



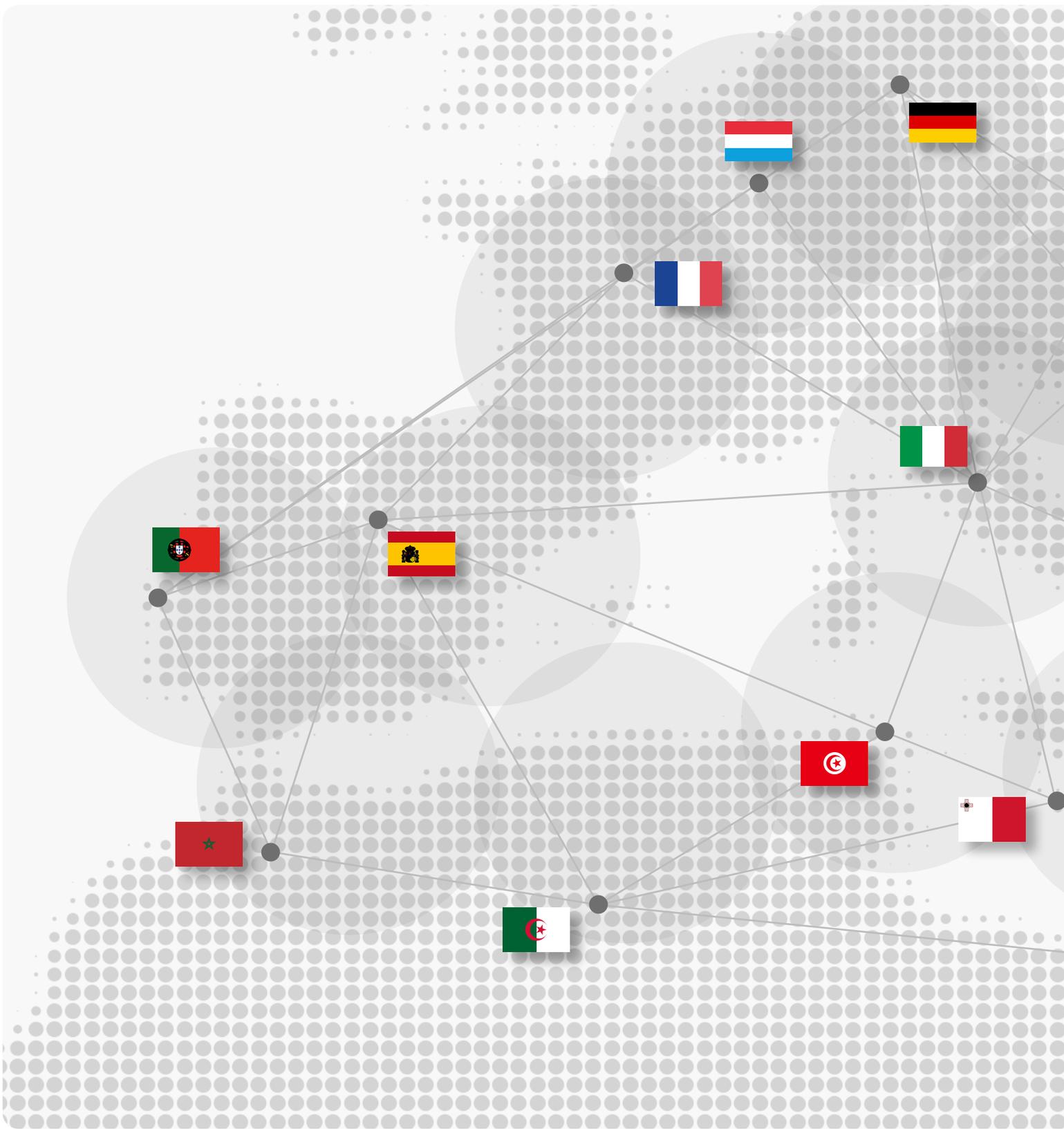
PRIMA

PARTNERSHIP FOR RESEARCH AND INNOVATION
IN THE MEDITERRANEAN AREA

Progetti finanziati 2021



Progetti finanziati 2021



Portogallo



Spagna



Francia



Lussemburgo



Germania



Marocco



Algeria



Tunisia



Italia



Malta





Slovenia



REPUBLIC OF SLOVENIA
MINISTRY OF EDUCATION,
SCIENCE AND SPORT

Grecia



GENERAL SECRETARIAT FOR
RESEARCH AND TECHNOLOGY

Turchia



TÜBİTAK

Libano



National Council for Scientific Research

Cipro



Research
Promotion
Foundation

Croazia



REPUBLIC OF CROATIA
Ministry of Science and
Education

Egitto



Academy of Scientific Research
And Technology
أكاديمية البحث العلمي والتكنولوجيا



Science and Technology Development Fund

Israele

משרד המדע,
הטכנולוגיה והחלל
Ministry of Science, Technology & Space



רשות החדשנות
Israel Innovation
Authority



המסלול הישראלי-אירופי ל-B&I
Israel-Europe R&I Directorate

Giordania



المملكة الأردنية الهاشمية
وزارة التعليم العالي والبحث العلمي
مركز دعم البحث العلمي والابتكار
Research Support Center



Il presente documento è stato realizzato dal Segretariato italiano di PRIMA, in collaborazione con il Ministero dell'Università e della Ricerca. Il Segretariato italiano di PRIMA, con sede presso il Santa Chiara Lab dell'Università di Siena, è l'ente deputato alla disseminazione e promozione su scala nazionale delle attività previste nell'ambito del Partenariato.



PRIMA (Partnership for Research and Innovation in the Mediterranean Area) è un'iniziativa sostenuta e finanziata nell'ambito del Programma quadro europeo di ricerca e innovazione ai sensi dell'art. 185 del Trattato sul funzionamento dell'Unione europea.

Segretariato italiano di PRIMA, Progetti finanziati 2021 - www.primaitaly.it

Le informazioni contenute nel presente documento sono aggiornate al 31 maggio 2022, a conclusione delle procedure selettive. Non si escludono eventuali variazioni (numero di unità di ricerca, budget dei Progetti, referenti scientifici, ecc.) sopraggiunte dopo quella data.

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Maria Cristina Messa

Ministra dell'Università e della Ricerca

"Il programma PRIMA si è dimostrato uno strumento di cooperazione scientifica importante per l'area euro-mediterranea. Per questo motivo, il Ministero dell'Università e della Ricerca ritiene che PRIMA sia un veicolo per la concretizzazione e per lo sviluppo delle reti scientifico-tecnologiche tra i 42 Paesi della regione euromediterranea presenti nell'Unione per il Mediterraneo-UFM. Il Ministero italiano è impegnato a giocare un ruolo primario nelle scelte che interessano il futuro del programma PRIMA all'interno del quadro delle nuove partnerships europee."



Angelo Riccaboni

Presidente della Fondazione PRIMA

"Vorrei sottolineare la rilevanza strategica del Programma PRIMA per costruire insieme sistemi agroalimentari sostenibili. Le progettualità di PRIMA sono preziose per l'intera Europa, per l'Africa e il Medio Oriente, in quanto consentono di individuare soluzioni innovative concrete e una collaborazione reale su sfide chiave come la gestione sostenibile delle risorse naturali e la sicurezza alimentare, diventata di ancor maggior rilievo a causa della guerra in Ucraina."

Nota introduttiva

Nei giorni in cui il presente booklet va alle stampe, è in corso una grave crisi geopolitica legata alla guerra russo-ucraina, con conseguenze molto rilevanti sui fronti più diversi. Tra essi, si registrano le problematiche connesse alla sicurezza alimentare, alla produzione agricola e alla disponibilità di materie prime per il settore primario che, pur con impatti differenziati a seconda delle derrate e dei singoli Paesi, avranno, secondo le stime più accreditate delle istituzioni europee e internazionali, nel Nord Africa una delle aree più gravemente colpite.

In parallelo, in queste stesse settimane, un recente aggiornamento contenuto nel Sesto Rapporto di Valutazione dell'*International Panel on Climate Change* (IPCC) mostra scenari particolarmente preoccupanti sia su scala globale che a livello europeo e mediterraneo, legati agli effetti del cambiamento climatico e alla resilienza di ambiente e comunità. In tale contesto, l'Italia e il Mediterraneo sono chiamati con prontezza ad adottare misure coerenti, strutturali e coordinate per affrontare le sfide legate alla perdita della biodiversità, alla tutela degli ecosistemi, alla ridotta produzione agricola, alla scarsità idrica e all'impoverimento dei suoli in un'analisi che certifica la correlazione tra salute del pianeta e il benessere delle persone.

Tali sfide mettono in luce il ruolo indispensabile della cooperazione internazionale e l'importanza della scienza e della ricerca nel trovare soluzioni concrete ai molti problemi esistenti. In tale contesto, il Programma PRIMA (*Partnership for Research and Innovation in the Mediterranean Area*), con 19 Paesi euro-mediterranei e la Commissione europea allineati attorno ad un'unica Agenda Strategica, rappresenta un modello di rigoroso finanziamento alla ricerca, valorizzazione dell'innovazione, diplomazia scientifica e cooperazione istituzionale.

Nel suo quarto anno di finanziamento l'Iniziativa PRIMA conferma la sua solidità gestionale e il suo successo strategico. La Fondazione PRIMA, oltre ad una gestione efficiente dei bandi, ha partecipato attivamente alla riflessione sui sistemi agroalimentari sostenibili nell'ambito del Summit promosso dalle Nazioni Unite, ha promosso sinergie concrete capaci di rafforzare i legami istituzionali con vari attori e partner di riferimento, garantendo un finanziamento per ricercatori e innovatori che ammonta nei quattro anni a circa 230 milioni a favore di quasi 1600 unità di ricerca nel Mediterraneo, per un totale di 168 Progetti.

Da un punto di vista scientifico, l'Iniziativa ha affrontato tematiche chiave quali la valorizzazione delle produzioni locali, la tutela degli acquiferi e delle acque sotterranee, l'adattamento al cambiamento climatico attraverso tecniche genetiche per la resilienza delle coltivazioni, pratiche di agro-ecologia, meccanismi di lotta contro lo spreco alimentare e sistemi di agricoltura di precisione per la gestione sostenibile delle risorse naturali ed una maggiore resa agricola. Attraverso queste progettualità, **PRIMA sta affrontando in modo concreto le sfide legate all'insicurezza alimentare e la scarsità idrica** che rappresentano certamente due delle principali sfide che avremo davanti. In tale contesto, **nel 2021** l'Italia ha saputo distinguersi per la qualità della ricerca e i risultati raggiunti: **sui 39 progetti totali finanziati 32 vedono la partecipazione italiana, oltre il 40% dei Progetti (17) è coordinato da un ente del nostro Paese e 67 sono le unità di ricerca coinvolte**. Di circa 62 milioni di euro complessivi finanziati da PRIMA nel 2021, **13.8 milioni** sono andati a ricercatori e innovatori del nostro Paese.

In un tempo attraversato da grandi incertezze e sconvolgimenti, PRIMA intende contribuire ad una ripresa equa e sostenibile in linea con lo *European Green Deal* e le principali strategie proposte dalla Commissione europea.

Queste rappresentano tasselli di un'unica politica, non priva di una dimensione esterna, che proprio nel Mediterraneo può trovare un interessante contesto di attuazione, anche in considerazione della fragilità di tale regione. PRIMA sta contribuendo a tale approccio in sinergia tematica con le *Missions (Soil, Ocean, Climate)* e in collaborazione con principali istituzioni ed organizzazioni internazionali, tra cui FAO, Unione per il Mediterraneo e CIHEAM, con particolare attenzione al cibo, ma consapevole delle intersezioni che questo importante tema ha anche con altre sfide globali, quali la salute e l'ambiente. Ciò con lo scopo di garantire impatti sempre più efficaci a vantaggio degli operatori delle diverse filiere, della cittadinanza nel suo complesso, per una sostenibilità economica, sociale e ambientale.

L'Italia ha un ruolo chiave nell'Iniziativa PRIMA ed è desiderosa di valorizzare ulteriormente questo unico strumento di cooperazione tramite la ricerca nell'area euro-mediterranea, cogliendo le opportunità che si prospettano in una fase ancora molto delicata. Il Ministero dell'Università e della Ricerca e gli altri importanti attori delle istituzioni, del sistema universitario, della ricerca e dell'innovazione sono i protagonisti nazionali che il Segretariato Italiano di PRIMA, con sede presso il Santa Chiara Lab dell'Università degli Studi di Siena, ha la missione di supportare affinché l'Italia possa continuare ad esercitare una efficace influenza in un settore di rilevanza strategico quale l'agroalimentare e in un'area geografica così cruciale per il nostro Paese.



**Risultati dei bandi
PRIMA 2021 in sintesi**

Risultati dei bandi PRIMA 2021 in sintesi Sezione 1

11



311
Proposte presentate

Progetti finanziati

di cui

Progetti per nazionalità Enti coordinatori



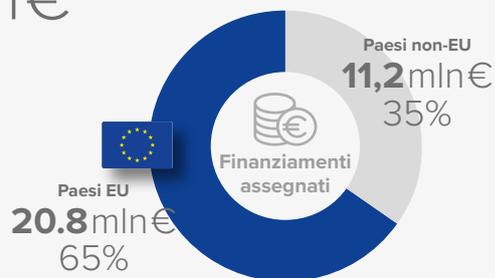
19

Paesi partecipanti
di cui



32 mln€

Budget
EU



Progetti per area tematica

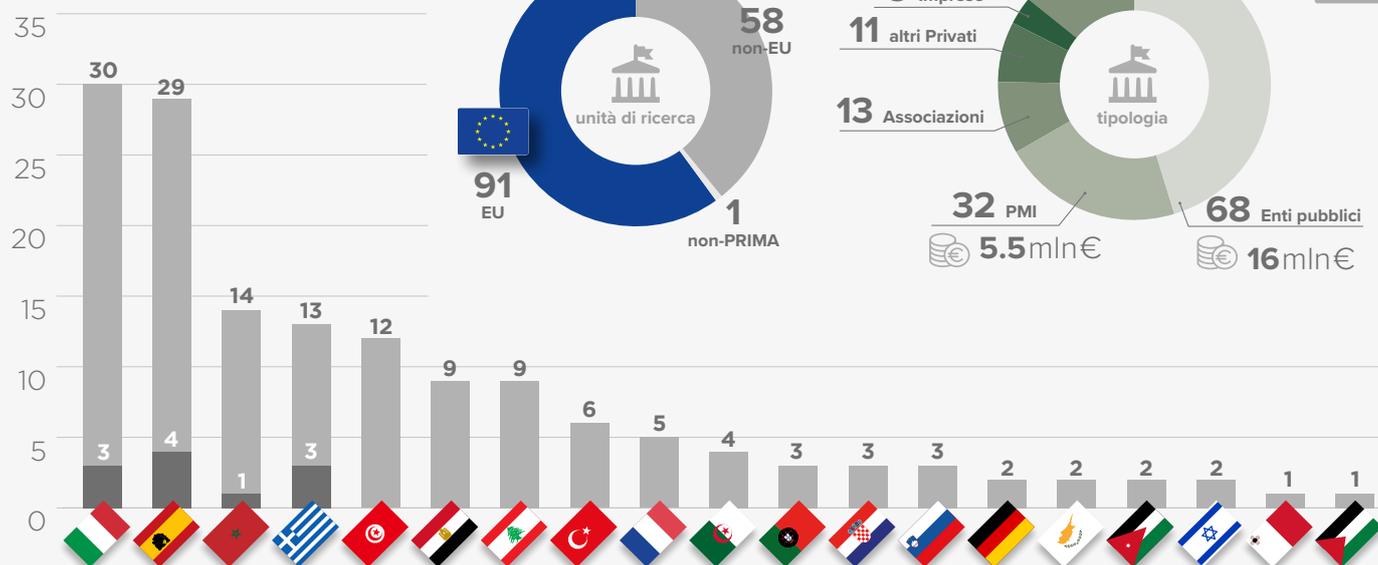
3 RIAs **8 IAs**



Azioni per area tematica

150

Unità di ricerca



Unità di ricerca per nazionalità

Risultati dei bandi
PRIMA 2021 in sintesi

Sezione 1

Progetti per area tematica



Water Management



Farming Systems



Agri-food Value Chain



Nexus

La **Sezione 1** prevede bandi per progetti transnazionali di ricerca e innovazione (RIA) o di innovazione (IA), organizzati e gestiti dalla Fondazione PRIMA e finanziati con risorse UE. I criteri di partecipazione e di valutazione delle proposte sono quelli stabiliti dal Programma quadro europeo di ricerca e innovazione.

Progetti finanziati	Paesi	Unità di ricerca	Budget
<p>1</p> <p>Mara-Mediterra Safeguarding the livelihood of rural communities and the environment in the Mediterranean through Nature-based Solutions</p>	Grecia		<p>2.549.850 €</p>
	Algeria		
	Egitto		
	Francia		
	Italia		
	Libano		
	Malta		
	Turchia		
	8	8	
<p>2</p> <p>REACT4MED Inclusive Outscaling of Agro-ecosystem REstoration ACTIONS for the MEDiterranean</p>	Grecia		<p>2.750.000 €</p>
	Italia		
	Cipro		
	Egitto		
	Germania		
	Israele		
	Marocco		
	Spagna		
	Turchia		
9	11		

SEZIONE 1

3

**SALAM-MED**

Sustainable Approaches to LAnd and water Management in MEditerranean Drylands



RIA

Italia Spagna Egitto Francia Tunisia Grecia Marocco Palestine
(Non PRIMA PS) 

2.835.714 €



8

16

4

**FARMS4CLIMATE**

Smart governance and operational models for agroecological carbon farming



IA

Spagna Italia Egitto Tunisia Grecia Libano 

2.749.438 €



6

12

5

**MountainHER**

Empowering women associations as drivers for agro-ecological transformation to generate income for Mountain farming communities



IA

Marocco Italia Libano Algeria Croazia Spagna Tunisia 

2.750.000 €



7

9

6

**PASTINNOVA**

Innovative models for sustainable future of Mediterranean pastoral systems



IA

Grecia Italia Spagna Algeria Croazia Cipro Francia Libano Marocco Slovenia Tunisia Turchia 

2.750.000 €



12

20

7



DELICIOUS

UnDErstanding consumer food choices & promotion of healthy and sustainable Mediterranean diets and Lifestyles in Children through behavIOUral change actionS



IA

Spagna		2.606.875 €
Italia		
Egitto		
Libano		
Portogallo		

5 10

8



PROMEDLIFE

PROMotion of MEDiterranean LIFESTyle and healthy diet



IA

Italia		2.363.973 €
Marocco		
Slovenia		
Tunisia		
Grecia		

5 12

9



SWITCHtoHEALTHY

Switching Mediterranean consumers to Mediterranean sustainable healthy dietary patterns



IA

Italia		2.799.000 €
Spagna		
Marocco		
Turchia		
Egitto		
Grecia		
Libano		
Tunisia		

8 18

10



BONEX

Boosting Nexus Framework Implementation in the Mediterranean



IA

Spagna		3.992.044 €
Giordania		
Italia		
Libano		
Marocco		
Portogallo		
Tunisia		
Germania		

8 17

11



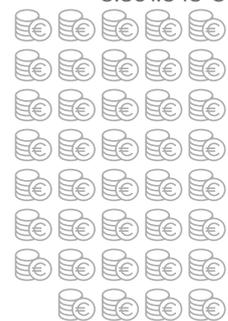
SURE_NEXUS

Ensure Fair NEXUS transition for climate change adaptation and sustainable development



IA

Spagna		
Grecia		
Italia		
Marocco		
Egitto		
Francia		
Israele		
Tunisia		
8	17	3.891.543 €



Risultati dei bandi PRIMA 2021 in sintesi

Sezione 2

19

Paesi partecipanti
di cui



28



140
Proposte presentate

Progetti finanziati

di cui

Progetti per nazionalità Enti coordinatori

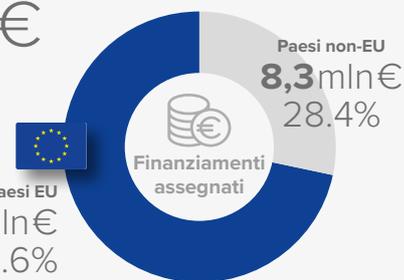


29.2 mln€

Budget
Paesi



Paesi EU
20.9 mln€
71.6%



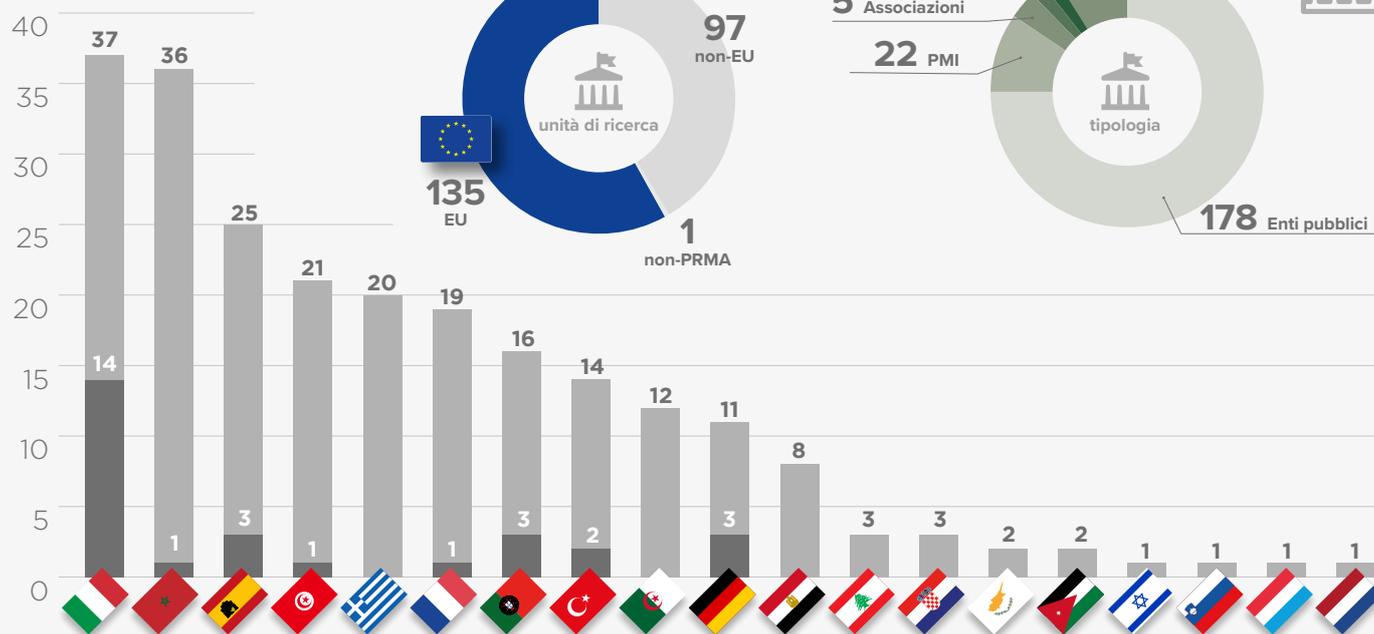
Progetti per area tematica

28 RIAs



Azioni

233 Unità di ricerca



Unità di ricerca per nazionalità

Risultati dei bandi
PRIMA 2021 in sintesi



Water Management



Farming Systems



Agri-food Value Chain

Sezione 2

Progetti per area tematica

La **Sezione 2** prevede bandi per progetti transnazionali di ricerca e innovazione (RIA), organizzati e gestiti dalla Fondazione PRIMA e finanziati dai Paesi partecipanti. I criteri di partecipazione sono quelli stabiliti dal Programma quadro europeo di ricerca e innovazione e dai singoli Paesi. I criteri di valutazione delle proposte sono quelli stabiliti dal Programma quadro europeo di ricerca e innovazione.

Progetti finanziati	Paesi	Unità di ricerca	Budget
1 AGREEMAR Adaptive agreements on benefits sharing for managed aquifer recharge in the Mediterranean region	Germania		1.000.909 €
	Cipro		
	Portogallo		
	Spagna		
	Tunisia		
	5	6	
2 AGREEMed Innovative Aquifers Governance for Resilient Water Management and Sustainable Ecosystems in Stressed Mediterranean Agricultural Areas	Marocco		1.300.140 €
	Francia		
	Germania		
	Giordania		
	Italia		
	Spagna		
	Tunisia		
	7	10	
3 AG-WaMED Advancing non conventional water management for innovative climate-resilient water governance in the Mediterranean Area	Italia		1.049.850 €
	Algeria		
	Egitto		
	Grecia		
	Spagna		
	Tunisia		
	Paesi Bassi (non-PRIMA PS)		
	7	8	

4



ADVAGROMED

ADVanced AGROecological approaches based on the integration of insect farming with local field practices in MEDiterranean countries



RIA

Italia

Germania

Grecia

Marocco

Portogallo

Spagna

6 6

1.066.341 €

5



AgrEcoMed

New agroecological approach for soil fertility and biodiversity restoration to improve economic and social resilience of mediterranean farming systems



RIA

Italia

Marocco

Spagna

Tunisia

4 8

920.165 €

6



Agri-fiSh

Circular economy application: from the field to the net. Sustainable and innovative feeds from agricultural wastes for a resilient and high-quality aquaculture



RIA

Italia

Algeria

Spagna

3 4

577.800 €

7



ASTER

Agroecology-inspired Strategies and Tools to Enhance Resilience and ecosystem services in tomato crop



RIA

Italia

Grecia

Algeria

Marocco

Tunisia

Portogallo

Spagna

Turchia

8 15

1.582.799 €

8



BENEFIT-Med

Boosting technologies of orphan legumes towards resilient farming systems in the Greater Mediterranean Region: from bench to open field



RIA

Italia

Grecia

Marocco

Algeria

Francia

Germania

Portogallo

Tunisia

8 11

833.736 €

9



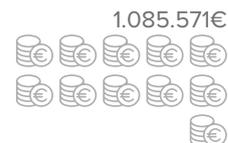
BIOMEnext

Modelling integrated biodiversity-based next-generation Mediterranean farming systems



RIA

Italia	
Marocco	
Spagna	
Tunisia	
Francia	
Libano	



6 **11**

10



CICLICA

Smart agriCulture optimization to CLimate Change Adaptation



RIA

Spagna	
Egitto	
Algeria	
Germania	
Marocco	
Turchia	



6 **8**

11



DREAM

Diversified orchards for REsilient and sustAinable Mediterranean farming systems



RIA

Italia	
Francia	
Grecia	
Marocco	
Spagna	



5 **8**

12



ECOBOOST

Boosting functional biodiversity to maximize ecosystem services for Mediterranean crop production



RIA

Italia	
Grecia	
Marocco	
Algeria	
Germania	
Tunisia	
Turchia	



7 **10**

13



HaloSheep

Agroecological sheep/goat production system based on the valorisation of halophytes of saline area in the méditerranéen basin



RIA

Tunisia	
Francia	
Grecia	
Italia	
Spagna	
Turchia	



6 **7**

14



MED4PEST

Novel Ecologically-Based ROdent management DEvelopment in Mediterranean countries



RIA

Turchia	
Marocco	
Cipro	
Grecia	

4 **5**

527.460 €

15



MEDPOME-STONE

Valorizing some pome and stone fruit germplasm variability to ensure resilience to climate change in the Mediterranean area



RIA

Turchia	
Marocco	
Italia	
Spagna	

4 **5**

620.150 €

16



Quinoa4Med

Quinoa as a climate-smart crop diversification option for higher income generation from marginal lands in the Mediterranean



RIA

Germania	
Spagna	
Marocco	
Algeria	
Francia	
Tunisia	

6 **9**

1.747.173 €

17



ReMe-diation

Resilient Mediterranean with a holistic approach to sustainable agriculture: Addressing challenges of water, soil, energy and biodiversity



RIA

Germania	
Turchia	
Grecia	
Portogallo	

4 **5**

606.804 €

18



SAFE

Sustainable water reuse practices improving safety in agriculture, food and environment



RIA

Italia	
Marocco	
Tunisia	
Algeria	
Francia	
Grecia	
Libano	
Spagna	

8 **12**

1.340.320 €

19

**SEA FENNEL4MED**

Innovative sustainable organic sea fennel (*Crithmum maritimum* L.) - based cropping systems to boost agrobiodiversity, profitability, circularity, and resilience to climate changes in Mediterranean small farms



RIA

Italia			
Croazia			
Francia			
Tunisia			
Turchia			
5		8	

964.600 €

20

**SIRAM**

Sustainable innovations for Regenerative Agriculture in the Mediterranean area



RIA

Italia			
Marocco			
Egitto			
Francia			
Grecia			
Portogallo			
Spagna			
Tunisia			
8		10	

1.566.293 €

21

**SUSTEMICROP**

Development of eco-sustainable systemic technologies and strategies in key Mediterranean crops systems, contributing to small farming socio-economic resilience



RIA

Spagna			
Marocco			
Francia			
Italia			
Libano			
Slovenia			
Spagna			
7		10	

1.374.049 €

22

**VALMEDALM**

VALorization of MEDiterranean ALMond orchards through the use of intercropping integrated strategies



RIA

Portogallo			
Marocco			
Croazia			
Egitto			
Israele			
Italia			
6		9	

1.215.104 €

23

**VINEPROTECT**

Ecological survey for biological management and protection of Mediterranean vineyards facing climate changes



RIA

Portogallo			
Turchia			
Marocco			
Italia			
4		7	

760.722 €

24

**GreenDriedFruits**

Application of extreme temperatures in dried figs, dates, and currants disinfestation: sustainability in practice



RIA

Italia



Grecia



Germania



Israele



Turchia



5

7

709.434 €

25

**InovFarmer.MED**

Improving Mediterranean supply chain through innovative agro-food business to strengthen small-scale farmers competitiveness, using prickly pear and fig as case study



RIA

Portogallo



Algeria



Egitto



Francia



Marocco



5

9

674.100 €

26

**RESILINK**

Increasing Resilience of Smallholders with Multi-Platforms Linking Localized Resource Sharing



RIA

Francia



Egitto



Marocco



Algeria



4

7

766.966 €

27

**SMALLDERS**

Smart Models for Agrifood Local vaLue chain based on Digital technologies for Enabling covid-19 Resilience and Sustainability



RIA

Italia



Francia



Spagna



Tunisia



4

5

1.061.328 €

28

**TECHONEY**

Development of a blockchain-based ecosystem that allows an improved positioning of small producers of honey on local and international markets



