



INNOVATION CHAIN & INTERACTIVE MODEL

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CIHEAM Bari



CIHEAM
BARI

Centre International de Hautes Études
Agronomiques Méditerranéennes - Bari
(CIHEAM Bari)



Sharing Knowledge, Feeding the Future





OUR GOAL

To promote **sustainable development** of **agriculture, fisheries** and improve **food and nutrition security** in **rural** and **coastal areas**

WHO WE ARE

Founded in **1962**

13 Member **Countries**

1 **General Secretariat** in Paris

4 **Mediterranean Agronomic Institutes:**
Bari, Chania, Montpellier and
Zaragoza





CIHEAM Bari is one of the 4 Mediterranean Institutes and it carries out post-graduate education, training, applied scientific research and international cooperation activities that contribute to strengthen institutional dialogue across the Mediterranean area, enhancing sustainable development in rural and coastal areas.



EDUCATION &
TRAINING

APPLIED
RESEARCH

INTERNATIONAL
COOPERATION



EDUCATION AND TRAINING



Total no. of Trainees (1993-2018)

	Postgraduate Specialization Master Courses	3133
	MASTER OF SCIENCE PROGRAMS <i>Long duration courses (8 months to 2 years)</i>	975
	ADVANCED SPECIALIZATION COURSES <i>(3 to 8 months)</i>	317
	SHORT AND INTENSIVE COURSES	6223
	DISTANCE LEARNING COURSES	433
	Support to Doctoral Studies	108



Education for Excellence

CERTIFICATION OF INTERNAL
PROCEDURES
ISO 9001/2015 for education/training



1. POSTGRADUATE EDUCATION

CIHEAM Bari organizes Master and Master of Science Programs in :

- **Land and Water Resources Management: Irrigated Agriculture**
- **Sustainable IPM Technologies for Mediterranean Fruit and Vegetable Crops**
- **Mediterranean Organic Agriculture**

Upon completion of the 1st year: **Master Degree (60 ECTS)**.

At the end of the 2nd year: **Master of Science Degree (120 ECTS)**.

2. SUPPORT TO DOCTORAL STUDIES (PhD)

for the best MSc students by facilitating access to **Italian and Foreign Universities** and providing **scientific tutoring and facilities for research** (experimental fields, laboratories, equipment).

3. LIFELONG LEARNING

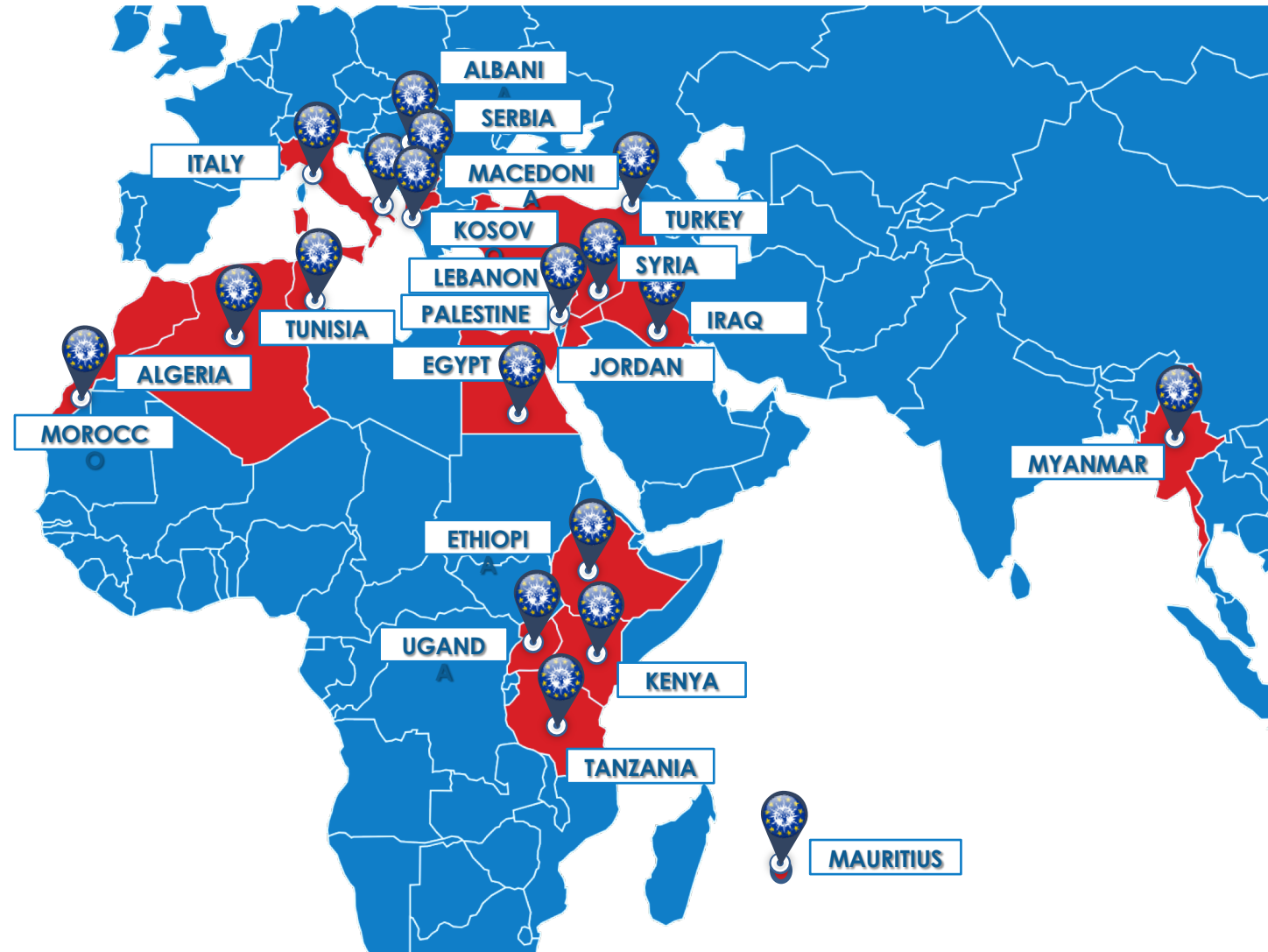
Short courses for students, young researchers, professionals, lecturers, development and extension agents and public officials, CIHEAM Bari former students. These are capacity building and project-oriented activities. At the end of each course, participants are awarded a **Certificate of Attendance**.

4. DISTANCE LEARNING (DL)

E-learning And Remote Technical Assistance (RTA)

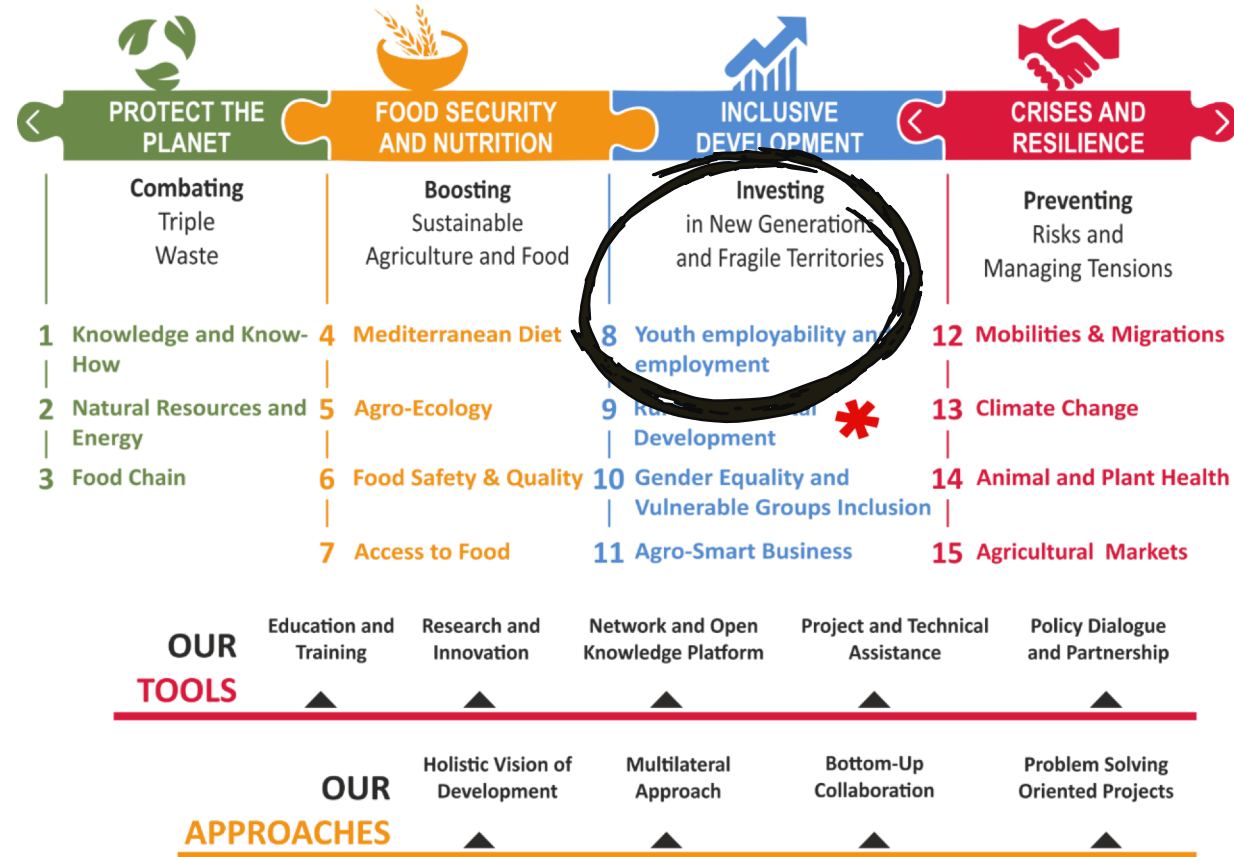


**GEOGRAPHIC AREA
OF COOPERATION
ACTIVITIES**
(2014-2020)





CAPMED2025



MORE ATTENTION ON SOCIAL NEEDS AND HUMAN CAPITAL

POPULATION INCREASE:

The second most populated continent is **AFRICA** (2,0 billions, year 2030)

From an estimated 7.7 billion people worldwide in 2019, the medium-variant projection indicates that the global population could grow to around 8.5 billion in 2030, 9.7 billion in 2050, and 10.8 billion in 2100.

SOURCE United Nations, Department of Economic and Social Affairs, Population Division (2019). World Population Prospects: The 2019 Revision.

FAMILY FARMS

570 millions of existing farms in world, of which 9 out of 10 are family-run, with a production of about 80 % of the world's food.

FAO report : The State of Food and Agriculture 2015 (SOFA).

MIGRATIONS

From 2015 to 2020, annual net migration to Europe, Northern America and Oceania averaged 4,9 million persons per year and 32% under 20 years (low income countries).

Globally, the average annual net number of immigrants has increased steadily between 1950-1955 and 2005-2010 (except for the period 1990-1995), from around 1.2 million per year during 1950-1955 to around 6.4 million per year during 2005-2010 . It has since declined to around 4.9 million per year during 2015-2020

The median age of international migrants worldwide was 39.0 years in 2019. SOURCE United Nations, Department of Economic and Social Affairs, Population Division (2019). World Population Prospects: The 2019 Revision.

