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Issue 3

Improving water resources and demands management

Indicators for Sustainable Development Strategies and Policies in the Mediterranean Region
Nice, France may 9-11, 2005

The trends : Unsustainable resources exploitation



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Unsustainable water production indices, NV, 2000

Country	Value of date	Overexploitation of renewal resources (in km ³ /an) (1)	Demand in water (in km ³ /an) (2)	Index of unsustainable water production in % (1)/(2)
Spain	1997	0.70	18.20	4%
Malta	1997-1998	0.02	0.05	31%
Cyprus	1998	0.04	0.33	12%
Israel	1999-2000	0.19	1.80	10%
Palestinian Terr.	1995	0.03	0.13	23%
Egypt	1995-1996	0.00	66.00	0%
Libya	1999	0.77	2.24	34%
Tunisia	2000	0.18	2.27	8%
Algeria	2000	0.00	2.90	0%

Source : Plan Bleu, J.Margat, 2003 ; (*) with brackish water (**) not available



The trends :

Ever greater pressures on natural resources



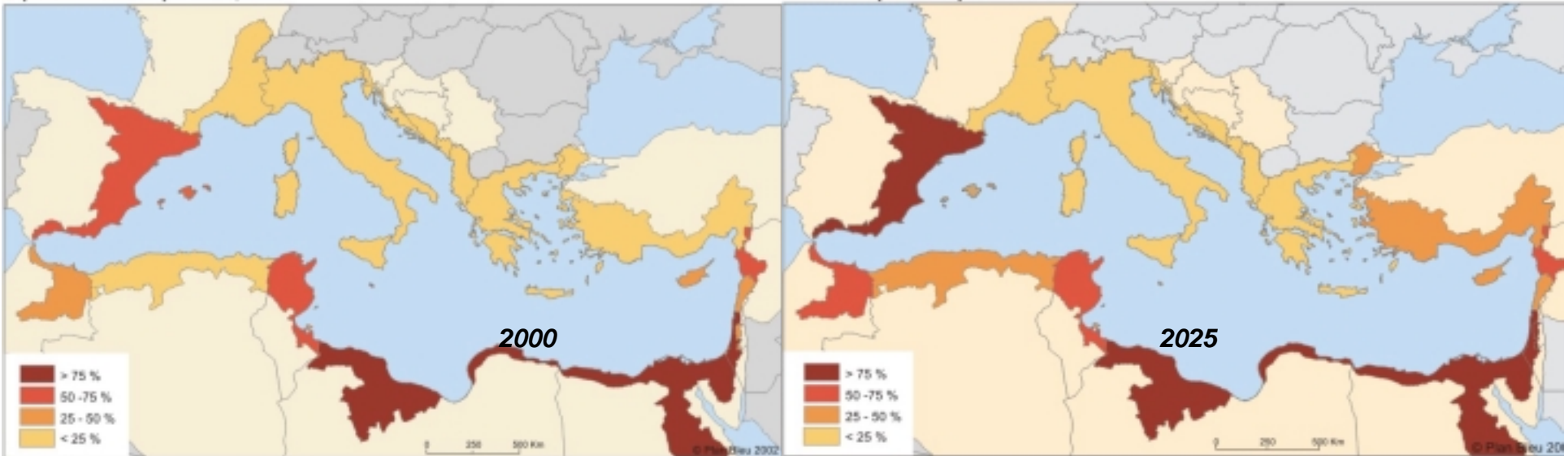
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Exploitation indices per basin, NV, 2000-2025