RIA

Spagna



Francia



Marocco



Italia



Tunisia



Algeria



Lussemburgo



Turchia



8

13

1.248.531 €

Risultati dei bandi PRIMA 2021 in sintesi

Dati complessivi S1+S2



Progetti finanziati

di cui

Progetti per nazionalità Enti coordinatori



Progetti per area tematica

Azioni

Research and Innovation Actions



Innovation Actions



21

Paesi partecipanti
di cui



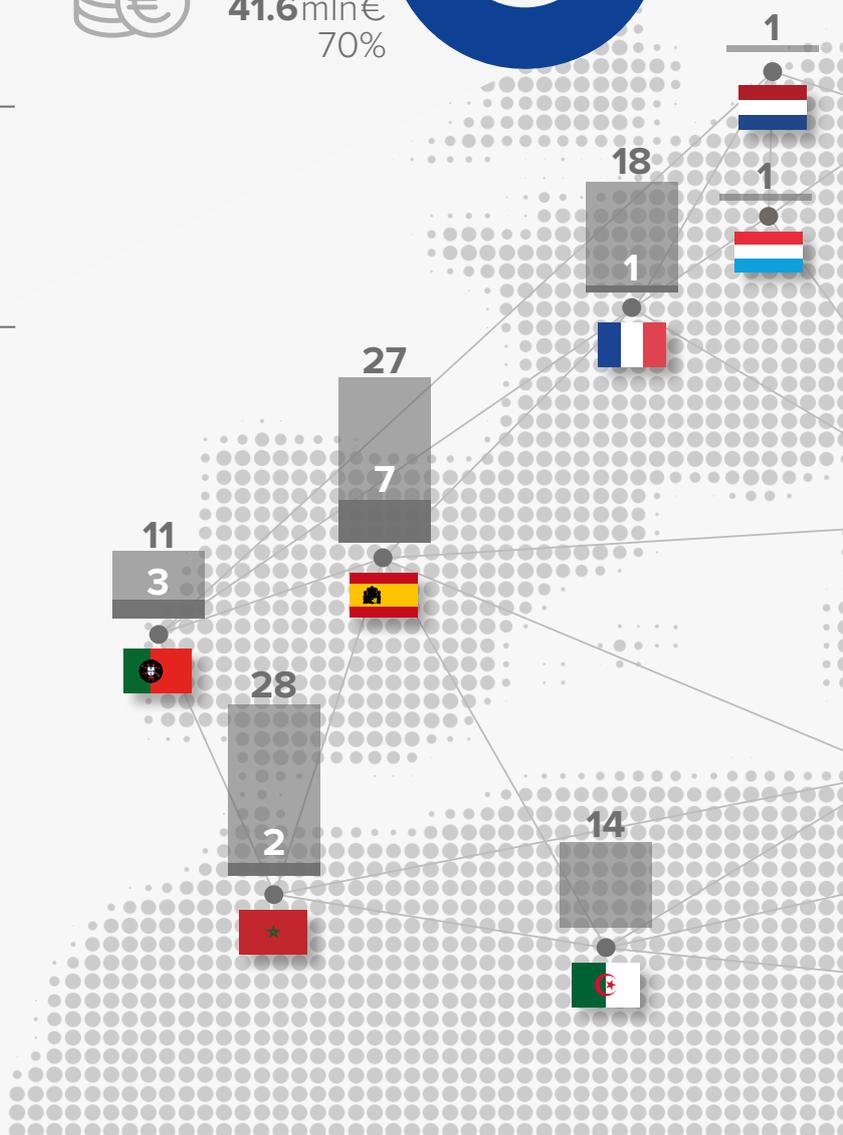
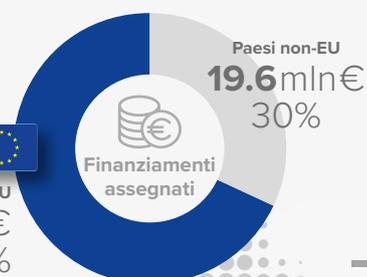
61.2 mln €

Budget
EU+Paesi

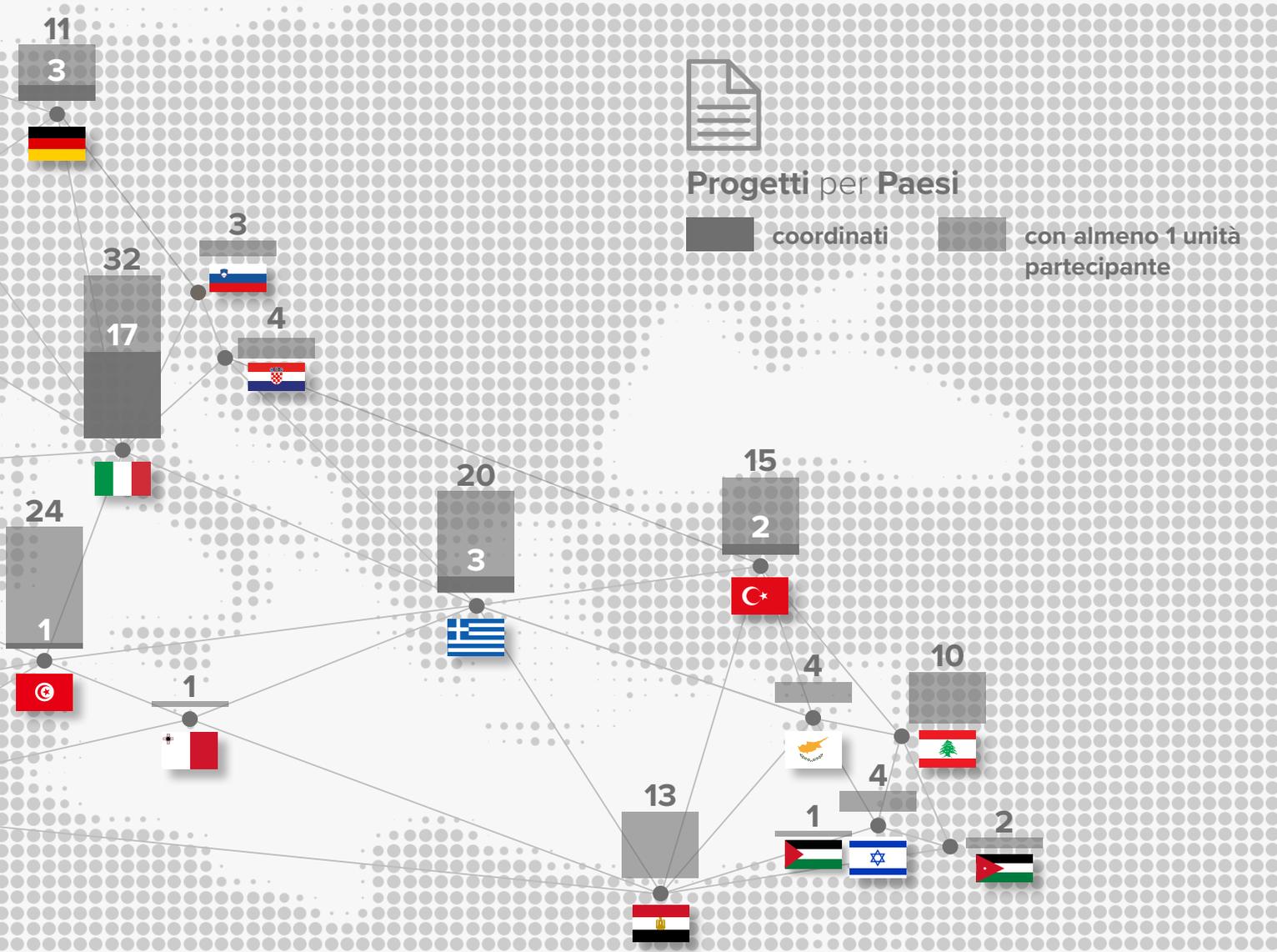
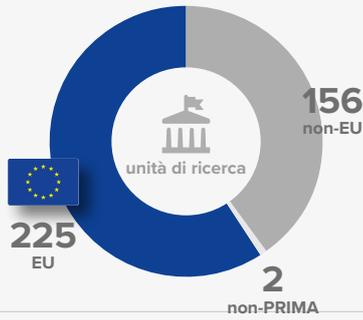
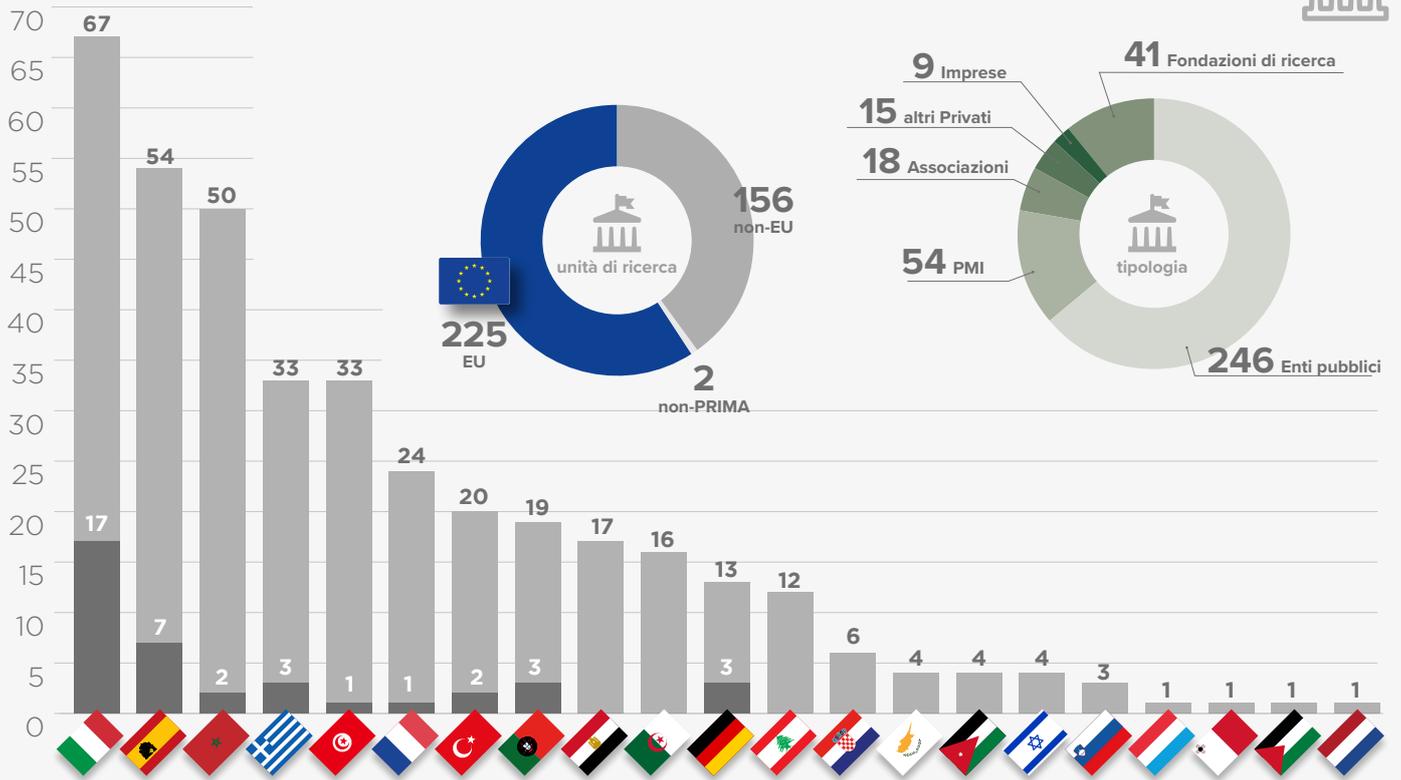


41.6 mln €
70%

Paesi EU



383 Unità di ricerca per nazionalità



Risultati dei bandi
PRIMA 2021 in sintesi

Dati complessivi

Progetti per Enti partecipanti



ALGERIA



Budget
1.585.452 €



16 Unità di ricerca



14 Progetti

coinvolgono una o più
unità di ricerca algerine

Progetti per area tematica



2

Mara-Mediterra /S1
AG-WaMED /S2



9

MountainHER /S1
PASTINNOVA /S1
Agri-fiSh /S2
ASTER /S2
BENEFIT-Med /S2
CICLICA /S2
ECOBOOST /S2
Quinoa4Med /S2
SAFE /S2

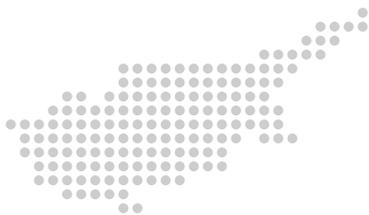


3

InovFarmer.MED /S2
RESILINK /S2
TECHONEY /S2



CIPRO



Budget
524.500 €



4 Unità di ricerca



4 Progetti

coinvolgono una o più
unità di ricerca cipriote

Progetti per area tematica



2

AGREEMAR /S2
REACT4MED /S1



2

MED4PEST /S2
PASTINNOVA /S1



CROAZIA



Budget
903.500 €



6 Unità di ricerca



4 Progetti

coinvolgono una o più
unità di ricerca croate

Progetti per area tematica

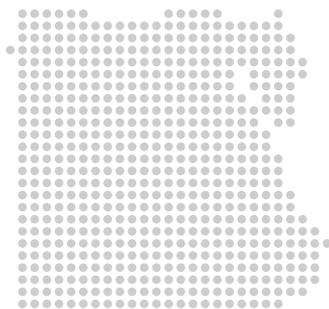


4

MountainHER /S1
PASTINNOVA /S1
SEA FENNEL4MED /S2
VALMEDALM /S2



EGITTO



Budget
2.503.245 €



17 Unità di ricerca
di cui **3 PMI**



13 Progetti

coinvolgono una o più
unità di ricerca egiziane

Progetti per area tematica



4

AG-WaMED /S2
Mara-Mediterra /S1
REACT4MED /S1
SALAM-MED /S1



4

CICLICA /S2
FARMS4CLIMATE /S1
SIRAM /S2
VALMEDALM /S2



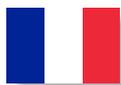
4

DELICIOUS /S1
InovFarmer.MED /S2
RESILINK /S2
SWITCHtoHEALTHY /S1



1

SURE_NEXUS /S1



FRANCIA



Budget
3.893.217 €



24 Unità di ricerca
di cui **2 PMI**



di cui



18 Progetti

coinvolgono una o più
unità di ricerca francesi

1 Progetto

è coordinato da una
unità di ricerca francese

Progetti per area tematica



3

AGREEMed /S2
Mara-Mediterra /S1
SALAM-MED /S1



10

BENEFIT-Med /S2
BIOMEnext /S2
DREAM /S2
HaloSheep /S2
PASTINNOVA /S1
Quinoa4Med /S2
SAFE /S2
SEA FENNEL4MED /S2
SIRAM /S2
SUSTEMICROP /S2



4

InovFarmer.MED /S2
RESILINK /S2
SMALLDERS /S2
TECHONEY /S2



1

SURE_NEXUS /S1



GERMANIA



Budget
3.261.321 €



13 Unità di ricerca
di cui **2 PMI**



di cui



11 Progetti

coinvolgono una o più
unità di ricerca tedesche

3 Progetti

sono coordinati da una
unità di ricerca tedesca

Progetti per area tematica



3

AGREEMAR /S2
AGREEMed /S2
REACT4MED /S1



6

ADVAGROMED /S2
BENEFIT-Med /S2
CICLICA /S2
ECOBOOST /S2
Quinoa4Med /S2
ReMe-diation /S2



1

GreenDriedFruits /S2



1

BONEX /S1



GIORDANIA



Budget
667.985 €



3 Unità di ricerca
di cui **1 PMI**



2 Progetti

coinvolgono una o più
unità di ricerca giordane

Progetti per area tematica



1

AGREEMed /S2



1

BONEX /S1



GRECIA



Budget
4.973.193 €



33 Unità di ricerca
di cui **8 PMI**



di cui



20 Progetti

coinvolgono una o più
unità di ricerca greche

3 Progetti

sono coordinati da una
unità di ricerca greca

Progetti per area tematica



4

AG-WaMED /S2
Mara-Mediterra /S1
REACT4MED /S1
SALAM-MED /S1



12

ADVAGROMED /S2
ASTER /S2
BENEFIT-Med /S2
DREAM /S2
ECOBOOST /S2
FARMS4CLIMATE /S1
HaloSheep /S2
MED4PEST /S2
PASTINNOVA /S1
ReMe-diation /S2
SAFE /S2
SIRAM /S2



3

GreenDriedFruits /S2
PROMEDLIFE /S1
SWITCHtoHEALTHY/S1



1

SURE_NEXUS /S1



ISRAELE



Budget

858.381 €



4 Unità di ricerca

di cui **1 PMI**



4 Progetti

coinvolgono una o più
unità di ricerca israeliane

Progetti per area tematica



1

[REACT4MED](#) /S1



1

[VALMEDALM](#) /S2



1

[GreenDriedFruits](#) /S2



1

[SURE_NEXUS](#) /S1



ITALIA



Budget

13.835.542 €



67 Unità di ricerca

di cui **13 PMI**



di cui



32 Progetti

coinvolgono una o più
unità di ricerca italiane

17 Progetti

sono coordinati da una
unità di ricerca italiana

Progetti per area tematica



5

[AGREEMed](#) /S2
[AG-WaMED](#) /S2
[Mara-Mediterra](#) /S1
[REACT4MED](#) /S1
[SALAM-MED](#) /S1



19

[ADVAGROMED](#) /S2
[AgrEcoMed](#) /S2
[Agri-fiSh](#) /S2
[ASTER](#) /S2
[BENEFIT-Med](#) /S2
[BIOMEnext](#) /S2
[DREAM](#) /S2
[ECOBOOST](#) /S2
[FARMS4CLIMATE](#) /S1
[HaloSheep](#) /S2
[MEDPOME-STONE](#) /S2
[MountainHER](#) /S1
[PASTINNOVA](#) /S1
[SAFE](#) /S2
[SEA FENNEL4MED](#) /S2
[SIRAM](#) /S2
[SUSTEMICROP](#) /S2
[VALMEDALM](#) /S2
[VINEPROTECT](#) /S2



6

[DELICIOUS](#) /S1
[GreenDriedFruits](#) /S2
[PROMEDLIFE](#) /S1
[SMALLDERS](#) /S2
[SWITCHtoHEALTHY](#) /S1
[TECHONEY](#) /S2



2

[BONEX](#) /S1
[SURE_NEXUS](#) /S1



LUSSEMBOURGO



Budget
185.531 €



1 Unità di ricerca



1 Progetto

coinvolge una
unità di ricerca lussemburghese

Progetti per area tematica



1

TECHONEY /S2



LIBANO



Budget
2.293.438 €



12 Unità di ricerca
di cui **2 PMI**



10 Progetti

coinvolgono una o più
unità di ricerca libanesi

Progetti per area tematica



1

Mara-Mediterra /S1



6

BIOMEnext /S2
FARMS4CLIMATE /S1
MountainHER /S1
PASTINNOVA /S1
SAFE /S2
SUSTEMICROP /S2



2

DELICIOUS /S1
SWITCHtoHEALTHY /S1



1

BONEX /S1



Budget
397.075 €

1 Unità di ricerca
di cui **1** PMI



1 Progetto

coinvolge una
unità di ricerca maltese

Progetti per area tematica



Mara-Mediterra /S1



Budget
6.237.680 €

50 Unità di ricerca
di cui **2** PMI



di cui



28 Progetti

coinvolgono una o più
unità di ricerca marocchine

2 Progetti

sono coordinati da una
unità di ricerca marocchina

Progetti per area tematica



AGREEMed /S2
REACT4MED /S1
SALAM-MED /S1



ADVAGROMED /S2
AgrEcoMed /S2
ASTER /S2
BENEFIT-Med /S2
BIOMEnext /S2
CICLICA /S2
DREAM /S2
ECOBOOST /S2
MED4PEST /S2
MEDPOME-STONE /S2
MountainHER /S1
PASTINNOVA /S1
Quinoa4Med /S2
SAFE /S2
SIRAM /S2
SUSTEMICROP /S2
VALMEDALM /S2
VINEPROTECT /S2



InovFarmer.MED /S2
PROMEDLIFE /S1
RESILINK /S2
SWITCHtoHEALTHY /S1
TECHONEY /S2



BONEX /S1
SURE_NEXUS /S1



PAESI BASSI

non-PRIMA PS



Budget
0 €



1 Unità di ricerca



1 Progetto

coinvolge una
unità di ricerca olandese

Progetti per area tematica



AG-WaMED /S2



PALESTINA

non-PRIMA PS



Budget
0 €



1 Unità di ricerca



1 Progetto

coinvolge una
unità di ricerca palestinese

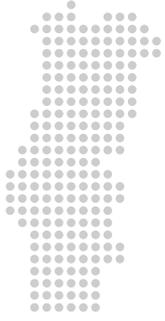
Progetti per area tematica



SALAM-MED /S2



PORTOGALLO



Budget
1.842.670 €



19 Unità di ricerca
di cui **4 PMI**



di cui



11 Progetti

coinvolgono una o più
unità di ricerca portoghesi

3 Progetti

sono coordinati da una
unità di ricerca portoghese

Progetti per area tematica



1

AGREEMAR /S2



7

ADVAGROMED /S2
ASTER /S2
BENEFIT-Med /S2
ReMe-diation /S2
SIRAM /S2
VALMEDALM /S2
VINEPROTECT /S2



2

DELICIOUS /S1
InovFarmer.MED /S2



1

BONEX /S1



SLOVENIA



Budget
466.500 €



4 Unità di ricerca
di cui **2 PMI**



3 Progetti

coinvolgono una o più
unità di ricerca slovene

Progetti per area tematica



2

PASTINNOVA /S1
SUSTEMICROP /S2



1

PROMEDLIFE /S1



SPAGNA



Budget
11.360.242 €



54 Unità di ricerca
di cui **8 PMI**



di cui



27 Progetti

coinvolgono una o più
unità di ricerca spagnole

7 Progetti

sono coordinati da una
unità di ricerca spagnoli

Progetti per area tematica



5

AGREEMAR /S2
AGREEMed /S2
AG-WaMED /S2
REACT4MED /S1
SALAM-MED /S1



16

ADVAGROMED /S2
AgrEcoMed /S2
AgrI-fiSh /S2
ASTER /S2
BIOMEnext /S2
CICLICA /S2
DREAM /S2
FARMS4CLIMATE /S1

HaloSheep /S2
MEDPOME-STONE /S2
MountainHER /S1
PASTINNOVA /S1
Quinoa4Med /S2
SAFE /S2
SIRAM /S2
SUSTEMICROP /S2



4

DELICIOUS /S1
SMALLDERS /S2
SWITCHtoHEALTHY /S1
TECHONEY /S2



2

BONEX /S1
SURE_NEXUS /S1



TUNISIA



Budget
3.339.802 €



33 Unità di ricerca
di cui **3 PMI**



di cui



24 Progetti

coinvolgono una o più
unità di ricerca tunisina

1 Progetto

è coordinato da una
unità di ricerca tunisina

Progetti per area tematica



4

AGREEMAR /S2
AGREEMed /S2
AG-WaMED /S2
SALAM-MED /S1



14

AgrEcoMed /S2
ASTER /S2
BENEFIT-Med /S2
BIOMEnext /S2
ECOBOOST /S2
FARMS4CLIMATE /S1
HaloSheep /S2

MountainHER /S1
PASTINNOVA /S1
Quinoa4Med /S2
SAFE /S2
SEA FENNEL4MED /S2
SIRAM /S2
SUSTEMICROP /S2



4

PROMEDLIFE /S1
SMALLDERS /S2
SWITCHtoHEALTHY /S1
TECHONEY /S2

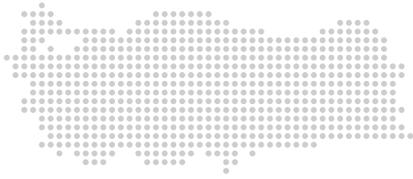


2

BONEX /S1
SURE_NEXUS /S1



TURKEY



Budget
2.102.554 €



20 Unità di ricerca
di cui **2 PMI**



di cui



15 Progetti

coinvolgono una o più
unità di ricerca turche

2 Progetti

sono coordinati da una
unità di ricerca turca

Progetti per area tematica



2

Mara-Mediterra /S1
REACT4MED /S1



10

ASTER /S2
CICLICA /S2
ECOBOOST /S2
HaloSheep /S2
MED4PEST /S2
MEDPOME-STONE /S2
PASTINNOVA /S1
ReMe-diation /S2
SEA FENNEL4MED /S2
VINEPROTECT /S2



3

GreenDriedFruits /S2
SWITCHtoHEALTHY /S1
TECHONEY /S2



Progetti con unità di ricerca italiane in sintesi



Focus Italia

Nei quattro anni di attuazione del programma PRIMA (2018-2021), la ricerca italiana ha conseguito ottimi risultati: su 168 progetti finanziati ben 129 vedono la partecipazione dell'Italia, con 60 direttamente coordinati da un ente italiano. Di quasi 230 milioni finora erogati, circa 52 milioni di euro sono andati a beneficio di ricercatori e innovatori del nostro Paese. Per l'Italia il 2021 è stato nuovamente un anno estremamente positivo in termini di partecipazione al Programma internazionale PRIMA.

Nel 2021, il numero dei Progetti ammessi al finanziamento e partecipati da unità di ricerca italiane è, infatti, di quasi 14 milioni a favore di 32 progetti in linea con i successi degli anni precedenti. Di questi, **17 sono i Progetti coordinati da un'unità di ricerca italiana**, numero che migliora il risultato già straordinario dell'anno scorso, in netta crescita rispetto ai bandi 2018 (in cui erano stati 11 i Progetti coordinati da un ente italiano). **Le entità italiane coinvolte sono in tutto 67**, tra dipartimenti universitari, piccole e medie imprese, aziende, associazioni di categoria ed istituti privati di ricerca. Inoltre, sono ben 17 le Regioni rappresentate, con l'Emilia-Romagna coinvolta nel maggior numero di Progetti (10). Anche il **budget** destinato ai Progetti italiani 2021, infine, **risulta più alto della media del triennio precedente**, con circa 14 milioni di euro ed una **media per unità di ricerca di oltre 200.000 euro**. Dei 14 milioni, circa 7 milioni sono finanziati dalla Commissione europea nel quadro della Sezione I con un **ritorno economico particolarmente significativo**, che raddoppia la quota messa a disposizione dal Ministero dell'Università e della Ricerca per Progetti di Sezione II.

Questi dati testimoniano ancora una volta la **grande attenzione** ai temi della ricerca e dell'innovazione nel settore agroalimentare sia da parte delle **Istituzioni** che dei **ricercatori** e del **settore privato** italiani. Considerando la rilevanza – quanto mai attuale – del settore alla luce dello scenario internazionale, l'Italia si dimostra un **attore di primo piano a livello euro-mediterraneo** per il contributo all'avanzamento dei sistemi agricoli ed alimentari e al loro raggiungimento di adeguati livelli di sostenibilità. D'altra parte, le eccellenze che caratterizzano il Paese per quanto riguarda, ad esempio, le produzioni alimentari, unitamente alla qualità della ricerca di settore, rafforzano tale posizione e rendono l'Italia un **modello di riferimento**, capace di contribuire attivamente nella riflessione attorno alla sicurezza alimentare, alla valorizzazione della dieta mediterranea, alla tutela delle risorse naturali, alla necessità di coinvolgere il settore privato per una piena attuazione dell'Agenda 2030.

La maggior parte dei Progetti italiani finanziati dai bandi PRIMA 2020 rientra nell'area tematica sui **Sistemi agricoli (19)**, seguita da quella sulle **Filiere agroalimentari (6)**, sulla **Gestione delle risorse idriche (5)** e, infine, sul **Nexus (2)**. Alcuni progetti insistono su come migliorare le **prestazioni ambientali e socio-economiche dei sistemi agricoli** su piccola scala attraverso **innovazioni organizzative e nuovi modelli di governance** della catena del valore; su come promuovere una gestione sostenibile del suolo e dell'acqua per **combattere la desertificazione e il degrado dei suoli**; su come favorire una più attenta **adesione alla dieta mediterranea quale modello di dieta sostenibile** capace di tenere insieme aspetti ambientali, sociali e nutrizionali. Alcuni progetti cercano di mitigare il **tema della scarsità idrica** attraverso sistemi innovativi di **governance** della risorsa idrica e favorire la resilienza di piccoli produttori alle sfide globali e a shock esterni anche attraverso l'uso di tecnologie e sistemi di prevenzione e monitoraggio. Altri progetti intendono valorizzare **pratiche di agro-ecologia** per migliorare servizi ecosistemici per migliorare strategie di adattamento al cambiamento climatico per piccoli agricoltori. I due progetti Nexus, infine, sono coordinati dall'Italia e mirano a dimostrare i **benefici dell'approccio integrato** (acqua-energia-ecosistema-cibo) per garantire sviluppo economico, tutela dell'ambiente e equo accesso alle risorse.

Progetti con unità di ricerca italiane in sintesi

13,8 mln€

Budget



Dati complessivi



32 Progetti su 39

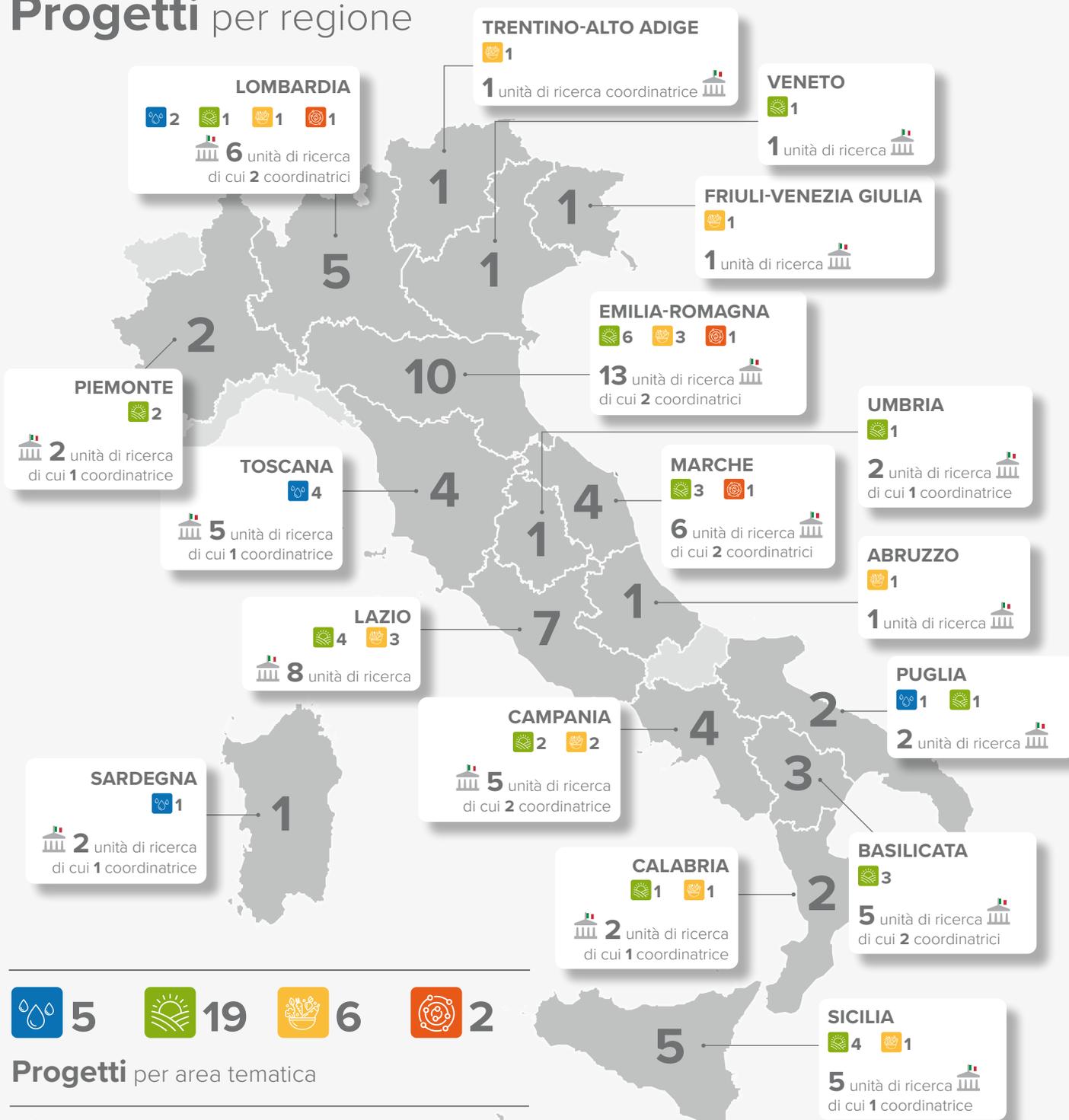
coinvolgono unità di ricerca italiane



17 Progetti

sono coordinati da un'unità di ricerca italiana

Progetti per regione



5 19 6 2

Progetti per area tematica

67 Unità di ricerca
di cui 13 PMI



Progetti con unità di ricerca
italiane in sintesi

Dati complessivi

Progetti per Enti partecipanti



AGREEMed /S2
AG-WaMED /S2
Mara-Mediterra /S1
REACT4MED /S1
SALAM-MED /S1



ADVAGROMED /S2
AgrEcoMed /S2
AgrI-fiSh /S2
ASTER /S2
BENEFIT-Med /S2
BIOMEnext /S2
DREAM /S2
ECOBOOST /S2
FARMS4CLIMATE /S1
HaloSheep /S2
MEDPOME-STONE /S2
MountainHER /S1
PASTINNOVA /S1
SAFE /S2
SEA FENNEL4MED /S2
SIRAM /S2
SUSTEMICROP /S2
VALMEDALM /S2
VINEPROTECT /S2



