

# The importance of the irrigation sector for all: a seminar on irrigation subsidies in the northern Mediterranean

Modernization financing  
and costs

Positive effects of Irrigation

*Madrid, 21 February 2011*

# Soil uses in Spain. Spanish Irrigation

Agrarian Total Area

42,7

(85 % country)

15,6  
GROVE

20,4  
CROPS

6,7  
PASTURES

17  
DRYLAND FARMING  
(UNIRRIGATED)

3,4  
IRRIGATION

0,9  
GROUNDWATERS

2,5  
SURFACE WATERS

10<sup>6</sup> hectares

# Irrigation in Spain

- Spanish Irrigation is the biggest water use demand: 24,250 Hm<sup>3</sup> per year, accounting for almost 80% of consumptive uses years ago. The consumption has been reduced to 63%, with about 15,300 Hm<sup>3</sup> according National Institute of Statistics.
- In Spain, irrigation accounts for about 14% of the total area under cultivation, and nearly 60% of Spanish agricultural final production

# Perimeter of Irrigation Areas in Spain



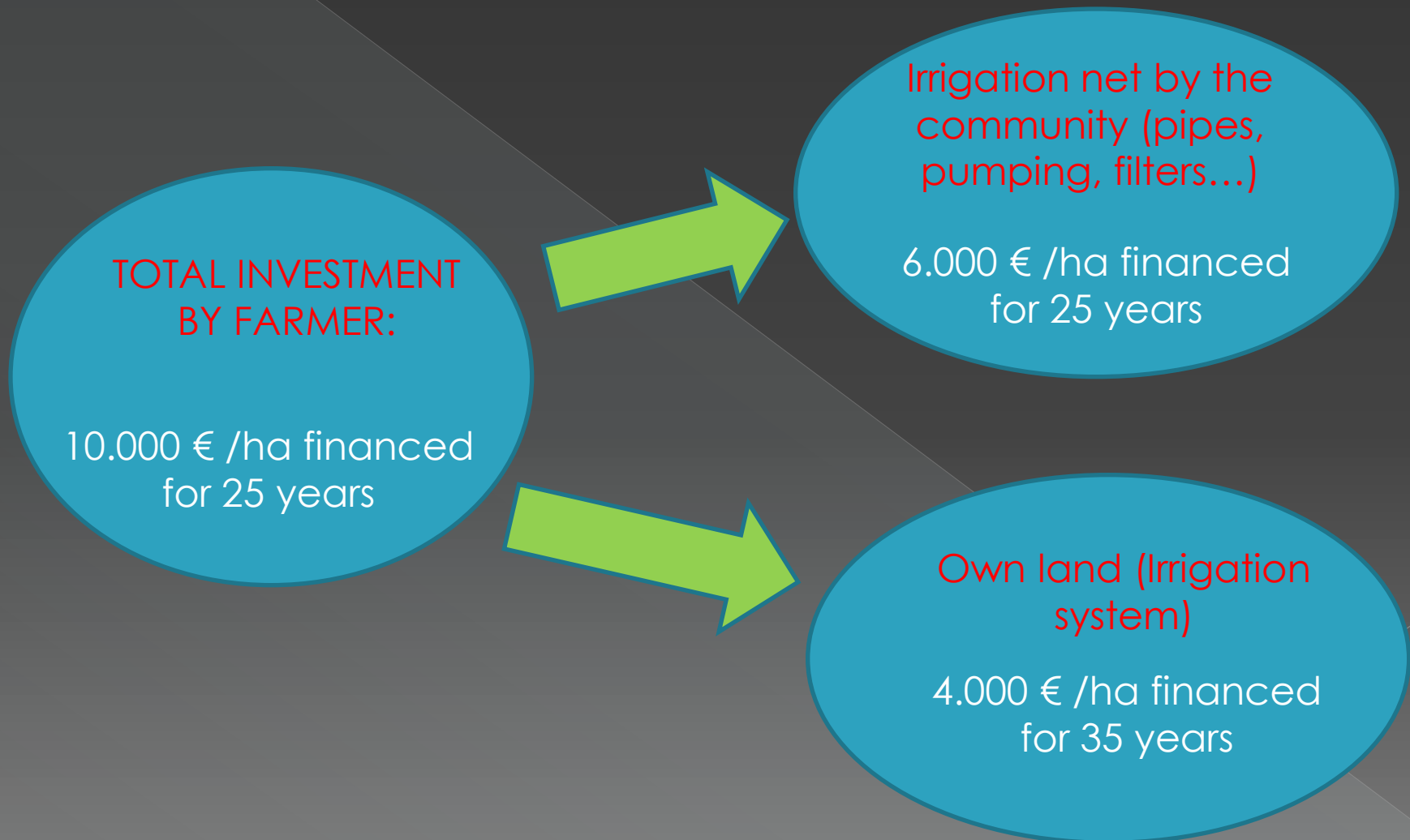
# Evolution of Irrigation Systems in Spain

