

# IRRIGATION



## QUELLES STRATÉGIES POUR ÉCONOMISER L'EAU ? WHAT STRATEGIES FOR WATER SAVINGS ?

*REGARDS CROISÉS EUROPÉENS*  
*SHARING EUROPEAN VIEWS*



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MONTPELLIER

FRANCE



PROJET COFINANCÉ PAR LE FONDS EUROPÉEN AGRICOLE POUR LE DÉVELOPPEMENT RURAL  
L'EUROPE INVESTIT DANS LES ZONES RURALES



# THE CHALLENGE OF IRRIGATION MODERNIZATION IN SPAIN

MINISTRY OF AGRICULTURE, FISHERIES AND FOOD  
GENERAL DIRECTORATE OF RURAL DEVELOPMENT, INNOVATION AND FOREST POLICY  
UNIT FOR IRRIGATION AND RURAL INFRASTRUCTURES



Inmaculada Bravo Domínguez

# 1. Water management for irrigation

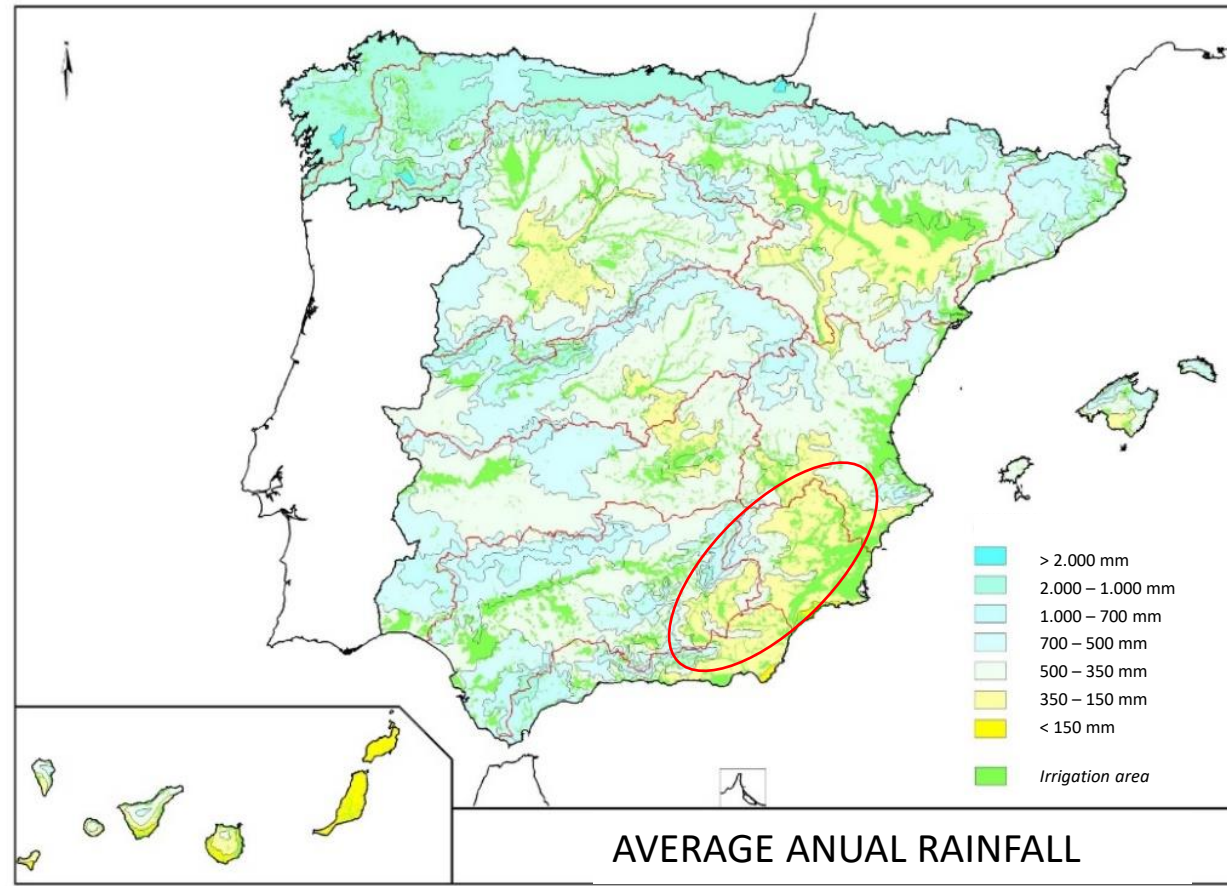
WATER: Ministry for the ecological transition (MITECO) – General Directorate for Water