DELICIOUS /S1
GreenDriedFruits /S2
PROMEDLIFE /S1
SMALLDERS /S2
SWITCHtoHEALTHY /S1
TECHONEY /S2



BONEX /S1
SURE_NEXUS /S1

Enti	Unità di ricerca	Sezione 1 /S1	Sezione 2 /S2
Agenzia Nazionale per le nuove Tecnologie, l'Energia e lo Sviluppo Economico Sostenibile (ENEA)	1 Divisione Biotecnologie e Agroindustria (BIOAG-ENEA) Laboratorio Biotecnologie, Centro Ricerche Casaccia	PROMEDLIFE	
	2 Divisione Biotecnologie e Agroindustria (BIOAG-ENEA) Laboratorio Bioprodotto e Bioprocessi, Centro Ricerche Trisaia		BIOMEnext
Agreement srl	3	FARMS4CLIMATE	
Alma Mater Studiorum Università di Bologna (UNIBO)	4 Dipartimento di Scienze e Tecnologie Agro-Alimentari (UNIBO-DISTAL)	BONEX	
	5 Dipartimento di Scienze e Tecnologie Agro-Alimentari (UNIBO-DISTAL)		 DREAM
APPIA - Rete della Pastorizia Italiana	6	PASTINNOVA	
Birrificio Emiliano srl	7	MountainHER	
Centro Internazionale di Alti Studi Agronomici Mediterranei (CIHEAM)	8 Istituto Agronomico Mediterraneo di Bari	REACT4MED	
	9 Istituto di Bioscienze e Biorisorse (IBBR-CNR)		BIOMEnext
	10 Istituto per il Sistema Produzione Animale in Ambiente Mediterraneo (SPAAM-CNR)	PASTINNOVA	
Consiglio Nazionale delle Ricerche (CNR)	11 Istituto per la Protezione Sostenibile delle Piante (IPSP-CNR)		 ASTER

Consiglio Nazionale delle Ricerche (CNR)	12	Istituto per la Protezione Sostenibile delle Piante (IPSP-CNR)	SALAM-MED	
	13	Istituto per le Risorse Biologiche e le Biotecnologie Marine (IRBIM-CNR)		Agri-fiSh
	14	Istituto Ricerca sulle Acque (IRSA - CNR)		SAFE
Consiglio per la Ricerca in Agricoltura e l'analisi dell'Economia Agraria (CREA)	15	Centro di Ricerca Alimenti e Nutrizione (AN-CREA)		SEA FENNEL4MED
	16	Centro Politiche e Bioeconomia (CREA-PB)		AgrEcoMed
Consorzio della Bonifica Renana	17		BONEX	
Contento Trade srl	18		PROMEDLIFE	
ENCO Consulting srl	19		 SWITCHtoHEALTHY	
Fondazione Centro Ricerche Produzioni Animali (CRPA)	20			HaloSheep
Fondazione Edmund Mach (FEM)	21		 PROMEDLIFE	
Horta srl	22			SUSTEMICROP
Hortus Novus srl	23		PROMEDLIFE	
IRIDRA srl	24			AGREEMed
Open Fields srl	25		MountainHER	
OpenTea srl	26			SIRAM
Planet di Villa Alessandro & C. sas	27		SURE_NEXUS	
Politecnico di Milano (POLIMI)	28	Dipartimento di Ingegneria Civile e Ambientale		AG-WaMED
Primo Principio Società Cooperativa	29		SALAM-MED	
Provincia d'Italia dei Fratelli Maristi delle Scuole	30		DELICIOUS	
Regione Campania	31	Assessorato Agricoltura	SWITCHtoHEALTHY	
REM TEC srl	32		SURE_NEXUS	
RINCI srl	33			SEA FENNEL4MED
Sapienza Università di Roma	34	Dipartimento Ingegneria Chimica Materiali Ambiente		SAFE
	35	Dipartimento Ingegneria Chimica Materiali Ambiente		TECHONEY
SoftWater srl	36		REACT4MED	
Università Cattolica del Sacro Cuore (UCSC)	37	Dipartimento di Scienze e Tecnologie Alimentari per una filiera agro-alimentare Sostenibile (DiSTAS)	 SIRAM	
	38	Dipartimento di Scienze delle produzioni vegetali sostenibili (DIPROVES)		FARMS4CLIMATE
Università degli Studi della Basilicata (UNIBAS)	39	Dipartimento delle Culture Europee e del Mediterraneo (DICEM)	 AgrEcoMed	
	40	Dipartimento di Scienze (DiS)	 SAFE	
	41	Dipartimento delle Culture Europee e del Mediterraneo (DICEM)		FARMS4CLIMATE
Università degli Studi di Bari Aldo Moro (UNIBA)	42	Dipartimento di Scienze Agro-Ambientali e Territoriali		AgrEcoMed

Università degli Studi di Firenze (UNIFI)	43	Dipartimento di Scienze e Tecnologie Agrarie, Alimentari, Ambientali e Forestali (DAGRI)	Mara-Mediterra	
	44	Dipartimento di Scienze e Tecnologie Agrarie, Alimentari, Ambientali e Forestali (DAGRI)		 AG-WaMED
	45	Water Harvesting Lab (WHLab), Dipartimento di Scienze e Tecnologie Agrarie, Alimentari, Ambientali e Forestali (DAGRI)	SALAM-MED	
Università degli Studi di Milano (UNIMI)	46	Dipartimento di Scienze e Politiche Ambientali		 GreenDriedFruits
Università degli Studi di Napoli Federico II (UNINA)	47	Dipartimento di Scienze politiche		TECHONEY
Università degli Studi di Palermo (UNIPA)	48	Dipartimento Scienze Agrarie, Alimentari e Forestali		VALMEDALM
	49	Dipartimento Scienze Agrarie, Alimentari e Forestali		 ECOBOOST
Università degli Studi di Pavia (UNIPV)	50	Dipartimento di Biologia e Biotecnologie		 BENEFIT-Med
Università degli Studi di Perugia (UNIPG)	51	Dipartimento di Scienze Agrarie, Alimentari ed Ambientali		 BIOMExnext
Università degli Studi di Sassari (UNISS)	52	Nucleo di Ricerca sulla Desertificazione (NRD)	 SALAM-MED	
Università degli Studi di Torino (UNITO)	53	Dipartimento di Scienze Agrarie, Forestali e Alimentari (DISAFA)		 ADVAGROMED
Università degli Studi di Verona (UNIVR)	54	Dipartimento di Biotecnologie		VINEPROTECT
Università degli Studi Mediterranea di Reggio Calabria (UNIRC)	55	Dipartimento di Agraria		ECOBOOST
Università del Piemonte Orientale Amedeo Avogadro (UNIUPO)	56	Dipartimento di Scienze e Innovazione Tecnologica (DISIT)		ASTER
Università della Calabria (UNICAL)	57	Modeling & Simulation Center Laboratory of Enterprise Solutions, (MSC-LES)		 SMALLDERS
Università di Camerino (UNICAM)	58	Scuola di Scienze del Farmaco e dei Prodotti della Salute		 Agri-fiSh
Università di Catania (UNICT)	59	Dipartimento di Scienze biomediche e Biotecnologiche (BIOMETEC)	DELICIOUS	
	60	Dipartimento di Agricoltura, Alimentazione e Ambiente (DI3A)		ASTER
	61	Dipartimento di Agricoltura, Alimentazione e Ambiente (DI3A)		MEDPOME-STONE
Università di Parma (UNIPR)	62	Dipartimento di Scienze degli Alimenti e del Farmaco, Gruppo di ricerca di Nutrizione Umana	PROMEDLIFE	
	63	Dipartimento di Scienze degli Alimenti e del Farmaco, Gruppo di ricerca di Nutrizione Umana	SWITCHtoHEALTHY	
	64	Future Technology Lab		SMALLDERS
Università Politecnica delle Marche (UNIVPM)	65	Dipartimento di Scienze Agrarie, Alimentari, ed Ambientali (D3A)		 SEA FENNEL4MED
	66	Dipartimento di Scienze ed Ingegneria della Materia, dell'Ambiente ed Urbanistica (SIMAU)	SURE_NEXUS	
	67	Dipartimento di Scienze Agrarie, Alimentari ed Ambientali (D3A)	PASTINNOVA	

Progetti con unità di ricerca italiane in sintesi

Sezione 1

6,8 mln€

Budget
EU



11 Progetti su **11**
coinvolgono unità di ricerca italiane



3 Progetti
sono coordinati da un'unità di ricerca italiana

Progetti per regione



30 Unità di ricerca
di cui **9** PMI



Progetti con unità di ricerca
italiane in sintesi

Sezione1

Progetti per area tematica



Mara-Mediterra
REACT4MED
SALAM-MED



FARMS4CLIMATE
MountainHER
PASTINNOVA



DELICIOUS
PROMEDLIFE
SWITCHtoHEALTHY



BONEX
SURE_NEXUS

Water Management

Progetto	Enti	Unità di ricerca italiane	
Mara-Mediterra	Università degli Studi di Firenze (UNIFI)	Dipartimento di Scienze e Tecnologie Agrarie, Alimentari Ambientali e Forestali	Firenze TOSCANA
REACT4MED	Centro Internazionale di Alti Studi Agronomici Mediterranei (CIHEAM)	Istituto Agronomico Mediterraneo di Bari	Bari PUGLIA
	SoftWater srl		Milano LOMBARDIA
 SALAM-MED	Università degli Studi di Sassari (UNISS)	Nucleo di Ricerca sulla Desertificazione (NRD)	Alghero (SS) SARDEGNA
	Consiglio Nazionale delle Ricerche (CNR)	Istituto per la Protezione Sostenibile delle Piante (IPSP-CNR)	Sesto Fiorentino TOSCANA
	Università degli Studi di Firenze (UNIFI)	Water Harvesting Lab (WHLab), Dipartimento di Scienze e Tecnologie Agrarie, Alimentari, Ambientali e Forestali (DAGRI)	Firenze TOSCANA
	Primo Principio Società Cooperativa		Alghero (SS) SARDEGNA

Farming Systems

Progetto	Enti	Unità di ricerca italiane	
FARMS4CLIMATE	Agreement srl		Matera BASILICATA
	Università Cattolica del Sacro Cuore (UCSC)	Dipartimento di Scienze delle produzioni vegetali sostenibili (DIPROVES)	Piacenza EMILIA-ROMAGNA
	Università degli Studi della Basilicata (UNIBAS)	Dipartimento delle Culture Europee e del Mediterraneo (DICEM)	Potenza BASILICATA
MountainHER	Birrificio Emiliano srl		Bologna EMILIA-ROMAGNA
	Open Fields srl		Parma EMILIA-ROMAGNA
PASTINNOVA	APPIA - Rete della Pastorizia Italiana		Roma LAZIO
	Consiglio Nazionale delle Ricerche (CNR)	Istituto per il Sistema Produzione Animale in Ambiente Mediterraneo (ISPAAM-CNR)	Portici (NA) CAMPANIA
	Università Politecnica delle Marche (UNIVPM)	Dipartimento di Scienze Agrarie, Alimentari ed Ambientali (D3A)	Ancona MARCHE

Agri-Food Value Chain

Progetto	Enti	Unità di ricerca italiane	
DELICIOUS	Provincia d'Italia dei Fratelli Maristi delle Scuole		Roma LAZIO
	Università di Catania (UNICT)	Dipartimento di Scienze biomediche e Biotecnologiche (BIOMETEC)	Catania SICILIA
 PROMEDLIFE	Fondazione Edmund Mach (FEM)		San Michele all'Adige (TN) TRENTINO-ALTO ADIGE
	Agenzia Nazionale per le nuove Tecnologie, l'Energia e lo Sviluppo Economico Sostenibile (ENEA)	Divisione Biotecnologie e Agroindustria (BIOAG-ENEA) Laboratorio Biotecnologie, Centro Ricerche Casaccia	Santa Maria di Galeria (RM) LAZIO
	Contento Trade srl		Pozzuolo del Friuli (UD) FRIULI-VENEZIA GIULIA
	Hortus Novus srl		L'Aquila ABRUZZO
	Università di Parma (UNIPR)	Dipartimento di Scienze degli Alimenti e del Farmaco, Gruppo di ricerca di Nutrizione Umana	Parma EMILIA-ROMAGNA
 SWITCHtoHEALTHY	ENCO Consulting srl		Napoli CAMPANIA
	Regione Campania	Assessorato Agricoltura	Napoli CAMPANIA
	Università di Parma (UNIPR)	Dipartimento di Scienze degli Alimenti e del Farmaco, Gruppo di ricerca di Nutrizione Umana	Parma EMILIA-ROMAGNA

Nexus

Progetto	Enti	Unità di ricerca italiane	
BONEX	Alma Mater Studiorum Università di Bologna (UNIBO)	Dipartimento di Scienze e Tecnologie Agro-Alimentari (UNIBO-DISTAL)	Bologna EMILIA-ROMAGNA
	Consorzio della Bonifica Renana		Bologna EMILIA-ROMAGNA
SURE_NEXUS	Planet di Villa Alessandro & C. sas		Brescia LOMBARDIA
	REM TEC srl		Asola (MN) LOMBARDIA
	Università Politecnica delle Marche (UNIVPM)	Dipartimento di Scienze ed Ingegneria della Materia, dell'Ambiente ed Urbanistica (SIMAU)	Ancona MARCHE

Progetti con unità di ricerca italiane in sintesi

Sezione 2

7 mln€

Budget
MUR



21 Progetti su 28

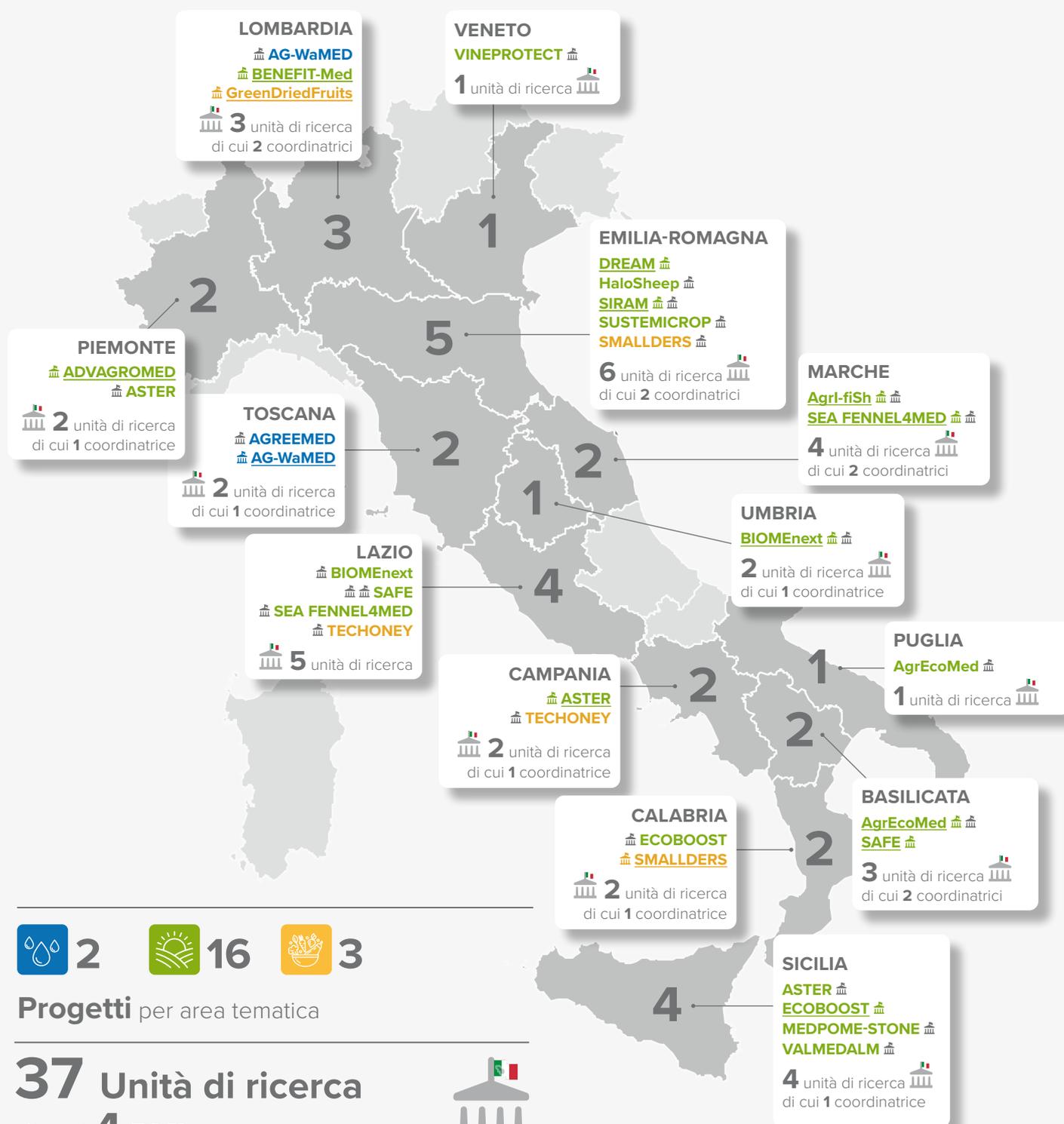
coinvolgono unità di ricerca italiane



14 Progetti

sono coordinati da un'unità di ricerca italiana

Progetti per regione



2 16 3

Progetti per area tematica

37 Unità di ricerca
di cui 4 PMI



Progetti con unità di ricerca
italiane in sintesi

Sezione 2

Progetti per area tematica



 **2**
AGREEMed
AG-WaMED

 **16**
ADVAGROMED
AgrEcoMed
AgrI-fiSh
ASTER
BENEFIT-Med
BIOMEnext
DREAM
ECOBOOST
HaloSheep
MEDPOME-STONE
SAFE
SEA FENNEL4MED
SIRAM
SUSTEMICROP
VALMEDALM
VINEPROTECT

 **3**
GreenDriedFruits
SMALLDERS
TECHONEY

Water Management

Progetto	Enti	Unità di ricerca italiane	
AGREEMed	IRIDRA srl		Firenze TOSCANA
 AG-WaMED	Università degli Studi di Firenze (UNIFI) Politecnico di Milano (POLIMI)	Dipartimento di Scienze e Tecnologie Agrarie, Alimentari, Ambientali e Forestali (DAGRI) Dipartimento di Ingegneria Civile e Ambientale	Firenze TOSCANA Milano LOMBARDIA

Farming Systems

Progetto	Enti	Unità di ricerca italiane	
 ADVAGROMED	Università degli Studi di Torino (UNITO)	Dipartimento di Scienze Agrarie, Forestali e Alimentari (DISAFA)	Torino PIEMONTE
 AgrEcoMed	Università degli Studi della Basilicata (UNIBAS) Consiglio per la Ricerca in Agricoltura e l'analisi dell'Economia Agraria (CREA) Università degli Studi di Bari Aldo Moro (UNIBA)	Dipartimento delle Culture Europee e del Mediterraneo (DICEM) Centro Politiche e Bioeconomia (CREA-PB) Dipartimento di Scienze Agro-Ambientali e Territoriali	Potenza BASILICATA Potenza BASILICATA Bari PUGLIA
 AgrI-fiSh	Università di Camerino (UNICAM) Consiglio Nazionale delle Ricerche (CNR)	Scuola di Scienze del Farmaco e dei Prodotti della Salute Istituto per le Risorse Biologiche e le Biotecnologie Marine (IRBIM-CNR)	Camerino (MC) MARCHE Ancona MARCHE
 ASTER	Consiglio Nazionale delle Ricerche (CNR) Università del Piemonte Orientale Amedeo Avogadro (UNIUPO) Università di Catania (UNICT)	Istituto per la Protezione Sostenibile delle Piante (IPSP-CNR) Dipartimento di Scienze e Innovazione Tecnologica (DISIT) Dipartimento di Agricoltura, Alimentazione e Ambiente (DI3A)	Portici (NA) CAMPANIA Vercelli PIEMONTE Catania SICILIA

 BENEFIT-Med	Università degli Studi di Pavia (UNIPV)	Dipartimento di Biologia e Biotecnologie	Pavia LOMBARDIA
 BIOMEnext	Università degli Studi di Perugia (UNIPG) Agenzia Nazionale per le nuove Tecnologie, l'Energia e lo Sviluppo Economico Sostenibile (ENEA) Consiglio Nazionale delle Ricerche (CNR)	Dipartimento di Scienze Agrarie, Alimentari ed Ambientali Divisione Biotecnologie e Agroindustria (BIOAG-ENEA) Laboratorio Bioprodoti e Bioprocessi, Centro Ricerche Trisaia Istituto di Bioscienze e Biorisorse (IBBR-CNR)	Perugia UMBRIA Roma LAZIO Perugia UMBRIA
 DREAM	Alma Mater Studiorum Università di Bologna (UNIBO)	Dipartimento di Scienze e Tecnologie Agro-Alimentari (UNIBO-DISTAL)	Bologna EMILIA-ROMAGNA
 ECOBOOST	Università degli Studi di Palermo (UNIPA) Università degli Studi Mediterranea di Reggio Calabria (UNIRC)	Dipartimento Scienze Agrarie, Alimentari e Forestali Dipartimento di Agraria	Palermo SICILIA Reggio Calabria CALABRIA
HaloSheep	Fondazione Centro Ricerche Produzioni Animali (CRPA)		Reggio Emilia EMILIA-ROMAGNA
MEDPOME-STONE	Università di Catania (UNICT)	Dipartimento di Agricoltura, Alimentazione e Ambiente (DI3A)	Catania SICILIA
 SAFE	Università degli Studi della Basilicata (UNIBAS) Consiglio Nazionale delle Ricerche (CNR) Sapienza Università di Roma	Dipartimento di Scienze (DIS) Istituto Ricerca sulle Acque (IRSA - CNR) Dipartimento Ingegneria Chimica Materiali Ambiente	Potenza BASILICATA Roma LAZIO Roma LAZIO
 SEA FENNEL4MED	Università Politecnica delle Marche (UNIVPM) Consiglio per la Ricerca in Agricoltura e l'analisi dell'Economia Agraria (CREA) RINCI srl	Dipartimento di Scienze Agrarie, Alimentari, ed Ambientali (D3A) Centro di Ricerca Alimenti e Nutrizione (AN-CREA)	Ancona MARCHE Roma LAZIO Castelfidardo (AN) MARCHE
 SIRAM	Università Cattolica del Sacro Cuore (UCSC) OpenTea srl	Dipartimento di Scienze e Tecnologie Alimentari per una filiera agro-alimentare Sostenibile (DiSTAS)	Piacenza EMILIA-ROMAGNA Piacenza EMILIA-ROMAGNA
SUSTEMICROP	Horta srl		Piacenza EMILIA-ROMAGNA
VALMEDALM	Università degli Studi di Palermo (UNIPA)	Dipartimento Scienze Agrarie, Alimentari e Forestali	Palermo SICILIA
VINEPROTECT	Università degli Studi di Verona (UNIVR)	Dipartimento di Biotecnologie	Verona VENETO

Agri-Food Value Chain

 Progetto	Enti	 Unità di ricerca italiane	
 GreenDriedFruits	Università degli Studi di Milano (UNIMI)	Dipartimento di Scienze e Politiche Ambientali	Milano LOMBARDIA
 SMALLDERS	Università della Calabria (UNICAL) Università di Parma (UNIPR)	Modeling & Simulation Center Laboratory of Enterprise Solutions (MSC-LES) Future Technology Lab	Arcavacata (CS) CALABRIA Parma EMILIA-ROMAGNA
TECHONEY	Sapienza Università di Roma Università degli Studi di Napoli Federico II (UNINA)	Dipartimento Ingegneria Chimica Materiali Ambiente Dipartimento di Scienze politiche	Roma LAZIO Napoli CAMPANIA

Overview Italia 2018-2021



129 /168

Progetti finanziati
coinvolgono unità di ricerca italiane

di cui

60

Progetti coordinati
da un'unità di ricerca italiana



Azioni

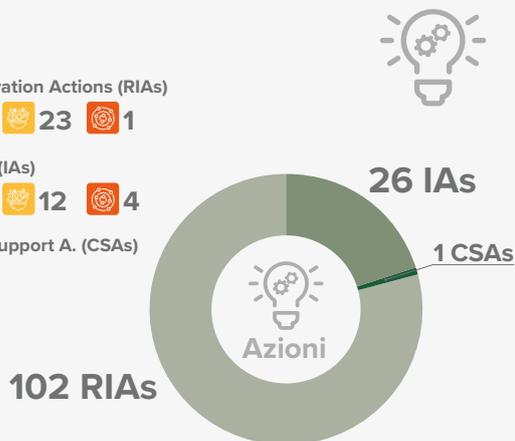
Research and Innovation Actions (RIAs)



Innovation Actions (IAs)



Coordination and Support A. (CSAs)



51,7 mln€ /228 mln€
Finanziamenti totali



42 Sezione 1 **87** Sezione 2
Progetti per sezione

272 Unità di ricerca /1570



2018

28 /35

Progetti finanziati

di cui

11

Progetti coordinati



Progetti per area tematica

51 Unità di ricerca

9,8 mln€

2019

34 /48

Progetti finanziati

di cui

16

Progetti coordinati



Progetti per area tematica

70 Unità di ricerca

12 mln€

2020

35 /46

Progetti finanziati

di cui

16

Progetti coordinati



Progetti per area tematica

84 Unità di ricerca

16,1 mln€

2021

32 /39

Progetti finanziati

di cui

17

Progetti coordinati



Progetti per area tematica

67 Unità di ricerca

13,8 mln€

Progetti finanziati 2021





Progetti coordinati da unità di ricerca italiane

I Progetti sono in ordine per area tematica (Water Management; Farming Systems; Agri-food Value Chain; Nexus). All'interno di ciascuna area tematica, sono illustrati prima i Progetti di Sezione 1 e poi quelli di Sezione 2.

Area tematica

Water Management



Azione e Topic

RIA - Sustainable soil and water management for combating land degradation and desertification and promoting ecosystem restoration



Budget

2.835.714 €



Durata

36 mesi



Paese ed Ente coordinatore

ITALIA
Università degli Studi di Sassari, Nucleo di Ricerca sulla Desertificazione (NRD-UNISS)

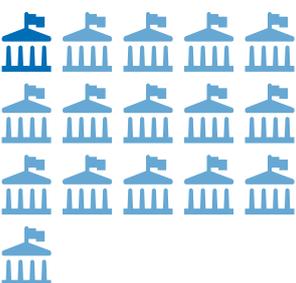


Coordinatore scientifico:
ROGGERO, Pier Paolo

Paesi partecipanti/ 8



Unità di ricerca/ 16



Sezione 1

SALAM-MED

Sustainable Approaches to LAnd and water Management in MEditerranean Drylands

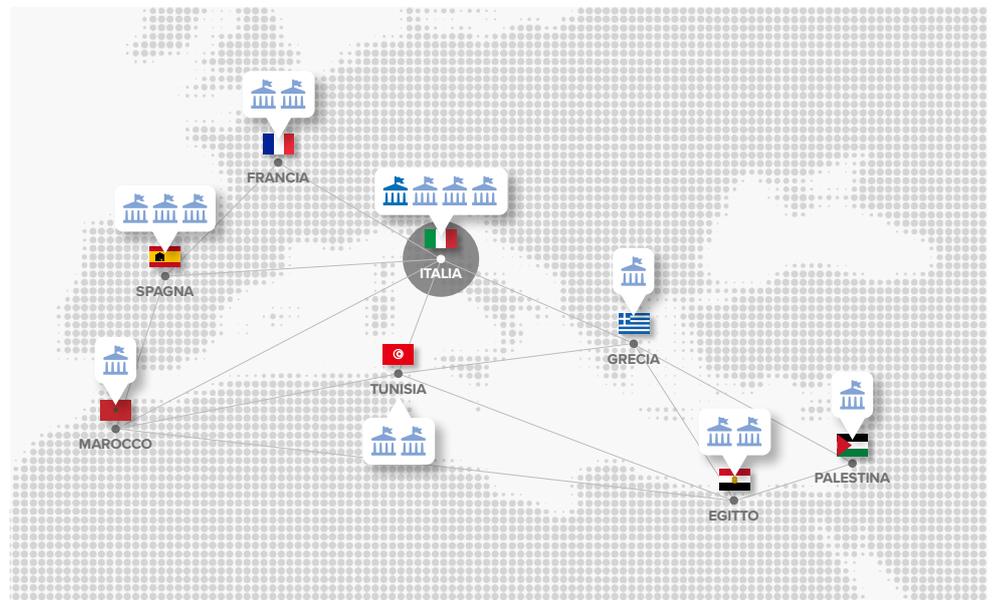
Contesto

Land degradation and desertification in dryland Mediterranean (MED) socio-ecological systems emerge from the structural coupling of ecological and socio-economic processes in areas where climatic pressures are combined with weak adaptive capacity. Transformational changes require a paradigm shift from a human-centred vs biophysical world dualism to a socio-ecological system perspective. The capacity to restore degraded land or enhance the resilience of endangered socio-ecological systems in the MED drylands requires an integrated approach, combining a top-down process based on new scientific knowledge and tools on critical water-related ecological processes, and a bottom-up process based on enhanced societal capacity, through new social learning spaces, generating opportunities, particularly for young people and women. The sustainability of rural activities in endangered drylands depends on the ability of local stakeholders to adopt systemic innovations, supported by innovative tools and services that lead to timely effective decisions, minimize external inputs and consider soil fertility and water conservation as the best option for encouraging long term investments and provide new business opportunities. The heterogeneity of environmental and social conditions leads to sharp regional differences in water and land use across the MED drylands, requiring tailored solutions to boost sustainable development and prevent or mediate environmental conflicts.

Obiettivi e contenuti

SALAM-MED is designed to identify, test and validate tailored, “nature-based” practical solutions to enhance the resilience of endangered MED dryland socio-ecological systems or to restore degraded ecosystems in arid and hyper-arid land. New knowledge, integrated tools and processes will be co-developed with stakeholders through the Living Labs (LL) across “hotspots” located in Egypt, Greece, Italy, Morocco, Spain and Tunisia, encapsulating a wide range of societal, agricultural, forestry and climatological conditions.

The LL validated technologies will facilitate the efficient usage of ‘every last drop’ of water for civic, agricultural and ecosystem services and enhance the potential of



Enti italiani partecipanti/ 3

Università degli Studi di Firenze, Water Harvesting Lab (WHLab), Dipartimento di Scienze e Tecnologie Agrarie, Alimentari, Ambientali e Forestali (DAGRI-UNIFI) - IT

Consiglio Nazionale delle Ricerche, Istituto per la Protezione Sostenibile delle Piante (IPSP-CNR) - IT

Primo Principio Società Cooperativa - IT

Altri Enti partecipanti/ 12

FAO Regional Office for the Near East and North Africa (FAO/RNE) - EG

**Desert Research Center (DRC) - EG
Centre de Recerca en Economia i Desenvolupament Agroalimentari (CREDA) - ES**

Abinsula Srl - ES

Universitat Politècnica de València (UPV) - ES

DesertNet International (DNI) - FR

**Centre International de Hautes Etudes Agronomiques Méditerranéennes (CIHEAM) - FR
Academy of Athens (AoA) - GR**

**Cadi Ayyad University (UCA),
Faculté des Sciences Semlalia - MO**

WeWorld-GVC Onlus - PS (non-PRIMA PS)

Institut des Régions Arides (IRA) - TN

Médnine Agro Tech (MAT) - TN

Demo sites/casi studio

6



scaling-up at the policy-making level and scaling-out to other MED socio-ecological systems. All relevant stakeholders and end-users will be actively engaged to test the effectiveness of the emerging solutions.

The analytical framework of SALAM-MED is based on four pillars sustaining a systemic and transdisciplinary research practice:

P1. The living lab approach based on a social learning process of knowledge-sharing for the knowledge generation.

P2. Co-researching and improvement of new technologies for sustainable land and water management by bridging knowledge gaps on water-related land degradation processes

P3. Exploring, identifying and testing business opportunities based on an extended cost-benefit analysis of a range of context-sensitive management options.