Exploitation indices per basin, 2000

Indices d'exploitation par bassins - 2025





The trends : Main Rivers subjected to chronic pollution



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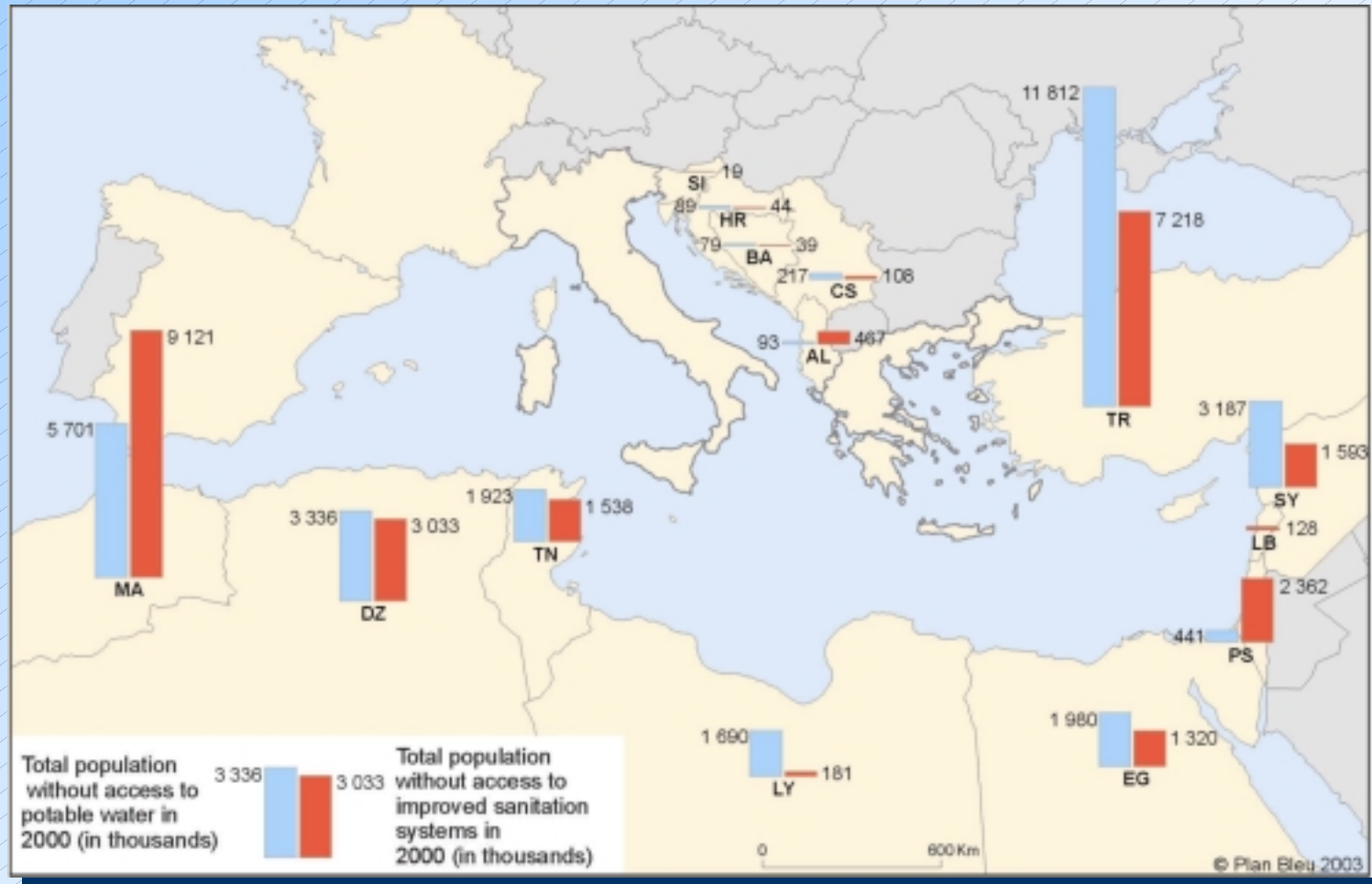


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Almost 30 million mediterraneans are still not having access to safe drinking water and sanitation





Towards a Sustainable Development

Potential water savings in the various sector of use

(example of efficiency improvements hypothesis)



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The feasible potential savings: a priority concern for the Mediterranean area.
Great water gains (in km³), for potential efficiency improvements levels, namely 1/4 of the demand in 2000