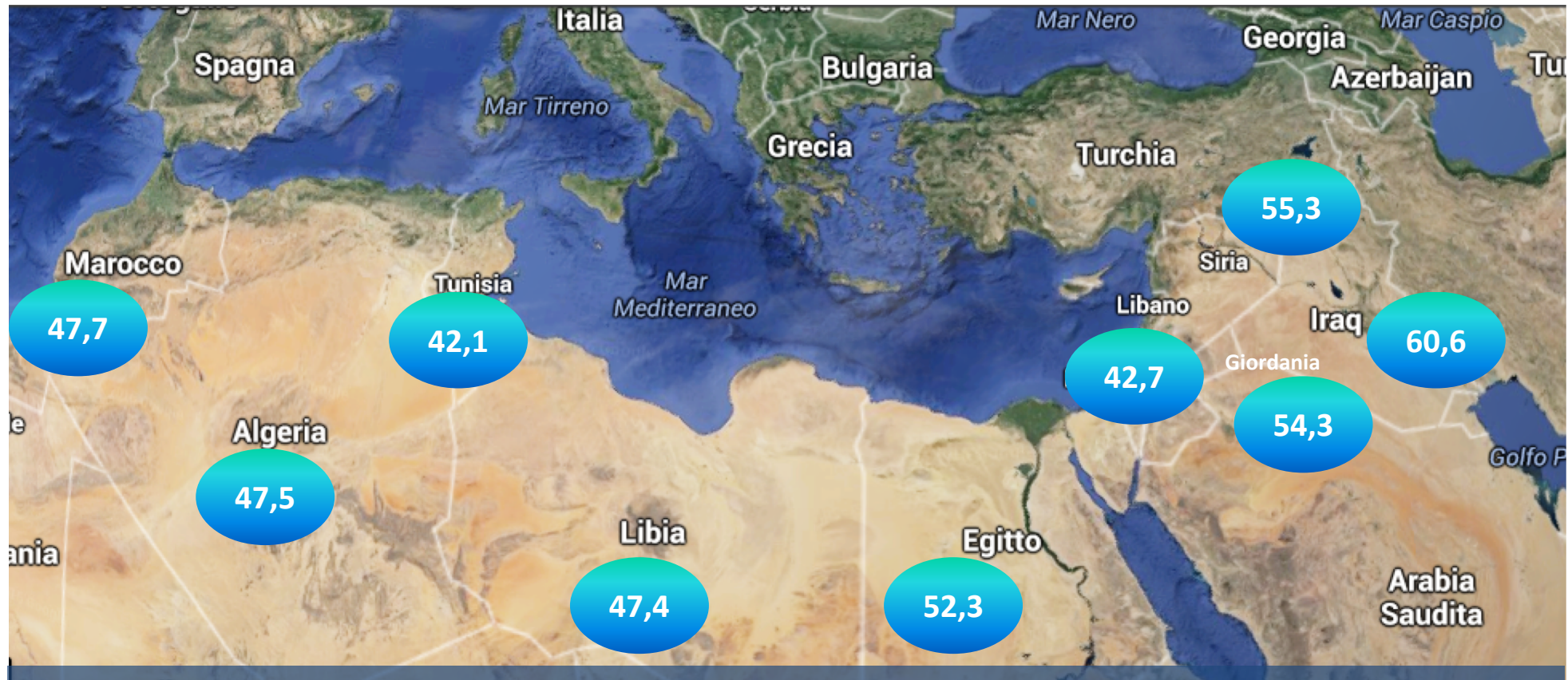
Table 1. Population of the world, 2019, 2030, 2050 and 2100

Region	Population (millions)			
	2019	2030	2050	2100
World	7 713	8 548	9 735	10 875
Sub-Saharan Africa	1 066	1 400	2 118	3 775
Northern Africa and Western Asia	517	609	754	924
Central and Southern Asia	1 991	2 227	2 496	2 334
Eastern and South-Eastern Asia	2 335	2 427	2 411	1 967
Latin America and the Caribbean	648	706	762	680
Australia/New Zealand	30	33	38	49
Oceania*	12	15	19	26
Europe and Northern America	1 114	1 132	1 136	1 120
Least developed countries	1 033	1 314	1 877	3 047
Land-locked Developing Countries	521	659	926	1 406
Small Island Developing States	71	78	87	88

2,8 (y2050)
4,6 (y2100)

4,8 (y2050)
4,2 (y2100)

Data source: United Nations, Department of Economic and Social Affairs, Population Division (2019). *World Population Prospects 2019*.



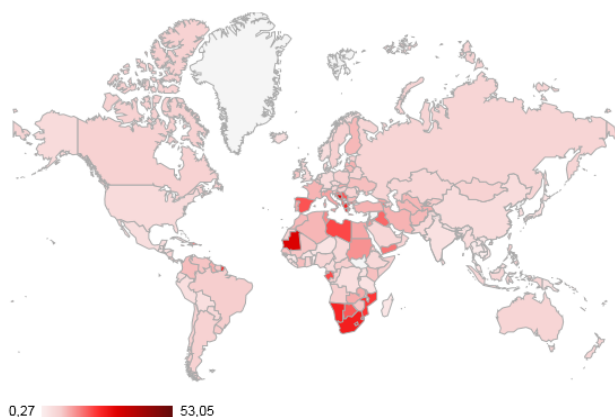
Young people in the Mediterranean

Source: ILO 2015 % population with less 25 years

Investing in new generations and fragile territories

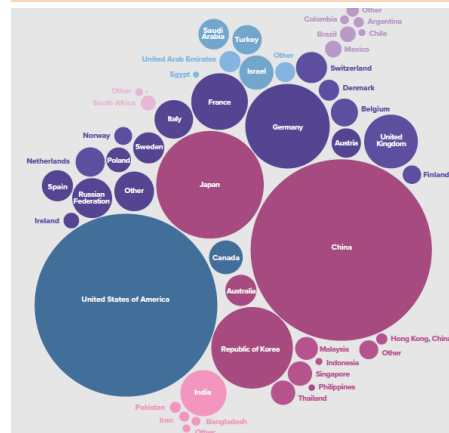
CHALLENGES

Youth empowerment



Source: Growing youth unemployment, ILO 2015

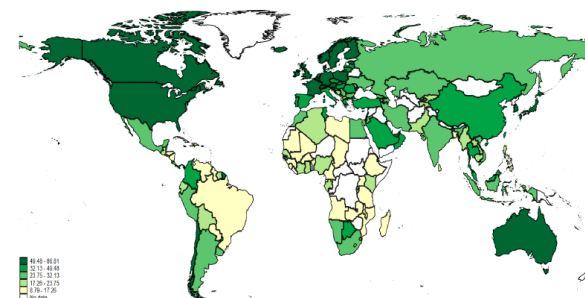
Technological and social innovation



source: global innovation index 2019

New & innovative entrepreneurship

Figure 2.1: Global Entrepreneurship 2019 Index Map



source: global entrepreneurship index 2019

CHALLENGES

Agriculture is and will continue to be the main provider of jobs for rural youth, but the profitability and income from farming is low.

youth's limited access to land

youth's limited involvement in policy dialogue.

Human capital
youth's insufficient access to knowledge,
information
and education. entrepreneurial culture

Low Networking

young people's limited access to markets ,
due to the growing international influence of supermarkets and
the rigorous standards of their supply chains.

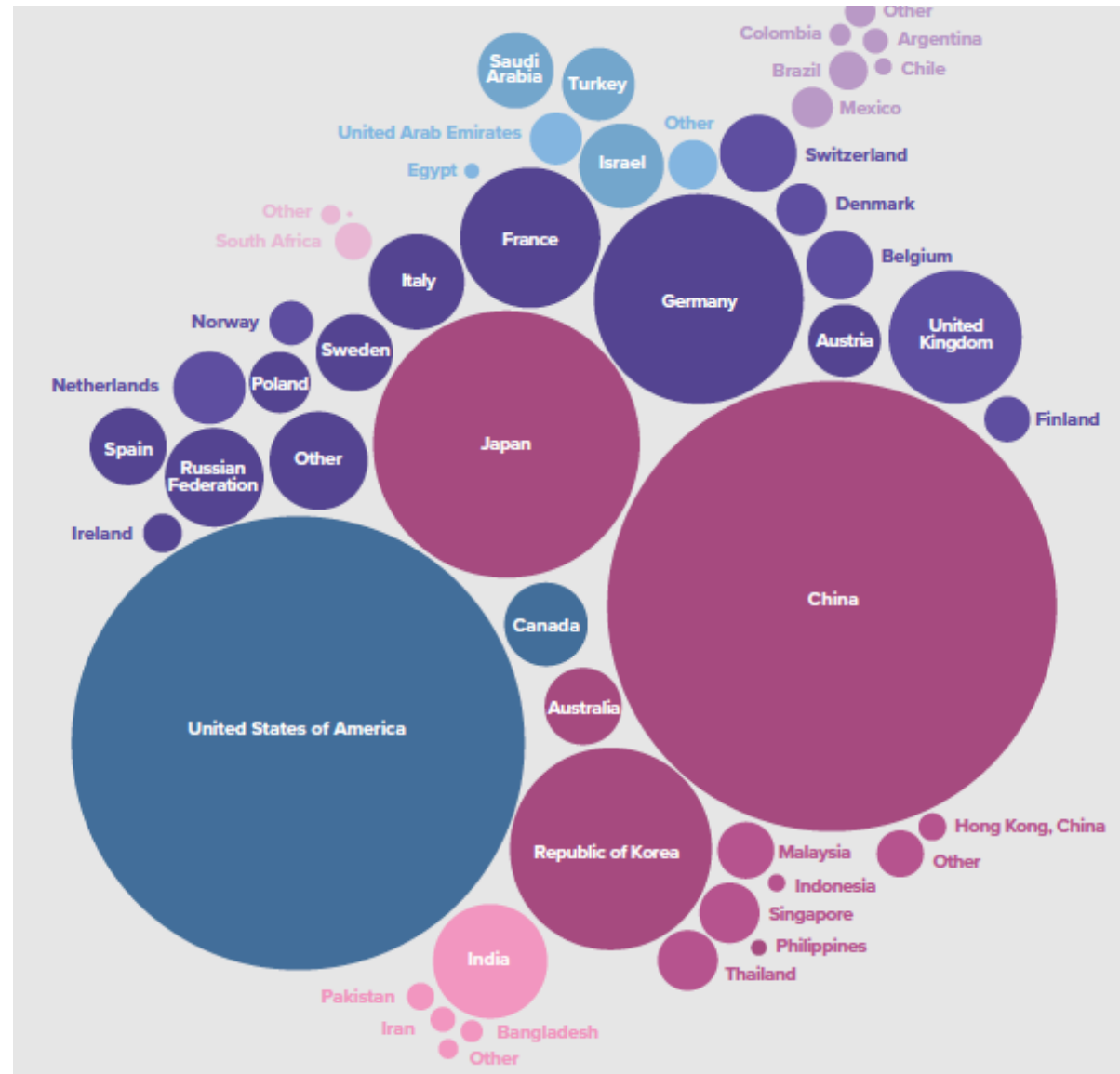
Increase innovation and youth's
entrepreneurship

Growing youth unemployment

Limited incentive/resources per le
start up
Weakness of the financial system
(business angel, venture capital, ...)