P4. Disseminating SALAM-MED's outcomes to different audiences and scaling out of the solutions for land restoration and the enhancement of socio-ecosystem resilience in MED drylands.

Risultati e impatti attesi

SALAM-MED is designed to positively impact the following dimensions of the socio-ecological complexity of drylands:

- The social dimension promotes active stakeholders' engagement in the LL and participatory water and land resources governance.
- The economic dimension identifies new business opportunities with stakeholders, emerging from the extended cost-benefit analysis and the promotion of public and private investments on the latest solutions for sustainable land and water management.
- Gender dimension, as the project's gender-sensitive approach, will promote job opportunities for women and equal participation in the LL to address the gaps to achieve gender balance in dryland management.
- Environmental dimension, with the scaling out of the practical solutions tested in the LL for water harvesting and ecosystems adaptation to emerging anthropic, ecological and climate pressures.
- Political dimension, as the restoration of degraded ecosystems and improved land productivity, will remove the causes of unemployment and migration of climate refugees and potential environmental conflicts.
- Capacity and knowledge development dimensions, as the LL is designed to provide innovative tools and learning spaces to generate long-lasting learning processes to empower local stakeholders beyond the project duration. LL is designed with and for local stakeholders to take over the process.

Keywords

#living_labs

#land_and_water_management

#gender_balance

#participatory_governance

#engagement

#socio-ecological_systems



Area tematica

Water Management



Azione e Topic

RIA - Alleviating Mediterranean water scarcity through adaptive water governance



Budget

1.049.850 €



Durata

36 mesi



Paese ed Ente coordinatore

ITALIA

Università degli Studi di Firenze (UNIFI), Dipartimento di Scienze e Tecnologie Agrarie, Alimentari, Ambientali e Forestali (DAGRI)



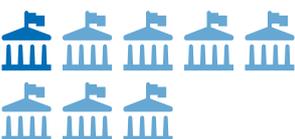
UNIVERSITÀ
DEGLI STUDI
FIRENZE

Coordinatore scientifico:
BRESCI, Elena

Paesi partecipanti/ 7



Unità di ricerca/ 8



Sezione 2

AG-WaMED

Advancing non conventional water management for innovative climate-resilient water governance in the Mediterranean Area

Contesto

The AG-WaMED project aims at unveiling Non-Conventional Water (NCW) future potential to reinforce climate change adaptation in the Mediterranean, by piloting comprehensive and inclusive technological solutions to support multiple stakeholders addressing water scarcity issues.

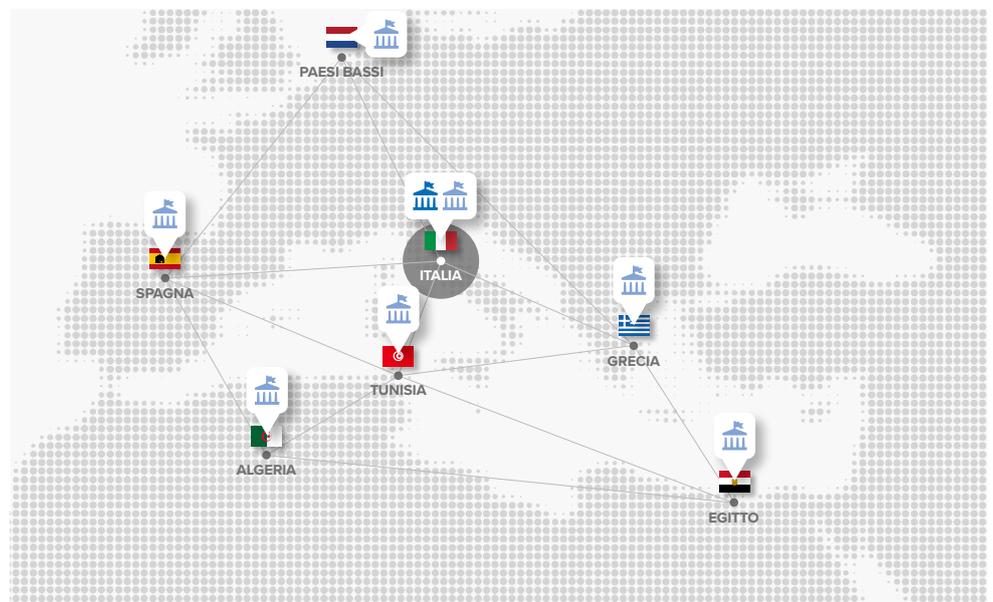
Obiettivi e contenuti

To achieve this aim, the AG-WaMED project has the following goals within the 3-year duration of the project:

- i) Foster participatory and equitable water governance models for Mediterranean catchments which are also socially sustainable and cost-effective, developing innovative procedures for multi-actor stakeholders involvement in selected demo site;
- ii) Innovate water resources and crop production systems modelling procedures and Decision Support Systems (DSS) by including NCW as a method for increasing water availability also considering climate change scenarios;
- iii) Cover the implementation gap between European, national and international rules and societal and institutional compliance through the definition of integrated watershed management plans in the demo sites and at regional scale;
- iv) To exploit and out-scale AG-WaMED approach through communication, dissemination and exploitation, including production of local-, national-, and Mediterranean-scale policies for better land and water governance, water allocation and stakeholders involvement, and including training activities.

Risultati e impatti attesi

In accordance with the expected impacts and priorities of the call, the project will follow the approach fostered by the “European R&I partnership on agroecology living labs and research infrastructures” creating Living Labs where all the relevant stakeholders will evaluate existing NCW solutions (i.e. Managed Aquifer Recharge, Flood



Enti italiani partecipanti/ 1

Politecnico di Milano, Dipartimento di Ingegneria Civile e Ambientale (POLIMI) - IT

Altri Enti partecipanti/ 6

Université Larbi Tebessi de Tébessa - DZ

Alexandria University (ALEXU) - EG

Universidad Politécnica de Madrid (UPM) - ES

Hellenic Agricultural Organization - Demeter, Agricultural Economics Research Institute (AGRERI) - GR

Vrije Universiteit Amsterdam (VU) - NL (non-PRIMA PS)

Institut des Régions Arides - Médenine (IRA) - TN

Piattaforme/ Hubs

1

Decision Support Systems (DSS) by including NCW



Keywords

#water_governance

#decision_support_systems

#modelling

#non-conventional_water technologies

#living_labs

socio-economic_analysis



Area tematica

Farming Systems



Azione e Topic

RIA - Up-scaling field practices based on agroecological practices to increase ecosystem services and biodiversity, to adapt the small farming systems to climate change and to increase farmers incomes



Budget

1.066.341 €



Durata

36 mesi



Paese ed Ente coordinatore

ITALIA

Università degli studi di Torino (UNITO), Dipartimento di Scienze Agrarie, Forestali e Alimentari (DISAFA)



**UNIVERSITÀ
DEGLI STUDI
DI TORINO**

Coordinatore scientifico:
GASCO, Laura

Paesi partecipanti/ 6



Unità di ricerca/ 6



Sezione 2

ADVAGROMED

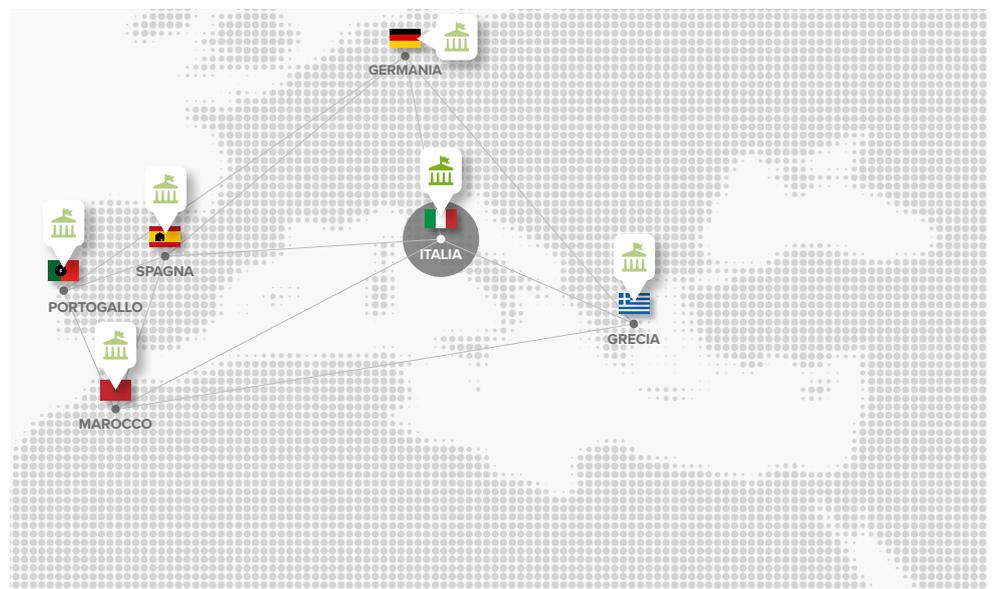
ADVanced AGROecological approaches based on the integration of insect farming with local field practices in MEDiterranean countries

Contesto

The intensification of current agricultural production systems is one of the primary drivers of biodiversity loss. Currently, biodiversity loss is accelerating globally, with agriculture and animal production being primary causal agents. The main components of agricultural intensification that have been identified to affect biodiversity negatively are the loss of natural habitats by conversion to agricultural land, the large field and farm size, and the extensive inputs of chemical fertilizers and pesticides. The increasing demand for agricultural land over the past 50 years to cover the nutrient needs of a continuously growing population has led to considerable natural habitats destruction with direct negative impacts on biodiversity. The large size of agricultural farms is also related to decreased habitat heterogeneity at the farm level. Finally, the extensive use of plant protection products and the widespread contamination of ecosystems with pesticides and synthetic fertilizers are also responsible for the deterioration of biodiversity in agricultural farming systems. Therefore, urgent systemic changes in the current farming practices are needed to address this issue. Integrating agroecological practices with current agricultural farming systems could offer a sustainable means to conserve and enhance the endangered farming biodiversity and increase ecosystems services.

Obiettivi e contenuti

ADVAGROMED aims to develop a “new”, innovative, holistic agricultural production system based on agroecological principles and circular economy practices. ADVAGROMED introduces sustainable farming practices to increase the resilience of the agro livelihood systems. Using a multi-actor approach, ADVAGROMED applies the Circular Economy / zero waste principle developing a sustainable and innovative farming system in the Mediterranean Area. ADVAGROMED uses by-products of local agricultural productions for rearing insects (*Hermetia illucens* and *Tenebrio Molitor*), which deliver different products: 1) insect frass to be used as fertilizer to improve farm soil quality, enhance plant health and soil microbial biodiversity, and deliver an antimicrobial effect (decreasing the use of inorganic fertilizers and pesticides), and 2) live larvae to feed local poultry breeds ensuring good animal performances, health



Altri Enti partecipanti/ 5

**Deutsches Institut für
Lebensmitteltechnik e.V. (DIL) - DE**
**Servicio Regional de Investigación
y Desarrollo Agroalimentario
(SERIDA) - ES**
University of Thessaly (UTH) - GR
**Sultan Moulay Slimane University
Beni-Mellal (USMS) - MO**
Ingredient Odyssey SA (IO) - PT

and product quality, decreasing the use of imported feeds. Biodiversity is promoted at various levels, i.e. at the farm level, by using the genetic variability of local crops and varieties/animal breeds, but also at a regional level by minimizing the negative impact of synthetic pesticides on the microfauna through the exploitation of insect frass as biopesticide and plant immune modulator. This innovative farming system aims to be adopted by small farms, generating additional income for farmers across the Mediterranean.

Risultati e impatti attesi

ADVAGROMED research activities:

- help the Mediterranean agricultural production systems to make better use and exploit locally available resources, such as the agricultural side-streams, for the local production of feedstuff rich in nutrients (insect) to decrease the dependency on imported ones;
- improve economic and social resilience of Mediterranean smallholder farming systems to climate change through the valorisation of agricultural by-products, the production of new products to enhance the quality of soil or use as poultry feed. ADVAGROMED offers local farmers an alternative farming system with small failure risks to generate entrepreneurship, employment, and income;
- contribute to the zero-waste farming systems;
- decrease the use of chemical inputs and develop alternative solutions: insect frass is used as sustainable bio fertiliser, biopesticide and plant immune stimulant, offering a sustainable solution for fertilisation;
- increase the stability and resilience of Mediterranean smallholder farming systems by properly exploiting locally available organic side-streams and their up-cycling and bioconversion to nutrients (insect biorefinery);
- engage youth and empower women using a participatory approach. ADVAGROMED equips skilled youth/women to increase their employability to access meaningful and sustainable employment and self-employment through entrepreneurship;
- encourage consumption of food produced using more sustainable practices.

Keywords

#circular_economy

#zero_waste

#by-products

#rearing_insects

#Hermetia_illucens

#Tenebrio_Molitor

#insect_frass_as_fertilizer

#live_larvae_as_poultry_feed

#agroecological_principles

#empowerment

#women

#youth



Area tematica

Farming Systems



Azione e Topic

RIA - Up-scaling field practices based on agroecological practices to increase ecosystem services and biodiversity, to adapt the small farming systems to climate change and to increase farmers incomes



Budget

920.165 €



Durata

36 mesi



Paese ed Ente coordinatore

ITALIA

Università degli Studi della Basilicata (UNIBAS), Dipartimento delle Culture Europee e del Mediterraneo (DICEM)



UNIVERSITA' DEGLI STUDI DELLA BASILICATA

Coordinatore scientifico:
PERNIOLA, Michele

Paesi partecipanti/ 4



Unità di ricerca/ 8



Sezione 2

AgrEcoMed

New AGRoecological approach for soil fertility and biodiversity restoration to improve ECONomic and social resilience of MEDiterranean farming systems

Contesto

The European Green Deal represents a challenge that engages the whole scientific community. It aims to support agricultural production and the economy through an ecological approach (ecological transition). The Farm to Fork strategy (EC, 2020), an essential component of the European Green Deal, aims to increase the sustainability of the European agri-food system through environmental and social goals to be achieved by 2030. In addition, it focuses on promoting sustainable food consumption, intensifying the fight against food waste, making more significant investments in research and innovation, and promoting the transition to sustainable agri-food chains.

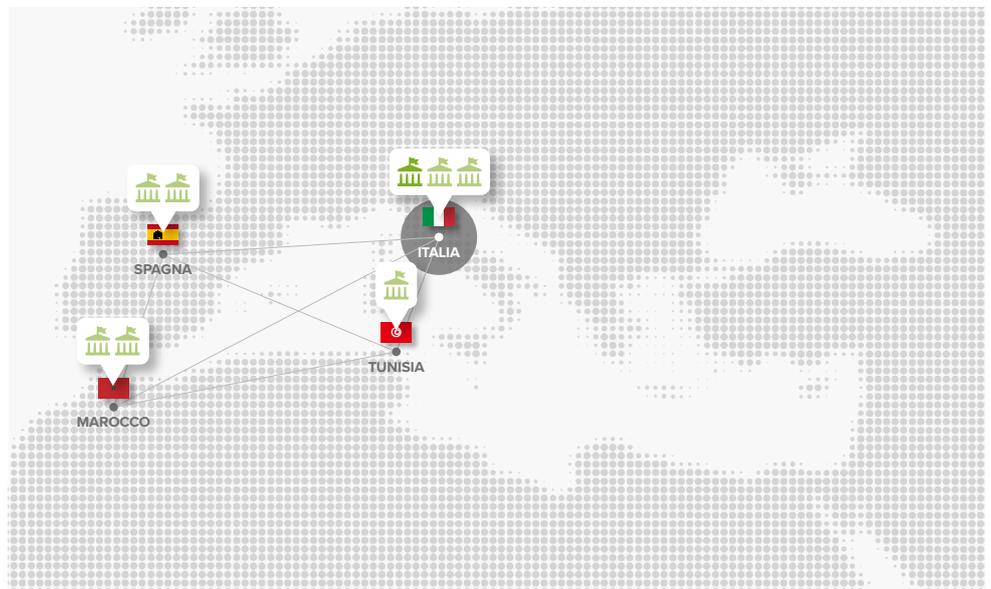
The agroecological approach has a solid territorial connotation beyond the ecological and agronomic aspects and includes the social, economic and cultural dimensions and the agri-food system policy. Indeed, the proposal on the standard agricultural policy (CAP) for the period 2021-27 gives prominent importance to increasing the sustainability of the agricultural sector through an agroecological transition, which, together with the economic and social development of rural areas and the competitiveness of farms, should contribute to achieving the environmental and climate objectives of the European Union and the Mediterranean area.

Obiettivi e contenuti

The main objective of the AgrEcoMed project is to fill the research gaps for implementing a biodiversity-based strategy for primary crops as cereal farming systems through an Agroecological approach adapted to environments in Mediterranean countries, efficient use of natural resources, reduction of pollution, circular economy. Such a goal will be achieved through innovative approaches to support the sustainable production of staple foods in the present and future climate changes.

The objective will be achieved through:

1. Sustainable agricultural practices and restoration of soil fertility;
2. Increase and valorise the natural biodiversity of ancient grains and reintroduce local wheat or old varieties, better adapted to climate change in Mediterranean conditions;



Enti italiani partecipanti/ 2

Università degli Studi di Bari
Aldo Moro, Dipartimento di
Scienze Agro-Ambientali e
Territoriali (UNIBA) - IT

Consiglio per la ricerca
in agricoltura e l'analisi
dell'economia agraria (CREA) - IT

Altri Enti partecipanti/ 5

Universidad de Córdoba (UCO) -
ES

Universitat Politècnica de Valencia
(UPV) - ES

Sultan Moulay Slimane University
Beni-Mellal (USMS) - MO

École nationale d'agriculture de
Meknès (ENAM) - MO

Centre of Biotechnology of Sfax
(CBS) - TN

3. Farming and screening of alternative species (medicinal plants);
4. Management of crop residues and processing and valorisation of farming crop residues;
5. The valorisation of crop residues and by-products of the agricultural chain through bioconversion by the Diptera (*Hermetia illucens*);
6. Addressing the economic potentiality and viability of agroecological transition;
7. Valuation of agroecological farming systems' environmental and economic assessment (LCA) concerning the conventional one;
8. Fostering women empowerment and youth employment.

The project aims to up-scale field practices based on agroecological practices to increase ecosystem services and biodiversity, adapt the small farming systems to climate change, and increase farmers' income.

Risultati e impatti attesi

The expected impacts concern the environmental, social and economic benefits for farmers and local communities and the improvement of resilience to climate changes in the Mediterranean regions. In detail, the expected impact will be on:

- A more sustainable agriculture and food production system with more efficient use of natural resources and better resilience to climate change, adaptation and mitigation.
- Improved economic and social resilience of Mediterranean smallholder farming systems to climate change.
- Contribution to the zero waste farming systems and new bioconversion of cropping residues in a frame of the circular economy.
- Decreasing the use of chemical inputs and developing alternative solutions (new bio-based products, techniques, and policies).
- Increasing income of the farmers from biodiversity use.
- Fostering the empowerment of youth and women.
- Greater presence of qualified farmers in the agriculture sector and the Mediterranean area.

It is expected that the AgrEcoMed project will be able to: 1. facilitate the adoption of innovation; 2. optimise the use of resources through the development of more effective and efficient management systems; 3. improve marketing systems, with the definition of innovative business models; 4. defining new skills that can constitute, especially for young people and women, and employment and permanence opportunity in the most disadvantaged regional internal areas.

Keywords

#crop_residues

#by-products

#circular_economy

#rearing_insects

#bioconversion

#agroecological_principles

#empowerment

#women

#youth

#life_cycle_assessment



Area tematica

Farming Systems



Azione e Topic

RIA - Up-scaling field practices based on agroecological practices to increase ecosystem services and biodiversity, to adapt the small farming systems to climate change and to increase farmers incomes



Budget

577.800 €



Durata

36 mesi



Paese ed Ente coordinatore

ITALIA

Università di Camerino (UNICAM), Scuola di Scienze del Farmaco e dei Prodotti della Salute



UNIVERSITÀ
DI CAMERINO

Coordinatore scientifico:
VITTORI, Sauro

Paesi partecipanti/ 3



Unità di ricerca/ 4



Sezione 2

Agri-fiSh

**Circular economy application: from the field to the net.
Sustainable and innovative feeds from agricultural wastes for a resilient and high-quality aquaculture**

Contesto

The Agri-fiSh project proposes the adoption of an innovative farming system, which directly links agriculture with aquaculture productions through circular economy principles, to respond to the environmental and socio-economic challenges face by climate change in the Mediterranean region.

The project focuses on the innovative use of the waste products of the agriculture sectors as a resource for aquaculture. The wastes analyzed within the project will derive from organic and climate-smart agriculture and will be used for the testing of innovative feeds for freshwater aquaculture in Algeria, Italy and Spain. The nutraceutical potential of defined wastes, such as grape seeds and pomace, cereals and legumes, will be assessed together with the potential for the use of natural antimicrobial substances to be added to the feed. To date wastes produced by wine, processing are currently only used for livestock feed and have demonstrated a high-quality potential due to a significant presence in lipid, protein, carbohydrate, and other nutraceutical biocompounds.

Obiettivi e contenuti

The project inscribes in the Call 2 - Thematic Area 2- Farming systems - Topic 2.2.1. and proposes an innovative model with a mixed farming system, which focuses on the valorisation of the local dimension of the farming and production systems. It will serve for better management of natural resources throughout the development of a virtuous system, which will help in reducing discards and pollutants, and develop better and efficient use of resources and freshwaters, while limiting the use of antibiotics and pesticides along the entire process.

The overall aim of the project will be to contribute to the national and European strategies in mitigating and adapting to climate change and is in line with the Green Deal. It will reduce the environmental footprint of the aquaculture sector, create new social and economic potential at the local levels, and enhance the competitiveness of the sector. Agriculture and aquaculture will be directly linked, enhancing their mutual potentials in a circular process, and strengthening the sustainability of the local communities.



Enti italiani partecipanti/ 1

Consiglio Nazionale delle Ricerche,
Istituto per le Risorse Biologiche
e le Biotecnologie Marine (CNR-
IRBIM) - IT

Altri Enti partecipanti/ 2

Ibn Khaldoun University of Tiaret
- DZ

Universitat de València (UV) - ES

The project will contribute to cooperation, knowledge sharing and capacity building enhancement among different supply chains, such as winery and agriculture, milling, feed production, and aquaculture, which will mutually benefit from the support of the research community.

Risultati e impatti attesi

The project will upscale the valorization of such agricultural wastes to the creation of sustainable feeds for aquaculture. In addition to the wastes, the feeds will be composed also of the percentage of medicinal plants and lactic acid bacteria (LAB) from goat whey discards, with the scope to reduce the use of antibiotics for disease control in aquaculture and strength the immune system of fish. The nutraceutical potential of such wastes, in combination with other bio components (e.g. whey, cereals, medical herbs), will foster animal and human health with consequent benefits for the environment and society. In fact, the nutritional potential of the wastes is significant and such concentration of substances has shown to be useful for human health also with indirect consumption.

The Agri-fiSh project will contribute to the transition to a more resilient agro-system through an innovative and sustainable farming system, which promotes efficient use of biological and natural resources with an increase in productivity, with consequent benefits for the local economies. At the environmental level, the project is conceived to be resilient by preventing form pollutant discards; limiting the use of animal feeds and promoting instead vegetal components for aquaculture feeds; limiting the costs of agricultural discards; and promoting sustainable agriculture.

Keywords

#aquaculture

#agricultural_wastes

#circular_economy

#nutraceutical_potential

#innovative_animal_feeds

#instead_vegetal_components



Area tematica

Farming Systems



Azione e Topic

RIA - Up-scaling field practices based on agroecological practices to increase ecosystem services and biodiversity, to adapt the small farming systems to climate change and to increase farmers incomes



Budget

1.582.799 €



Durata

36 mesi



Paese ed Ente coordinatore

ITALIA

Consiglio Nazionale delle Ricerche, Istituto per la Protezione Sostenibile delle Piante (IPSP-CNR)



Istituto per la Protezione Sostenibile delle Piante
Consiglio Nazionale delle Ricerche

Coordinatore scientifico:
GUERRIERI, Emilio

Paesi partecipanti/ 8



Unità di ricerca/ 15



Sezione 2

ASTER



Agroecology-inspired Strategies and Tools to Enhance Resilience and ecosystem services in tomato crop

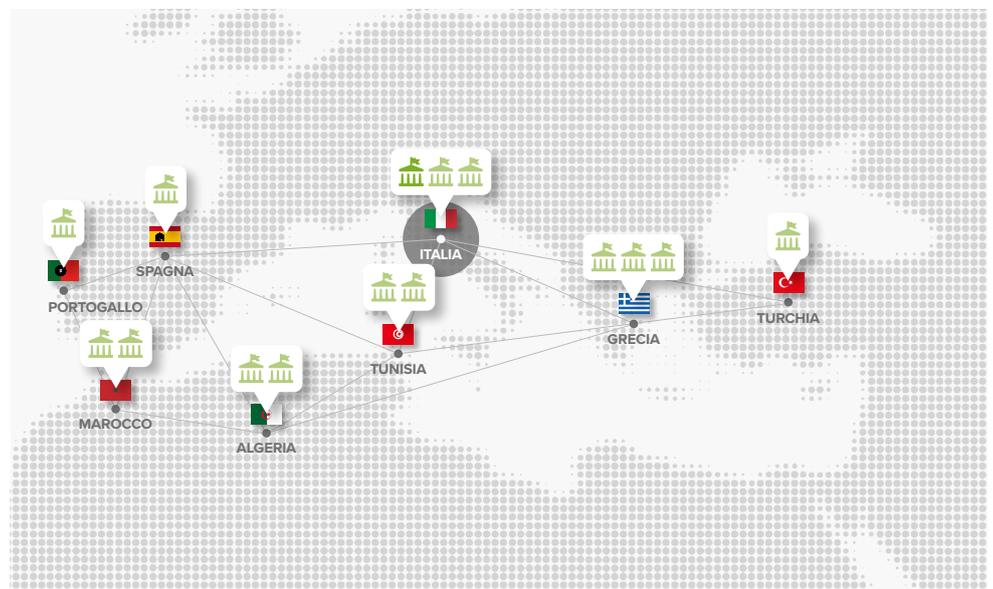
Contesto

Tomato is a crucial crop worldwide, particularly in the Mediterranean Basin. Its market value in the EU represents about seven billion euros. Italy, Spain, Greece, and Portugal contribute over 90% to EU production. Turkey is the fourth largest tomato producer of the world tomato production. In the north of Africa, tomato is the main crop in Morocco and Tunisia whilst constantly expanding in Algeria. Tomato can be grown in an open field or protected conditions, and short or long production periods can be possible due to the large availability of commercial varieties. Regardless of the type of cultivation or the duration of the cycle, increasing quantities of external inputs (pesticides, fertilisers, herbicides) are required to cope with: i) nutrition issues linked to the deployment of the soil; ii) resident and invasive species made more aggressive by the climatic change and the development of resistance to pesticide; iii) water limitation which is more critical in arid and semi-arid climates of the Mediterranean area due to climatic change. An emerging issue is the decline of pollinators, whose role in enhancing tomato production has been widely recorded. In small farm systems, ecosystem services, such as plant nutrition, pollination and naturally occurring biocontrol, are much needed since they all improve yield and quality while limiting the external inputs. The agroecological approach, whose main pillars are the conservation (protection), the enhancement and exploitation of functional biodiversity, the sustainable protection from biotic and abiotic stresses, and the production chain's circularity, offers efficient solutions that progressively reduce the external inputs and the management costs.

Obiettivi e contenuti

ASTER aims to build up a management model for small tomato producers of the Mediterranean Basin based on the application of main agroecology principles such as:

- the protection (conservation) and the enhancement of functional biodiversity both above and belowground, to increase and exploit the ecosystem services (protection, nutrition, pollination) in alternative to the use of external synthetic inputs;



Enti italiani partecipanti/ 2

**Università del Piemonte Orientale
Amedeo Avogadro, Dipartimento
di Scienze e Innovazione
Tecnologica (UNIUPO- DISIT) - IT**
**Università di Catania, Dipartimento
di Agricoltura, Alimentazione e
Ambiente (UNICT-DI3A) - IT**

Altri Enti partecipanti/ 12

**Badji Mokhtar - Annaba University
(UBMA) - DZ**

**University M'Hamed Bougara of
Boumerdes (UMBB) - DZ**

**Institut Valencià d'Investigacions
Agràries (IVIA) - ES**

**Democritus University of Thrace
(DUTH) - GR**

**Aristotle University of Thessaloniki
(AUTH) - GR**

Antonis Vezyroglou & SIA EE - GR

**École Nationale d'Agriculture de
Meknes (ENAM) - MO**

**Université Sidi Mohamed Ben
Abdellah (USMBA) - MO**

**Universidade de Lisboa, Instituto
Superior de Agronomia (ISA-PT) -
PT**

**Institut Supérieur Agronomique
Chott Mériem (ISA-CM) - TN**

**Institut National Agronomique de
Tunisie (INAT) - TN**

**Isparta Uygulamalı Bilimler
Üniversitesi (ISUBU) - TR**

- the sustainable control of main pests and pathogens to reduce the environmental impact of plant protection practices;
- the circularity of the production chain to approach the “zero waste” objective. The model will improve the resilience of this entire crop in the economy of all Mediterranean Basin countries where it can be grown in an open field or protected systems, during the whole annual season, particularly in small farms.

Four specific objectives (SO) and relative ways to realise them have been identified:

- SO1 (WP1, WP6) Develop a two-way exchange of information between academic groups and stakeholders through an interactive platform;
- SO2 (WP2, WP3, WP4) Design field interventions to protect, enhance and exploit the functional biodiversity and plant defences for improving ecosystem services, resilience and sustainability;
- SO3 (WP5) Validate protocols for maximising ecosystems services and stability by considering their environmental, economic and social sustainability;
- SO4 (WP1, WP6) To ensure effective coordination, communication dissemination and formation.

Risultati e impatti attesi

ASTER promotes specific tools (root symbionts, biobased tools) and strategies improving the use of resources (water, nutrients), the adaptation to climate change (e.g., drought, invasive species) and the environmental conditions for rural populations. Conservation, increase, and exploitation of functional biodiversity will foster the tomato crop system's sustainability and resilience in the top world productive countries, all located in the Mediterranean Basin. ASTER targets small farmers by promoting a management model based on crop diversification that guarantees an enhanced resilience in response to social, economic, and environmental stresses, particularly those linked to climatic change. The ASTER model generates extra income by reducing external inputs and specific companion plants (as replaced by ecosystem services). The support received by a large certification company (Agroqualità s.p.a., Italy) shows how the ASTER model is considered reliable and feasible. ASTER promotes the use of symbionts, antagonists, bio-based tools, and strategies to dramatically reduce the dependence on chemical inputs (pesticides, fertilisers, herbicides). ASTER devoted a specific WP to dissemination and formation that involves from the beginning the stakeholders (P8 and nineteen supporters including leading farmers associations and one certification agency) via the interactive platform (SIP) to widely publicise its results via web, social channels, videos and on-site meetings, didactic farms.