Sub-regions of the Mediterranean NV (in cu.km/yr)	Domestic Rates of loss reduced to 15% user leaks reduced to 10%	Irrigation Irrigation canal efficiency to 90% and raised everywhere to 80%	Industries Recycling generalised to 50%	Total
North	3	11.9	4.9	19.8
East	1.1	3.5	0.5	5.1
South	2.3	14.6	4	20.9
Total	6.4	30	9.3	45.7



Towards a Sustainable Development Objectives for the Strategy « Water »



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10. Reduce loss and wasteful use of water to decrease the projected demand for water by 10% by 2015, and significantly increase the economic agriculture added-value per cubic metre of water used;
11. Protect resources (quality and quantity) and ecosystems;
12. Promote integrated management of catchment areas and wetlands ecosystems;
13. Achieve objectives for access to safe drinking water and sanitation and reduction of land-based pollution.



Orientations and actions (1)



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- 1. Reorient water policies by moving from a supply-driven approach to one of integrated supply and **demand-side management** so as **to improve the efficiency of water usage** in technical (reducing unnecessary losses) and economic, social and environmental terms. **Develop demand-side management measures in various sectors and policies: agriculture** (by generally implementing technologies and practices for optimising and saving irrigation and drainage water), industry, tourism, and urban water. Establish a fiscal and pricing framework to encourage investment in demand-side management; develop financial mechanisms for ex-ante internalisation of profits from water saving, transferring them in the form of credits and subsidies to those involved in the investments needed for water savings and increasing the exploitable potential; and raise awareness among professionals and users about the potential gains from such management.



Orientations and actions (2)



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- 2. Conserve and increase resources through soil and water conservation (agricultural and forestry practices) and replenish water tables.
- 3. As a complement to demand-side management, encourage and develop non-conventional water production and use (re-using wastewater, desalinisation) through credit policies and public and private investment.
- 4. Strengthen regulations for reducing over-exploitation of water tables and non-renewable resources, promote artificial replenishment of water tables, protect wetlands by strengthening regulations and assess ecosystem demand, so that it can be taken into account in planning.
- 5. Support the implementation of water-management schemes in catchment areas and, primarily, plans for risk-prevention, mainly by relying on sustainable agriculture.



Orientations and actions (3)



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- 6. Initiate, in the framework of a Euro-Mediterranean partnership water programme, an institutional co-operation project with national water directors to help re-orient public policies and strengthen capacities (pilot action).
- 7. Fund (donors) pilot operations, including subsidies for demonstrating the validity of these new approaches.
- 8. Create a Euro-Mediterranean facility to support investment and achieve the objectives of the MDG and the Barcelona Convention (access to safe drinking water, equipment of coastal cities with treatment plants).



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Monitoring tools

SDI Proposals for the MSSD

Objective 10

- 8/ Total water demand and by sector;
- 8 bis/ Added value of total agricultural production compared to water consumption;
 - Is water demand moderating? Is the added value created per water cubic meter increasing?

Objective 11

- 9/ Exploitation index of renewable resources;
 - Do we reduce the pressures on the natural renewable water resources?

Objectives 12 and 13

- 10/ Access to drinking water (urban/rural);
- 11/ Access to sanitation (urban/rural).
 - Do we progress toward the Millennium development goal: Halve, by 2015, the proportion of people without sustainable access to safe drinking water and sanitation?

