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***Managing and Promoting the Mediterranean Resources: Waste Challenges and Innovation for Natural Resources, Food and Knowledge***

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# **MANAGING AND PROMOTING KNOWLEDGE: THE CASE OF THE TUNISIAN SYSTEM FOR AGRICULTURAL RESEARCH AND HIGHER EDUCATION**

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# IRESA (Institution for Agricultural Research and Higher Education)

- Supervisory authority on agricultural research and higher education establishments (1991)
  - 11 establishments for Agricultural research
  - 12 establishments for Agricultural Higher Education (Engineer, Veterinarian and bachelors degrees, postgraduate studies)
  - 820 faculties
  - Development & implementation of national strategies of agricultural research and capacity development
  - Mandated for funding, programming, monitoring and evaluating research activities
  - Boosting bilateral and multilateral international cooperation in agricultural research and higher education



# KNOWLEDGE A GOOD (universal, public, private, protected) SHAPING HUMAN HISTORY

- Generation of technologies which have strongly contributed to shape our History and to improve Human welfare particularly during the last century
- One of the major driving forces of developed modern economies and societies
- Knowledge, a critical issue for managing the several challenges facing the Mediterranean region:
  - Case of the Tunisian System for Agricultural Research and Higher Education




# Levers for a knowledge economy in Tunisia

- Stage 2 Economy (Efficiency driven) (*Global competitiveness Indexes 2011-12, World Economic Forum*)
- A great field of progress for the Tunisian economy regarding knowledge management and promotion (*Global competitiveness Indexes 2016-17, World Economic Forum*):
  - Capacity to retain talents
  - Capacity to attract talents
  - Capacity for innovation
  - Foreign Direct Investment and technology transfer
  - University industry collaboration in R&D

# WASTE OF KNOWLEDGE: CRITICAL POINTS IN THE CASE OF TUNISIAN AGRICULTURE

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- High unemployment rates of agricultural high education graduates
  - Accumulation of knowledge (deliverables of research) not transferred to the socioeconomic sector:
    - *Technology and Innovation Transfer Systems*
  - Conflict between “modern” knowledge and local know-how
  - Relationship between Research and Higher education and the socioeconomic stakeholders (profession, industry, services, development sector, civil society and consumers, state):
    - *Identification of needs and expectations and transformation into research thematic/programs/projects and research expected deliverables*
    - *Format of knowledge deliverables (acceptability/applicability)*

# GLOBAL CHALLENGES FOR THE TUNISIAN AGRICULTURE

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- Climate changes
  - High pressure on limited natural resources (water, soil, ecosystems)
  - Small-scale farming sector (75% farms) embarked in a conflict of agricultural model (Green Revolution generic model)

## Need for a new agricultural economy of knowledge

- Adaptation, resilient sustainable efficiency, and gradual transformation of production systems
- Efficient technology and innovation transfer systems



# CRITICAL ISSUES FOR MANAGING AND PROMOTING KNOWLEDGE

## ■ Why developing our knowledge?/

- Solve problems (socioeconomic stakeholders, development sector, state, scientific awareness)
- Know and understand better our universe

## ■ How ?

- Reliable translation needs/expectations into the scientific format
- Relevant scientific approach

## ■ Promoting knowledge: valorising its deliverables (+ human resources/competences)

- Ecosystem for knowledge and innovation promotion
- Value chains (multi-actors, institutional sustainability) for transfer of knowledge (e-learning, interactive pedagogy) and technology & innovation

# EFFICIENT SYSTEMS FOR RESEARCH-INNOVATION AND HIGHER EDUCATION-SOCIOECONOMICAL INSERTION OF GRADUATES:

## THE CORE OF THE PROJECT OF STRATEGIC PLAN FOR THE TUNISIAN SARHE



**SLOGAN**  
Tunisia, New Agriculture of Knowledge

**CHANGE OF PARADIGM**  
Repositioning the Agricultural Research & Higher Education /socioeconomic stakeholders:  
Alliance groups