- Execution and management of dams
- Water transport channels
- Water concessions for irrigation
- Hydrological planning

IRRIGATION: MAPA (General Directorate for Rural Development, Innovation and forest policy) and REGIONAL GOVERNMENTS

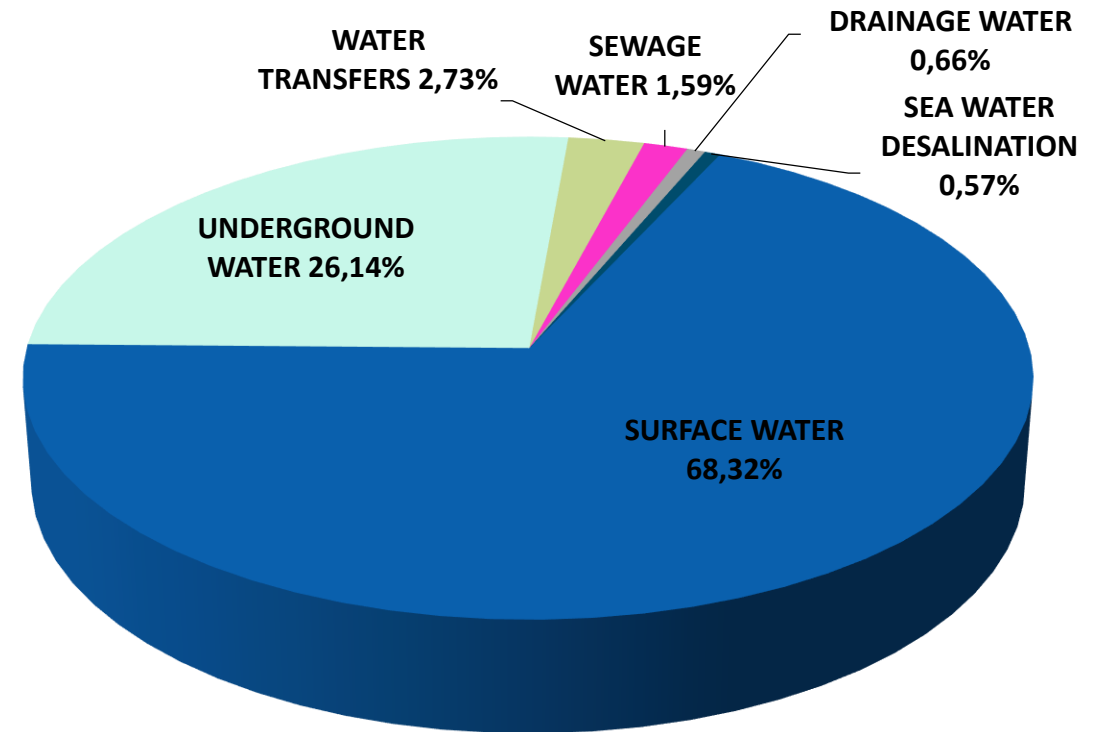
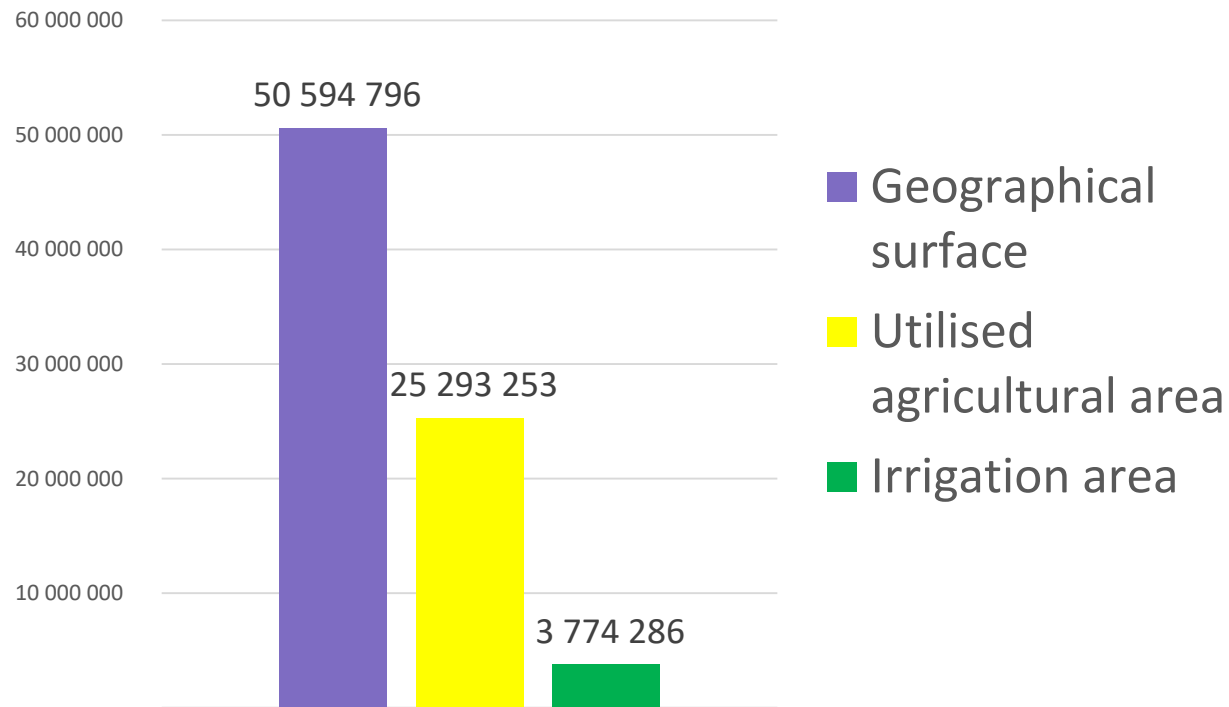
- Execution of pipes distribution within irrigated areas