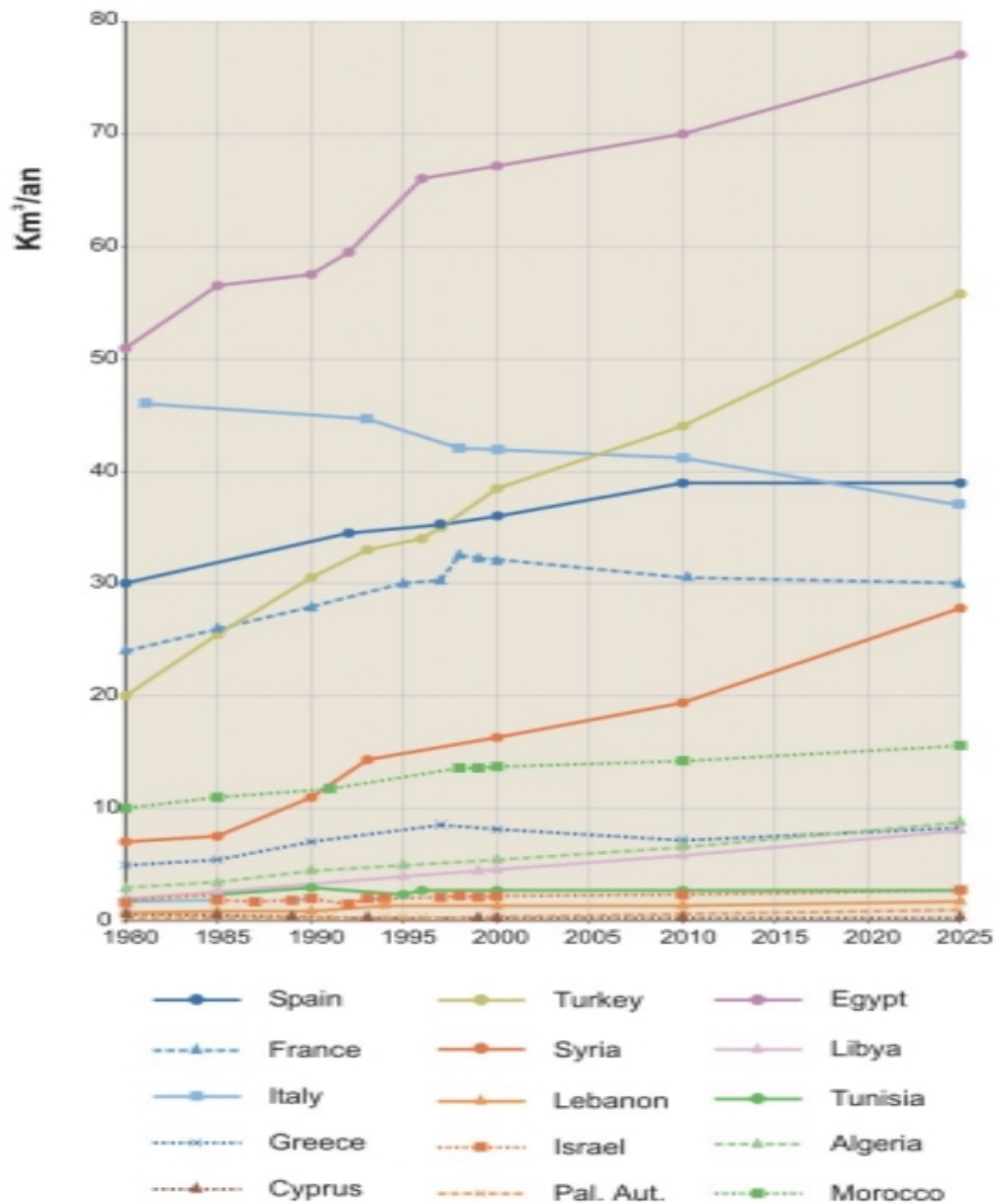


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Total demand per country, baseline scenario, NI, 1980-2025



