVES	INDICATORS	State
SOC	Improve social conditions of rural population	Total amount of subsidies for farmers	
		Number of farmers using innovative technologies	
		Proportion of the population with access to safe drinking water and sanitation at local level (total)	
	Improve Social cohesion	m3/capita of available water (Total)	



Favorable change










Unfavorable change

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# Economic Dimension

Moroccan case study

Dim	OBJECTIVES	INDICATORS	State
ECO	Stabilize farm income	Irrigation water volume	
		Energy cost	
		Irrigation cost	
		Yield/crop/ha (ton/ha)	
		% of water service costs covered	
		Value of production for unit of water used (national currency/m3)	
		Water demand	



No change



Favorable change





Unfavorable change

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# Governance Dimension

Moroccan case study

Dim	OBJECTIVES	INDICATORS	State
GOV	Improve water management	Number of water association in the local area	
		Number of local stakes and actors involved in implementing strategies and monitoring progress	



No change



Favorable change




Unfavorable change

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# Interlinkages

Moroccan case study

Dim	OBJECTIVES	INDICATORS	State
ENV-SOC	Manage changes in land uses	Proportion of the population with access to safe irrigation water	
ENV-ECO	Improve irrigation efficiency	Water use efficiency index related to agriculture (at farm)	
ENV-GOV	Improve settlement of rural population	Proportion of the population with access to safe irrigation water	
SOC-ECO	Improve the economic state of citizen		
SOC-GOV	Strengthen public participation in local water management	Number of women in water user associations	
		Number of demonstration activities/year (trainings, seminars)	
ECO-GOV	Increase the transparency in the decision-making process		



No change



Favorable change



Unfavorable change

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# Spain case study

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Dim	OBJECTIVES	INDICATORS	State	
Spain	ENV	Fertilizers applied into the soil		
		Improve water quality	Pesticides used	
		Preserve water for ecosystem functions	Surface of organic farming	
		Preserve water resources	Irrigated land use / total surface	
	ECO	Stabilize farm income	Agricultural production	
			GDP of agricultural production	
			Real income by farmer	
			Agricultural land price	
	SOC	Improve social conditions of rural population	population in rural areas	
			Improve Social cohesion	Agricultural workers

-  No change
-  Favorable change
-  Unfavorable change







# Lebanon case study

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# Environmental Dimension

Lebanon case study

Dim	OBJECTIVES	INDICATORS	State
ENV	Preserve water for ecosystem functions	Loss of agriculture land	
	Improve water quality	Chemical quality	
	Preserve water resources.	illegal wells	
		ground water level	



No change



Favorable change






Unfavorable change

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# Social Dimension

Lebanon case study

Dim	OBJECTIVES	INDICATORS	State
SOC	Improve social cohesion	Awareness	
	Improve social conditions of rural population	Active population farmers	
		Social status	



No change



Favorable change










Unfavorable change

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# Economic Dimension

Lebanon case study

Dim	OBJECTIVES	INDICATORS	State
ECO	Stabilize farm income	Income index	
		input supplies	
		Irrigation cost Agricultural	
		Labor cost	
		Improvement of technique of production	
		Price index	
		Middle Man Commission	



No change



Favorable change










Unfavorable change

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# Institutional Dimension

Lebanon case study

Dim	OBJECTIVES	INDICATORS	State
GOV	Improve water management	water saving	
		Tail end supply ratio	
		Delivery timeless ratio	
		Flow rate rating	
		Financial self sufficiency	
		Water saving after appliance of differential tariff	
		New system for water saving	



No change



Favorable change

























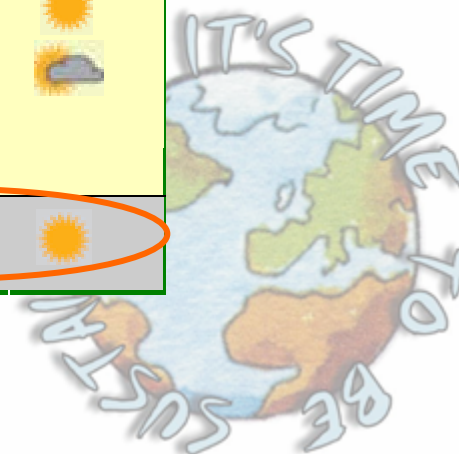
Unfavorable change

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# Summary

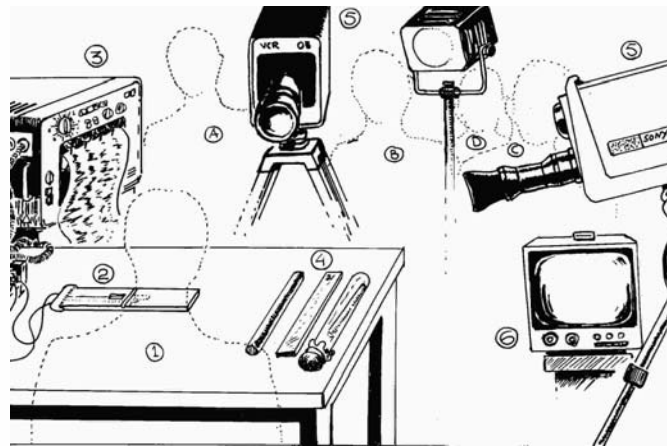
Dim	OBJECTIVES	Morocco	Spain	Lebanon
ENV	Improve water quality			
	Preserve water for ecosystem functions			
	Preserve water resources			
SOC	Improve social conditions of rural population			
	Improve Social cohesion			
ECO	Stabilize farm income	 	 	 
GOV	Improve water management		?	