## 2. Rainfall and irrigation distribution in Spain

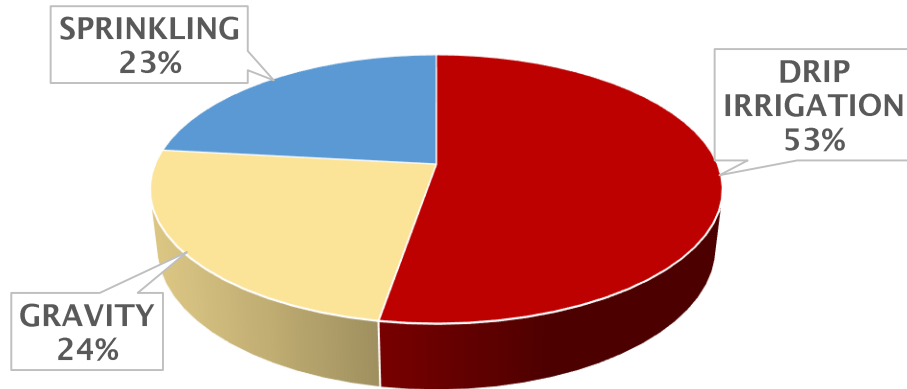


# 3. Irrigation surface and water supply sources

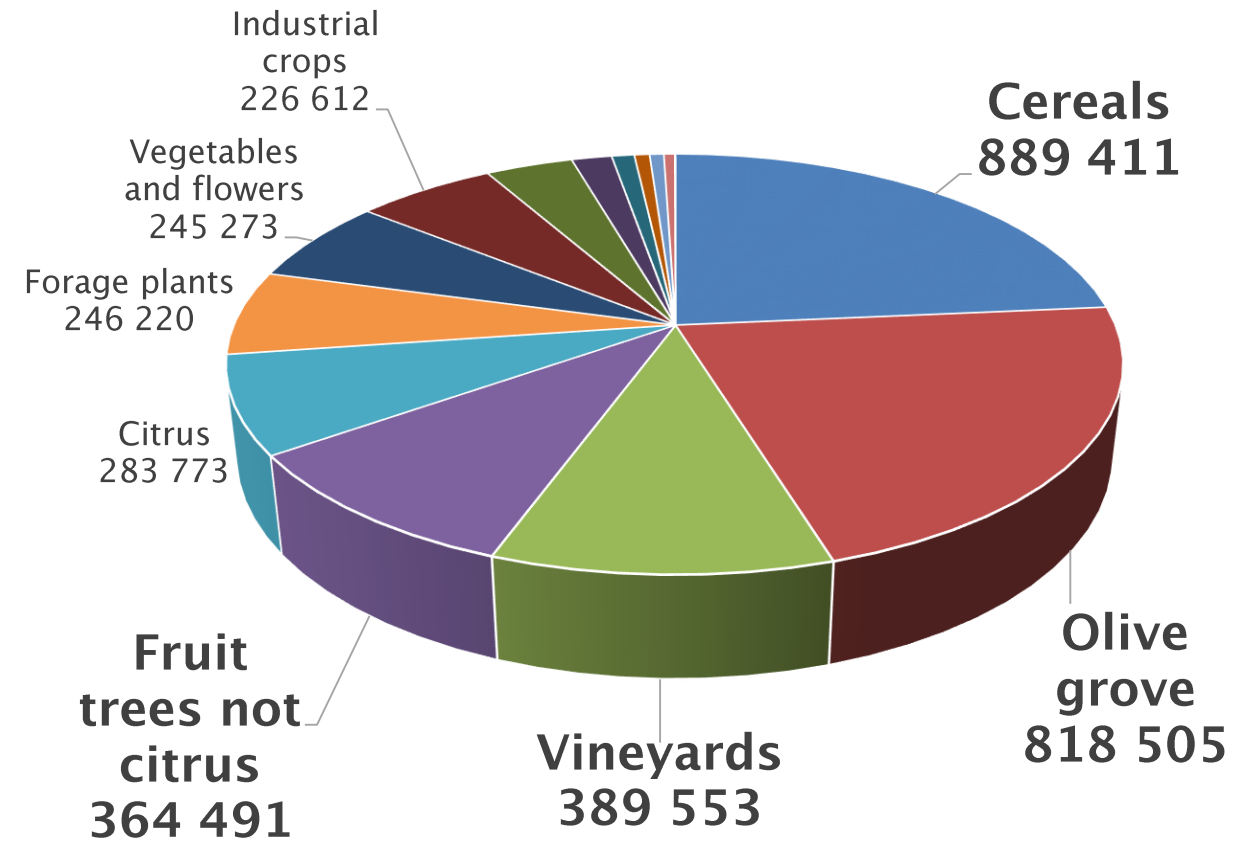
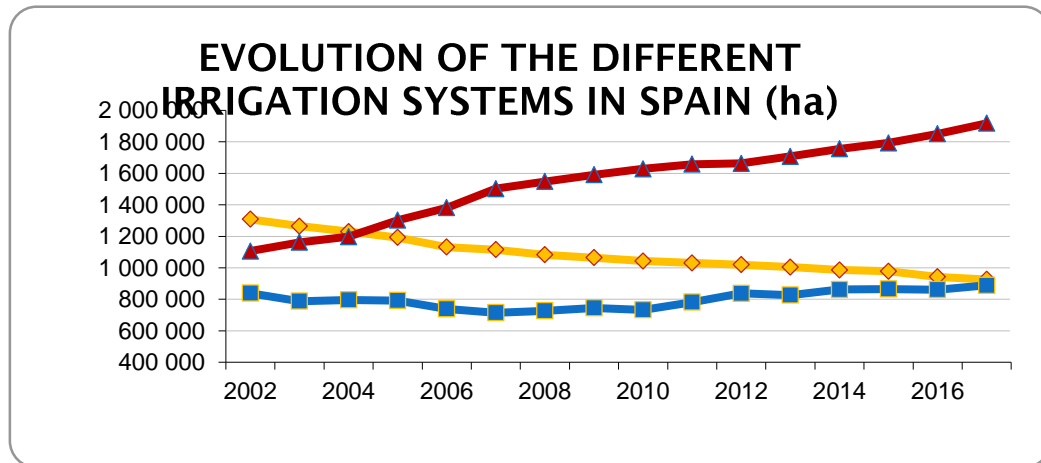
UTILISED AGRICULTURAL AREA AND IRRIGATION AREA (ha)



# 4. Evolution of irrigation systems and main crops in irrigated areas



Datos: ESYRCE 2018



# 5. The modernization process of irrigation in Spain: infrastructures

“Plan Nacional de Regadíos (2002–2008)” and “Plan de Choque (2006-2007)”