Source : Plan Bleu



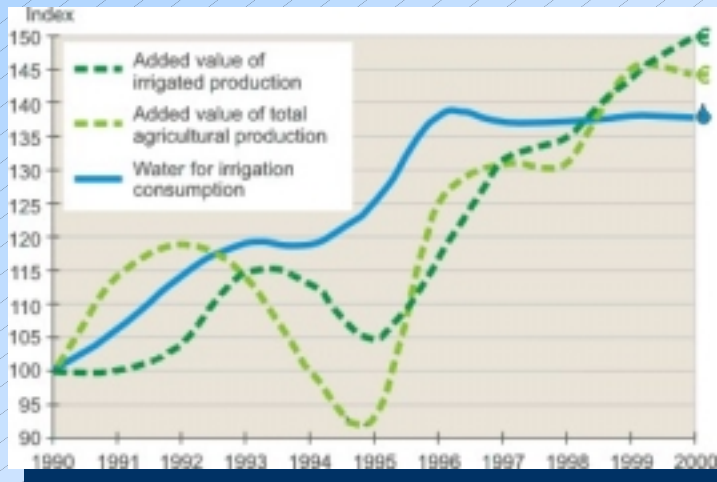
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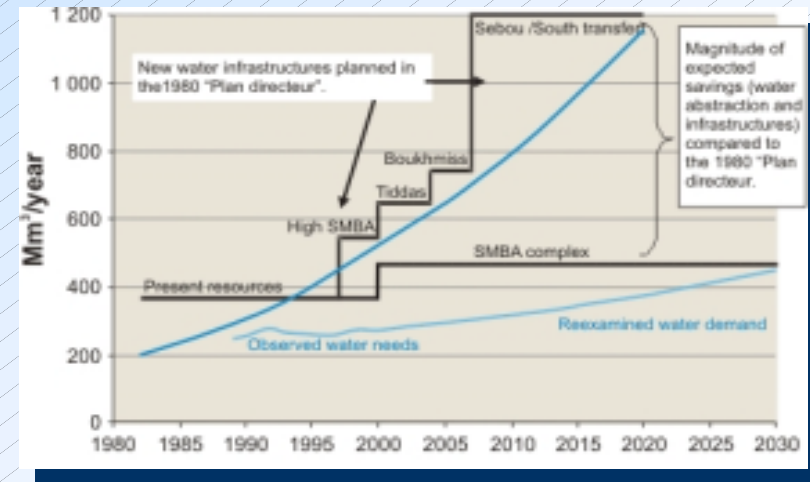
Towards a Sustainable Development Decoupling economic growth from environmental pressures

WATER

Decoupling irrigated agriculture production from water consumption in Tunisia



Water and Infrastructure savings (Ex of Rabat-Casablanca)



Alternative scenario by 2025: total saving of 54 cu.km, i.e., 10 billion €/year (30 times more than the Official Development Assistance), nearly 100 dams avoided. Priority to agriculture.



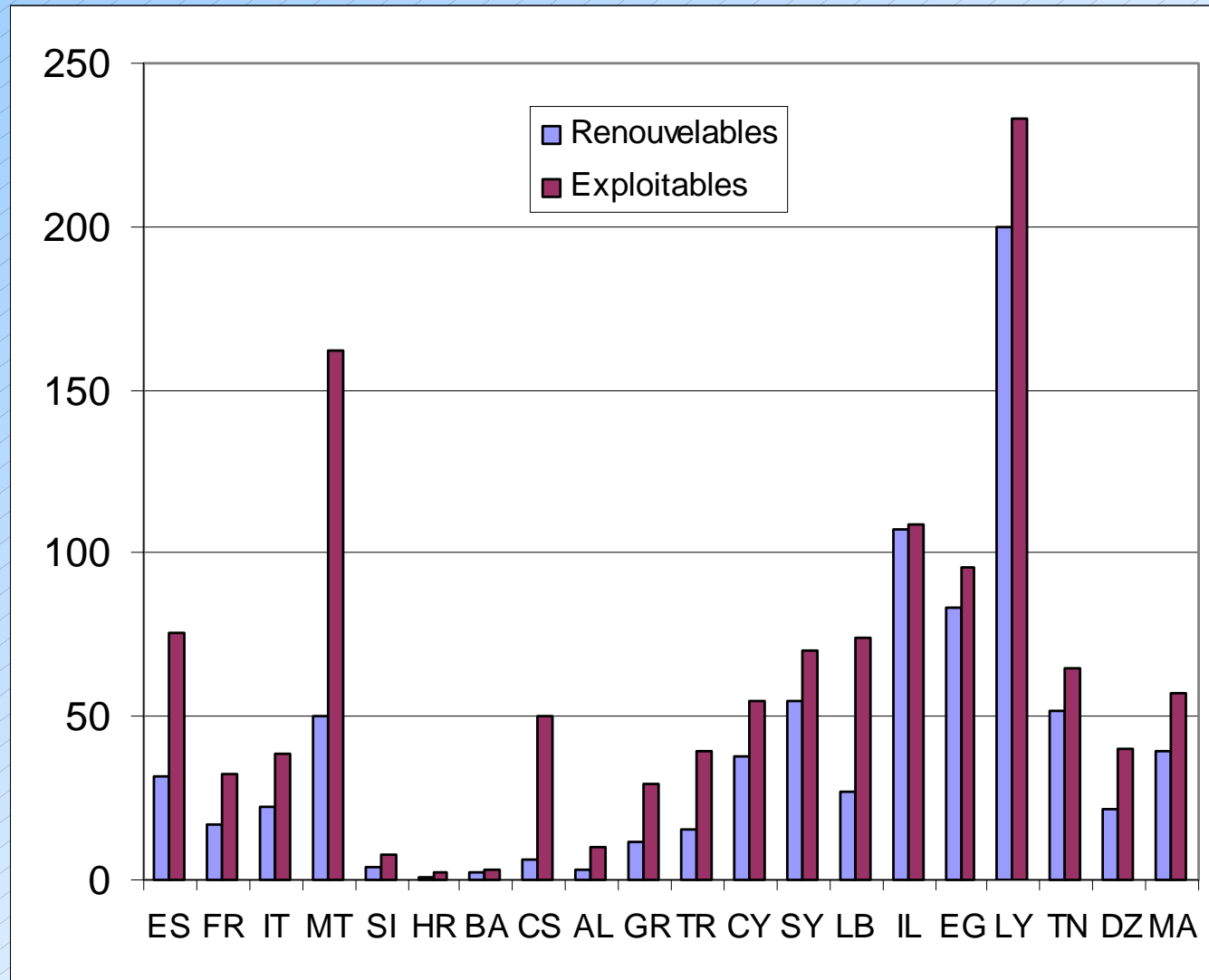
Exploitation index (national territory) (%)