Piattaforme/ Hubs

1

Interactive platform (SIP)



Keywords

#tomato_crop

#agroecological_principles

#ecosystem_services

#reduce_chemical_inputs

#zero_waste

#circular_economy



Area tematica

Farming Systems



Azione e Topic

RIA - Up-scaling field practices based on agroecological practices to increase ecosystem services and biodiversity, to adapt the small farming systems to climate change and to increase farmers incomes



Budget

833.736 €



Durata

36 mesi



Paese ed Ente coordinatore

ITALIA

Università degli Studi di Pavia (UNIPV), Dipartimento di Biologia e Biotecnologie



**UNIVERSITÀ
DI PAVIA**

Coordinatore scientifico:
BALESTRAZZI, Alma

Paesi partecipanti/ 8



Unità di ricerca/ 11



Sezione 2

BENEFIT-Med

Boosting technologies of orphan legumes towards resilient farming systems in the Greater Mediterranean Region: from bench to open field

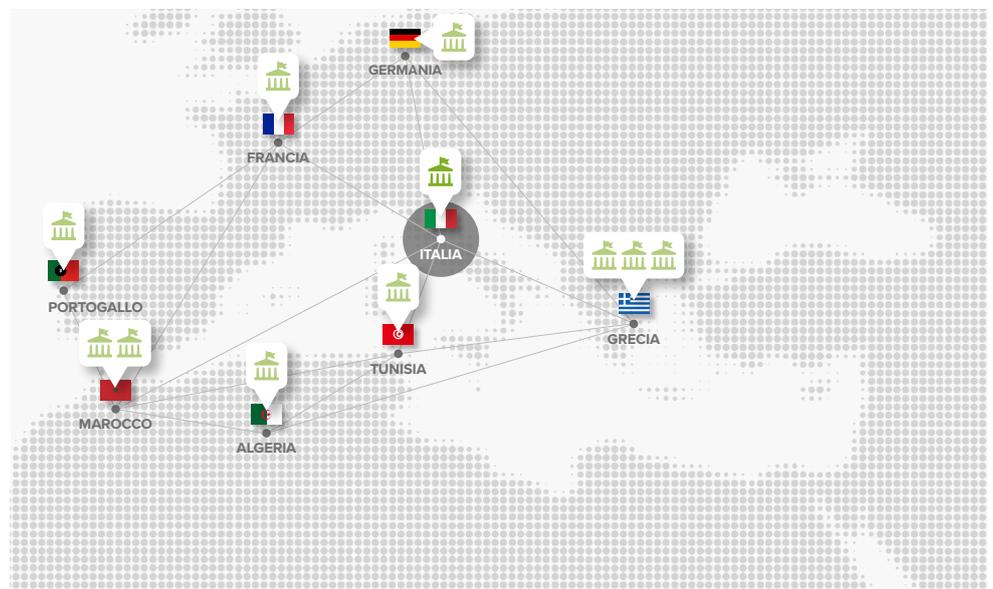
Contesto

The current Climate Change scenario predicts that global warming will dramatically impact the Mediterranean Basin, posing added threats to the sustainability of current farming systems. Pulses provide balanced nutrition combined with high resilience to drought, soil acidity and salinity, and heat, adding value to rotation systems and intercropping and supporting sustainable agricultural practices. In this Context, orphan legumes are a biodiversity niche adapted to extreme soil and climate conditions, tailored to face changing environments. There is limited information about orphan legumes' characteristics, use, integration into farming systems, and sustainable treatments to enhance their climate resilience and productivity further. The value of orphan legumes as climate-ready crops could be significantly enhanced by improving seed quality through dedicated priming techniques.

Based on these premises, the BENEFIT-Med project focused on improved seed germination as a starting point to valorise orphan legumes and promote local socio-economic development in North Africa and the Mediterranean area. Enhanced germination capacity defines high-quality seeds as a proxy of successful crop yields, and a well-structured seed system is required to boost the production and use of orphan crops.

Obiettivi e contenuti

BENEFIT-Med aims to develop innovative technology for sustainable crop production, relying on highly resilient legume accessions and 'on-farm' seed biopriming with bacteria inoculants to enhance seed vigour and seedling performance under pressure adverse climatic conditions. The availability of primed seeds of Mediterranean orphan legumes will improve food production at the local level and buffer economic/social/environmental shocks, supplying higher incomes to smallholder farmers, particularly women. In this Context, open-field trials will be set up to assess the impact of priming on agronomic performance and yield stability of the target accessions while climate change and variability on existing and new farming systems will be quantified.



Altri Enti partecipanti/ 10

Université Ferhat Abbas Sétif (UFAS1) - DZ

Karlsruhe Institute of Technology, Institute of Meteorology and Climate Research (KIT) - DE

Institut National de Recherche pour l'Agriculture, l'Alimentation et l'Environnement (INRAE) - FR

Agricultural University of Athens (AUA) - GR

Benaki Phytopathological Institute (BPI) - GR

AGROLAND SA - GR

Hassan II Institute of Agronomy and Veterinary Medicine (IAV) - MO

Université Hassan II de Casablanca (UH2C) - MO

Associação BLC3, Campus de Tecnologia e Inovação - PT

Université de Sfax - TN

Local legumes will also be valorised as components of a resilient and sustainable food system whose relevance has been dramatically shown by the COVID-19 pandemic. A database will be set up to integrate the available data on orphan legumes with knowledge gathered by BENEFIT-Med. A multi-stakeholder platform will be set up to promote the new farming system at multiple levels (participatory model), focusing on specific training/ability building activities. The farmers' socio-economic benefits from the BENEFIT-Med model implementation will be shown through LCA/LCC analyses, highlighting profitability, resilience, and environmental sustainability.

Risultati e impatti attesi

The anticipated effects of BENEFIT-Med will include:

- Increased food/feed availability by minimising the risk of crop failure and yield losses due to inappropriate farming models, despite climate worsening.
- Adoption of environmentally, socio-economically sustainable agroecosystems with proven evidence of increased yield stability and quality compared to current farming systems under challenging environments.
- Increased efficiency of using natural resources; the orphan legumes addressed by BENEFIT-Med show inherent tolerance to water deficit, a trait that will be further enhanced by seed priming with beneficial bacteria; the incorporation of drought-resilient crops into farming systems will increase the efficient use of water.
- Increased soil fertility. Legumes fix atmospheric nitrogen, reducing the cost of fertiliser inputs; legume seeds primed with beneficial microorganisms are expected to improve soil fertility when universally used in farming systems.
- Yield stability and quality compared to standard farming systems under challenging environmental conditions; stability of agricultural outputs in the long-term and across different spatial environments is crucial to define the success of a new farming system.
- Increased income and satisfaction by the farmers.
- Promote the circular bioeconomy approaches to achieve local populations' sustainable growth and economic resilience.

Piattaforme/ Hubs

1

Multi-stakeholder platform



Keywords

#orphan_legumes

#priming_techniques

#Life_Cycle_Assessment

#Life_Cycle_Costing

#circular_economy

#women



Area tematica

Farming Systems



Azione e Topic

RIA - Up-scaling field practices based on agroecological practices to increase ecosystem services and biodiversity, to adapt the small farming systems to climate change and to increase farmers incomes



Budget

1.085.571 €



Durata

36 mesi



Paese ed Ente coordinatore

ITALIA

Università degli Studi di Perugia (UNIPG), Dipartimento di Scienze Agrarie, Alimentari ed Ambientali



A.D. 1308
unipg
UNIVERSITÀ DEGLI STUDI
DI PERUGIA

Coordinatore scientifico:
PROIETTI, Primo

Paesi partecipanti/ 6



Unità di ricerca/ 11



Sezione 2

BIOMEnext

Modelling integrated biodiversity-based next-generation Mediterranean farming systems

Contesto

Mediterranean fruit groves will be affected by climate change due to decreasing water availability, rainfall, irrigation resources and progressive salinization, and extreme climate events, leading to reducing suitable crop areas, lowering yields and obtaining poor-quality food products.

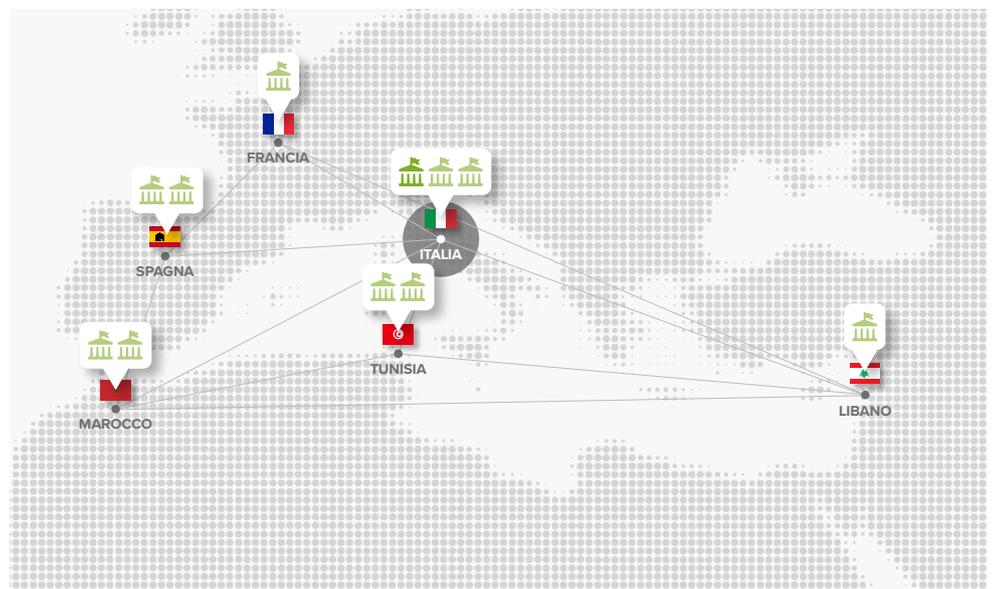
To support fruit production in the Mediterranean in a context of resource reduction, extreme climatic events and loss of biodiversity. It is urgently needed to develop alternative and innovative approaches to valorize the genetic and environmental resources available at the field level based on a holistic approach. Olive, the most typical fruit crop of the Mediterranean basin, could represent a model system for studying new cultivation strategies and testing their application to improve plant production and reduce pollution, resource consumption and genetic erosion.

We aim to demonstrate that it will be possible to sustain plant production and guarantee farmer incomes by exploiting biodiversity, adapting farming systems to face climate change and increasing ecosystem services.

Obiettivi e contenuti

The BIOMEnext overall objective is to implement innovative, composite and eco-friendly farming systems to enhance the resilience of Mediterranean fruit farming to climate change, a significant challenge for agriculture.

The project aims to design an olive grove that combines, in a holistic logic, the valorization of traditional genotypes showing the best resilience traits, the development of new microorganism consortia, able to increase biotic and environmental stress tolerance and the introduction of new practices and remodel the traditional ones, to reduce external inputs and negative discharges to the environment. The proposed new olive growing models will aim to maintain high quantitative and qualitative production levels, even in limiting environmental contexts, in a logic of increased sustainability. These models will be evaluated under a circular economy and an LCA approach for socio-economic and ecological impact. The models developed in the project can be replicated, with appropriate adaptations, to other Mediterranean fruit species.



Enti italiani partecipanti/ 2

Consiglio Nazionale delle Ricerche, Istituto di Bioscienze e Biorisorse (IBBR-CNR) - IT

Agenzia nazionale per le nuove tecnologie, l'energia e lo sviluppo economico sostenibile, Divisione Biotecnologie e Agroindustria (BIOAG-ENEA) - IT

Altri Enti partecipanti/ 8

Consejo Superior de Investigaciones Científicas, Estación Experimental del Zaidín (EEZ-CSIC) - ES

Universidad de Salamanca, Departamento de Microbiología y Genética - ES

Institut National de Recherche pour l'Agriculture, l'Alimentation et l'Environnement (INRAE) - FR

Lebanese University, Faculty of Agronomy (UL) - LB

Mohammed VI Polytechnic University (UM6P) - MO

Université Cadi Ayyad (UCA) - MO

Institut National Agronomique de Tunisie (INAT) - TN

Institut des Régions Arides (IRA) - TN

Accordingly, the BIOMEnext specific objectives include:

- valorize local unconventional varieties and wild olives from extreme environments and develop new stress-tolerant and eco-friendly hybrids;
- identify microbial consortia able to enhance abiotic stress tolerance and improve plant nutrition at the whole field level;
- develop new efficient farming systems and remodel traditional agricultural practices, able to reduce water and chemical inputs, limit emissions and enhance CO₂ sequestration;
- assess environmental and socio-economic impacts of newly developed crop systems.

Risultati e impatti attesi

A wide range of technologies will provide small farmers with tools to face the new challenges brought about by ongoing climate change and the excessive use of energy-intensive technologies;

Reconversion of agriculture enhancing local natural resources, more resilient to adverse abiotic conditions;

Software applications, indicators and diagnostic tools to optimize the composting process and the irrigation water management, to enhance the circular economy and simplify the olive cultivar recognition;

New formulations of microorganisms and microbial inoculants specifically selected from extreme environments, or previously selected for other crops, to improve the productive and vegetative performance of trees and increase their resilience to environmental stresses;

The reintroduction of autochthonous weeds into cultivation and the association with cover crops, particularly adapted to particular environmental conditions, not competing with fruit trees during the crucial phenological phases (e.g. flowering, fruit development), making it possible to improve soil conservation, reducing mechanical interventions and decreasing the use of chemicals;

Impact evaluation on different agro-systems, genotypes, plant/microbes and plant/plant associations, in terms of Carbon Footprint, Water Footprint, Life Cycle Cost and Life Cycle Assessment, allowing to define which factors most affect environmental sustainability, to guide choices towards most environment-friendly practices and reduce farming wastes;

Investigation on farmers' attitudes and motivations, allowing to selection the most effective farming models;

Estimation of environmental sustainability of farming systems, contributing to increasing the social concern about food consumer's attitudes and driving consumers towards environmentally sustainable products, respectful of biodiversity conservation, environment protection and well-being and livelihoods of producers.

Keywords

#olive_grove

#traditional_genotypes

#holistic_logic

#microbial_consortia

#remodel_traditional_practices

#Life_Cycle_Assessment

#Carbon_Footprint

#Water_Footprint

#Life_Cycle_Cost

#circular_economy



Area tematica

Farming Systems



Azione e Topic

RIA - Up-scaling field practices based on agroecological practices to increase ecosystem services and biodiversity, to adapt the small farming systems to climate change and to increase farmers incomes



Budget

1.332.706 €



Durata

36 mesi



Paese ed Ente coordinatore

ITALIA

**Alma Mater Studiorum
Università di Bologna,
Dipartimento di Scienze e
Tecnologie Agro-Alimentari
(UNIBO-DISTAL)**



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

Coordinatore scientifico:
MORANDI, Brunella

Paesi partecipanti/ 5



Unità di ricerca/ 8



Sezione 2

DREAM



Diversified orchards for REsilient and sustAinable Mediterranean farming systems

Contesto

The current climate change scenario foresees several risks such as the increased frequency of extreme weather events, abiotic stressors, reduced biodiversity, soil quality loss, and pollination deficit. Modern orchards are generally highly intensive systems, primarily relying on considerable chemical inputs and low plant diversity, resulting in reduced natural habitats, progressive loss of biodiversity, wild pollinator decline and consequent pollination deficit. These conditions make modern orchard systems much more vulnerable to climate change and market fluctuations than annual crops due to their perennial behaviour and long life span, which expose them to higher risks.

This scenario leads to high economic instability for all farmers, but especially for smallholders, jeopardizing Mediterranean fruit production's current and future sustainability. Therefore, it is essential to introduce new alternative approaches to improve the resilience of fruit farms to climate change-related risks while maintaining their economic, environmental and social values within the Mediterranean basin.

Obiettivi e contenuti

DREAM aims at providing Mediterranean fruit growers with an alternative new cultivation approach for high quality and diversified fruit production to improve resilience, functional biodiversity as well as environmental and economic sustainability of small farming systems

The DREAM agroecosystem will be characterized by the following basic principles which go beyond conventional agricultural systems: i) a multi-variety orchard with different, scalar fruit varieties and exploiting a range of genetic resistance to biotic and abiotic stressors; ii) consociation with a cover crop mixture, able to prolong blooming, increase soil nutrients and water status, attract natural enemies and repelling phytophagous insects by attracting natural enemies; iii) adoption of Regulated Deficit Irrigation strategies, aimed at increasing the system water use efficiency, as well as improving fruit quality.

The new agroecosystem will be co-designed with the help of local living labs to adapt it to local environmental, economic and social conditions in three fruit-producing



Altri Enti partecipanti/ 7

Instituto Murciano de Investigación y Desarrollo Agrario y Medioambiental (IMIDA) - ES

Groupe de Recherche en Agriculture Biologique (GRAB) - FR

Institut Jean-Pierre Bourgin (IJPB) - FR

AgroApps PC - GR

Agricultural Cooperative of Pella - GR

Institut National de la Recherche Agronomique (INRA) - MO

Université Moulay Ismaïl (UMI) - MO

Nuovi prodotti e soluzioni

1

Integrated Pest Pollinator Management (IPPM)



areas: Italy and Morocco for apple and Spain for pear, thus reflecting the local fruit economy. The new agroecosystem will be tested in each site regarding physiological and productive efficiency, biodiversity level, farm economic stability, and ecosystem services. The agroecosystem will be managed using the “Integrated Pest and Pollinator Management paradigm” (IPPM), a new approach that aims to enhance Integrated Pest Management (IPM) compatibility with crop pollination management.

Risultati e impatti attesi

DREAM responds to the challenge of developing a novel cultivation approach to adapt the small farming systems to climate change, increase farmers’ incomes as well as their ecosystem services and biodiversity. This new approach, particularly suited to small farm holdings, will enhance functional biodiversity and the beneficial synergies among the different species (i.e. trees, herbaceous crops, pollinating insects, soil microbiome). It will promote using a low level of inputs such as water, fertilizers and chemicals, reducing the environmental pollution. Thanks to the natural resistances of the fruit genotypes and their scalar vegetative cycle, it will allow a diversified production and higher resilience to extreme weather events such as frost, hailstorms, and heatwaves biotic stressors. The project will follow a multi-actor approach as growers, fruit cooperatives and consultants, and consumers, with particular attention to women and youth, will be involved in living labs to actively contribute to the adaptation and possible adoption of the DREAM agroecosystem in the different sites. Studies on consumer acceptance and alternative marketing strategies for the derived niche products will also be conducted to guarantee higher revenues for the growers and improved economic stability at the farm level.

Keywords

#multi-variety_orchard

#scalar_fruit_varieties

#trees

#consociation

#crop_mixture

#herbaceous_crops

#pollinating_insects

#soil_microbiome

#living_labs

#Integrated_Pest_Pollinator_Management_paradigm



Area tematica

Farming Systems



Azione e Topic

RIA - Up-scaling field practices based on agroecological practices to increase ecosystem services and biodiversity, to adapt the small farming systems to climate change and to increase farmers incomes



Budget

1.479.069 €



Durata

36 mesi



Paese ed Ente coordinatore

ITALIA

Università degli Studi di Palermo, Dipartimento Scienze Agrarie, Alimentari e Forestali (UNIPA)



**UNIVERSITÀ
DEGLI STUDI
DI PALERMO**

Coordinatore scientifico:
CUSUMANO, Antonino

Paesi partecipanti/ 7



Unità di ricerca/ 10



Sezione 2

ECOBOOST

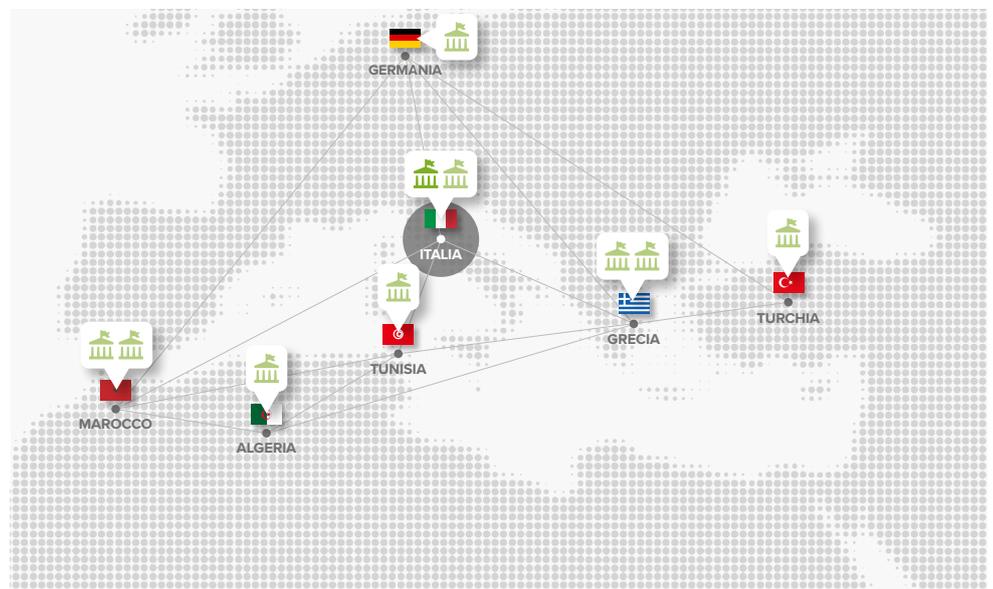
Boosting functional biodiversity to maximize ecosystem services for Mediterranean crop production

Contesto

Crops are currently managed with unsustainable practices that cause the loss of biodiversity. In particular, pest management in the Mediterranean region still largely relies on chemical pesticides that negatively affect beneficial insects, disturb healthy microbial communities in the soil, threaten agroecosystem stability and food security. Novel strategies alternative to chemical control are required to combat biotic and abiotic stresses in the most efficient and environmental-friendly manner. Implementing agroecological practices that boost functional biodiversity and maximise ecosystem services is an eco-friendly and promising alternative to pesticide use in agriculture. Yet, agroecological practices, in addition, to being respectful of the environment, need also to preserve farmers' income. It is becoming increasingly evident that functional biodiversity has to be promoted in multiple ways. For example, biodiversity at the crop level (crop biodiversity) holds great potential for Mediterranean agriculture: by rediscovering local varieties that cope well with abiotic and biotic stresses, external energetic inputs can be minimised. Another critical component of biodiversity is represented by beneficial arthropods that deliver the ecosystem services of pollination and pest control (aboveground biodiversity). Finally, an essential source of biodiversity is hidden in the soil of the farms (belowground biodiversity) since soil constitutes the main reservoir of microorganisms and provide several functions to support agriculture.

Obiettivi e contenuti

ECOBOOST with developing and validating novel agroecological practices that boost functional biodiversity and maximise ecosystem services in solanaceous crops while minimising the negative environmental impacts of agriculture. This goal will be achieved following a holistic approach that will provide Mediterranean farmers with the knowledge and tools needed to implement agroecological practices and promote biodiversity at different levels: a) aboveground, with the use of wild flowering plants in non-managed habitats to promote beneficial insects; b) belowground, with the use of biostimulants for seed coating and soil inoculation with selected critical microbes to



Enti italiani partecipanti/ 1

Università degli Studi Mediterranea di Reggio Calabria, Dipartimento di Agraria (UNIRC) - IT

Altri Enti partecipanti/ 8

Université Frères Mentouri Constantine 1 (UFMC1) - DZ

Universität Göttingen (UGOE) - DE

Democritus University of Thrace (DUTH) - GR

Benaki Phytopathological Institute (BPI) - GR

Université Mohammed V de Rabat (MVU) - MO

Institut National de la Recherche Agronomique (INRA) - MO

Université de Sousse, Institut Supérieur Agronomique Chott Mériem (ISA-CM) - TN

Isparta Uygulamalı Bilimler Üniversitesi (ISUBU) - TR

promote soil and crop health; c) at crop biodiversity level with the exploitation of germplasm of solanaceous crops, by screening local varieties/breeds which are adapted to biotic and abiotic stresses that occur under Mediterranean conditions.

To reach ECOBOOST objectives, a combination of laboratory and small experimental assays will identify the most promising wild Mediterranean plants, microbial stimulants and local varieties of solanaceous crops. Then pilot demonstration trials targeting end-users (farmers, SMEs) directly will validate the effect of the previously identified candidates as tools to improve the resilience of small-scale Mediterranean farms. In addition, ECOBOOST will increase public awareness of agroecological practices and carry out environmental and socio-economic analyses to assess the impact of their implementation in agriculture and the determinants of the acceptance by end-users.

Risultati e impatti attesi

ECOBOOST will produce new knowledge, tools and services to promote functional biodiversity and maximise ecosystem services for crop production.

ECOBOOST's new knowledge may be summarised as:

- how to manage complex interactions that occur at the farm scale among trophic levels (microbe-crop-pest-beneficial organisms);
- increased understanding of the genetic bases of crops programmed for a fast response against pest attack.

ECOBOOST's new tools may be summarised as:

- identification of tomato/eggplant/pepper local varieties (landraces) that are resistant to salt, nitrogen-limiting stresses and pests;
- effective soil microbes that boost plant growth and defences;
- wild Mediterranean plants that attract natural enemies and pollinators.

ECOBOOST's new services may be summarised as:

- online platform to inform stakeholders about the results of the project about the proposed innovative tools, its long term beneficial effects on health and agricultural productivity;
- mediterranean network of scientists and stakeholders working on innovative methods/tools to sustainably control in tomato, eggplant and pepper;
- online platform to inform farmers about the risks associated with pesticide use, the alternative eco-friendly solutions to pesticides and the risk farmers might face in the future about climate change and extreme climate events.

It is expected that implementing the proposed agroecological practices will increase the stability of the agroecosystems and, therefore, reduce the costs that farmers incur to control pests, thus increasing farmers' income and zero-pollution ambition in the Mediterranean countries.

Keywords

#agroecological_practices #boost_functional_biodiversity

#maximise_ecosystem_services #solanaceous_crops

#tomato #eggplant #pepper #wild_flowering_plants

#beneficial_insects #pollinators

#biostimulants_for_seed_coating #soil_inoculation



Area tematica

Farming Systems



Azione e Topic

RIA - Up-scaling field practices based on agroecological practices to increase ecosystem services and biodiversity, to adapt the small farming systems to climate change and to increase farmers incomes



Budget

1.340.320 €



Durata

36 mesi



Paese ed Ente coordinatore

ITALIA

Università degli Studi della Basilicata (UNIBAS), Dipartimento di Scienze (DiS)



UNIVERSITA' DEGLI STUDI DELLA BASILICATA

Coordinatore scientifico:
BRIENZA, Monica

Paesi partecipanti/ 8



Unità di ricerca/ 12



Sezione 2

SAFE

Sustainable water reuse practices improving safety in agriculture, food and environment

Contesto

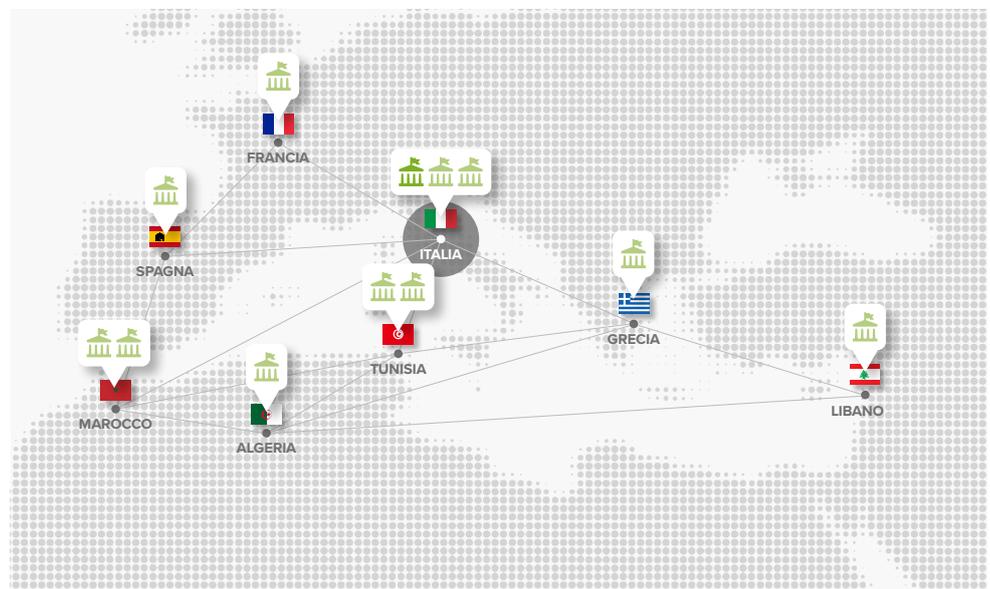
Smallholder farmers are globally the main producers of food. In Mediterranean countries, smallholders provide from 60 to 80 per cent of the food. Due to the increase of the world population, these farmers are under growing pressure to enhance their productivity and ensure food security and safety, especially for rural poor regions. Among numerous stressors that make farming increasingly difficult (e.g., climate change, land degradation, post-harvest losses), water scarcity is one of the significant challenges. Water reuse for agricultural field irrigation may be feasible to mitigate water scarcity. However, direct reuse may risk introducing organic micro-pollutants, excessive content of nutrients, and/or increased soil salinity. Thus, agricultural crop production, quality of produce, and soil quality can suffer the consequences of inadequate reuse practices. Improving the quality of reused irrigation water will improve food safety and security, preserve the biodiversity and microorganisms in the soil, and increase the crop yield of small farmers. There is an urgent need to help farmers increase yields through good quality wastewater effluent recycling for irrigation, soil and pest management, access to a better quality of salinity resistance plants, and improved agricultural practices (i.e. irrigation, fertiliser use, grafting).

Obiettivi e contenuti

SAFE will optimise the proposed water reuse strategies, ensuring their safety for the environment and human health. The developed engineering strategies will increase sustainability, decrease water stress, and fulfil farm necessities. These strategies will boost the local economy of agricultural regions.

Main specific objectives are:

- Development, test, and validate novel low cost and low energy urban decentralised wastewater treatments to enhance renewable water supply.
- Evaluation of wastewater treatments impact on plants/crops performance using modern -omics tools.
- Study the impacts on local biodiversity and its co-benefits.



Enti italiani partecipanti/ 2

Consiglio Nazionale delle Ricerche,
Istituto Ricerca sulle Acque (IRSA -
CNR) - IT

Sapienza Università di Roma,
Dipartimento Ingegneria Chimica
Materiali Ambiente - IT

Altri Enti partecipanti/ 9

Université Djillali Liabes (UDL) - DZ
Institut Català de Recerca de
l'Aigua (ICRA) - ES

Université de Montpellier (UM) - FR
Hellenic Agricultural Organization,
Institute of Plant Breeding and
Genetic Resources (ELGO-DIMITRA
IPBGR) - GR

Lebanese Development Network
(LDN) - LB

Institut Agronomique et
Vétérinaire Hassan-II - MO

Université Ibn Tofail de Kénitra
(UIT Kénitra) - MO

Centre de Recherches et des
Technologies des Eaux (CERTE) -
TN

Faculté des Sciences de Sfax (FSS)
- TN

- Promotion of environment respectful practices like pest management by biofertilisers such as *Trichoderma* sp., including knowledge transfer for their practical implementation.
- Safety evaluation related to the proposed approaches, including monitoring emerging pollutants, in water, soil, and produced crops.
- Development of general management models to simulate local and decentralised agroecological practices in several scenarios.
- Optimisation of the implemented approach in techno-economic analysis, environmental impact, and local feasibility.
- Local promotion of the proposed solutions regarding farmers' acceptability and valorisation of their economic value.

Risultati e impatti attesi

SAFE will tackle innovation capacities, increase the state of knowledge, and develop innovative solutions for the sustainable management of agro-food systems. Benefits will result from integrated water provision in the Mediterranean area. SAFE provides a more sustainable agricultural production system with more efficient use of natural resources and better climate change resilience. The innovations developed by SAFE (for low-cost wastewater treatments and respectful practices) increase crop performance and water quality and improve the economic and social resilience of Mediterranean smallholder farming systems to climate change. Quantity and quality of available water will be more consistent compared to surface water achieving reduced production costs (-10%), sustained agricultural production (+15%) and an associated increase in employment opportunities (+20%).

Furthermore, these strategic practices will reduce cultivation costs (-10%), overall water consumption (-35%), and treatment needs for pumping & importing water, building dams, seawater desalination (-15%). Mediterranean smallholders adopting innovations developed in SAFE will increase their incomes by 40%, achieved by a combination of higher yields and reduced production costs for water, nutrients, fertiliser and pesticides while ensuring food security and certification of products. SAFE will encourage the consumption of food produced using more sustainable practices and contribute to the zero-waste farming systems' target.