Reduction of public investment and not increase of private
investment (companies) in innovation

GLOBAL INNOVATION INDEX 2019



source: global innovation
index 2019

GLOBAL INNOVATION INDEX 2019































Country/Economy	Score (0–100)	Rank	Income	Rank	Region	Rank	Median 33.86
Switzerland	67.24	1	HI	1	EUR	1	
Sweden	63.65	2	HI	2	EUR	2	
United States of America	61.73	3	HI	3	NAC	1	
Netherlands	61.44	4	HI	4	EUR	3	
United Kingdom	61.30	5	HI	5	EUR	4	
Finland	59.83	6	HI	6	EUR	5	
Denmark	58.44	7	HI	7	EUR	6	
Singapore	58.37	8	HI	8	SEAO	1	
Germany	58.19	9	HI	9	EUR	7	
Israel	57.43	10	HI	10	NAWA	1	
Republic of Korea	56.55	11	HI	11	SEAO	2	
Ireland	56.10	12	HI	12	EUR	8	
Hong Kong, China	55.54	13	HI	13	SEAO	3	
China	54.82	14	UM	1	SEAO	4	
Japan	54.68	15	HI	14	SEAO	5	
France	54.25	16	HI	15	EUR	9	
Canada	53.88	17	HI	16	NAC	2	
Luxembourg	53.47	18	HI	17	EUR	10	
Norway	51.87	19	HI	18	EUR	11	
Iceland	51.53	20	HI	19	EUR	12	
Austria	50.94	21	HI	20	EUR	13	
Australia	50.34	22	HI	21	SEAO	6	
Belgium	50.18	23	HI	22	EUR	14	
Estonia	49.97	24	HI	23	EUR	15	
New Zealand	49.55	25	HI	24	SEAO	7	
Czech Republic	49.43	26	HI	25	EUR	16	
Malta	49.01	27	HI	26	EUR	17	
Cyprus	48.34	28	HI	27	NAWA	2	
Spain	47.85	29	HI	28	EUR	18	
Italy	46.30	30	HI	29	EUR	19	

Table 2- Performance of MED countries in the area of innovation over the years (GII, 2019).

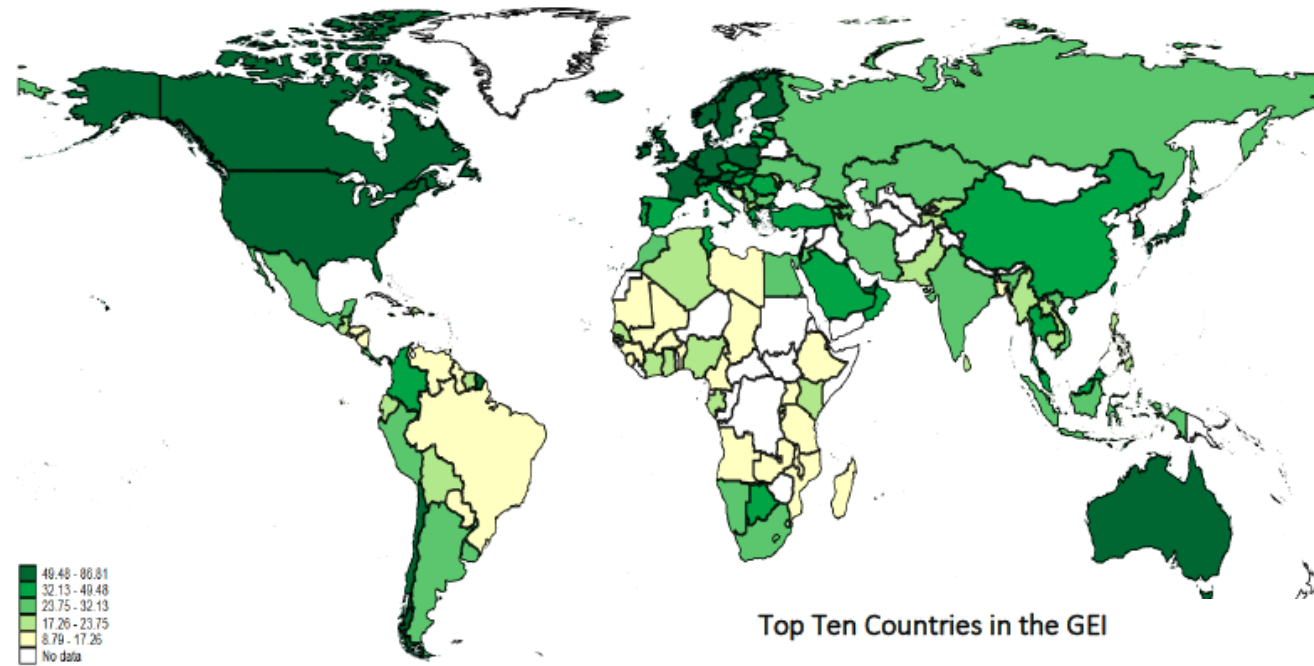
Country	Rank	Rank	Rank
	2017	2018	2019
Morocco	72	76	74
Tunisia	74	66	70
Lebanon	81	90	88
Jordan	83	79	86
Egypt	105	95	92
Algeria	108	110	113
Albania	93	83	83
Palestine	> 127	> 126	>129
Italy	29	31	30

Score

Switzerland 67,24

Italy 46,30

Figure 2.1: Global Entrepreneurship 2019 Index Map



Top Ten Countries in the GEI

Country	GEI 2019 lower limit	GEI 2019 upper limit	GEI 2019	GEI Rank 2019	GEI Rank 2018
United States	80.5	93.2	83.6	1	1
Switzerland	74.0	90.3	80.4	2	2
Canada	75.0	85.8	79.2	3	3
Denmark	69.2	89.5	77.8	4	6
United Kingdom	73.4	81.6	75.5	5	4
Australia	66.8	79.4	74.3	6	5
Iceland	62.6	83.3	74.2	7	7
Netherlands	64.7	80.0	73.7	8	11
Ireland	64.6	77.9	73.1	9	8
Sweden	64.5	76.0	68.5	10	9

Table 3.1. The Global Entrepreneurship Index Rank of All Countries, 2019

Global rank	Country	Score	Global rank	Country	Score	Global rank	Country	Score
1	United States	86.8	48	Brunei Darussalam	36.5	94	Moldova	20.2
2	Switzerland	82.2	49	Croatia	36.1	95	Rwanda	20.0
3	Canada	80.4	50	Greece	35.4	96	Kenya	19.8
4	Denmark	79.3	51	Botswana	34.4	97	Bosnia and Herzegovina	19.5
5	United Kingdom	77.5	52	Colombia	34.1	98	Tajikistan	19.4
6	Australia	73.1	53	Tunisia	34.0	99	Kyrgyz Republic	19.2
7	Iceland	73.0	54	Thailand	33.5	100	Côte d'Ivoire	19.1
8	Netherlands	72.3	55	Barbados	32.2	101	Sri Lanka	19.1
9	Ireland	71.3	56	Azerbaijan	32.1	102	Laos PDR	19.1
10	Sweden	70.2	57	Montenegro	31.8	103	Swaziland	18.8
11	Finland	70.2	58	South Africa	31.6	104	Guatemala	18.7
12	Israel	67.9	59	Kazakhstan	31.0	105	Ecuador	18.5
13	Hong Kong	67.9	60	Uruguay	30.1	106	Suriname	18.4
14	France	67.1	61	Bulgaria	30.1	107	Myanmar	18.1
15	Germany	66.7	62	Namibia	30.0	108	Cambodia	17.7
16	Austria	64.9	63	Jordan	29.4	109	Pakistan	17.3
17	Belgium	62.2	64	Iran	29.4	110	Tanzania	17.3
18	Taiwan	62.1	65	Costa Rica	28.8	111	Ethiopia	17.2
19	Chile	58.3	66	Lebanon	28.8	112	Honduras	17.2
20	Luxembourg	58.1	67	Serbia	28.6	113	Gambia, The	17.1
21	Korea	58.1	68	Morocco	28.3	114	Libya	16.6
22	Estonia	57.8	69	Peru	27.7	115	Paraguay	16.6
23	Slovenia	56.5	70	Mexico	27.1	116	Zambia	16.3
24	Norway	56.1	71	Georgia	26.2	117	Guyana	16.3
25	United Arab Emirates	54.2	72	Belize	26.2	118	Brazil	16.1
26	Japan	53.3	73	Vietnam	26.0	119	Nicaragua	16.1
27	Singapore	52.4	74	Argentina	26.0	120	El Salvador	15.7
28	Qatar	51.6	75	Indonesia	26.0	121	Cameroon	15.6
29	Poland	49.5	76	Panama	25.5	122	Guinea	15.5
30	Puerto Rico	48.7	77	Ukraine	25.2	123	Mali	15.3
31	Spain	46.9	78	India	25.1	124	Angola	15.1
32	Portugal	46.3	79	Jamaica	24.8	125	Uganda	14.8
33	Hungary	46.2	80	Russia	24.8	126	Liberia	14.8
34	China	45.9	81	Egypt	24.6	127	Burkina Faso	13.4
35	Cyprus	45.6	82	Armenia	24.3	128	Benin	13.3
36	Italy	45.1	83	Gabon	23.8	129	Venezuela	13.1
37	Lithuania	44.1	84	Dominican Republic	23.6	130	Mozambique	12.8
38	Bahrain	43.8	85	Macedonia	23.1	131	Sierra Leone	12.7
39	Oman	43.6	86	Philippines	23.0	132	Bangladesh	12.5
40	Czech Republic	43.5	87	Albania	22.5	133	Malawi	11.6
41	Slovakia	42.6	88	Algeria	22.4	134	Mauritania	10.5
42	Saudi Arabia	42.1	89	Bolivia	22.1	135	Burundi	10.2
43	Malaysia	40.1	90	Trinidad and Tobago	21.7	136	Madagascar	9.1
44	Turkey	39.8	91	Ghana	21.6	137	Chad	8.8
45	Latvia	39.3	92	Nigeria	20.8			
46	Romania	38.6	93	Senegal	20.3			
47	Kuwait	37.4						

Table 1 - The Global Entrepreneurship Index
ranking of MED countries

(GEI 2019).



Country	Rank	Rank	Rank
	2017	2018	2019
Albania	80	83	87
Algeria	73	80	88
Egypt	81	76	81
France	13	10	14
Greece	49	48	50
Italy	46	42	36
Jordan	56	49	63
Lebanon	63	59	66
Morocco	70	65	68
Palestine	ND	ND	ND
Portugal	29	31	32
Spain	33	34	31
Tunisia	42	40	53
Turkey	36	37	44

The GEI is an annual index that measures the health of the entrepreneurship ecosystems in each of 137 countries. It then ranks the performance of these against each other. This provides a picture of how each country performs in both the domestic and international context.