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Percentage of population with access to improved drinking water sources

	total		rural		urban	
	1990	2002	1990	2002	1990	2002
AL	97	97	95	95	99	99
DZ	95	87	92	80	99	92
BA	98	98	96	96	100	100
CY	100	100	100	100	100	100
EG	94	98	92	97	97	100
IL	100	100	100	100	100	100
LB	100	100	100	100	100	100
LY	71	72	68	68	72	72
MT	100	100	100	100	100	100
MC	:	:	:	:	100	100
MA	75	80	58	56	94	99
PS	:	94	:	86	97	97
CS	93	93	86	86	99	99
SY	79	79	64	64	94	94
TN	77	82	57	60	93	94
TR	81	93	65	87	92	96

Source: United Nations. The Millennium Indicators Database

Percentage of population with access to improved sanitation

	Total		rural		Urban	
	1990	2002	1990	2002	1990	2002
AL	:	89	:	81	99	99
DZ	88	92	76	82	99	99
BA		93		88	99	99
CY	100	100	100	100	100	100
EG	54	68	42	56	70	84
IL	:	:	:	:	100	100
LB		98		87	100	100
LY	97	97	96	96	97	97
MT	:	:	:	:	100	100
MA	57	61	28	31	87	83
PS	:	76	:	70	:	78
CS	87	87	77	77	97	97
SY	76	77	56	56	97	97
TN	75	80	47	62	95	90
TR	84	83	:	:	96	94

Source: United Nations. The Millennium Indicators Database



Water SDI among 130 MCSD SDI

N°	Indicator name
13	Access to safe drinking water
133	Access to sanitation
53	Agriculture water demand per irrigated area
57	Water use efficiency for irrigation
132	equipped area in irrigation moderns systems
84	Exploitation index of renewable resources
85	Non-sustainable water production index
86	Share of samples water analysis not conform to quality standards
87	Water quality global index
88	Share of collected and treated wastewater by the public sewerage system
89	Existence of economic tools to recover the water cost in various sectors
90	Drinking water use efficiency
91	Share of Industrial wastewater treated on site
131	Dams silting up rate
95	Wetland area
134	Ecosystems Water Demand



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