# Brief Conclusions

- Some data are not available for case studies before or/after the evaluated policy:
  - **Difficult to assess interlinkages between dimensions**



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# Brieve Conclusions

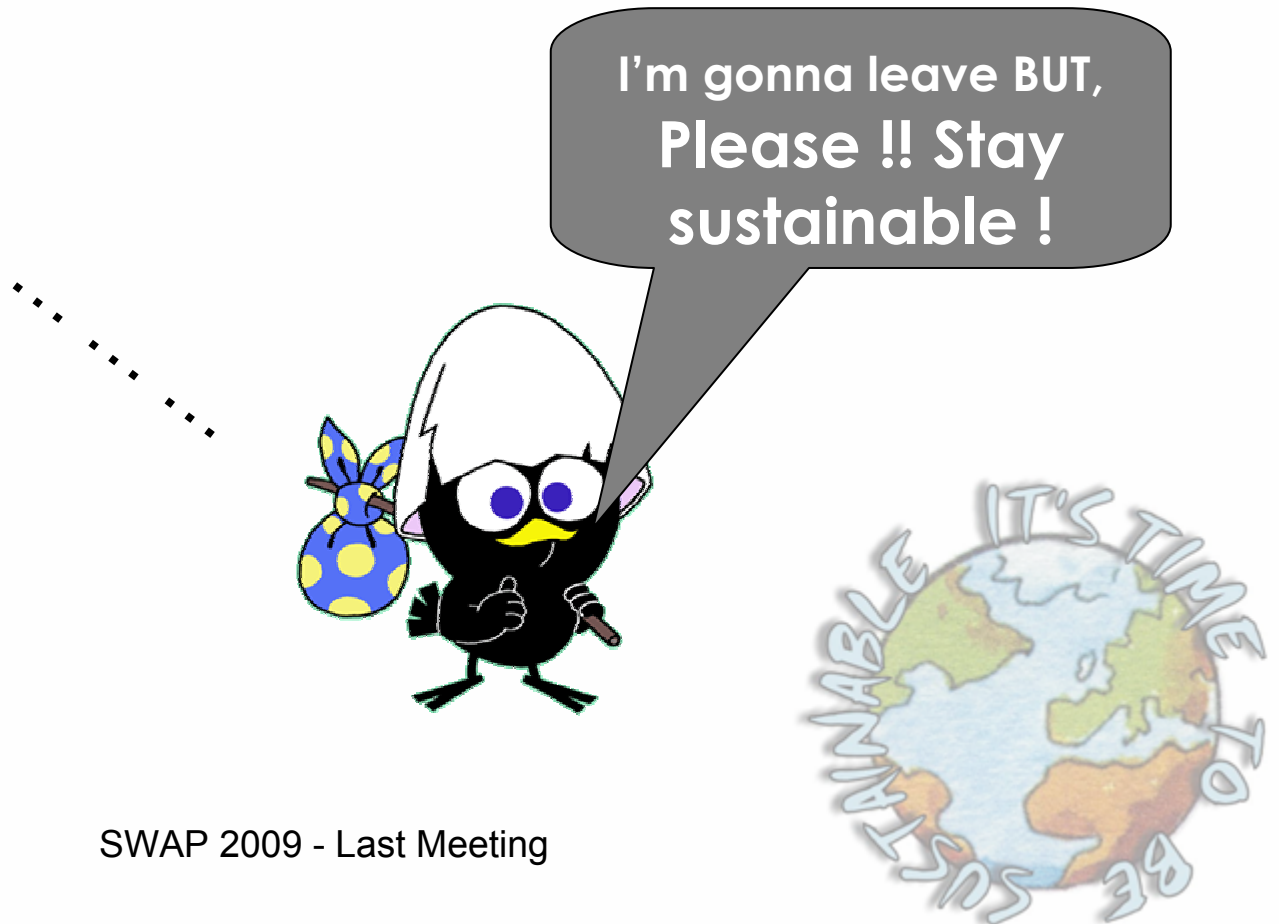
- Morocco case study :
  - Mainly positive effect , Eco, Gov
  - Negative effect Enviro (in m<sup>3</sup>/capita of available water)
  - Negative effect in Socio (Absence of gender approach)
- Spain case study :
  - Negative effect in social dimension
- Lebanon case study :
  - Negative effect in social dimension
  - Positive effect in Eco, Envi and Gov. (Due to management)



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# *Thank you for your attention*



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