Table A.1: The Global Entrepreneurship Index and Sub-Index Ranks and scores of Countries, 2019

Countries	GEI	GEI rank	ATT	ATT rank	ABT	ABT rank	ASP	ASP rank
United States	86.8	1	83,5	1	89,7	2	87,2	2
Switzerland	82.2	2	72,2	9	85,6	3	88,6	1
Canada	80.4	3	78,0	3	83,8	4	79,4	3
Denmark	79.3	4	75,5	5	90,1	1	72,3	9
United Kingdom	77.5	5	73,5	8	82,6	5	76,3	6
Italy	45.1	36	37,9	41	40,5	40	57,0	25

Table 4.1: The structure of the new Global Entrepreneurship Index (GEI)*

GLOBAL ENTREPRENEURSHIP INDEX	Sub-indexes	Pillars	Variables (ind./inst.)
	ATTITUDES SUB-INDEX	OPPORTUNITY PERCEPTION	OPPORTUNITY RECOGNITION
			FREEDOM (ECONOMIC FREEDOM *PROPERTY RIGHTS)
		STARTUP SKILLS	SKILL PERCEPTION
			EDUCATION (TERTIARY EDUCATION*QUALITY OF EDUCATION)
		RISK ACCEPTANCE	RISK PERCEPTION
			COUNTRY RISK
	ABILITIES SUB-INDEX	NETWORKING	KNOW ENTREPRENEURS
			AGGLOMERATION (URBANIZATION*INFRASTRUCTURE)
		CULTURAL SUPPORT	CAREER STATUS
			CORRUPTION
		OPPORTUNITY STARTUP	OPPORTUNITY MOTIVATION
			GOVERNANCE (TAXATION*GOOD GOVERNANCE)
		TECHNOLOGY ABSORPTION	TECHNOLOGY LEVEL
			TECHNOLOGY ABSORPTION
	ASPIRATION SUB-INDEX	HUMAN CAPITAL	EDUCATIONAL LEVEL
			LABOR MARKET (STAFF TRAINING*LABOUR FREEDOM)
		COMPETITION	COMPETITORS
			COMPETITIVENESS (MARKET DOMINANCE*REGULATION)
		PRODUCT INNOVATION	NEW PRODUCT
			TECH TRANSFER
			NEW TECHNOLOGY
		PROCESS INNOVATION	SCIENCE (GERD*[(AVERAGEQUALITY OF SCIENTIFICAL INSTITUTIONS +AVAILABILITY OF SCIENTISTS AND ENGINEERS)])
			GAZELLE
		HIGH GROWTH	FINANCE AND STRATEGY (VENTURE CAPITAL*BUSINESS SOPHISTICATION)
		INTERNATIONALIZATION	EXPORT
			ECONOMIC COMPLEXITY
		RISK CAPITAL	INFORMAL INVESTMENT
			DEPTH OF CAPITAL MARKET

*Individual variables are colored with white background while institutional ones with light blue background.



KNOWLEDGE UNITS *for education and training, research and cooperation activities*

YOUTH EMPLOYMENT & INNOVATION



THE **MEDITERRANEAN INNOVATION**
PARTNERSHIP NETWORK FOR YOUTH
ENTREPRENEURSHIP AND TECHNOLOGY
TRANSFER IN THE **AGRIFOOD** SECTOR





OUR APPROACH

TERRITORIAL APPROACHES TO FAVOUR THE LOCAL RURAL DEVELOPMENT

Agriculture has a great social value in rural areas, because of its contribution to rural communities' livelihood, but does not favour income generation. Young people migration is then main consequence and the progressive environmental and social depletion the worst effect.

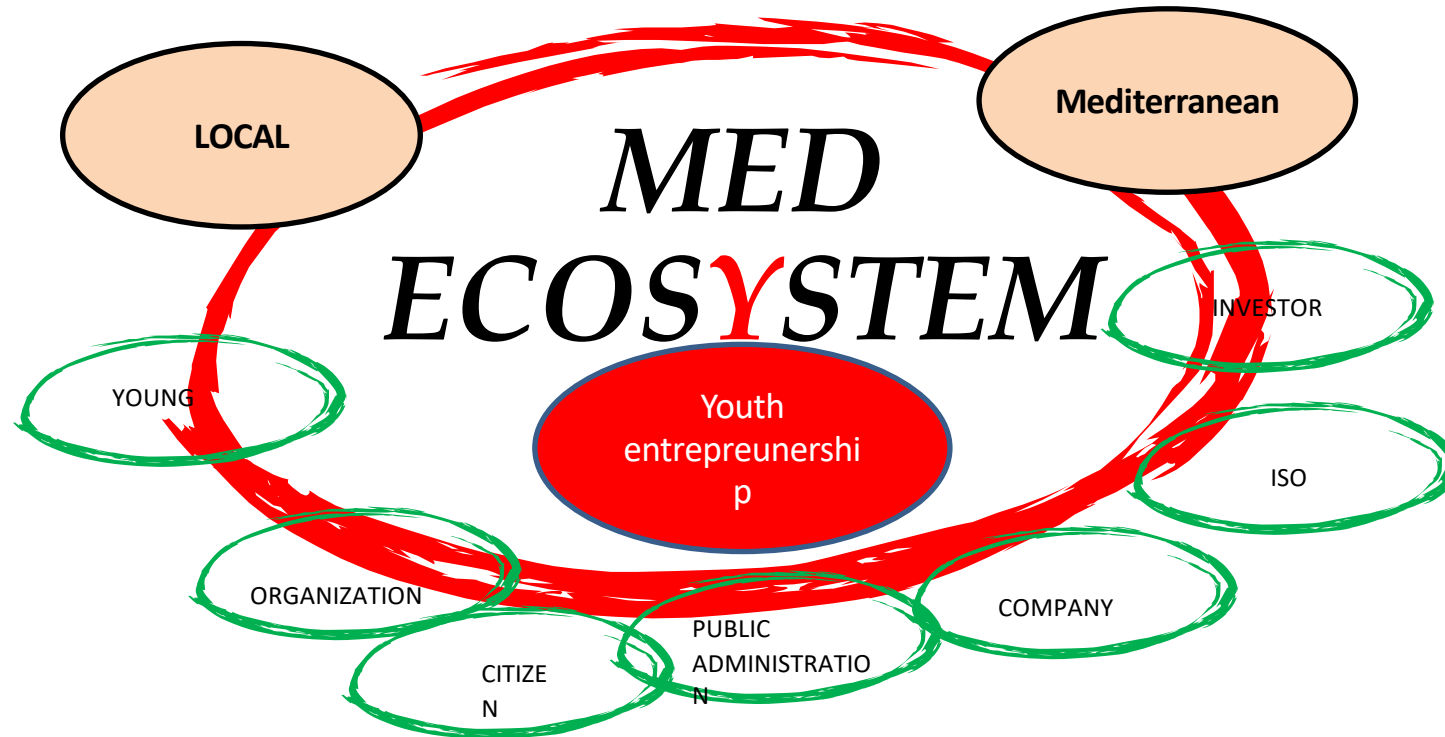
The transition to improve network agri-food value chains requires also **decentralisation** processes to better mobilize local resources (human, natural and financial), **create community**, local governance and collaborative design, **innovative services and place** which are the building blocks of the territorial approach.





OUR STRATEGY

- Strengthen the territorial innovation ecosystem in order to support the youth entrepreneurship, involving public institutions, universities and research centers, innovation support organizations and private sectors (banks, companies, etc.)



Empowerment of the local organizations –local ecosystem- med ecosystem

YOUTH EMPLOYMENT &
INNOVATION



OBJECTIVES:

- Enhancing **job opportunities and social inclusion for youth, through training activities and accompanying paths**
- Enhancing the **innovation and knowledge transfer** through the intensification of the collaboration among researchers, enterprises, start up and students
- Developing and implementing the model of **Mediterranean rural social innovation**
- Strengthening the **Mediterranean Innovation Ecosystem** through MIP Network activities



MEDAB

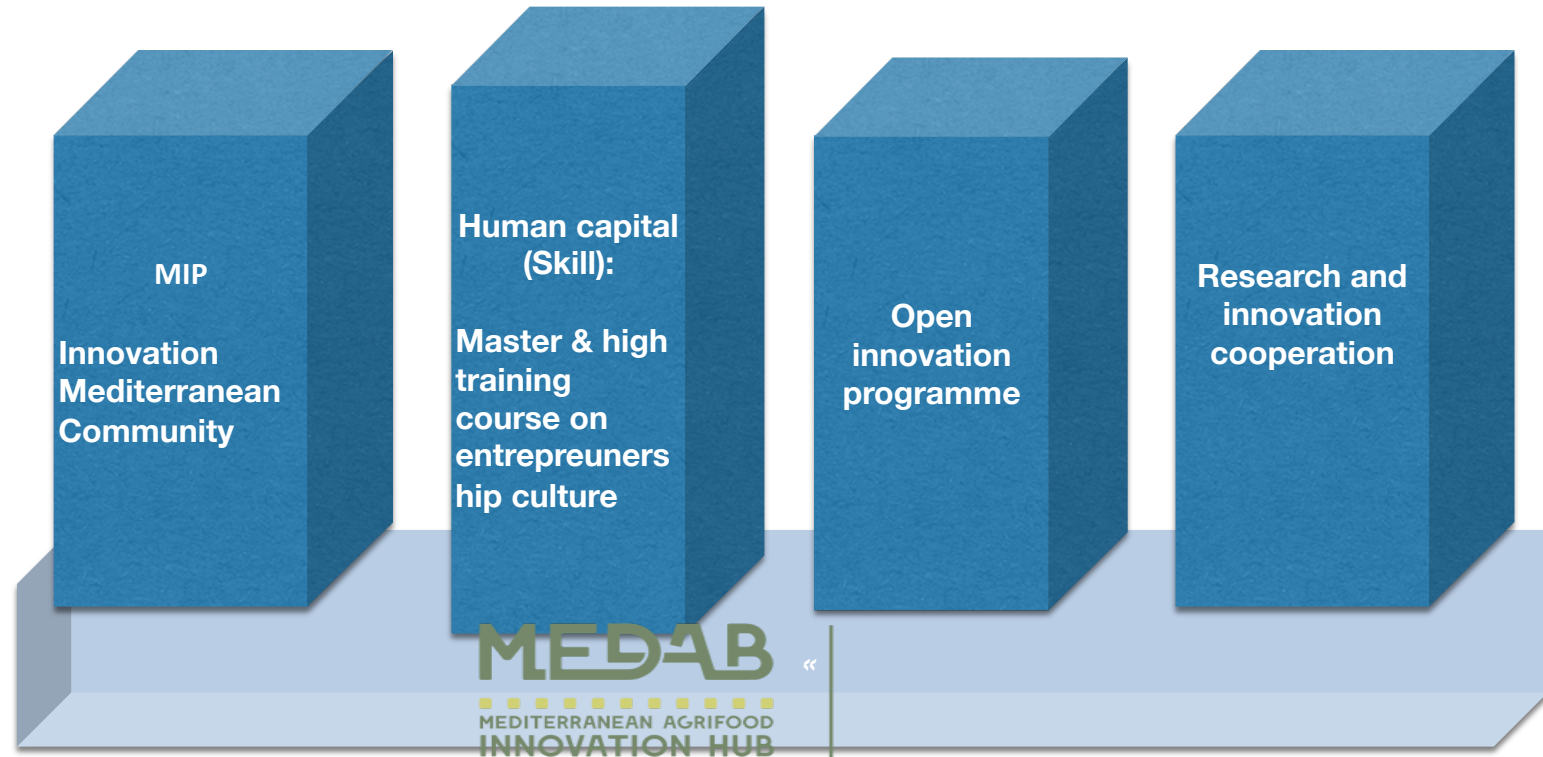


MEDITERRANEAN AGRIFOOD
INNOVATION HUB

«unconventional space»

TOOL

4 Interlinked objectives for a strategic **TOOL** FOODSHIFT 2030





THE **MEDITERRANEAN INNOVATION**
PARTNERSHIP NETWORK FOR YOUTH
ENTREPRENEURSHIP AND TECHNOLOGY
TRANSFER IN THE **AGRIFOOD** SECTOR



LIST OF FOUNDER MEMBERS

	Albania	Ministry of Agriculture
	Algeria	Ministry of Agriculture
	Egypt	Climate Change Information Center & Renewable Energy (CCICRE) Ministry of Agriculture and Land Reclamation
	Jordan	Ministry of Agriculture
	Lebanon	National Center for Scientific Research (CNRS)
	Morocco	Ministry of Agriculture and Fisheries
	Palestine	National Agriculture Research Center (NARC) Ministry of Agriculture
	Tunisia	Institution de la Recherche et de l'Enseignement Supérieur (IRESA) Ministry of Agriculture Water Resources and Fisheries
	SWG RRD	Regional Rural Development Standing Working Group in South Eastern Europe

Coordinated by CIHEAM Bari.