Keywords

#water_reuse_practices

#biofertilisers

#Trichoderma

#agroecological_practices

#zero-waste



Area tematica

Farming Systems



Azione e Topic

RIA - Up-scaling field practices based on agroecological practices to increase ecosystem services and biodiversity, to adapt the small farming systems to climate change and to increase farmers incomes



Budget

964.600 €



Durata

36 mesi



Paese ed Ente coordinatore

ITALIA

Università Politecnica delle Marche (UNIVPM), Dipartimento di Scienze Agrarie, Alimentari, ed Ambientali (D3A)



UNIVERSITÀ
POLITECNICA
DELLE MARCHE

Coordinatore scientifico:
AQUILANTI, Lucia

Paesi partecipanti/ 5



Unità di ricerca/ 8



Sezione 2

SEA FENNEL4MED

Innovative sustainable organic sea fennel (*Crithmum maritimum* L.) - based cropping systems to boost agrobiodiversity, profitability, circularity, and resilience to climate changes in Mediterranean small farms

Contesto

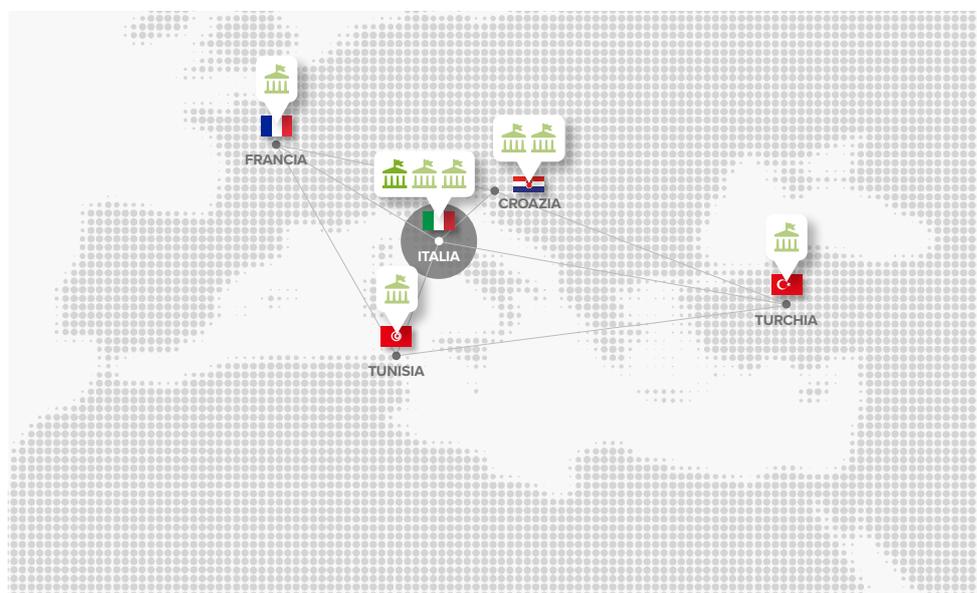
The project objective deals with the introduction of Mediterranean sea fennel (*C. maritimum* L) germplasm well adapted to climate change and Mediterranean conditions (water shortage, low soil fertility, high salinity) for the development of new sustainable organic cropping systems, able to increase the resilience of the agro livelihood system based on agroecological principles, that contribute to the zero-pollution ambition, and to cope with limited resources and environmental constraints, with the final objectives of enhancing food production stability over time as well as increasing farmers' incomes.

Obiettivi e contenuti

Specific objectives of the project are:

- selection of sea fennel ecotypes, well adapted to the Mediterranean climate;
- introduction of sustainable farming systems for the production of organic sea fennel crops in the Mediterranean;
- development of new/improved high-value products from the organic sea fennel crops;
- valorization of sea fennel by-products for the production of functional food ingredients/nutraceuticals/soil amendments;
- demonstration of socio-economic benefits, environmental impacts and sustainability of the proposed innovations;
- dissemination of sustainable halophyte-based cropping solutions and products in the Mediterranean.

These objectives will be reached thanks to a strong synergy between 9 Partners from 6 Mediterranean countries, including Public Universities and Research Institutes, a Research Foundation, a farm producing sea fennel crops and sea fennel-based foods. Different test sites across the Mediterranean will be used for the selection of sea fennel ecotypes with the highest nutritional/biological potential.



Enti italiani partecipanti/ 2

Consiglio per la Ricerca in Agricoltura e l'analisi dell'economia Agraria, Centro di Ricerca Alimenti e Nutrizione (CREA-AN) - IT

RINCI Srl - IT

Altri Enti partecipanti/ 5

University of Split (Sveučilište u Splitu - UNIST) - HR

Institute for Adriatic Crops and Karst Reclamation (KRS) - HR

Université de Bretagne Occidentale (UBO) - FR

Institut National de Recherches en Génie Rural, Eaux et Forêts (INRGREF) - TN

Ege Üniversitesi - TR

Nuovi prodotti e soluzioni

3

new foods and food ingredients/nutraceuticals/soil amendments



Risultati e impatti attesi

Selected ecotypes will be assayed in the demo and open fields. After multiple analyses, the new organic crops and their by-products will be exploited for the formulation of new foods and food ingredients/nutraceuticals/soil amendments, respectively. The socio-economic and environmental impacts of the proposed innovations will be evaluated.

The project addresses all the specific challenges of this thematic area by:

I. introducing more sustainable agriculture and food production systems with more efficient use of a natural resource (sea fennel) with a high climate change resilience/adaptation, high economic potential;

II. improving economic and social resilience of Mediterranean smallholder farming systems to climate change;

III. contributing to the zero waste farming systems target;

IV. decreasing use of chemical inputs;

V. increasing income of the farmers from biodiversity use, improved farming techniques and organic certification;

VI. promoting youth engagement and women empowering;

VII. encouraging consumption of food produced using more sustainable practices.

Keywords

#sea_fennel

#new_products

#by_products

#zero_waste

#halophyte-based_solutions

#youth

#women

#empowerment



Area tematica

Farming Systems



Azione e Topic

RIA - Up-scaling field practices based on agroecological practices to increase ecosystem services and biodiversity, to adapt the small farming systems to climate change and to increase farmers incomes



Budget

1.566.293 €



Durata

36 mesi



Paese ed Ente coordinatore

ITALIA

Università Cattolica del Sacro Cuore (UCSC), Dipartimento di Scienze e Tecnologie Alimentari per una filiera agro-alimentare Sostenibile (DiSTAS)



**UNIVERSITÀ
CATTOLICA
del Sacro Cuore**

Coordinatore scientifico:
PUGLISI, Edoardo

Paesi partecipanti/ 8



Unità di ricerca/ 10



Sezione 2

SIRAM



Sustainable innovations for Regenerative Agriculture in the Mediterranean area

Contesto

SIRAM will supply a comprehensive integration and implementation of sustainable solutions for regenerative agriculture across different Mediterranean areas, addressing at the same time issues of low incomes at the smallholder farm level. A multidisciplinary team involving agronomists, microbiologists, soil scientists, plant pathologists, nematologists, agricultural chemists, economists, and experts in dissemination will tackle issues related to soil degradation, over-use of chemical inputs, climate change, desertification, environmental risks, and low incomes at smallholder farms level.

SIRAM will help to cope with the main challenges that the agricultural sector is facing in the 21st century: i) securing viable food production in the face of escalating food demands (expected to double by 2050); ii) ensuring sustainable management of natural resources and climate action to avoid the progressive deterioration of soil and water resources and the loss of biodiversity; iii) decreasing residue concentrations in vegetables and iv) contributing to a balanced territorial development of the EU's rural areas and their communities.

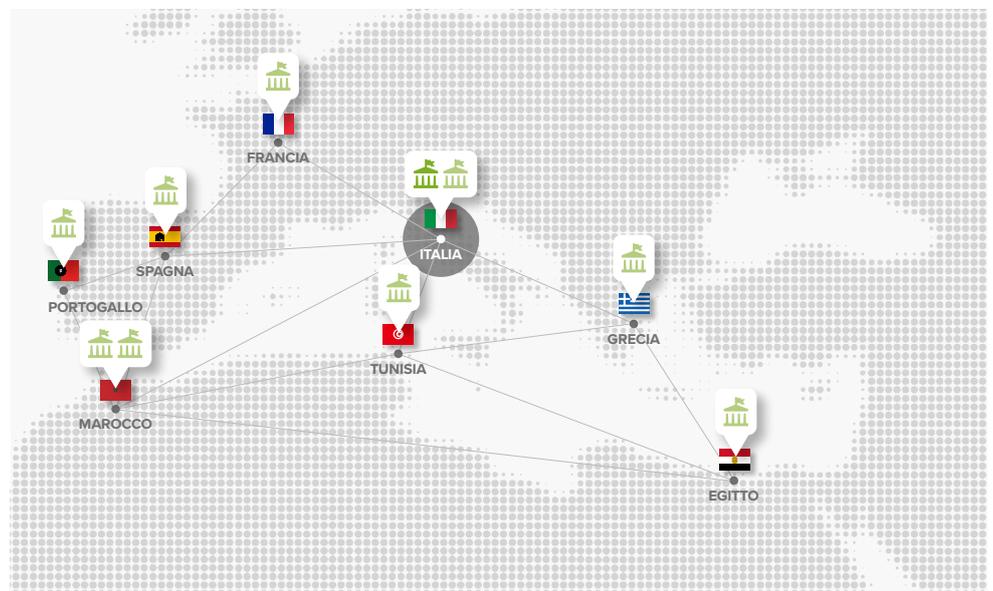
These issues will be tackled by a multidisciplinary approach based on four main pillars: (i) beneficial microorganisms for plant growth and pest control; (ii) crop varieties with resistance towards abiotic and biotic stresses; (iii) agronomical practices to safeguard soil quality and fertility; and (iv) bioeconomy approaches to recycle and valorise waste biomasses that restore soil organic matter and have biostimulant properties.

Obiettivi e contenuti

The broad objective of SIRAM is to develop intelligent, sustainable, and resilient agricultural systems and economies, which agree with UN Sustainable Development Goals (SDGs) and EU Green Deal towards 2030 and beyond. The broader objective of SIRAM will be enriched by main specific objectives (SO):

SO1 Development of tailored approaches to address climate change, desertification, pollution, and low-income issues under different smallholder farming systems in the Mediterranean area

SO2 Reduction of chemical inputs, restoration, and regeneration of soil health



Enti italiani partecipanti/ 1

OpenTea srl - IT

Altri Enti partecipanti/ 8

Agricultural Research Center (ARC) - EG

Institut de Recerca i Tecnologia Agroalimentàries (IRTA) - ES

Université Bourgogne Franche-Comté (UBFC) - FR

EVOTROPIA Ecological Finance Architectures P.C. - GR

École nationale d'agriculture de Meknès (ENAM) - MO

Université Sidi Mohamed Ben Abdellah (USMBA) - MO

Universidade de Coimbra (UC) - PT

Centre Régional des Recherches Agricoles Sidi Bouzid (CRR) - TN

through an integrated approach based on beneficial microorganisms, organic fertilisers, biostimulants, organic waste biomasses, resistant local crops and agronomical practices including no-tillage and cover crops

SO3 Improvement of structural and functional biodiversity of bacteria, fungi, and plants under the principles of regenerative agriculture

SO4 Understanding of the mechanisms through which certain microorganisms induce systematic plant resistances to biotic and abiotic stress

SO5 Understanding and exploitation of mechanisms through which plants can select beneficial microorganisms in the rhizosphere

SO6 Investigating the use of non-microbial biostimulants from biomasses as a sustainable tool to improve agricultural production in the framework of regenerative agriculture

SO7 Socio-economic evaluation and economic sustainability of the tested methodologies

SO8 Dissemination and exploitation of the tested methodologies, including upscaling to EU level, taking into account possible technical, socio-economic, and political barriers.

SO9 Improvement in knowledge, skills and competencies of young scientists, professionals, and other interested parties through a dedicated training programme.

Risultati e impatti attesi

The results of the SIRAM activities will benefit NGOs, producer associations and farmers' networks from the various Mediterranean countries. The address will be to restore and enhance agro- and functional diversity. Such new practices will improve the sustainability and resilience of the farming systems as support to plant growth and resilience/tolerance to pests.

SIRAM will help fill some knowledge gaps on the mechanisms by which biostimulants explicate their inhibitory effects on pathogen/parasite growth. Outcomes will be helpful to improve plant response to stresses (biotic and abiotic) and develop high quality and efficient pilot products that can be available for scale production and delivery on the market by spin-offs and SMEs.

SIRAM will contact industrial partners to translate the obtained research findings into practice. Tools will be given to farmers by partners companies operating in biological control and other inputs that will have contributed to their integrated control management strategies in market garden crops.

The project will be an asset for a training program for young scientists/Training sessions on biological control of soil-borne pathogens, including telluric fungi, bacteria and nematodes, on molecular tools to study plant micro-biome interaction (development of markers, genes expression, and bioinformatics)/BCASs yearly Meetings/ International symposia. Scientific publications from the SIRAM team will affect the general knowledge on regenerative agriculture, soil quality, biocontrol of pests and plant immune systems.

Keywords

#regenerative_agriculture

#microorganisms

#organic_fertilisers

#biostimulants

#organic_waste_biomasses

#resistant_local_crops

agronomical_practices



Area tematica

Agri-food Value Chain



Azione e Topic

IA - Increase adherence to the Mediterranean diet as a sustainable pattern including environmental, social and health aspects



Budget

2.363.973 €



Durata

36 mesi



Paese ed Ente coordinatore

ITALIA

Fondazione Edmund Mach



**FONDAZIONE
EDMUND
MACH**

Coordinatore scientifico:
BONTEMPO, Luana

Paesi partecipanti/ 5



Unità di ricerca/ 12



Sezione 1

PROMEDLIFE

PROMotion of MEDiterranean LIFEstyle and healthy diet

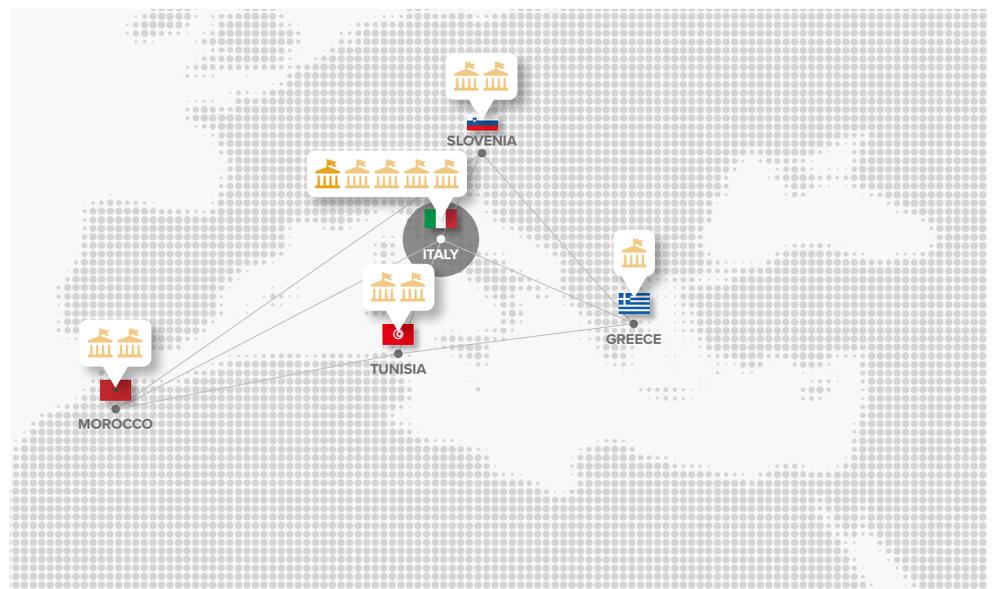
Contesto

The need to maintain the production of local foods characterized by a high nutritional index, update traditional food production methodologies by developing attractive tech-based approaches, promote healthy eating habits that meet consumers' preferences and acceptability, as well as reduce the complexity of supply chains (Farm to Fork) must be addressed to ensure food and nutrition security. This is especially true in Mediterranean countries undergoing dietary and nutritional changes that affect their inhabitants' health while creating many socio-economic and environmental challenges. These changes have happened despite the health benefits of consuming a Mediterranean diet demonstrated in numerous epidemiological studies, and because dietary interventions are effective, it is essential to identify and address perceived barriers to healthy eating. In PROMEDLIFE, we identified opportunities for improving the adherence to the Mediterranean diet, incorporating a tailored design beyond the state-of-the-art allowing the rapid transference of innovations to industry and local policy bodies. The PROMEDLIFE approach employs food nutritional quality to help drive consumer awareness, perceptions and the use of food high in nutrients while recognizing foods, the consumption of which should be limited. The educational activities will be tailored to the specific characteristics of each participating country. These practical actions will target the entire 'family system' deeply entrenched in the Mediterranean area and essential for the welfare function.

Obiettivi e contenuti

PROMEDLIFE aims to reverse the decline in adherence to the Mediterranean diet pattern by adopting a multi-actor approach in four lines of intervention:

- 1) Analysis of socio-economic, cultural and personal factors driving consumers in adopting a healthy Mediterranean lifestyle involving children, adolescents and family caregivers in Greece, Italy, Morocco, Slovenia and Tunisia.
- 2) Promotion of tailored and country-specific educative actions using "learning through play and living labs approach" targeting primary and high school students and their families/carers in a series of initiatives using novel tools and strategies to



Enti italiani partecipanti/ 4

Agenzia nazionale per le nuove tecnologie, l'energia e lo sviluppo economico sostenibile, Divisione Biotecnologie e Agroindustria (BIOAG-ENEA) - IT

Hortus Novus Srl - IT

Università di Parma, Dipartimento di Scienze degli Alimenti e del Farmaco, Gruppo di ricerca di Nutrizione Umana (UNIPR) - IT

Contento Trade Srl - IT

Altri Enti partecipanti/ 7

Ellinogermaniki Agogi (EA) - GR

Institut National de la Recherche Agronomique (INRA) - MO

Atlas Safran SA - MO

Jožef Stefan Institute (IJS) - SI

Mlekarna-Planika d.o.o. Kobarid - SI

University of Carthage (UCAR), National Institute of Applied Sciences and Technology - TN

Association Tunisienne des Sciences de la Nutrition (ATSN) - TN

address regional cultural specificities and apply validated educational techniques in different cultural environments.

3) Creation and acceptability test of new healthy snacks targeted at young and older adults, based on traditional Mediterranean premium ingredients produced optimizing traditional and innovative eco-friendly food processing technologies and tools to preserve the nutritional value. Strong high-throughput chemical characterization and bioassays from raw materials to the final products, to monitor their bioactivity and sensorial properties. New cultivation technologies and agronomical practices will be applied and tested.

4) Codification and valorization of local Mediterranean products through the development of food labelling using innovative tools to increase people's connection with their cultural and local heritage and improve their awareness of food healthy choices. The link with local Mediterranean sources will be exploited as a tool for valorizing the PROMEDLIFE novel Mediterranean food products.

Risultati e impatti attesi

PROMEDLIFE addresses the negative consequences of human health from consuming low-quality meals (fast-/junk-food) using a holistic approach based on the valorisation of traditional Mediterranean crops/varieties/recipes/products with a strong cultural connection to specific Northern and Southern areas. Although challenging but possible, PROMEDLIFE will change the snacking habits and create a dietary shift towards a Mediterranean lifestyle by offering healthy and bioactive-enriched food products. The project will also promote the sustainability of high-quality food along the food value chain due to cooperation between research organizations and businesses. In addition, it will promote innovative, short supply chains with the possibility of supplying raw materials from local areas and products with recognized traceability. Further, it will create conditions for the sustainable development of the cross-border territory, varieties, agricultural practices, and adaptation to climate change. Overall, revisiting the Mediterranean diet proposed in a more modern and appealing way through a transversal approach will guarantee the link between the innovativeness of PROMEDLIFE and the productive sector. PROMEDLIFE will aspire to understand the factors affecting consumers' healthy choices and turn to education to promote adherence to the Mediterranean lifestyle in the young generation and their families. It will also promote adherence to the Mediterranean diet taking advantage of its health benefits for young people and families by developing novel and attractive products. By doing this, PROMEDLIFE will conserve local biodiversity and exploit its uniqueness for both cultural and regional economic development while improving the value chain and market competitiveness of locally produced sustainable Mediterranean food products.

Keywords

#healty_med_lifestyle

#Mediterranean_Diet

#children

#family

#education

#cultural_environment

#living_labs



Area tematica

Agri-food Value Chain



Azione e Topic

IA - Increase adherence to the Mediterranean diet as a sustainable pattern including environmental, social and health aspects



Budget

2.799.000 €



Durata

36 mesi



Paese ed Ente coordinatore

ITALIA

ENCO Consulting Srl

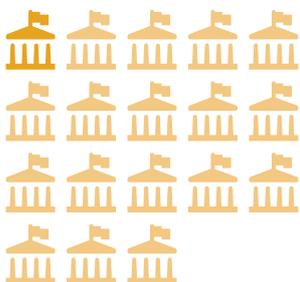
enco
engineering & consulting

Coordinatore scientifico:
MINCIONE, Simona

Paesi partecipanti/ 8



Unità di ricerca/ 18



Sezione 1

SWITCHtoHEALTHY



Switching Mediterranean consumers to Mediterranean sustainable healthy dietary patterns

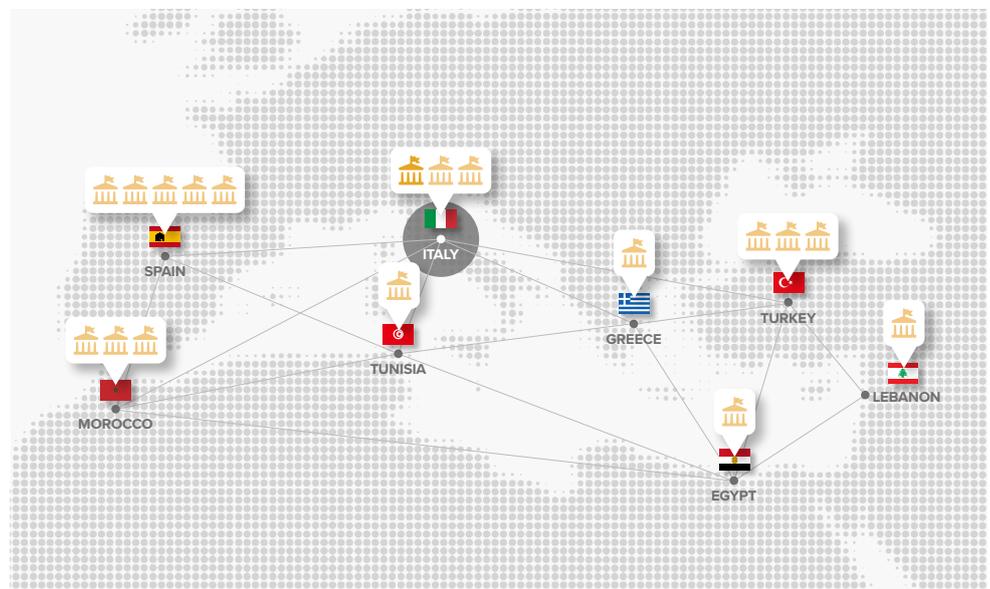
Contesto

Profound dietary changes occur across Mediterranean countries due to cultural and socio-economic-driven lifestyle changes, leading to the erosion of Mediterranean food cultures. The modernisation of the diet is particularly clear, implying modifying food preferences towards unhealthy foods and adherence to sedentary activities, leading to an imbalance between energy intake and expenditure. This has negative health consequences, like the continuously growing prevalence of excess weight and other dietary-related chronic diseases coexisting with undernutrition (nutrient deficiencies and stunting). The latest data show that two billion adults are overweight while 678 million are obese. These trends worsen among children and teens. The WHO COSI showed that Greece, Italy, and Spain had the highest rates of childhood obesity (approx. 20%). Overweight and obesity prevalence rates in Turkey, Morocco and Lebanon are 23%, 14% and 30%, respectively. Estimated weighted regional averages for stunting, wasting and underweight in the Eastern Mediterranean Region were about 28%, 9% and 18%, respectively.

Obiettivi e contenuti

SWITCHtoHEALTHY project aims to generate a dietary behaviour change by demonstrating and reinforcing the role of the family in promoting a sustainable transition towards enhancing the adherence to the Mediterranean dietary pattern of the family members (adults, adolescents, and children). This will be done by making available to families a combination of hands-on educational material and digital tools and complementing the dietary and lifestyle recommendations with easy-to-eat healthier snacking products.

In this approach, while the parents will use digital interactive tools (SWITCHtoHEALTHY App) to prepare weekly healthier dietary plans for the main meals for them and their children, the educational material will be used to support their families in buying healthier habits and to educate children and adolescents. Finally, healthy and nutritious plant-based snacks will be introduced in the children's dietary plans to complement and substitute less healthy options in-between meals.



Enti italiani partecipanti/ 2

Università di Parma, Dipartimento di Scienze degli Alimenti e del Farmaco, Gruppo di ricerca di Nutrizione Umana (UNIPR) - IT
Regione Campania, Assessorato Agricoltura - IT

Altri Enti partecipanti/ 15

Confederation of Egyptian European Business Associations, (CEEBA) - EG
Fundació EURECAT - ES
Centro Nacional de Tecnología y Seguridad Alimentaria (CNTA) - ES
Centre de Recerca en Economia i Desenvolupament Agroalimentari UPC-IRTA (CREDA) - ES
Delafruit SLU (former Go Fruselva SLU) - ES
Generalitat de Catalunya, Departament d'Acció Climàtica, Alimentació i Agenda Rural (DACC) - ES
Centre for Research and Technology Hellas (CERTH) - GR
Consumers Lebanon - LB
Université Ibn Tofail - Kénitra, Unité Mixte de Recherche en Nutrition et Alimentation (CNESTEN-IUT) - MO
University of Mohammed Premier (UMP) - MO
Soconarjiss Sarl - MO
Association Slow Food Tebourba - TN
Bursa Uludağ Üniversitesi (BUÜ) - TR
Kocahan Şekerleme - TR
İzmir Provincial Directorate of Culture and Tourism - TR

Piattaforme/ Hubs

1

Digital platform (web/app) that provides weekly diet plans



Risultati e impatti attesi

SWITCHtoHEALTHY will result in increasing the adherence to MD by taking an intra-familial systemic approach taking the family context into account and assess mutual influence of children/adolescents-parents and their roles in healthy eating and lifestyle; developing innovative solutions (plant-based snacks) based on proximity of ingredients, sustainability and healthy consumption to support agri-food producers (especially SMEs) in finding new business opportunities; job creation opportunities and diversification in traditional Mediterranean food sector; supporting food companies in getting through the barriers to market uptake and achieving a sustainable competitive advantage by designing innovative consumer-oriented BMs; raising awareness of the healthy benefits derived from a high adherence to a MD, increasing knowledge on local Med products thus contributing to improve healthy food choices among families; synergising cross-sectorial policy coherence across agriculture, health, education, environment, trade, etc. from local to national and international level and discussing with all actors of society.

Keywords

#business_models #co-creation #consumers_empowerment
#digital_tools #educational_materials #family #focus_groups
#gaming #healthiness #local_ingredients #Mediterranean_Diet
#plant-based_food products #sustainability



Area tematica

Agri-food Value Chain



Azione e Topic

RIA - Increasing the resilience of small-scale farms to global challenges and COVID-like crisis by using adapted technologies, smart agri-food supply chain and crisis management tools



Budget

709.434 €



Durata

36 mesi



Paese ed Ente coordinatore

ITALIA

**Università degli Studi di Milano,
Dipartimento di Scienze e
Politiche Ambientali (UNIMI)**



**UNIVERSITÀ
DEGLI STUDI
DI MILANO**

Coordinatore scientifico:
BANTERLE, Alessandro

Paesi partecipanti/ 5



Unità di ricerca/ 7



Sezione 2

GreenDriedFruits

Application of extreme temperatures in dried figs, dates, and currants disinfestation: sustainability in practice

Contesto

Following a lab-to-market strategy, the project aims to develop, implement, and test highly efficient species-specific and commodity-specific post-harvest pest management solutions based on extreme low or high temperatures (i.e., extreme cold or heat) to the stored fruit commodities.

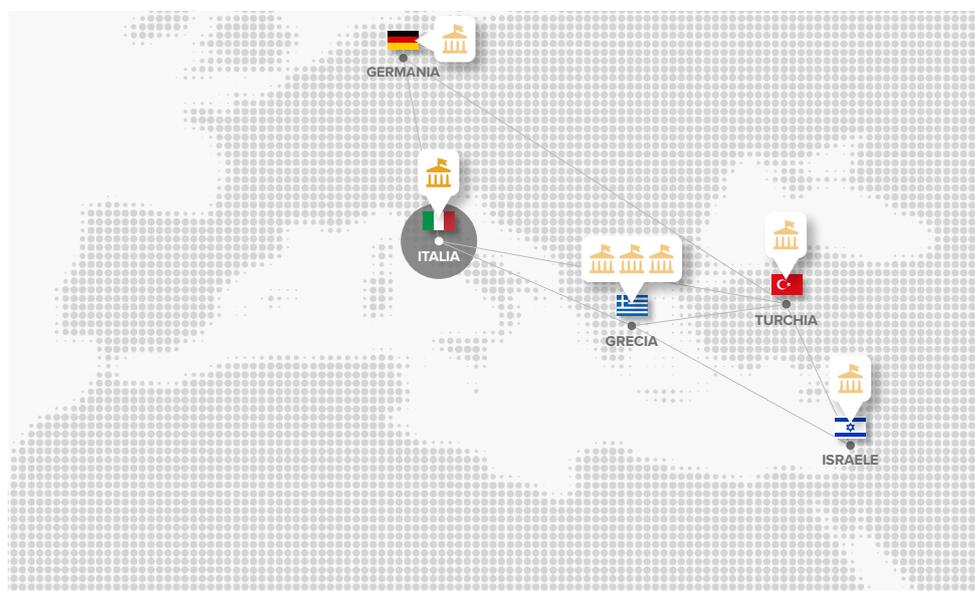
Research activities (from lab experiments to real-setting applications) will be geared at developing the highest insecticidal effectiveness meanwhile preserving the sensory and nutritional quality of dried fruits.

The thermal treatments (TT) are expected to increase the sustainability and resilience of all firms operating in the dried fruit supply chain, including small producers and processors. To maximise the impact of the TT protocols, a user-friendly Sensor-App system will be developed and tested to facilitate the adoption of the TT methods. Furthermore, the stakeholders will open demonstration facilities to facilitate knowledge transfer for a successful shift towards pesticide-free production. Both the supply-side and demand-side economic analysis will be conducted. These will be geared toward identifying market opportunities fostering international trade and developing marketing strategies to boost the market for the dried fruits.

Obiettivi e contenuti

GreenDriedFruits aims to develop, test, and implement the effectiveness of novel sustainable technologies that can contribute to increasing the resilience and sustainability of the durable commodity value chains. The proposal focuses on dried fruits (i.e., figs, dates, and currants) that represent the primary agricultural commodities in the Mediterranean basin area. Consumers highly appreciate their sensory properties and nutritional characteristics and they have a primary economic impact in terms of local production and international trade.

GreenDriedFruits aims to provide sustainable solutions for post-harvest pest control in dried fruit commodities that the firms can efficiently and quickly adopt in substitution for pesticide use. In fact, in addition to the well-known negative environmental impact, pesticide use also has essential drawbacks that limit the economic perfor-



Altri Enti partecipanti/ 6

Technische Universität München (TUM) - DE

University of Thessaly (UTH) - GR

Agricultural Cooperatives Union, Aeghion SA - GR

Harokopio University of Athens (HUA) - GR

Green-storage Ltd - IL

Ankara Üniversitesi - TR

mances of the firms operating in the chain (e.g., impossibility to access the organic market, high food losses, increased health risks) and decrease product quality.

Risultati e impatti attesi

The project addresses the scope/challenges of the call by developing pest management solutions that:

- overcome the main inefficiencies of the current pest management methods;
- allow firms to adopt and apply TT in automated and highly controlled conditions to obtain optimal results;
- can be extended to various other durable commodities (including staple commodities). From a longer-term perspective, this will represent a key line of resilience for firms due to the increased automation of the process, its sustainability, the reduction of food losses and health risks;
- allow firms to comply with EU policy strategies (especially SDG 12 and Farm to Fork Strategy), possibly opening new commercial channels, such as the critical organic market.