IRRIGATION SYSTEM	Before 2000		2009 year	
	Hectares	%	Hectares	%
Flooding (gravity)	1.973.336	59	1.064.248	31,1
Sprinkling and others	802.712	24	765.440	22,4
Dripping	<b>568.588</b>	17	<b>1.591.616</b>	46,5
<b>TOTAL</b>	3.344.636	100	3.421.304	100

Source: PNR 2001 and Encuesta sobre superficie y rendimientos de cultivo



# Modernization costs



# Modernization financing

- Irrigator community (IC) pays “X”% of the infrastructures by direct pay (bank loan) and pay back to the bank from 0-25 year.
- “Seiasa” (Agrarian infrastructures Society) finances the building works and IC pay back to “Seiasa” from 25-50 year
- There are European funds, national funds and/or regional funds

# Modernization financing

## Financiación de las actuaciones en mejora y modernización de regadíos. PNR H-2008

Escala	Organismo/Origen	% Financiación
Administración Central	Ministerio de Agricultura, Pesca y Alimentación	19,98%
	SEIASA	
Administración Autonómica	Consejerías de Agricultura	19,98%
Fondos Europeos	FEOGA-Orientación	20,10%
Privada	Usuarios	39,95%
	Comunidades de Regantes	

Source: Precios y costes de los servicios del agua en España. MMA. 2007



## Relation between population according size and growth

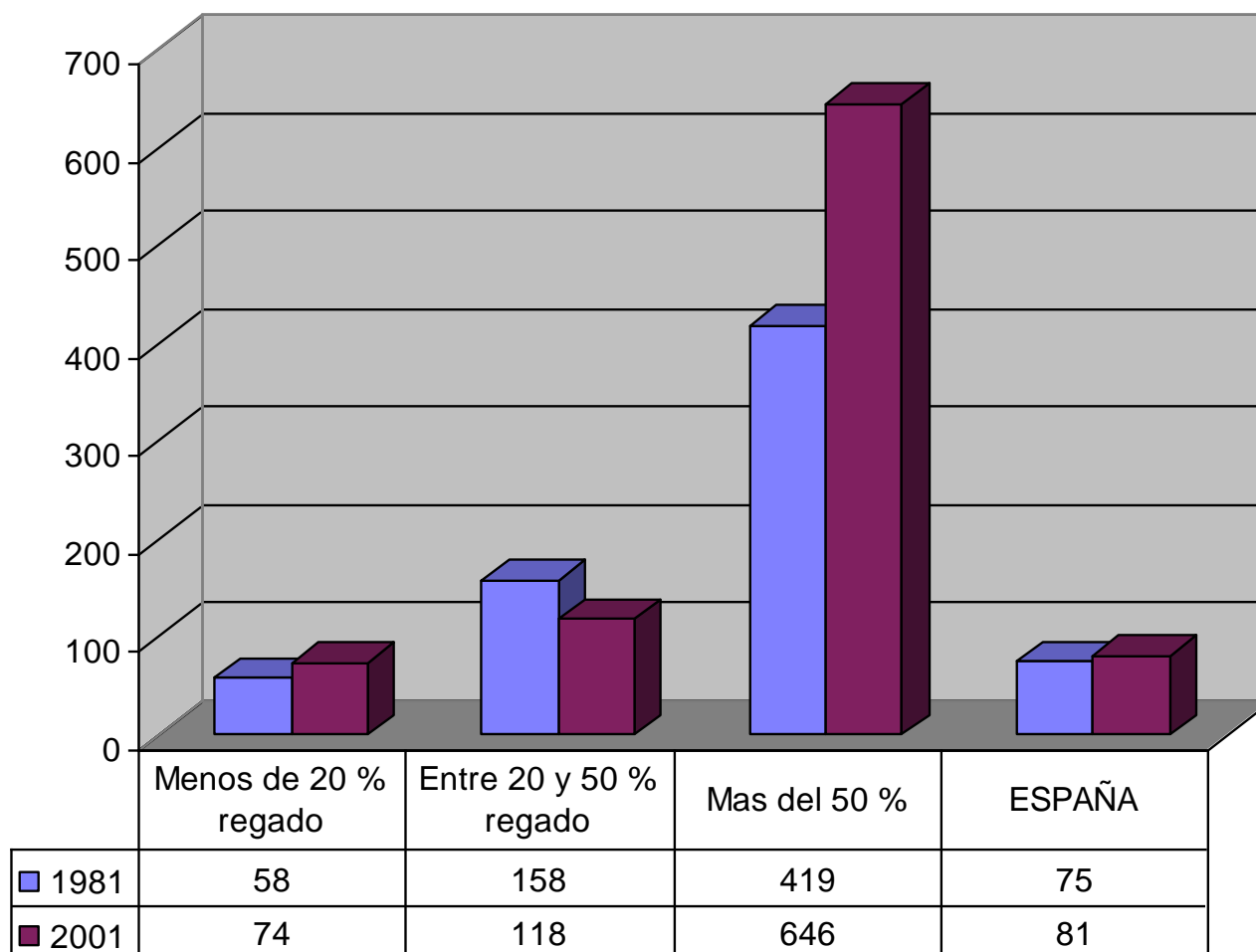
### VARIACIÓN DE LA POBLACIÓN (%) DE LOS NÚCLEOS SEGÚN SU TAMAÑO