JOIN US IN BUILDING UP THE
Mediterranean Innovation Ecosystem

Promote innovation in agro-food and favour sharing, cogeneration and knowledge transfer for entrepreneurship creation and change.

**RESEARCH
AND
INNOVATION
COOPERATION**

PROJECT (15)

**Training for
startups and
ISO
Managers**

**Creation/Strengthening local
innovation
Hub/incubators**

**Strengthening
the
Mediterranean
Innovation
Ecosystem**

**Enhancing
job
opportunities
for youth**

SMARTCHAIN
FOODSHIFT
AGRICULTURA
INNONET

**Developing
rural social
and tech
innovation**

**collaborative
research**

**MASTER&HIGH
TRAINING COURSES:**
AGRI FOOD INNOVATION AND
START UP; OPEN INNOVATION;
INNOVATION MANAGER AND
ISO MANAGER

FACTORY CIBOS

FILA
INCUBA
CREATIVE CAMPS
WATERMEDYIN
FOOD&HEALTH
SUSTLIVES
ILONET

**MIP NETWORK
SKIM**

Human capital (skill):training



Short Master: Open Innovation and Youth Entrepreneurship in the Mediterranean agrifood sector



video

link video open innovation master: <https://we.tl/t-8TmPhscXd4>

what are the causes of a weak innovation and entrepreneurial ecosystem?

- Human capital
- Networking
- Reduction of public investment and not increase of private investment (companies) in innovation
- Limited incentive/resources per le start up
- Weakness of the financial system (business angel, venture capital, ...)
- weak political planning
- Responsibility of the research
- Limited technology transfer approach

Entrepreneurial ecosystems

A **system** is an organized set of interacting and interdependent subsystems that function together as a whole to achieve a purpose.

In general, an **ecosystem** is a purposeful collaborating network of dynamic interacting systems and subsystems that have an ever-changing set of dependencies within a given context.

The concept of systems of entrepreneurship is based on three important premises that provide an appropriate platform for analyzing entrepreneurial ecosystems.

First, **entrepreneurship** is fundamentally an action undertaken and driven by agents on the basis of incentives.

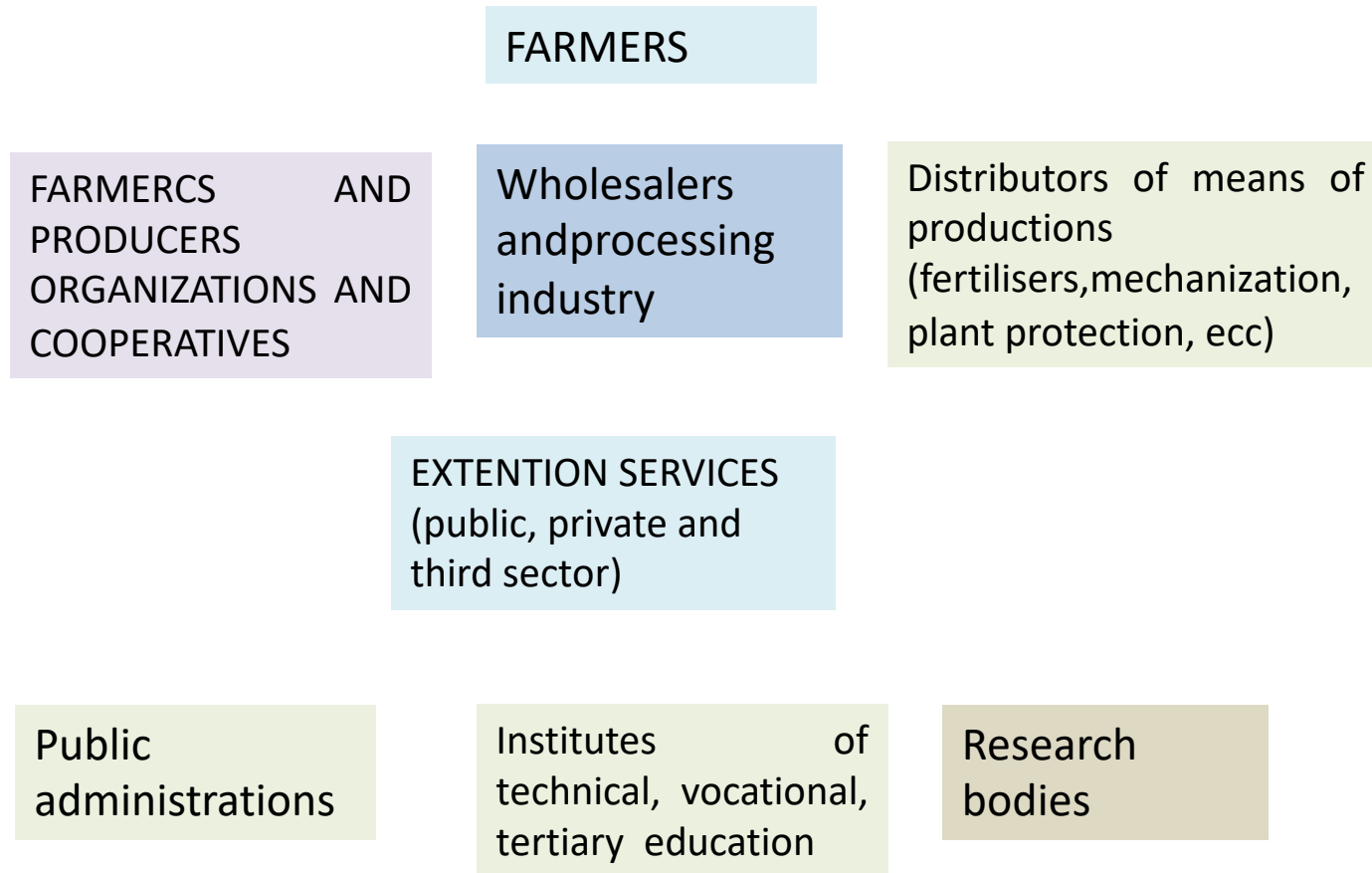
Second, the individual action is affected by an **institutional framework conditions**.

Third, entrepreneurship ecosystems are complex, multifaceted structures in which many **elements interact to produce systems performance**

The diagram illustrates the Entrepreneurial framework conditions, centered around the core of **Entrepreneurs**. This core is surrounded by three key attributes: **Attitudes**, **Ability**, and **Aspirations**. These attributes are further influenced by six external framework conditions: **Education system**, **Market structure**, **Infrastructure**, **R&D system**, **Financial sector**, and **Corporate sector**. The entire model is titled **Entrepreneurial framework conditions**.

ACTORS & APPROACH

INNOVATION Chain Actors



INNOVATION Chain Actors

Table 2. Tasks of the most important players in the AIS (Translated and modified by Gildemacher and Wongtschowski, 2015).

Actor	Role in the AIS
Farmers	<ul style="list-style-type: none"> • Creation, testing and adaptation of new practices • Adoption of new practices and management of the related risks • Expression of innovation demand
Farmers' and producers' organisations and cooperatives	<ul style="list-style-type: none"> • Meeting innovation demand • Mediation of knowledge sharing among farmers and the other actors • Facilitation of the access to information, technology, means of production, credit and the market • Identification and implementation of new marketing practices • Representation of farmers in political institutions and in research and extension service management bodies
Extension services (involving the public, private and third sectors)	<ul style="list-style-type: none"> • Mediation of knowledge sharing among farmers and the other actors • Transfer of knowledge to farmers and the other actors • Facilitation of access to information, technology, means of production, credit and the market • Promotion of gender equality • Mediation for conflict resolution (for access to resources)
Distributors of means of production (fertilisers, mechanisation, plant protection products, etc.).	<ul style="list-style-type: none"> • Distribution of innovative means of production • Provision of technical assistance
Wholesalers, processing industry (and their professional organisations)	<ul style="list-style-type: none"> • Identification and opening of new market opportunities • Search for new markets • Definition of quality standards for agricultural products • Development and application of new technology (for storage, cooling, packaging, logistics, processing, etc.)
Research bodies	<ul style="list-style-type: none"> • Identification and understanding of farmers' needs and priorities • Identification of innovation opportunities • Development, testing and adaptation of new technologies • Bringing the new promising technologies to production scale (via a participatory approach) • Sharing results obtained (even if negative) • Assessment and recording the socio-economic and environmental impacts of innovation
Institutes of technical, vocational and tertiary education	<ul style="list-style-type: none"> • Education and training of agricultural technicians at various levels
Public administrators	<ul style="list-style-type: none"> • Development of research and innovation policies • Formulation and implementation of rural development plans • Creation and implementation of a favourable legislative and regulatory framework for innovation • Provision of incentives for innovation



do you participate or manage an innovation chain?

what kind of relationships do you have with the other actors of the innovation chain?

how do they happen?

- ☐ Traditional meetings
- ☐ Collaborative workshop
- ☐ Living lab
- ☐ Community of practice
- ☐ Webinar
- ☐ Permanent virtual community
- ☐ other

how often do you meet?

- ☐ FREQUENTLY
- ☐ EPISODES, ON THEIR REQUEST
- ☐ RARE
- ☐ NEVER



ARE RELATIONS WITH INNOVATION CHAIN ACTORS
STRUCTURED (AGREEMENT)?

DO YOU HAVE STABLE AGREEMENTS THAT
INVOLVE SIMULTANEOUSLY ACTORS OF THE
INNOVATION CHAIN?

WHAT IS MISSING TO BUILD A
SUSTAINABLE INNOVATION CHAIN?

New actors: Innovation broker

the limit of these dynamic processes is that they do not easily work autonomously and inertially, but require a smart active engine that not only systematically enriches the system of potential nodes, but also creatively stimulates the connections. They thus need a key figure having specific skills who may support animation.