The ambition of GreenDriedFruits is to translate scientific evidence into concrete solutions for firms that can enable a transition towards a more sustainable pesticide-free implementation of integrated pest management, as encouraged by the F2F strategy. GreenDriedFruits also aspires to become a pilot for further development and application of the TT technologies to various other durable commodities. Important ones would be wheat, rice, maize, flour, pasta, legumes, etc. These are of enormous importance in global food security. TT could also be applied to other high-value durable commodities, such as herbs, nuts, tobacco etc. The proposed TT protocols could also be extended to quarantine and pre-shipment pest control Contestos from a longer-term perspective.

Nuovi prodotti e soluzioni

1

user-friendly Sensor-App system for TT



Keywords

#dried_fig

#dates

#currants

#thermal_treatments

#post-harvest_pest_control

#food_security

#food_loss



Area tematica

Agri-food Value Chain



Azione e Topic

RIA - Increasing the resilience of small-scale farms to global challenges and COVID-like crisis by using adapted technologies, smart agri-food supply chain and crisis management tools



Budget

1.061.328 €



Durata

36 mesi



Paese ed Ente coordinatore

ITALIA

Università della Calabria, Modeling & Simulation Center Laboratory of Enterprise Solutions, (MSC-LES, UNICAL)



Coordinatore scientifico:
LONGO, Francesco

Paesi partecipanti/ 4



Unità di ricerca/ 5



Sezione 2

SMALLDERS

Smart Models for Agrifood Local vaLue chain based on Digital technologies for Enabling covid-19 Resilience and Sustainability

Contesto

The COVID-19 pandemic has highlighted the need for more resilient food systems to effectively and efficiently address supply chain disruptions. More specifically, this global disaster has emphasised the problems of smallholders in the Mediterranean area, who generally operate in challenging conditions: infrastructures (e.g., roads, distribution channels) are often inadequate, access to credit is complicated, business growth opportunities are minimal. Due to the health emergency, many governments have taken drastic measures intending to limit the spread of the infection, resulting in the closure of the main distribution channels of smallholders, such as bars, restaurants, school canteens, open-air markets. In addition, travel restrictions and COVID-19 symptoms have severely limited the availability of the workforce in many fields. As a result, the amount of food wasted has grown enormously because, in some cases, it was not possible to complete the harvesting activities on time. In contrast, the goods remained in finished goods warehouses until they perished due to the multiple restrictions in the distribution stage. The SMALLDERS' platform aims to address all these issues.

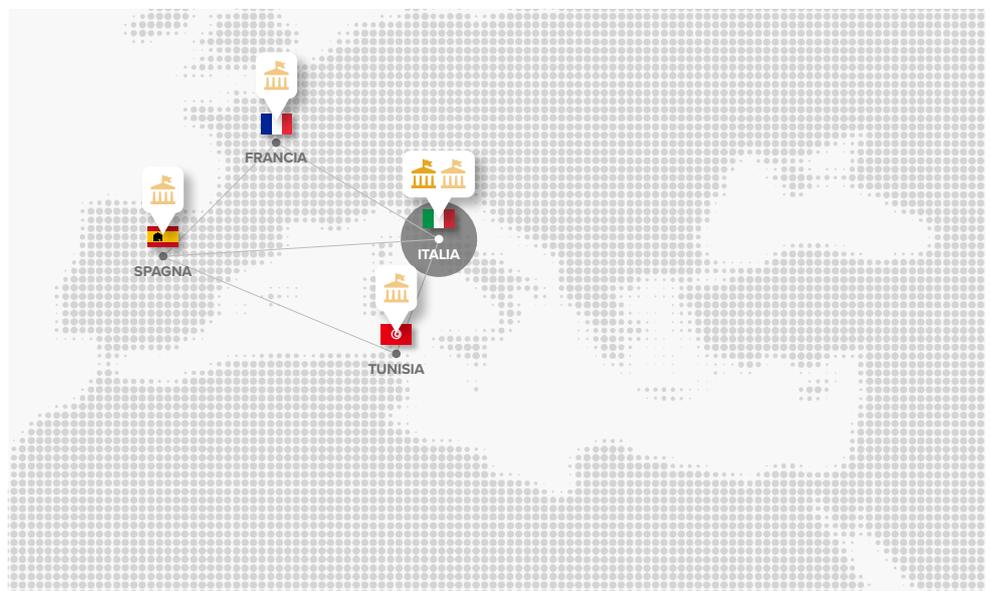
Obiettivi e contenuti

The overall aim of the project is to carry out basic research as well as industrial research and development activities to identify a framework that encompasses innovative strategies, methodologies, technologies and business models to increase the resilience of small-scale farms in the Mediterranean area, to effectively and efficiently face unexpected and disruptive events such as the COVID-19 pandemic. The project will also aim to bring technological improvements to reduce water consumption, improve storage conditions, and reduce food waste.

The SMALLDERS project-specific objectives (SOs) are the following:

SO1: Increasing saleability and perceived value of smallholder products to be resilient and address any supply chain disruption in the event of a crisis.

SO2: Increasing smallholder products traceability, quality, safety and perceived value.



Enti italiani partecipanti/ 1

Università degli Studi di Parma,
Future Technology Lab, (UNIPR) -
IT

Altri Enti partecipanti/ 3

Universidad de Extremadura (UEX)
- ES

Ecole Nationale Supérieure des
Mines d'Alès (IMT Mines Alès) - FR

Laboratory of energy applications
and renewable energy efficiency,
Faculté des Sciences de Tunis
(LAPER, FST-UTM) - TN

SO3: Helping smallholders to cope with the shortage of workforce due to the COVID-like crisis.

SO4: Helping smallholders to increase the farm production efficiency.

SO5: Increasing the Multi-Capital Sustainability of Smallholders processes.

Risultati e impatti attesi

Increase profitability facing COVID-like crises: the use of blockchain technology will increase the transparency of the supply chain, then the safety and traceability of food products, therefore justifying the price to the final consumer. As for production costs, it will be possible to evaluate multiple scenarios using simulation models and quickly take countermeasures in case of inefficiencies. Moreover, the smallholder will choose the most convenient freight transport company day-by-day based on the routes made available on the platform.

Greater efficiency and sustainability in processes and use of resources: the platform will provide a dashboard layer, characterised by multi-capital sustainability indicators, which will make it possible to monitor the performance of the agri-food chain under multiple scenarios.

Increase mitigation capability: supply-side disruptions are limited as the platform facilitates supply-demand matching in the job market. Demand-side disruptions are faced by creating consortia of smallholders and/or using an e-commerce channel to sell directly to consumers.

Decrease in food loss: the SMALLDERS platform allows smallholders to provide and/or request a workforce. Therefore, it will be possible to organise and carry out the activities of harvesting, processing, and producing agri-food goods in the best possible way, reducing potential food losses. Furthermore, production inefficiencies will be facilitated through storage monitoring and production tracking via QR Code technology.

Piattaforme/ Hubs

1

Blockchain platform



Keywords

#smallholder

#crisis

#supply_chain_disruption

#food_loss

#shortage_of_workforce

#traceability

#blockchain

#storage

#e-commerce

#multi-capital_sustainability_indicators





Progetti con unità di ricerca italiane

I Progetti sono in ordine per area tematica (Water Management; Farming Systems; Agri-food Value Chain; Nexus). All'interno di ciascuna area tematica, sono illustrati prima i Progetti di Sezione 1 e poi quelli di Sezione 2.

Area tematica

Water Management



Azione e Topic

RIA - Sustainable soil and water management for combating land degradation and desertification and promoting ecosystem restoration



Budget

2.549.850 €



Durata

36 mesi



Paese ed Ente coordinatore

GRECIA

Hellenic Agricultural Organization – DEMETER, Soil and Water Resources Institute (SWRI)



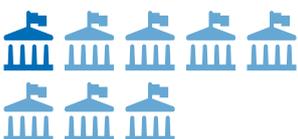
HELLENIC AGRICULTURAL ORGANIZATION "DEMETER"

Coordinatore scientifico:
TAKAVAKOGLU, Vasileios

Paesi partecipanti/ 8



Unità di ricerca/ 8



Sezione 1

Mara-Mediterra



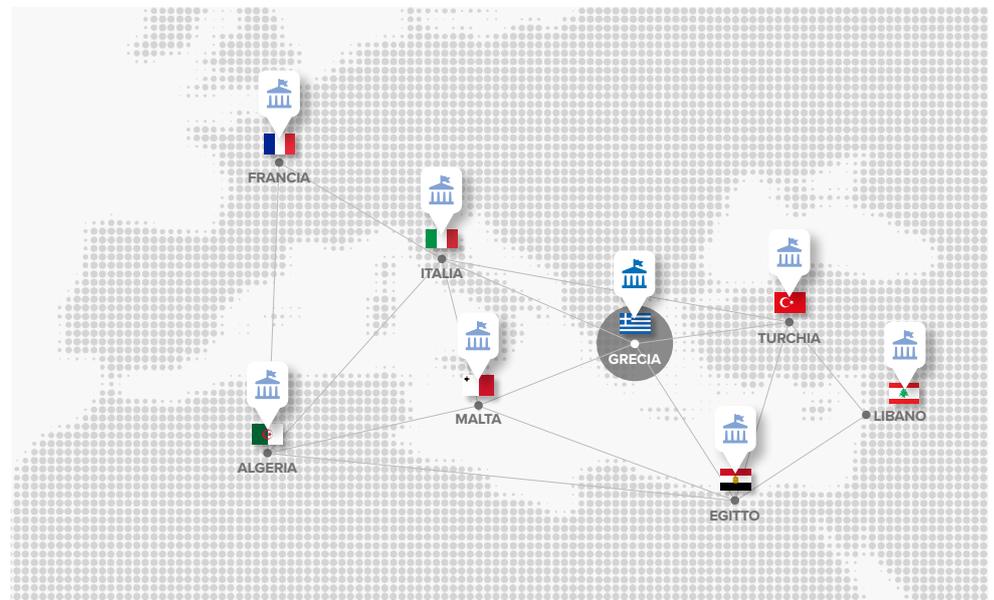
Safeguarding the livelihood of rural communities and the environment in the Mediterranean through Nature-based Solutions

Contesto

Experts on Climate and Environmental Change have alerted that, within a concise time horizon, the impacts on the environment, and in particular on agro-ecosystem landscapes, is set to worsen dramatically. Nature-Based Solutions (NbSs) have gained importance as solutions integrating societal challenges and nature conservation across different scales and geographies. NbSs can offer long-term transformative pathways towards the sustainability of rural Mediterranean landscapes. Many agro-ecological practices, which are at the basis of Mara-Mediterra, have already been proven as cost-effective solutions that can address environmental challenges while offering multiple socioeconomic benefits. Yet, the uptake of these same agroecological practices in rural Mediterranean areas has been far too limited. Thus, there is an urgent need to adapt and enhance these practices' scaling up and out, thereby increasing areas under sustainable soil and water management and ensuring the sustained livelihood of rural communities around the Mediterranean. In this context, Mara-Mediterra is deploying novel approaches to engage with farmers and decision-makers and seek investment opportunities to address the hitherto low uptake of NbSs to combat water and land degradation in agroecosystems.

Obiettivi e contenuti

The ambition of Mara-Mediterra is to open up the NbSs innovation process to all active players so that new ideas can circulate more freely and eventually be transformed into tools, services and practices that effectively address critical environmental challenges of rural Mediterranean areas. The project's specific objectives are to promote participatory decision making, create new markets, and foster a more robust culture of green entrepreneurship and the rural economy. For this purpose, Mara-Mediterra adopts the concept of Living Labs as user-centred, open innovation ecosystems based on a systematic user co-creation approach in public-private-people partnerships, integrating research and innovation processes in real-life communities and settings. Five distinct hotspots around the Mediterranean impacted by pollution, salinization, desertification and wetland degradation have been identified.



Enti italiani partecipanti/ 1

Università degli Studi di Firenze
Dipartimento di Scienze e
Tecnologie Agrarie, Alimentari
Ambientali e Forestali (UNIFI) - IT

Altri Enti partecipanti/ 6

AMengagement ENvironment
HYDraulique (AMENHYD) - DZ

Egyptian Chinese University (ECU),
Research & Innovation Center - EG
Tensor Consulting - FR

Lebanese University (UL), Faculty
of Engineering (FoE) & Azm center
for Research in biotechnology and
its Applications - LB

Integrated Resources Management
Company Ltd. (IRMCo) - MT

Dokuz Eylül Üniversitesi (DEU),
Engineering Faculty, Civil
Engineering Department, Division
of Hydraulics, Hydrology and
Water Resources - TR

An array of already proven NbSs will be co-tested, taken up into action plans and ultimately integrated with new business models and policy improvement initiatives based on the value of water and land. Our value proposition is based on introducing an effective awareness and decision-making environment through tools of diagnostic assessment and decision support and on the holistic green business development by exploring investment approaches at the international, national, and local levels.

Risultati e impatti attesi

An open innovation ecosystem of 5 land and water degradation hotspots around the Mediterranean will serve as case studies. A hub of agri-ecological NbSs will serve as a thematic park for knowledge exchange, interaction, and support at its epicentre. First, the effectiveness of 9 agronomic and 4 eco-engineering solutions will be demonstrated to address the degradation challenges in the selected hotspots. Stakeholders and decision-makers in already identified 'mirror' hotspots will be invited to validate the degree of replicability of the same set of solutions. Over 150 farmers, local community representatives, and key stakeholders will experimentally trial the array of solutions in real-life settings. Participatory GIS will be used to draw and evaluate "bottom-up" action plans, covering an aggregate area of 2.300 square kilometres. At the same time, funding and investment opportunities will be explored at the international, national and local levels. By launching an advocacy campaign for policy improvement and recommendations in the form of policy briefs, we will address legal and institutional impediments to the uptake of our products and services. At the same time, setting up a thematic park of NbSs in Greece will bring a lasting legacy of our cross-border efforts, which we deem essential in the face of the global dimension of climate change.

Demo sites/casi studio

5



Piattaforme/ Hub

1

Partecipatori GIS



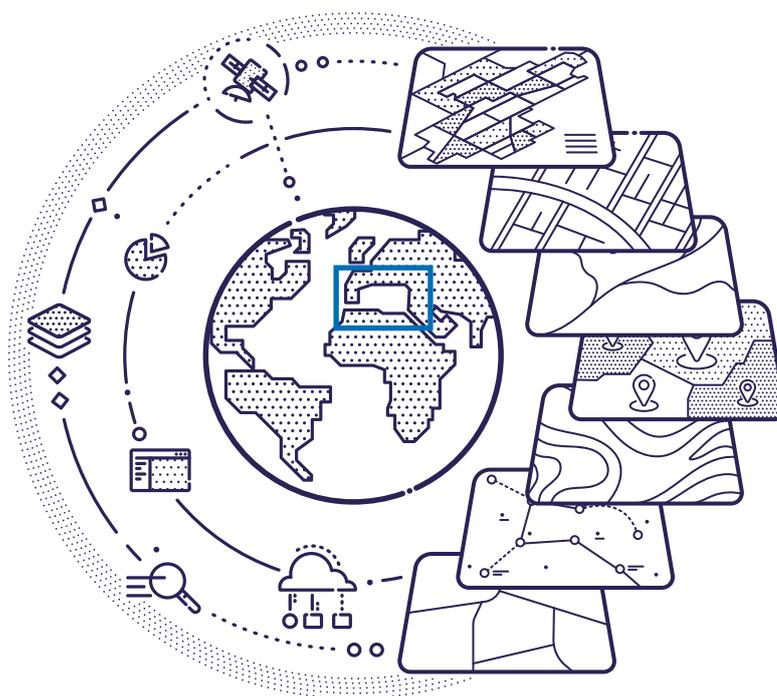
Nuovi prodotti e soluzioni

9

Agronomic solutions

4

Eco-engineering solutions



Keywords

#agri-ecosystems

#agri-environmental management

#land degradation

#living labs

#nature-based solutions

#rural communities

#rural economy and sustainable development

#soil and water resources



Area tematica

Water Management



Azione e Topic

RIA - Sustainable soil and water management for combating land degradation and desertification and promoting ecosystem restoration



Budget

2.750.000 €



Durata

36 mesi



Paese ed Ente coordinatore

GRECIA

Hellenic Mediterranean University (HMU)

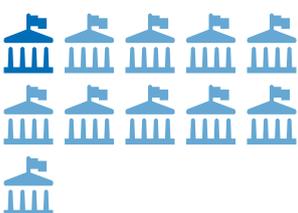


Coordinatore scientifico:
MANIOS, Thrassyvoulos

Paesi partecipanti/ 9



Unità di ricerca/ 11



Sezione 1

REACT4MED

Inclusive Outscaling of Agro-ecosystem REstoration ACTions for the MEDiterranean

Contesto

Land degradation and desertification are major threats for the present and future of Mediterranean arid and semiarid agro-ecosystems. Long-term anthropogenic pressure on forest and agricultural lands, combined with abiotic factors and frequent extreme events, create an uncertain and unstable living environment which can lead to poverty and force domestic and even cross-border migration. Together with land degradation, the accelerated dryland expansion occurring in the Mediterranean climate change hot spot threatens the biological systems and the natural resources that sustain agriculture and forests.

For addressing these human- and climate-induced threats e sustainably restore degraded land to eventually achieve Land Degradation Neutrality (SDG 15.3), the key is to make solutions not only effective from an environmental point of view, but also socially acceptable and economically viable. Remaining scientific knowledge gaps, coupled with socio-economic barriers and suboptimal policies, hinder affected communities in adopting - and stakeholders from investing in - good land management and restoration practices that will allow local ecosystems to continue supporting their livelihoods.

To reform the current approaches of land management to a climate-smart, sustainable, and integrated resource management, participatory assessment, exploration, and bottom-up implementation are due. To foster strategic decision making for water and land management, integrating spatial big data analysis, indicators, models, and visual analytics tools into multi-actor platforms where shared solutions can be easily identified, implemented, and monitored, a new generation of ICT tools need to be developed.

Obiettivi e contenuti

REACT4MED aims to enhance Sustainable Land and Water Management to support increased agropastoral productivity, accelerate technological innovation and dissemination, reverse land degradation, and improve the livelihoods of Mediterranean communities.



Enti italiani partecipanti/ 2

SoftWater srl - IT

Centro Internazionale di Alti Studi Agronomici Mediterranei (CIHEAM), Istituto Agronomico Mediterraneo di Bari - IT

Altri Enti partecipanti/ 8

Technical University of Crete (TUC) - GR

Osnabrück University (UOS) - DE

The Cyprus Institute (Cyl) - CY

National Research Centre (NRC) - EG

Universitat de València (UV) - ES

University of Haifa (UH) - IL

Institut National de la Recherche Agronomique (INRA) - MO

Uluslararası Tarımsal Araştırma ve Eğitim Merkezi (UTAEM) - TR

Piattaforme/ Hub

5

Land degradation Decision Support tools as open-source software



Nuovi prodotti e soluzioni

8

cost-effective Sustainable Land and Water Management solutions



Keywords

#adaptation and mitigation

#climate change

#desertification

#ecosystem restoration

#governance

#land restoration

#living labs

#sustainable soil and water management



The specific objectives of REACT4MED towards this strategic goal are to:

1. Capitalize on the scientific and practical knowledge, and critically review Sustainable Land and Water Management practices and approaches.
2. Identify barriers to apply this volume of knowledge and experience in initiating or sustaining restoration actions and help overcome them at the local scale.
3. Propose a set of harmonized indicators, including technological, environmental, climate-related, and socio-cultural and economic aspects, that can facilitate broad level assessments.
4. Develop bottom-up and top-down methodologies and tools that support participatory and scientific decision-making in Sustainable Land and Water Management.
5. Initiate and support large scale restoration actions with measurable impact, as well as a substantial degree of environmental stewardship and societal improvement.
6. Enable and promote public and private investment opportunities by developing tools for the environmental and economic cost-effectiveness assessment of restoration potential.
7. Translate results and lessons learned from the local restoration actions to a policy roadmap for upscaling or/and outscaling Sustainable Land and Water Management.
8. Communicate and disseminate results to a wide range of audiences and stakeholders, and conduct targeted outreach activities to stimulate uptake of the good practices identified and innovations implemented.

Risultati e impatti attesi

REACT4MED will:

- Initiate and support coordinated, scientifically proven, restoration actions affecting at least 2,000 km² Mediterranean agro-ecosystems.
- Promote and successfully out-scale at least 8 cost-effective Sustainable Land and Water Management solutions, and oversee their implementation.
- Enhance community capacity with at least 32 capacity building events that will create the appropriate enabling environment for the restoration actions to be implemented.
- Further promote the implementation of proven and cost-effective restoration actions to stakeholders outside REACT4MED with at least 10 dissemination products.
- Develop and release a coherent set of at least 5 scientific Land degradation Decision Support tools as open-source software, addressing the tasks of harmonized land degradation assessment, identification of potentially suitable scale-up areas, and informing decision making with future climate and socio-economic scenarios.
- Actively seek and promote private and public investment opportunities that have the potential to enhance the adoption of Sustainable Land and Water Management practices and provide tools for at least 80 stakeholders to be involved in 8 relevant investments across the Mediterranean.

Shifting to sustainable land management and soil restoration practices will promote healthy and resilient agricultural systems, and ultimately, food and nutritional security. In addition, creation of new income sources and generation of rural entrepreneurship and services will help to reduce migration and increase the connection of younger generations with the land and its resources. Equipped with new assessment tools, financial agencies, with support from local institutions, REACT4MED will stimulate new investment, provide incentives that empower the future generations, and especially youth and females, to enter farming including, offer access to technology and capacity building, and encourage community recognition.

Area tematica

Water Management



Azione e Topic

RIA - Alleviating Mediterranean water scarcity through adaptive water governance



Budget

1.300.140 €



Durata

36 mesi



Paese ed Ente coordinatore

MAROCCO

Mohammed VI Polytechnic University (UM6P)



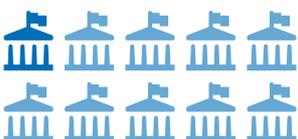
**MOHAMMED VI
POLYTECHNIC
UNIVERSITY**

Coordinatore scientifico:
BROUZIYNE, Youssef

Paesi partecipanti/ 7



Unità di ricerca/ 10



Sezione 2

AGREEMed



Innovative Aquifers Governance for Resilient Water Management and Sustainable Ecosystems in Stressed Mediterranean Agricultural Areas

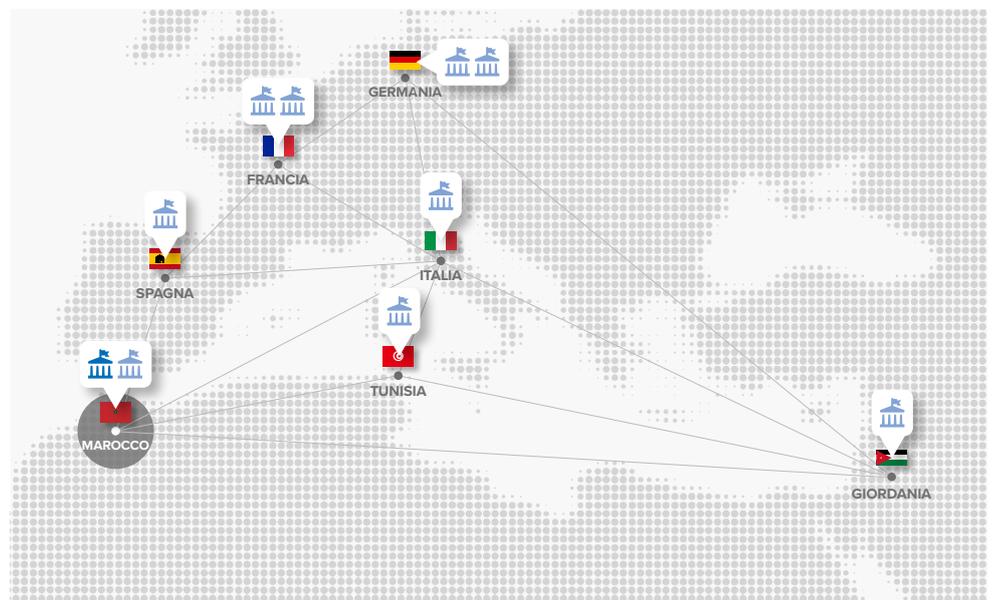
Contesto

Water resources management plans are usually justified by the presence of risks to mitigate or opportunities to secure more benefits. In the MENA region, especially in the southern part of the Mediterranean region, and according to the World Bank's "Beyond Scarcity" report, the lack of preparedness to manage the water crisis is the greatest threat to the region. Aquifers are a critical part of the water cycle, the ecosystems, and the socio-economic systems, especially in the southern shore of the Mediterranean, where water resources are limited and unevenly distributed in space and time. Some countries receive 10% of the local total annual average rainfall. In such a complex region, where aquifers are influenced by population growth, climate change, and environmental changes, it is increasingly important to enhance, manage and sustain services derived from aquifers and the groundwater. The conceptual framework of AGREEMed is inspired by the assumption that resilient water management, preservation of ecosystems, and sustainable agricultural development in water-stressed Mediterranean basins is possible if the area's specific portfolio of solutions and practices is designed and implemented a participatory approach.

Obiettivi e contenuti

The main objective of the AGREEMed project is "to improve the capacities of water actors in developing integrated aquifer management plans and demonstrating such development in strategic pilot watersheds in the Mediterranean region: Souss-Massa in Morocco, Hammamet in Tunisia, and Jordan Valley in Jordan". Specifically, AGREEMed looks to: deliver scientific knowledge about the quantity and quality status of groundwater and dependent ecosystems, evaluate non-conventional water technologies, promote innovative water treatment and brine management technologies, leverage Nature-Based Solutions (NBS), foster institutional water management practices (Aquifer Agreement), promote. Data-based models added values and introduced the collective intelligence concept in water resources management.

In each pilot area, "Stakeholders Bords" will be created and include various actors in the water value chain. This coalition will stand for an instrument of dialogue and



Enti italiani partecipanti/ 1

IRIDRA Srl - IT

Altri Enti partecipanti/ 8

Université Ibn Zohr (UIZ) - MO

Technische Universität Berlin (TUB) - DE

DELTA Umwelt-Technik GmbH - DE

OBREAL Global - ES

Euro-Mediterranean Information System on know-how in the Water sector (SEMIDE-EMWIS) - FR

Institut Agronomique et Méditerranéen de Montpellier, (CIHEAM - IAMM) - FR

German Jordanian University (GJU) - JO

Centre des Recherches et des Technologies des Eaux (CERTE) - TN

inclusive governance and be involved across the project activities. Aquifer's administration plans specific to each pilot area will be built, combining non-conventional water technologies, disruptive Big-Data based models, NBS, and institutional practices according to findings of the exploratory research. Exploratory investigations and evaluations of groundwater associated ecosystems and current non-conventional water technologies will guide the following activities. Socio-economic and environmental assessments will be performed to secure the best footprints of the suggested solutions. Dedicated efforts will be made in upscaling and dissemination for a more extensive outreach of the project outcomes within the Mediterranean region.

Risultati e impatti attesi

The strategic ambitions of AGREEMed are falling within the scope of the water thematic call as it addresses the vital role of aquifers and their management in the Mediterranean. The multidisciplinary and multiapproach of AGREEMed will be supporting the research activities in responding to the expectations of the selected topic about addressing the problem of water scarcity through innovation, integrating ecosystems and people, and reducing gaps between plans and implementation. To that end, AGREEMed's value proposition in contributing to groundwater and dependent ecosystems sustainability is alleviated by an extensive portfolio of solutions and practices (technological, institutional, and scientific) where specificities of the pilot area, inclusiveness, and ecosystems are key pillars. Diverse innovations (products, business models, approaches, and organisational models) are expected within the framework of AGREEMed.

Demo sites/casi studio

3



Keywords

#aquifer_governance

#groundwater

#Nature_Based_Solutions

#modelling

#non-conventional_water technologies

#brine

disruptive_big-data_based_models



Area tematica

Farming Systems



Azione e Topic

IA - Increasing the environmental and socio-economic performance of small scale farming systems through improvements in organisational aspects and new value chain



Budget

2.749.438 €



Durata

36 mesi



Paese ed Ente coordinatore

SPAGNA

Fundación Instituto Internacional de Investigación en Inteligencia Artificial y Ciencias de la Computación, (AIR Institute)



Coordinatore scientifico:
CORCHADO, Juan Manuel

Paesi partecipanti/ 6



Unità di ricerca/ 12



Sezione 1

FARMS4CLIMATE



Smart governance and operational models for agroecological carbon farming

Contesto

Rural economies and smallholder communities struggle to sustain production, as low incomes, inefficient practices and limited access to markets and information are widespread. To overcome these challenges, holistic farming models built around sustainable human activities within the supporting ecosystem are required. Alternative and theoretically beneficial organisational models are challenging to bring to life, as the drivers of agricultural transformation are multidimensional, interrelated, location-specific, and change over time.

Nonetheless, a well-wrought strategy to create, accelerate, sustain, and scale new agrosystems should at least include:

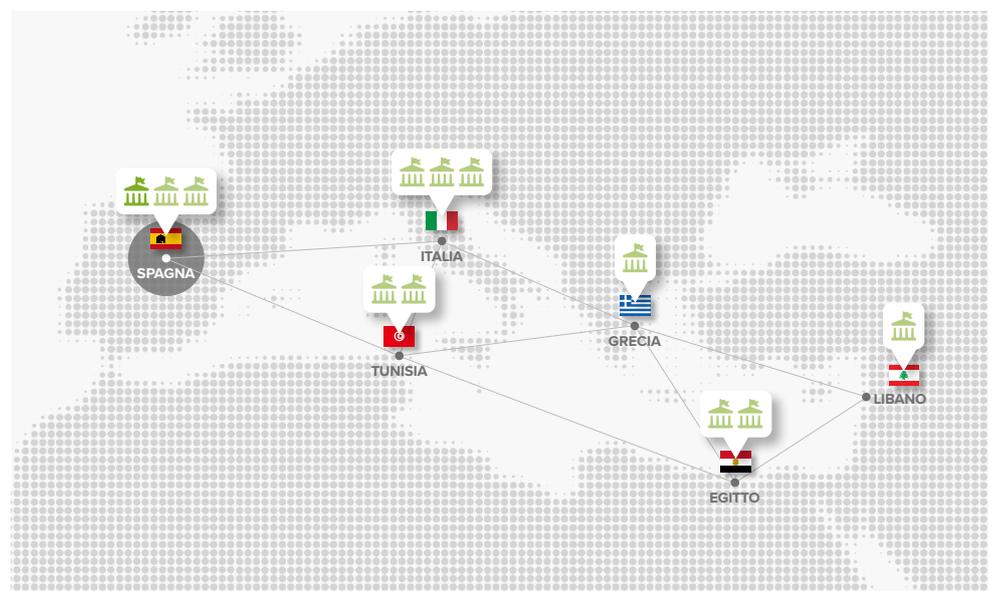
- identification of a market-driven “change element” most likely to kick-start rural economic growth;
- involvement of a frontline “change agent” that helps farmers modify their practices;
- a flexible plan that would allow bottom-up adaptation to emerging, attracting additional talent and investments;
- a multi-actor approachable to align stakeholders and value chains.

The FARMS4CLIMATE consortium makes carbon farming operational for smallholders by the ad hoc development of several digital enablers, including creating a ready-to-market C credit platform intelligent tools. The aim is to monitor, report and validate the various C pools at the farm level, a system to account and exchange C credits along the value chain and short distribution chains where the differential value propositions are based on virtuous C management.

Obiettivi e contenuti

The project will be piloted in living laboratories in different parts of the Mediterranean (Italy, Egypt, Tunisia, and Spain).

Each programme will focus on a specific regenerative practice to create community-based organisations that can drive economic growth through carbon management embedded in agroecological principles and innovations.