## Spanish irrigation modernization:

- 1,47 million hectares modernized
  - Central Government → 895.095 ha
  - Regional Governments → 574.971 ha
- 2.927 M€ of Public Investment:
  - Central Government → 2.052 M€
  - Regional Governments → 875 M€

## Rainfed transformation to irrigate

- 0,20 million hectares
  - Central Government → 0,103 Mha
  - Regional Governments → 0,100 Mha
- 849 M€ of Public Investment:
  - Central Government → 315 M€
  - Regional Governments → 534 M€

✓ Estimated water saving → 3.096 hm<sup>3</sup>/year

✓ 66.581 jobs created

✓ 233 ponds built with a total volumen of 29.956.024 m<sup>3</sup>

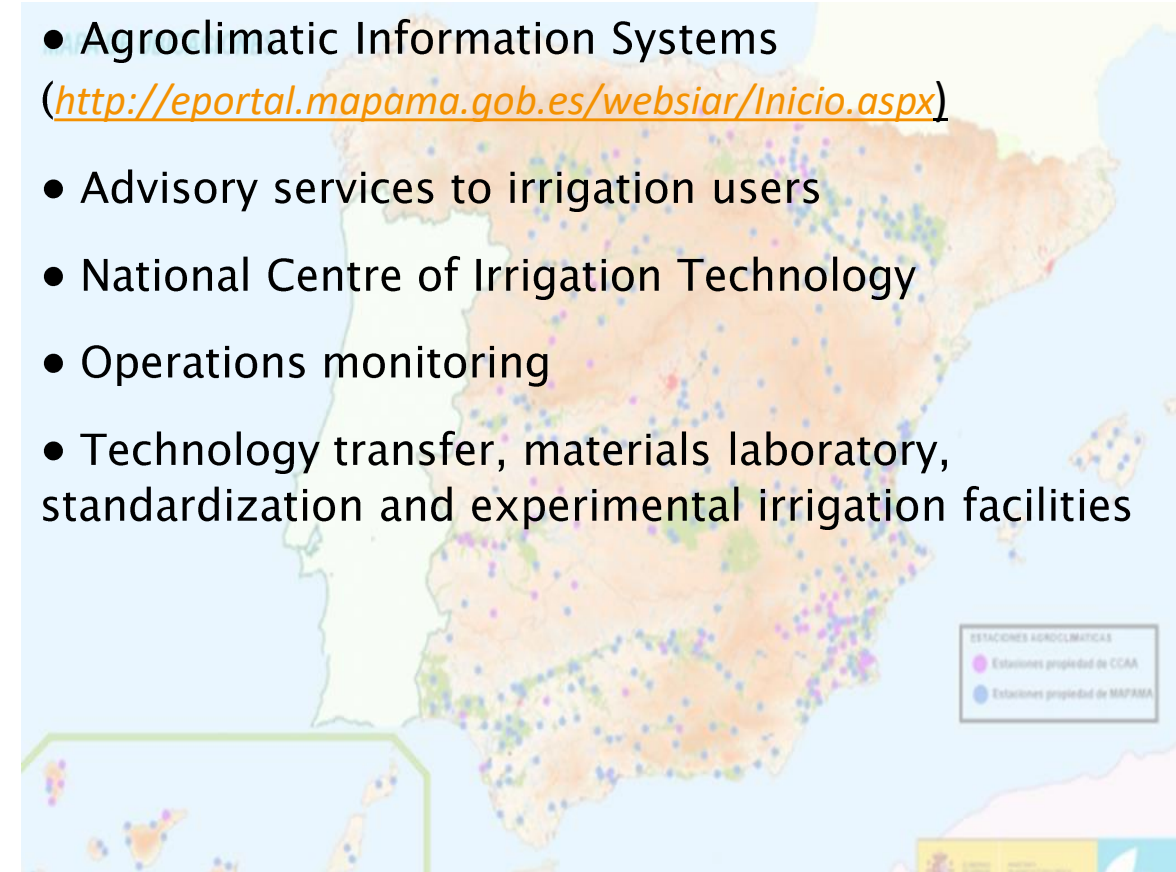
# 6. The modernization process of irrigation in Spain: Management and Advisory