Already a few years ago, many studies (Burt, 2004; Obstfeld, 2005) stressed that there was a need for individuals capable of acting as true **brokers in networks to link stakeholders that are not traditionally connected, but from which it is possible to develop “new combinations” between technological solutions essential for generating innovations.**

IB Is different by Advisor

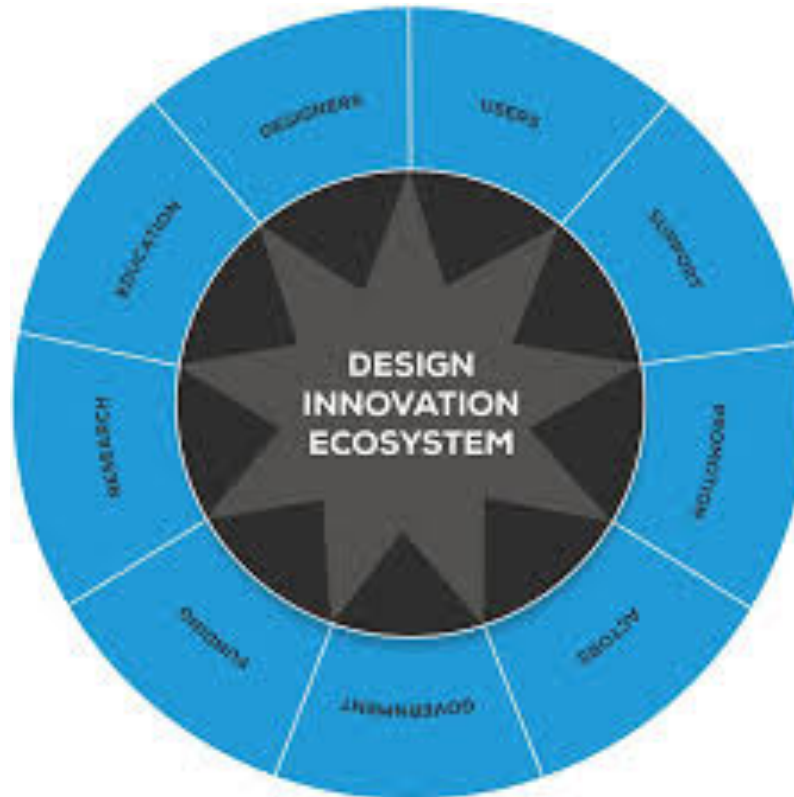
Innovation Broker :

a professional, or more often a group of professionals, able to build bridges, fill gaps and connect different actors in the context of the innovative ecosystem and the innovation chain

MASTER ON INNOVATION
BROKER IN COLLABORATION
WITH UNIVERSITY OF BARI

APPROACH

WE BUILD AN INNOVATION SYSTEM



APPROACH

Agricultural Innovation Systems (AIS)

the policy of **innovation systems** is based on the interaction between different stakeholders involved in the innovation process, and on solving the **systemic problems** that affect knowledge production and transfer processes in a given context (Smits *et al.*, 2010).

Policies and institutions (formal and informal) shape the way that these actors interact, generate, share and use knowledge, as well as jointly learn.

This complexity requires that innovation in agriculture and rural development be based on **multi-stakeholder interaction to include non- conventional stakeholders** (e.g. private sector, farmer. organizations, non-profit organizations and civil society organizations).

From LINEAR MODEL



Public
Administr
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Research
Centers

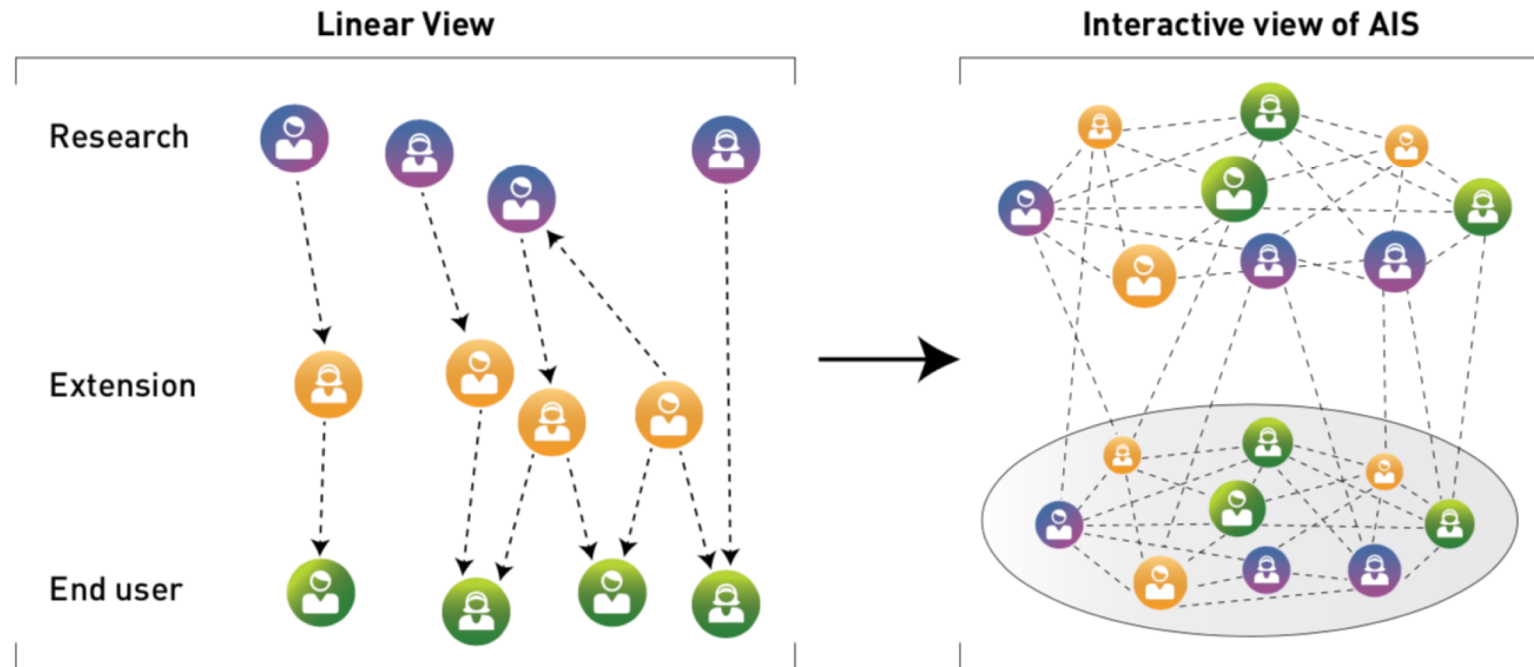
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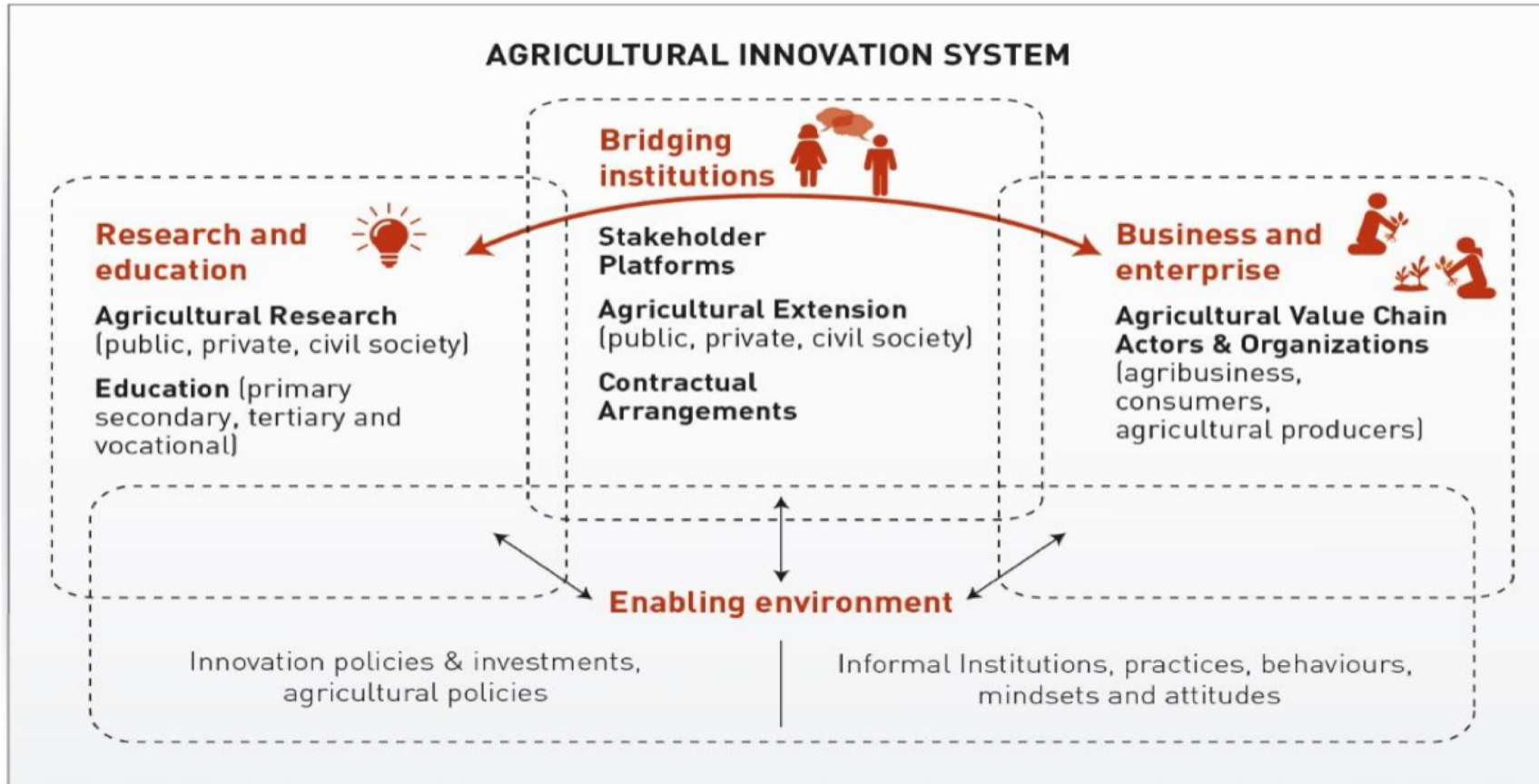
Farmer
Association

Farm
Business

APPROACH



Source: Based on Klerkx *et al.*, 2012[a]; World Bank, 2006; Pant and Hambly Odame, 2009.