Periodo	Menos de 5.000	De 5.000 a 10.000	Mayores de 10.000	Mayores de 20.000	Mayores de 50.000	ESPAÑA
1960/96	-47,1	37,5	40,9	45,5	46,3	29,5
1970/96	-22,1	22,4	23,8	26,3	26,1	16,7
1981/96	-6,8	7,8	7,8	6,8	4	5,1
1991/96	-1,3	3,3	2,6	1,6	1,1	0,6

## RELATION BETWEEN GROWTH AND IRRIGATION

Área comarcal regada	1970-81	1981-91	1991-99
Menos del 20 %	7,8	3.4	-0,5
Entre el 20 y el 50 %	17,7	7	7,9
Más del 50 %	20,7	6	5,4
ESPAÑA	11,2	4,5	1,9

# Evolution of population density. 1981 and 2001 (hab/km<sup>2</sup>).



## Relation between main Agri-Industrial indicators

INDICATORS	YEAR 2006		% FOOD INDUSTRY/TOTAL INDUSTRY
	TOTAL INDUSTRY	TOTAL FOOD INDUSTRY	
Employees (number)	2.623.830	382.170	14,57
Product net sales(M€)	485.412,849	78.726,018	16,22
Consumption of raw materials (M€)	247.787,382	44.221,411	17,85
Staff costs (M€)	80.730,025	10.147,651	12,57
Assets investment in matirials(M€)	27.822,873	4.205,548	15,12

Source: Encuesta Industrial de Empresas 2006 INE

# Challenges for Irrigation in XXI century

## SUSTAINABLE DEVELOPMENT:

1st) To satisfy current food needs

2nd) Use non-aggressive methods of production to natural resources

## CHALLENGES OF SUSTAINABLE IRRIGATION

1. Feed a growing world population
2. Reducing rural poverty existing in the world
3. Reply to expected increase on the management of the availability of natural resources

# IRRIGATION EFFECTS

## (SOCIAL - ECONOMIC – ENVIRONMENTAL)

- Addition of oxygen to the atmosphere
- Are sinks of atmospheric CO<sub>2</sub>
- Producer of raw materials Biofuels
- Reduction of erosion and desertification
- Fixing the population in the territory
- Irrigation as landscape element
- Positive effects on the induced economy by irrigation (GDP)
- Guaranteed of a minimum strategic supply
- Crop diversity and productivity of irrigated areas are higher than in the non-irrigated lands (1 ha S. R. = 5-6)