## MANAGEMENT

- Technology transfer
- Training
- Knowledge Exchange Networks
- Institutional strengthening
- Technified management
- Integration of ICTs (Information and Communication Technologies), remote sensing and GIS (Geographical Information Systems) to improve water management
- Promoting good practices in irrigation
- Research, Development and Innovation efforts in subjects such as water and irrigation

## ADVISORY

- Agroclimatic Information Systems (<http://eportal.mapama.gob.es/websiar/Inicio.aspx>)
- Advisory services to irrigation users
- National Centre of Irrigation Technology
- Operations monitoring
- Technology transfer, materials laboratory, standardization and experimental irrigation facilities





# 7. Implementation of the European Rural Development Program

EU N°1305/2013

Implementation of Regulation (EU) N° 1305/2013 of the European Parliament and of the Council, of 17 december 2013 on support of rural development by European Agricultural Fund for Rural Development (EAFRD):

- **Art. 17** sets the rules for “Investments in physical assets” and establishes the type of investments allowed.
- **Art. 45** “Investments” and **Art. 46** “Investments in irrigation” set the conditions required for an irrigation project to be subsidized by EAFRD.

Implementation in Spain

Implementation of the European Rural Development Program in Spain:

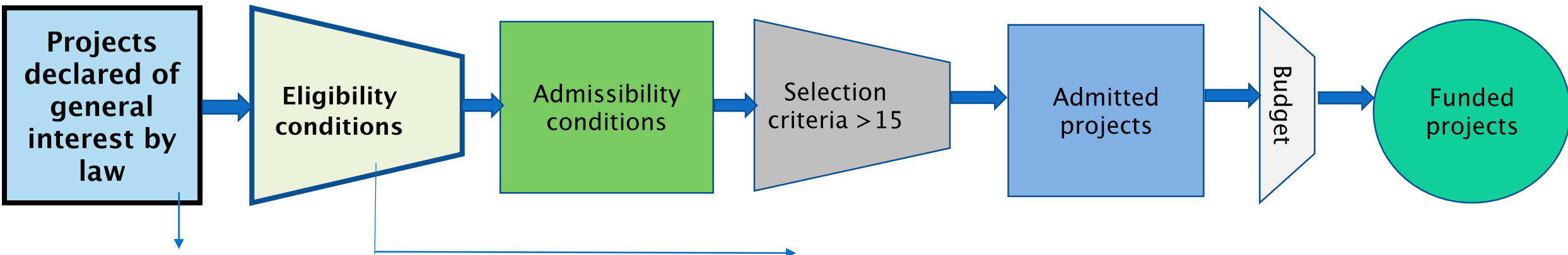
- There is a **NATIONAL RURAL DEVELOPMENT FRAMEWORK** that sets the general standards for all rural development programs.
- There is a **NATIONAL PROGRAM OF RURAL DEVELOPMENT**
- There are **17 REGIONAL PROGRAMS OF RURAL DEVELOPMENT** according to the **17 Autonomous Communities in Spain.**

Submeasure

SUBMEASURE :

- “MODERNIZATION OF PUBLIC INFRASTRUCTURES FOR IRRIGATION”** is one of the measures of “**INVESTMENTS IN PHYSICAL ASSETS**” Submeasure “**MODERNIZATION OF PUBLIC INFRASTRUCTURES FOR IRRIGATION**” is included in:
- **NATIONAL PROGRAM OF RURAL DEVELOPMENT**
  - **13 out of 17 REGIONAL PROGRAMS OF RURAL DEVELOPMENT**

# 8. Investments supported by the Sub-measure: "Modernization of public irrigation infrastructure"

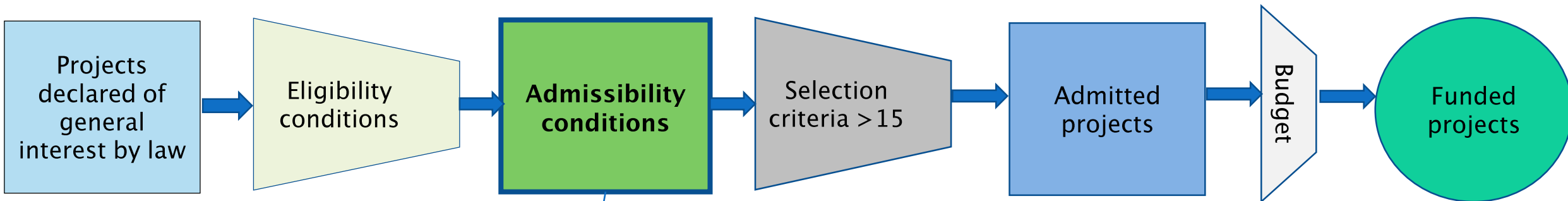


Operations for the improvement or modernization of *public* irrigation infrastructures declared of *general interest* by law and that are located:

- ✓ *in two or more autonomous communities* and / or
- ✓ *in river basins that pass through two or more autonomous communities*

- ✓ Chronology of the project is compatible with the programming period
- ✓ Beneficiary is the one provided in the national program
- ✓ Projet is in accordance with what is required in the national program
- ✓ Expenses are eligible according to the program.
- ✓ The project contains all the information necessary to verify compliance with the admissibility conditions, and to apply the selection criteria

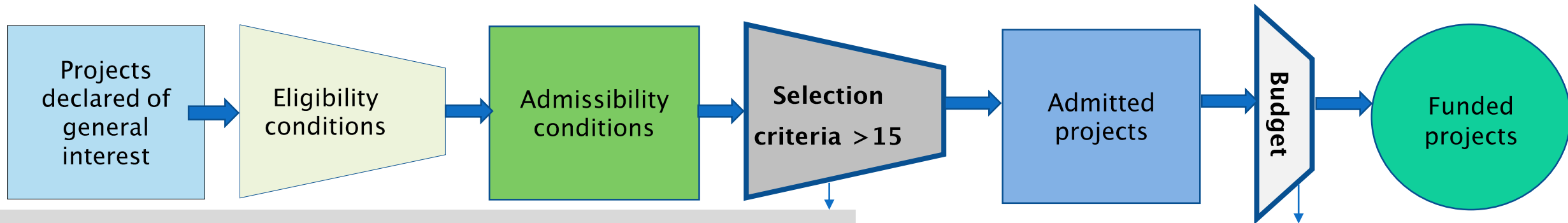
# 9. Investments supported by the Sub-measure: "Modernization of public irrigation infrastructure"



(As established in the National Rural Development Program):

1. Environmental impact assessment
2. Irrigators commitment that:
  - Fulfill the conditions on the environmental impact assessment
  - Apply a binomic or similar rate that drives to water savings
  - To have a qualified technician
  - To collect the data required for irrigations indicators (as established in the National Rural Development Framework. The goal of these indicators is to facilitate the evaluation of public investments).
  - In case of water qualified as "not to reach the good condition" accreditation that have requested the hydrographic confederation to reduce the concessional volume of water
3. Coherence with hydrological planning and the water framework directive
4. To include a water use measurement system
5. Description of the recovery of the investment and of the costs for water services
6. Determination of the potential water savings that must exceed the values established in the strategic environmental declaration of the national rural development program and which are values that are based on the projected modernization:
7. Determination of the effective water saving if the water to be used is declared not to reach the good quantitative state

# 10. Investments supported by the Sub-measure: "Modernization of public irrigation infrastructure"



- ✓ **C1 (0-40):** Potential water savings of modernized infrastructure
- ✓ **C2 (0-25):** Effective water savings in case the water used comes from river basins that do not reach good condition
- ✓ **C3 (0-6):** Conventional energy saving by replacing it with renewable energy
- ✓ **C4 (0-20):** Promotion of energy and water savings by inducing irrigation systems by natural pressure or by spraying / dripping
- ✓ **C5 (0-3):** Effective environmental assessment

[https://www.mapa.gob.es/es/desarrollo-rural/temas/programas-ue/criterios\\_de\\_seleccion\\_medida\\_m043\\_v3\\_tcm30-445872.pdf](https://www.mapa.gob.es/es/desarrollo-rural/temas/programas-ue/criterios_de_seleccion_medida_m043_v3_tcm30-445872.pdf)

- ✓ The operations selected will be those that obtain the highest score, with the limit imposed by the budgetary programming.
- ✓ The selection criteria will be applied even in those cases where the budget available for the measure exceeds the budget of the candidate operations to be chosen.
- ✓ Any operation that does not reach the minimum established score will be excluded, even if it is the only candidate.

# Thank you for your attention

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