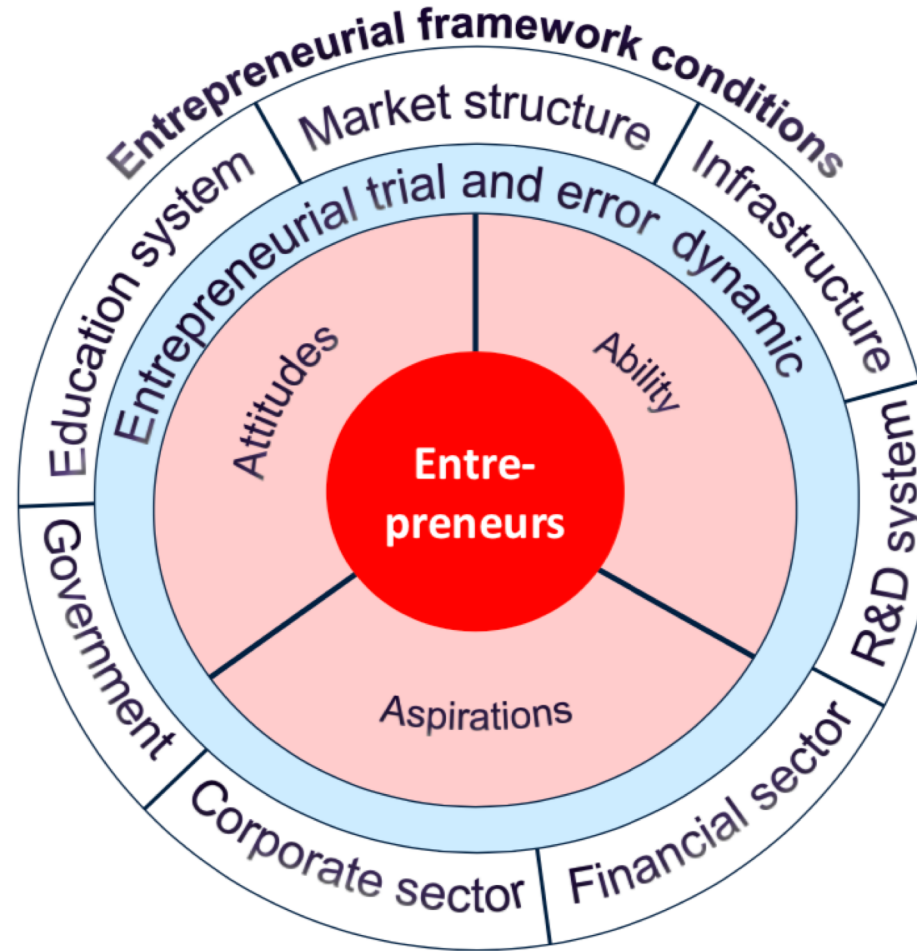


INNOVATION ECOSYSTEM

Theoretical perspectives on agricultural innovation

	Transfer of Technology (ToT)	Farming System Research	Agricultural Knowledge & Information Systems (AKIS)	Agricultural Innovation Systems (AIS)
Periods/Era	Central since 1960s	Starting in 1970s and 1960s	From 1990s	Since 2000s
Purpose	Supply technologies through linear processes	Learn farmers' constraints through surveys	Collaborate in research (participatory research) & extension	Co-develop innovation involving multi-actor processes and partnerships
Scope	Productivity increase	Efficiency gains (input-output relationships)	Farm-based livelihoods	Value chains, institutional change
Innovators	Scientists	Scientists and extensionists	Farmers, scientists and extensionists together	Multiple actors
Role of Farmers	Adopters and laggards	Source of information	Experimenters	Partners, entrepreneurs, innovators, exerting demands
Role of Scientists	Innovators	Experts	Collaborators	Partners, one of the actors responding to demands
Key changes sought	Farmers' behaviour change	Removing farmers' constraints	Empowering farmers	Institutional change, innovation capacity
Market integration	Nil	Nil	Low	High
Capacity development	Technology adoption and uptake through development of technical skills & infrastructure	Technology adoption and uptake through development of technical skills & infrastructure & integration of ecological and farm-economic conditions	Enhancing communication between actors, co-evolved technologies better fit livelihood systems	Capacity to interact, innovate & learn, creating enabling conditions

Figure 1: The Entrepreneurial Ecosystem Configuration



Nascent and new entrepreneurs are at the heart of the system.



THINK AND RE-THINK

HOW DO YOU EVALUATE YOUR INNOVATION ECO-SYSTEM?

HOW DO YOU EVALUATE
YOUR ENTREPRENEURIAL
FRAMEWORK
CONDITIONS?

ROLE OF ACTORS?

CO-DESIGN & CO-
DEVELOPMENT? is this really
your approach?

WHERE do you start /
started to build your
innovation system?

MARKET
INTEGRATION?

Best practice



EUROPEAN INNOVATION PARTNERSHIP – EIP approach

Within the initiatives promoted for the 2014-2020 programming period, the **European Innovation Partnerships (EIPs)** are the tool that most facilitates the systemic approach.

Designed to facilitate flows between the production and utilisation of research, EIPs involve all components of the AKIS, promote a multi-disciplinary vision, and strengthen opportunities for exchanges and fusions between different territories with common needs.

In this framework, research becomes more successful the more it meets business needs and the more it is applied at the territorial level; this makes it possible to measure its effectiveness, identify criticalities and outline future developments.

Innovation is thus the result of a systematic approach based on the creation of a network, on interactive learning, and on negotiation between a heterogeneous group of stakeholders centred on the entrepreneur.

Five European Innovation Partnerships (EIPs) have been launched in different sectors:

1. active & healthy ageing,
2. water,
3. raw materials,
4. Smart cities & communities,
5. agriculture.

What is innovation for the EIP AGRI 2014-2020?

"Innovation is often described as a **new idea that finds success in practice**. The new idea can be a new product, practice, service, production process and a new way of organizing things etc. " (EC, Draft on EIP 06/2013).

- the difference between innovation and the direct result of the research activity is underlined, which may legitimately not have an operational character and not be of immediate use,
- the need (implied) for testing and application development of the research results is highlighted.

How do you choose innovation in the EIP AGRI?

"In the interactive innovation system, innovative proposals come from science, but also from practice and intermediaries, including farmers, consultants, NGOs, researchers as actors in a bottom up process.

..... Innovation generated with an interactive process tends to discover solutions that best adapt to contexts "

(EC, Draft on EIP 12/2014)

The need is emphasized:

- to involve all the players in the knowledge chain (researchers, companies, consultants, services, associations etc.);
- to relate them to each other;
- to proceed starting from the needs and problems of the business system and rural areas.

1. EIP-AGRI in nutshell

Aim: To foster a competitive and sustainable agriculture and forestry sector that "achieves more from less"

Approach: Closing the innovation gap between research and practice by:

- using the interactive innovation model
 - partnerships + bottom-up approach
- linking actors via the ***EIP-AGRI Network***



2. EIP-AGRI Network

Connecting people - Sharing knowledge - Tackling challenges



□ EIP-AGRI NETWORK:

- Facilitate the exchange of expertise and good practices.
- Establish a dialogue between farmers and the research community.
- Facilitate the inclusion of all stakeholders in the knowledge exchange process.

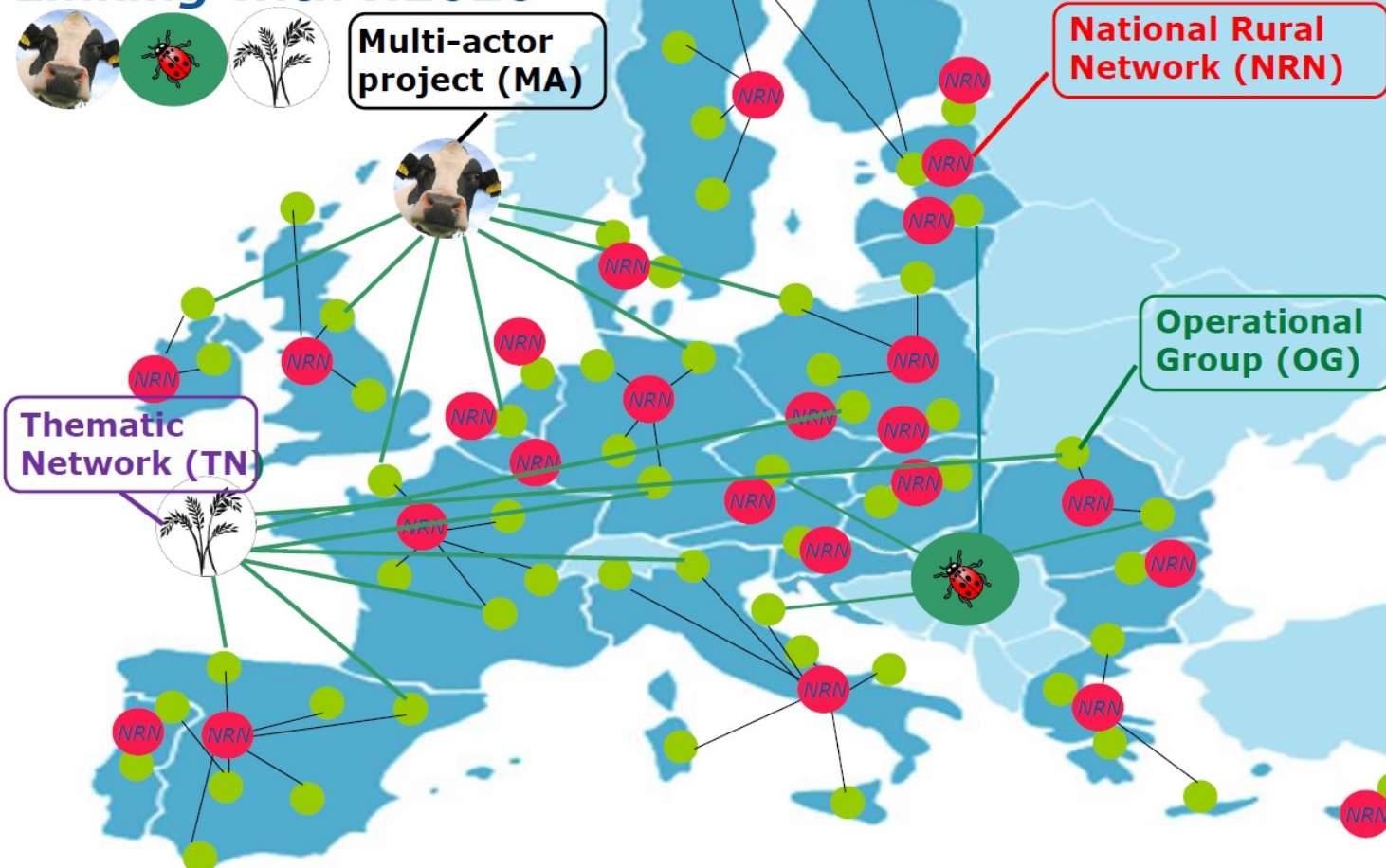
□ EIP-AGRI Service Point

□ Key building blocks:

- Multi-actor Projects (H2020)
- Thematic Networks (H2020)
- Focus group
- Operational Groups (RDPs)



**EU added value : An EU wide EIP network,
supported under Rural development policy
Linking with H2020**





CAP: EIP Operational Groups 2014-2020

- The EIP implementation aims at a **flexible and open system** for the creation of a multiplicity of operational groups (OGs)
- **27 MS and 97 RDPs** will be implementing the EIP in their 2014-2020 Rural Development programmes with **regular calls for Operational Group projects during this period**
- **3200 OGs** planned in 2014-2020, with cooperation in innovative activities such as the development of **new products or practices**, pilot projects, **supply chain** cooperation, **environmental** projects or climate change actions, cooperation in **biomass** provision or renewable **energy**, forest management and much more
- The EIP provides **unique opportunity for better cooperation projects** thanks the **supporting environment** and through the (possible) **funding of the preparation** process of a project

EIP Operational Groups

EIP operational groups shall form part of the EIP for agricultural productivity and sustainability. They shall be set up by interested actors such as farmers, researchers, advisors and businesses, NGO and other stakeholders involved in the agriculture and food sector, who are relevant for achieving the objectives of the EIP. They work together, share their ideas and turn existing knowledge into innovative solutions that can more easily be put into practice. The EIP AGRI will help spread important new and existing knowledge on innovation and agriculture throughout the EU.

EIP operational groups shall establish internal procedures that ensure, that their operation and decision-making is transparent and that situations of conflict of interest are avoided.

Operational Groups start on the initiative of an interested person or group.

The whole process could look like this:

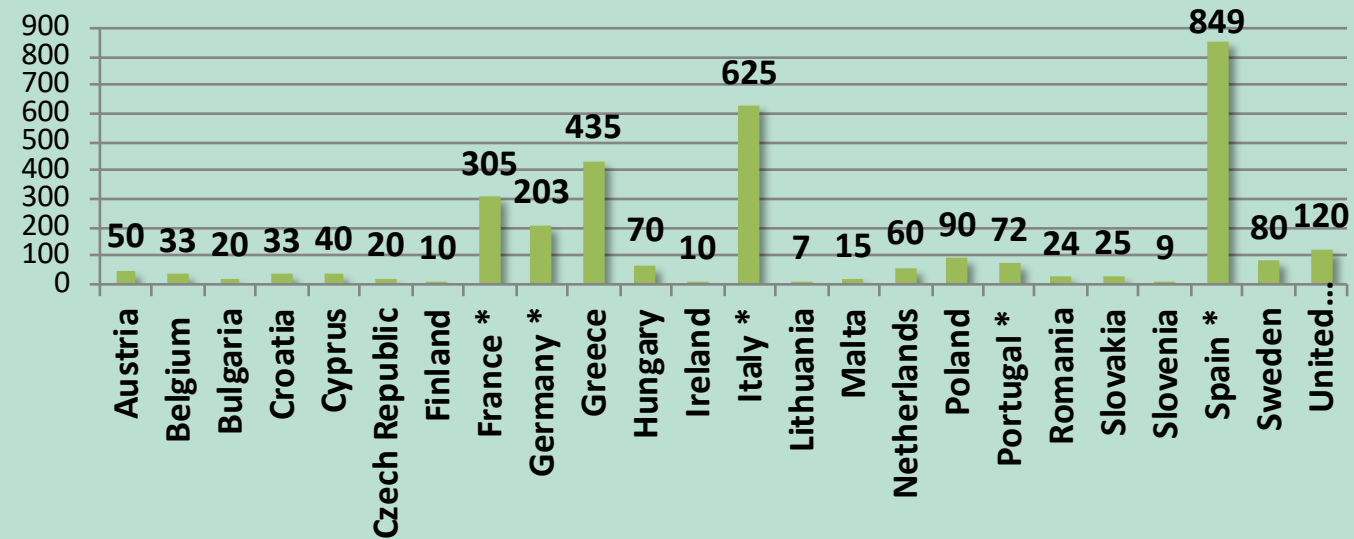
- Starting with a specific problem or opportunity. One person or group of people who have a concrete problem that needs to be solved or have an innovative idea that they want to make a reality, can set up a group. Before beginning the process, the group should ensure that the problem that has to be solved, or the innovation that the group is going to work on is clearly identified.
- Developing the idea. The group needs to consider how they can turn the idea into an innovation and they will need to identify the needs they will have along the way.
- Finding partners and forming a partnership. Maybe it will be necessary to bring other partners on board,

who provide specific information, experience or knowledge. A farmer could need a specific scientist to help collect data about his idea.

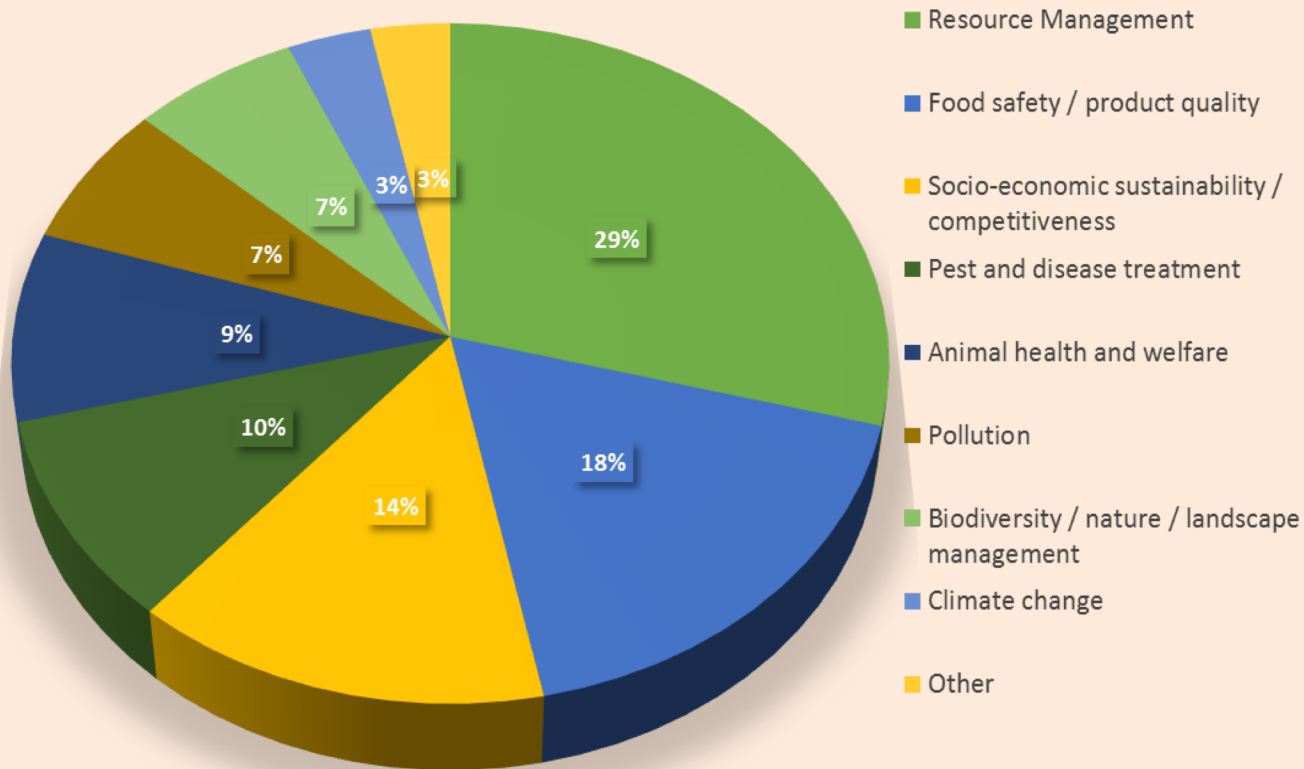
- Prepare the "roadmap". The group needs to prepare a plan for their project, with clear objectives, available means, project plan, budget and division of responsibilities among partners.
- Identifying funding requirements. The group should look into the funding available and collect the necessary information for a solid understanding about the conditions and criteria that need to be fulfilled to prepare the application for funding.
- Preparing the project proposal and the application for funding.
- Once the project is running or finished, the Operational Groups need to share and report all the results they achieved to stimulate innovation within the EIP-AGRI Network.



Operational Group (OG)



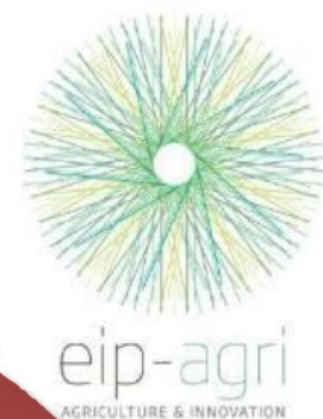
OG assessment – Clustering analysis



**Type of agricultural
challenge /
opportunity faced
(600 OG, 14 MS)**

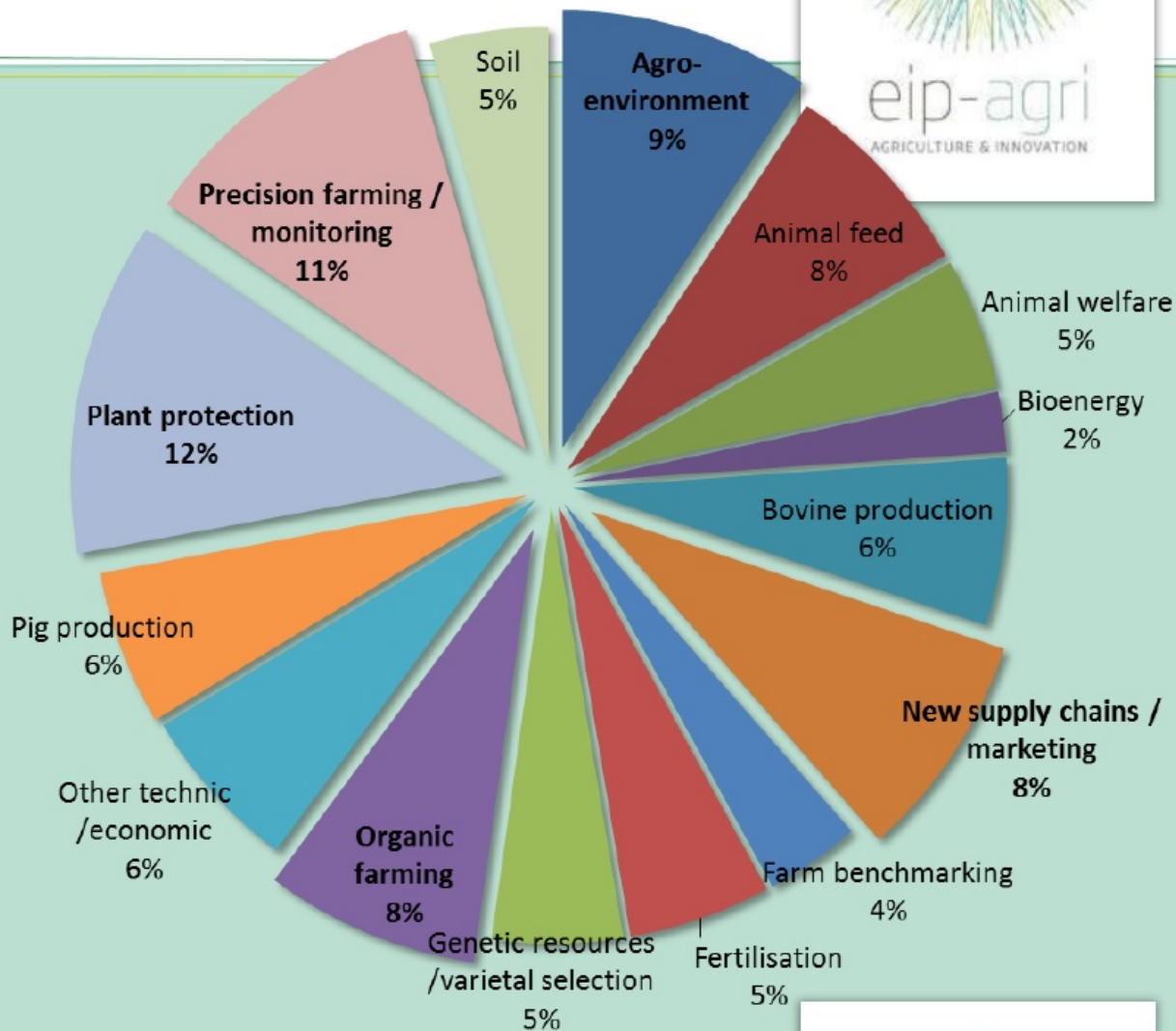
Source: OG assessment, by IDEA, Sept 2018, provisional results

OG projects: first indications



In terms of **scope**:
Top 5

- **Plant protection**
- **Precision farming**
- **Agro-environment**
- **New supply chains**
- **Organic farming**



N.B. Initial clustering analysis covering 231 OGs – Oct 2016. New clustering starting now (Feb 2018)





CIHEAM
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INNOVATION CHAIN & INTERACTIVE MODEL

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Sharing Knowledge, Feeding the Future