Enti italiani partecipanti/ 3

Università Cattolica del Sacro Cuore, Dipartimento di Scienze delle produzioni vegetali sostenibili (UCSC-DIPROVES) - IT

Università degli Studi della Basilicata, Dipartimento delle Culture Europee e del Mediterraneo (UNIBAS-DICEM) - IT

Agreement srl - IT

Altri Enti partecipanti/ 8

Soluciones Agrícolas Ecoinnovadoras SL (SAE) - ES

Asociación AIVelAI - ES

SEKEM Development Foundation - EG

Heliopolis University (HU) - EG

IFOAM AgriBioMediterraneo, (IFOAM-ABM) - GR

International Center for Agricultural Research in the Dry Areas (ICARDA) - LB

Institut National de Recherches en Génie Rural, Eaux et Forêt (INRGREF) - TN

SQLI Services - TN

Demo sites/casi studio

4



Keywords

#carbon footprint traceability

#carbon offsetting

#living labs

#regenerative agriculture

#smallholders



The consortium will provide the knowledge and tools necessary for the community-based organisations to autonomously determine their action plan, which will aim to improve the agricultural profitability of smallholder farmers by:

- providing a method to differentiate products and thus to obtain higher margins;
- generating multiple income streams;
- recognising the role of women in the economic cycle;
- digitally enabling the sharing of resources and knowledge;
- simplifying market access by pooling harvests and promoting short supply chains;
- pave the way for localised economies of scale to emerge.

FARMS4CLIMATE will improve resilience and environmental sustainability by:

- promoting the transition from high-input to biodiversity-based agricultural models;
- disseminating a toolbox for agroforestry and ecological management specific to Mediterranean smallholder farmers;
- improving the use of resources in agrosystems, with particular attention to water;
- preventing soil degradation through erosion and organic matter losses;
- equipping community organisations with higher purposes, such as those related to the urgent need to address climate issues while defending farmers' incomes, will facilitate stakeholder alignment and operational activation.

The success stories will help inspire the sustainable transformation, based on carbon farming, of agrosystems across the Mediterranean.

Risultati e impatti attesi

FARMS4CLIMATE performs product differentiation linked to digital innovation that facilitates market access, ensures local producers' access to distribution channels and markets, and provides the general population with healthy and sustainable products. All this with a focus on increasing farmers' incomes by including other potential sources of income linked to agriculture and ensuring transparency and a fair price structure along the value chain. FARMS4CLIMATE will make agriculture attractive to young people and address gender issues, as women represent a large proportion of the agricultural labour force, but their role is vastly undervalued.

How can this be done?

- By increasing incomes through diversification of agriculture and the introduction and promotion of intercropping and alley cropping;
- Adopting integrated farming systems based on circularity principles improves resource efficiency and reduces production costs.
- Increasing market linkages based on fair prices and benefit-sharing among all actors in agricultural products' value chain and transparency.
- Creating community organisations with shared values gives meaning to the management of agricultural landscapes.
- Improving the capacity of young farmers, facilitated by bottom-up adaptation approaches and Living Labs, as well as specific training to enable them to face the prevailing biophysical and economic challenges and to ensure farm profitability;
- Improving access to business financial services provided by private, public and NGO organisations.
- Improving sustainable food production systems with efficient natural resources and environmentally friendly processes with low GHG emissions.
- Reducing food losses along production and supply chains, including post-harvest losses and possible recovery of remaining waste.

Area tematica

Farming Systems



Azione e Topic

IA - Increasing the environmental and socio-economic performance of small scale farming systems through improvements in organisational aspects and new value chain



Budget

2.750.000 €



Durata

36 mesi



Paese ed Ente coordinatore

MAROCCO

Institut National de la Recherche Agronomique (INRA)



Coordinatore scientifico:
MRABET, Rachid

Paesi partecipanti/ 7



Unità di ricerca/ 9



Sezione 1

MountainHER

Empowering women associations as drivers for agro-ecological transformation to generate income for Mountain farming communities

Contesto

Rural communities in mountainous areas of the Mediterranean region are relatively isolated from markets and services and endure harsh climatic and social conditions. Farming practices have not evolved at the same pace as lowland agriculture, and soil erosion is a significant threat. The escalating effects of climate change further exacerbate the low productivity. Agricultural products from these zones are sold in distant urban areas, preventing the farmers from accessing their due profits. A substantial male out-migration often characterises these communities to urban centres, which has led to an increased feminisation of labour and agriculture. Yet these women face constraints in accessing knowledge, resources, and marketing opportunities with negative implications on local food security, community resilience and the economy more broadly. These gender biases continue to hinder the chances for success of women and youth in agriculture. The establishment of associations for the local production of traditional foods and malt products represent opportunities for employment and integration. The COVID-19 pandemic has shifted the mindset of many consumers, generating more robust demand for locally grown and traditional food products, which could represent an ideal market opportunity for mountain communities. The pandemic has also led to job losses in the city and the return migration of men to rural areas. Hence only interventions capable of restoring farm productivity, diversifying income opportunities, raising social inclusion and closing the gender gap can invert these trends.

Obiettivi e contenuti

MountainHER aims at taking advantage of these developing marketing opportunities in an agroecological food system approach “from farm to fork” to empower rural women associations to become proper drivers for social and economic change. Implementing a holistic intervention in six pilot mountain communities shall be used to revise the continuum from farm-to-fork by promoting agroecological production solutions and income opportunities via short-value chains and circular economies. Farmers’ fields will be used as living labs in Morocco, Algeria, Tunisia, Lebanon, Croatia, and Italy. Participatory research approaches will be deployed to define the



Enti italiani partecipanti/ 2

Birrificio Emiliano srl - IT

Open Fields srl - IT

Altri Enti partecipanti/ 6

Institut Technique des Grandes Cultures (ITGC) - DZ

Lokalna razvojna agencija PINS - HR

OXFAM International - ES

International Center for the Agricultural Research in the Dry Areas (ICARDA) - LB

Lebanese Agriculture Research Institute (LARI) - LB

Institut National de la Recherche Agronomique de Tunisie (INRAT) - TN

best durum wheat and barley varieties derived from ancient grains adapted agroecological production. Identifying locally adapted varieties will foster the establishment of community-based seed enterprises. At the same time, novel fertilisation and crop management practices will promote circular economy opportunities for local businesses to produce non-synthetic organic fertilisers starting from farm waste. The governance of female associations will be revised to enable decent work and improve their roles as income generators for the community. The ultimate transformation of the harvests into traditional foods and malt products sold via digital marketplace approaches shall encourage entrepreneurship, raise rural incomes and ensure a more equitable distribution of profits.

Risultati e impatti attesi

MountainHER sets the ground-breaking objective of changing remote mountain communities' social and economic status through agroecological interventions and revision of governances of rural cooperatives using gender-transformative approaches. The targeted interventions along the value chain will re-shape the organisational models to ensure a fairer power balance among stakeholders. MountainHER utilises state-of-the-art scientific approaches and novel digital market drives in integration with retailers and consumers to promote the continuum from "seed-to-table truly". It is envisioned that by project end, the participating farmers will increase their profit margins by 50%, and new employment opportunities will be generated within the communities, ensuring stable jobs for more than 200 people. The one proposed are carbon-neutral practices that should reduce the net carbon cost by 30% while raising by 10% the productivity and further reducing by 10% the use of synthetic inputs. Because the promoted food products have a long shelf life, it is expected that our interventions will decrease by 10% the post-harvest losses. A total of 182 communication events have been planned with the scope of influencing policymakers and other communities to uptake and out-scale the project outcomes and strategies.

Keywords

#empowerment

#women_associations

#living_labs

#rural_communities

#agroecological_production

#short-value_chain

#circular_economy



Demo sites/casi studio

6



Attività ed Eventi

182

Communication events



Area tematica

Farming Systems



Azione e Topic

IA - Increasing the environmental and socio-economic performance of small scale farming systems through improvements in organisational aspects and new value chain



Budget

2.750.000 €



Durata

36 mesi



Paese ed Ente coordinatore

GRECIA

Hellenic Agricultural Organization – DEMETER, Agricultural Economics Research Institute (AGRERI)



HELLENIC AGRICULTURAL ORGANIZATION "DEMETER"

Coordinatore scientifico:
RAGKOS, Athanasios

Paesi partecipanti/ 12



Unità di ricerca/ 20



Sezione 1

PASTINNOVA

PASTINNOVA

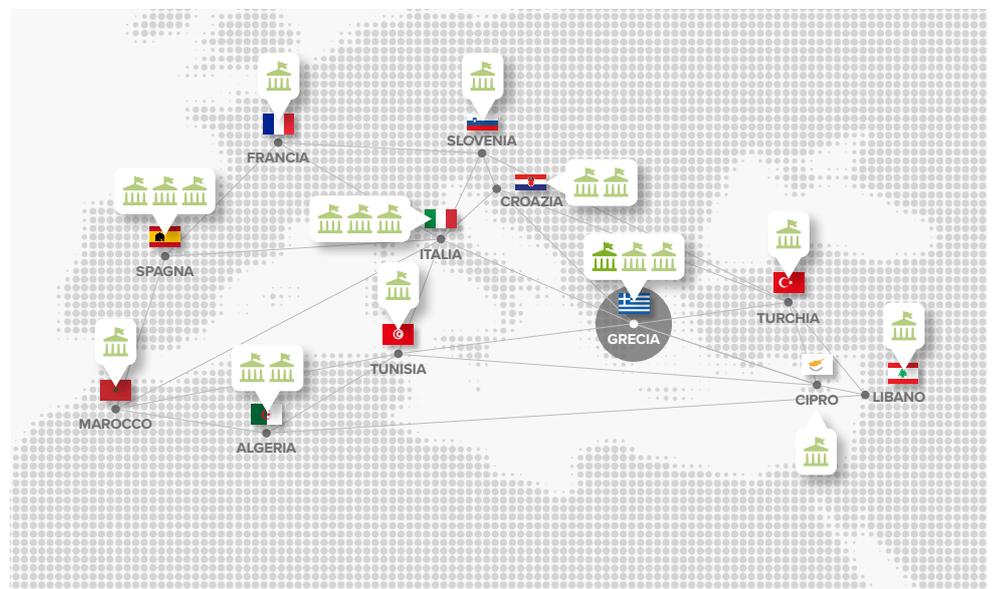
Innovative models for sustainable future of Mediterranean pastoral systems

Contesto

Human-nature interactions have co-developed pastoral agroecosystems, which have evolved to characterise rural societies, particularly fragile areas - i.e., mountain, dry-land, less-favoured and remote areas, including islands - that encompass ecological constraints (harsh territories; remoteness; climate change dynamics). However, these areas often face social challenges like lower incomes and dependence on subsidies, limited employment opportunities, high abandonment rates and demanding land access, poverty and limited access to essential services, and generational renewal problems. These challenges render them vulnerable to policy and market uncertainties. Pastoralists also lack effective governance or are involved in organisations that do not share their specific pursuits equally. Because of these challenges, pastoral smallholders are the 'weakest links' in value chains. They must compete with 'industrial' products and more powerful actors in supply chains under limited market access and low information about consumer preferences and new trends. Under these conditions, they have limited opportunities to co-create innovations that tackle their needs and are less inclined to adopt; likewise, available instruments and solutions rarely pertain to their social profiles and production practices. Innovations, business and organisational models are necessary to enhance pastoral farms' sustainability, and competitiveness strengthens small-scale networks in marginal areas and the wider Mediterranean agrarian and rural world.

Obiettivi e contenuti

The project targets Mediterranean pastoral farms and their value chains (VCP), focusing on smallholders maintaining 'pastoral identities' by making sustainable use of local resources at risk of abandonment and providing examples of a circular economy for centuries and an alternative to dominant intensive livestock production systems. The key objective of PASTINNOVA is to re-enforce the sustainability, profitability and resilience of small pastoral farms by setting up innovative business and organisational models to valorise their full potential and promote their access to markets. In particular, the project examines pastoral systems which can provide a broad array of



Enti italiani partecipanti/ 3

Università Politecnica delle Marche, Dipartimento di Scienze Agrarie, Alimentari ed Ambientali (UNIVPM-D3A) - IT

Consiglio Nazionale delle Ricerche, Istituto per il Sistema Produzione Animale in Ambiente Mediterraneo (CNR-ISPAAM) - IT

APPIA - Rete della Pastorizia Italiana - IT

Altri Enti partecipanti/ 16

Trofý.Lab - GR

Aristotle University of Thessaloniki (AUTH) - GR

Algerian National Agronomic Institute (INRAA) - DZ

Coopérative de Services d'élevage (COOPSSEL) - DZ

Cyprus Institute for Rural and Regional Development (CIRRD) - CY

University of Zagreb (UZ) - HR

Agency for Rural Development of Istria Ltd Pazin (AZRRI) - HR

Consejo Superior de Investigaciones Científicas (CSIC) (CSIC) - ES

International Centre for Advanced Mediterranean Agronomic Studies, Instituto Agronómico Mediterráneo de Zaragoza (CIHEAM Zaragoza) - ES

Red Española de Queserías de Campo y Artesanas (QueRed) - ES

Systemes d'élevage méditerranéens et tropicaux - Laboratoire de Recherche sur le Développement de l'Élevage (UR 045- SELMET LRDE, INRAE) - FR

Lebanese University (UL) - LB

Institut National de la Recherche Agronomique (INRA) - MO

KMETIJSKI ZAVOD BRIC, SOČA - SI

Institut des Régions Arides (IRA) - TN

Cukurova University Agricultural Faculty Department of Animal Science (CUNI) - TR

ecosystem services along with high-quality products in a variety of agroecological and socio-economic Mediterranean settings.

To address the weak positioning of pastoral smallholders in Value Chains of Pastoral products (including short and circular ones), PASTINNOVA proposes a holistic, interdisciplinary approach, which combines participatory methods, assessments and real-life applications, where four elements interact (1) Diagnosis (listing of an innovative project, practices and initiatives); (2) Testing of selected innovations under different contexts; (3) Small-scale pilot implementation, sustainability assessment; (4) Policy and market uptake.

Based on the 'Living Laboratories' (LLs), a shared network on "Pastoral actors and VCP" will be established to co-create innovative solutions for farmer organisations, farm management and value chains through the integration of needs, capacities and experiences of actors (e.g., farmers, entrepreneurs, manufacturers, retailers, policy-makers, researchers, consumers). Selected solutions will be tested and implemented in small-scale real-life applications and assessed for sustainability (economic, social, environmental). The focus will be on the inclusion of vulnerable groups (e.g., women, young farmers and migrant workers) and the environmental performances of pastoral agroecosystems and chains, promoting sustainable and profitable use of farm waste. Furthermore, the project will propose a supportive policy framework and necessary value chain and market arrangements for efficient access to markets.

Risultati e impatti attesi

PASTINNOVA brings together a partnership of 20 of the most critical pastoral Organisations – representing 12 countries - from various backgrounds (research, education, Cooperatives, policy, SMEs) and with different expertise (varying from socio-economic analysis and Information and Communication Technologies to animal husbandry and rangeland science). The project will deliver demand-driven smart and sustainable pastoral farms, agroecosystems and value chains, adapted to the socio-cultural characteristics of farmers with 'pastoral identities' and their territories, profitable under actual conditions and resilient to future challenges; in addition, it will upscale the role of pastoralism by pooling a wide variety of existing resources of project partners, their experience and networks, including the outputs of numerous pastoral-related projects. Among the key expected results of the project are (a) The establishment of four Regional LLs; (b) The delivery (co-design, testing, pilot implementation) of at least 12 innovations and business models for Mediterranean pastoralism (focusing on technology, organisation/management, value chain/market and Cooperatives/Associations/ Governance). The combined capitalisation of these projects, outputs and experience will be a decisive step towards more sustainable and resilient pastoralism. The critical impact of PASTINNOVA will relate to the fulfilment of the true potential of pastoral systems with relevant benefits for smallholder pastoralists. Co-creation within LLs is a crucial measure demonstrating the effectiveness of the project approach to ensure maximum impact.

Keywords

#pastoral_smallholders

#inclusion #living labs

#farm_management

#agroecological_settings

#short-value_chain

#circular_economy



Demo sites/casi studio

4



Nuovi prodotti e soluzioni

12

Innovations and business models for Mediterranean pastoralism



Area tematica

Farming Systems



Azione e Topic

RIA - Up-scaling field practices based on agroecological practices to increase ecosystem services and biodiversity, to adapt the small farming systems to climate change and to increase farmers incomes



Budget

644.135 €



Durata

36 mesi



Paese ed Ente coordinatore

TUNISIA

Université de Sousse, Institut Supérieur Agronomique Chott Mériem (ISA-CM)



Coordinatore scientifico:
MAJDOUB, Linda

Paesi partecipanti/ 6



Unità di ricerca/ 7



Sezione 2

HaloSheep

Agroecological sheep/goat production system based on the valorisation of halophytes of saline area in the méditerranéen basin

Contesto

Coastal regions in the Mediterranean are affected by aridity, water, soil salinization, and rising sea levels. Worldwide, saline wetlands extend to the detriment of arable lands and natural vegetation. This fact increases human food and economic vulnerability. The saline lands are characterized by the expansion and invasion of adapted halophile communities. Sheep and goat populations near sea areas are adapted to the Mediterranean climate. They are raised in high salinity, dry and high-temperature environments, consuming a wide range of halophytes. Some of these halophytes accumulate many antioxidants and minerals that could benefit reproductive performance, immune system, health and product quality. However, others can be toxic for animals and/or invasive. With climate change, invasive species is a real danger to flora diversity and balance of ecosystems. Grazing may reduce the spread of some invasive species, but it can endanger even more flora diversity. Sustainable valorisation of saline areas rich in halophytes can be a way to ensure incomes from small ruminant activities and can contribute to improving life quality in these saline areas. The agro-ecological sheep/goat production system could take the place of the traditional system and assure sustainability and promote ecotourism in the long term.

Obiettivi e contenuti

HaloSheep aims to characterize and describe small ruminant production systems based on halophytes and propose agroecological practices and innovations to improve socio-economic and environmental sustainability. The project is based on a multidisciplinary approach considering the soil-plant-atmosphere continuum, plant-animal-human food chain, and socio-environmental constraints. Six Mediterranean countries (Tunisia, Greece, Turkey, Italy, France, Spain) are involved, and three (Kerkennah in Tunisia, Crete in Greece and lake of Burdur and Yarıklı in Turkey) are concerned by the prototype study. A prospecting survey will be carried out to study the existing production systems their durability and assess the importance of the small ruminant breeding activity. Genetic small ruminant diversity will be evaluated to identify alleles that could adapt to harsh conditions. The local feed resources will be characterized



Enti italiani partecipanti/ 1

Fondazione Centro Ricerche
Produzioni Animali (CRPA) - IT

Altri Enti partecipanti/ 5

Office de l'Elevage et des
Pâturages (OEP) - TN

Universidad de León (ULE) - ES

Unité Mixte de Recherche sur les
Herbivores, Centre INRA Rhône-
Alpes-Auvergne (INRAE UMRH)
- FR

Ellinikos Georgikos Organismos,
Veterinary Research Institute
(ELGO-DIMITRA-VRI) - GR

Burdur Mehmet Akif Ersoy
Üniversitesi (MAKÜ) - TR

for their chemical composition and nutritional values. The interactions between the different components of the system will be evaluated. Flora diversity and their evolution with climate change will be analysed, and feeding behaviour will be monitored to identify the most palatable halophyte species. Effects of halophytes on welfare and animal health will be performed using innovative precision tools to assess risk factors. Meat and milk quality will be evaluated for labelling possibilities. HaloSheep best practices for a more sustainable feeding system and welfare and health management under stressed conditions will be proposed. Impacts on farmer income and socio-economic and environmental sustainability will be assessed.

Risultati e impatti attesi

HaloSheep project will impact in the short and long terms; it will increase knowledge concerning the genetic diversity of local breeds, their adaptation capacity to salinity, higher temperature and their phenotypic traits and provide a longer-term impact as a basis for the sustainable development of the small ruminant system. It will improve knowledge about extremophile flora, represented by halophytes and their possible adaptation to Climate change. The project is expected to help local communities to develop farms based on local breeds in order not only to increase production by terms of yields but also by terms of better-quality products and better biodiversity and environment management. HaloSheep will encourage the consumption of milk and meat produced according to agroecological and sustainable practices. HaloSheep will propose a sustainable feeding system based on an optimal valorisation of spontaneous halophytes and local feeds. Best welfare and health management practices will be offered to reduce chemical inputs and natural compounds from halophytes. The sustainability and viability of the farms could be achieved with parallel amelioration of farmers 'income.

Demo sites/casi studio

3



Keywords

#sheep

#goat

#palatable_halophyte_species

#animal_health

#local_feeds

#adaptation_to_salinity

#milk

#meat



Area tematica

Farming Systems



Azione e Topic

RIA - Up-scaling field practices based on agroecological practices to increase ecosystem services and biodiversity, to adapt the small farming systems to climate change and to increase farmers incomes



Budget

620.150 €



Durata

36 mesi



Paese ed Ente coordinatore

TURCHIA

Erciyes Üniversitesi (ERÜ)



Coordinatore scientifico:
UZUN, Aydin

Paesi partecipanti/ 4



Unità di ricerca/ 5



Sezione 2

MEDPOME-STONE

Valorizing some pome and stone fruit germplasm variability to ensure resilience to climate change in the Mediterranean area

Contesto

Global warming is seriously challenging the agricultural sector worldwide, making the correct and efficient use of natural resources (e.g. soil, water and biodiversity) a fundamental aspect to consider to mitigate the economic loss linked to such climatic changes (Pandey, 2020). It is essential to develop new strategies in agriculture against global climate change, which has started to affect the Mediterranean region negatively. The overarching goal of MEDPOME-STONE is to explore some pome and stone fruits biodiversity and select genotypes with enhanced resilience to climate change to promote long-term breeding and more sustainable production in new biodiversity-based crop systems. The project proposes to use state-of-the-art methods to obtain the most detailed characterisation of wild pear and almond genetic diversity in the Mediterranean area, identifying variants associated with desired rootstock traits to climate change resilience. By involving local farmers and stakeholders through a multi-actor approach, MEDPOME-STONE will valorise local knowledge and maximise the socioeconomic impact of its outcomes.

Obiettivi e contenuti

Climatic scenario predicted for Mediterranean areas poses specific challenges for agricultural production. The vulnerability of farm sectors to modifying agro-climatic conditions depends on both the expected regional climate change and the sectors' ability to adapt. Fruit tree crops are particularly exposed to environmental change for their perennial status. The quality and quantity of fruit production are strongly affected by Genotype x Environment interactions. The overarching goal of MEDPOME-STONE is to explore wild pear and almond biodiversity and select genotypes with enhanced resilience to climate change to promote long-term breeding and more sustainable production in new biodiversity-based crop systems.

The project proposes to obtain the most detailed characterisation of some wild pear and almond genetic diversity in the Mediterranean area, identifying variants associated with desired rootstocks traits to climate change resilience.



Enti italiani partecipanti/ 1

Università di Catania, Dipartimento di Agricoltura, Alimentazione e Ambiente (UNICT-DI3A) - IT

Altri Enti partecipanti/ 3

Centro de Investigación y Tecnología Agroalimentaria de Aragón (CITA) - ES

École nationale d'agriculture de Meknès (ENAM) - MO

Université Sultan Moulay Slimane (USMS) - MO

To achieve the overarching goal, the MEDPOME-STONE consortium will work on three different scientific objectives: a) to valorise genetic diversity in local collections from Turkey, Italy, and Spain to reduce genetic erosion in wild pear and almond; b) the selection of plants adapted to increased drought conditions; c) the identification of molecular markers linked to drought tolerance. These three objectives will lead to (i) more precise knowledge of the genetic diversity within accessions in the Mediterranean region; (ii) a more sustainable production promoting new biodiversity-based crop systems; (iii) novel breeding tools for marker-assisted selection (MAS) of varieties showing improved adaptation to drought characteristics.

A significant strength of MEDPOME-STONE is the availability of extensive germplasm collections, some in multiple locations, covering a range of Mediterranean cultivation environments. The project partnership includes geneticists, breeders, and physiologists, that possess complementary expertise and will share knowledge and define priority areas for research and breeding activities through the engagement of stakeholders and end-users.

Risultati e impatti attesi

MEDPOME-STONE will act at multiple levels to provide a better understanding of how the related fruit crops adapt to ever-changing environmental constraints and why certain varieties are tolerant to drought stress in the Mediterranean area: i) by identifying the genes, pathways and allelic variants controlling key plant functional traits and ii) integrating multi-omics approaches for dissecting plant responses to different environments and management practices and increasing knowledge about mechanisms of adaptation to abiotic stresses. MEDPOME-STONE will produce knowledge, tools and methods to support the development and profiling of new fruit varieties that are tolerant to drought stress, productive in Mediterranean climate conditions (especially water scarcity and increasing temperatures) and efficient in using limited resources (water/soil fertility), considering the users' needs and the legislative constraints.

MEDPOME-STONE objectives have several impacts in line with PRIMA and Horizon 2020 goals. Considering the environmental aspects, the atlas of local crops and the design of innovative farming systems based on agroforestry will impact biodiversity conservation and ecosystem services.

The benefits that such agrosystems will provide to local farmers represent an example of the social impacts of this project. The use of wild pear and almond in mixed agrosystems will improve water conservation, restoration of degraded soils and improvement of soil fertility and ecosystem services. The project will also have economic impacts, helping to increase efficient pome and stone fruit production at reduced costs. The efficiency of climate-ready rootstocks will be even more significant in marginal areas with degraded soils, thus improving the profitability of investments in agro-food industries and access to high-quality products. The interest shown in the project by different associations and private companies ensures that the project's advances will benefit the local economy.

Finally, the project also has significant repercussions on scientific knowledge allowing the identification of genes or molecular markers linked to drought adaptability and other traits of interest that will be exploited for long-term breeding programs both in pome and stone fruits and possibly in different fields of cultivated species.

Keywords

#Fruit_tree_crops

#wild_pear

#almond

#valorise_genetic_diversity

#breeding

#marker-assisted_selection

#pome_stone_fruits



Area tematica

Farming Systems



Azione e Topic

RIA - Up-scaling field practices based on agroecological practices to increase ecosystem services and biodiversity, to adapt the small farming systems to climate change and to increase farmers incomes



Budget

1.374.049 €



Durata

36 mesi



Paese ed Ente coordinatore

SPAGNA

Universidad de León (ULE)



**universidad
de león**

Coordinatore scientifico:
RUBIO COQUE, Juan José

Paesi partecipanti/ 7



Unità di ricerca/ 10



Sezione 2

SUSTEMICROP

Development of eco-sustainable systemic technologies and strategies in key Mediterranean crops systems, contributing to small farming socio-economic resilience

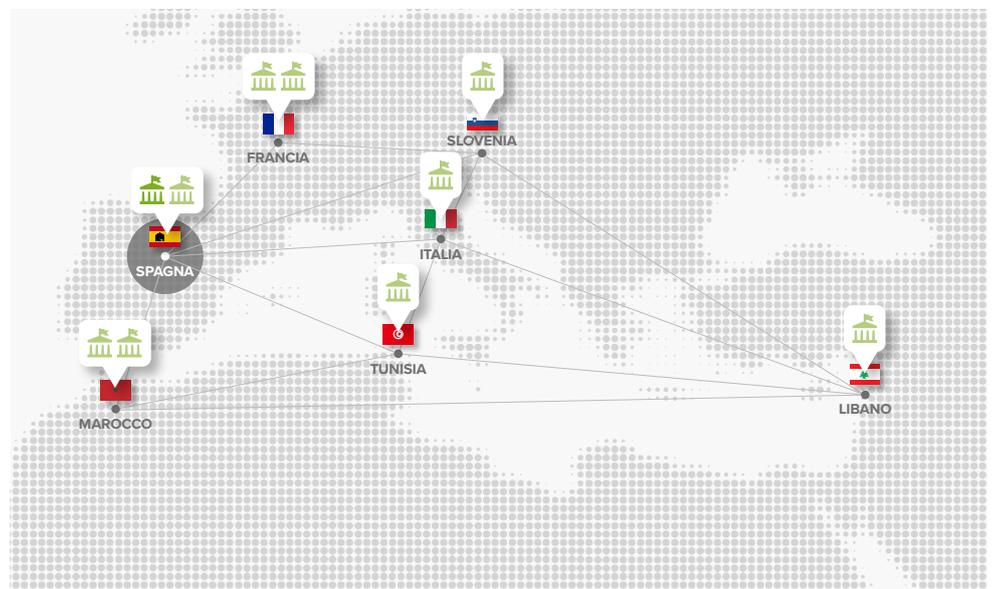
Contesto

In the past decades, the Mediterranean region has experienced unsustainable agricultural practices, low productivity, biodiversity loss and climate change that altogether represent an enormous challenge for small farming systems. The EC launched the European Green Deal has been designed to deal with climate and environmental-related challenges to build a sustainable response. Among several topics, agricultural activities have been addressed. This includes measures (included in the European Farm to Fork Strategy) linked with the use of Plant Protection Products (PPP) and fertilisers of synthetic origin, given their negative effect on air and water pollution, soil degradation, food safety, and human health. However, accomplishing all the established measures has become a challenge, especially for small farmers, with lesser economic resources and limited training skills. There is an urgent need to effectively address some of these threats and achieve sustainable agroecological practices to improve small farmers' resilience and adaptation to climate change.

Obiettivi e contenuti

SUSTEMICROP aims to increase the resilience of Mediterranean cropping systems and the competitiveness of small farmers in a climate change-affected environment through the development of innovative, affordable, and systemic solutions with positive economic, environmental, and societal impacts. SUSTEMICROP will deliver a package of sustainable strategies, products, and tools that, when applied individually or adopted as a whole under integrated management, will allow small farmers to increase their competitiveness, adopt innovations and achieve overall sustainability. The following specific purposes will be addressed:

- design and validation of innovative solutions to address pests, pathogens, and adaptation to climate change in 3 Mediterranean crops (date palm, hops and grapevine), by valorising, selecting, and testing different natural resources: BCAs, bio fertilisers based on BCA-enriched compost, biopesticides based on natural compounds, and detection of resistant varieties and breeding traits against the effects of climate change and diseases;



Enti italiani partecipanti/ 1

Horta Srl - IT

Altri Enti partecipanti/ 8

Agrogenia Biotech SL - ES

Institut Francais de la Vigne et du Vin (IFV) - FR

Institut National de Recherche pour l'Agriculture, l'Alimentation et l'Environnement (INRAE) - FR

Lebanese University (UL) - LB

Université Mohammed VI Polytechnique (UM6P) - MO

Université Mohammed Premier Oujda (UMP) - MO

Slovenian Institute of Hop Research and Brewing (SHIRB) - SI

Institut National de la Recherche en Génie Rural, Eaux et Forêts (INRGREF) - TN

- design a Sustainable Innovation Framework to evaluate SUSTEMICROP practices/ innovations applied in the selected crops, with economic, social, and environmental indicators;
- design new crop management strategies in Integrated Crop management or Integrated Pest Management systems by using the obtained solutions and evaluating their replicability, utility, and usability;
- understand the factors influencing the adoption of innovative systemic solutions by smallholders, aligned with legislation, the Sustainable Development Goals, and the Farm to Fork strategy;
- maximise the outreach and beneficial influence of the project results to reach the target users and other interested stakeholders through a communication and exploitation plan.

Risultati e impatti attesi

SUSTEMICROP should allow generating following results and impact on the management of small-scale farms:

- production of novel bio fertilisers based on compost (obtained from crop residues currently discarded or burned) and enriched with beneficial microorganisms to control fungal pathogens or increase crop productivity;
- promote the continual use of bio fertilisers among farmers to obtain “suppressive soils”. That will allow shifting the equilibrium conditions of the soil towards conditions that progressively decrease the pathogen incidence in an eco-friendly way;
- design novel Biopesticides based on essential oils, plant extracts, and priming molecules to control fungal pathogens to reduce the use of chemical pesticides;
- identify and/or develop new grape material (vine varieties) more adapted to warmer and drier climates as predicted by climate change effect on Mediterranean conditions, thus contributing to the resilience of Mediterranean vineyards against climate change;
- develop a user-friendly web-based tool to evaluate agroecological innovations applied in Mediterranean crops with aggregated indicators (economic, social, environmental) for improving small farmer decision-making;
- a roadmap for policymakers, with recommendations on adopting innovative systemic solutions and the small farmers’ preparation towards certification schemes in organic farming and integrated crop management systems.

Nuovi prodotti e soluzioni

1

user-friendly web-based tool

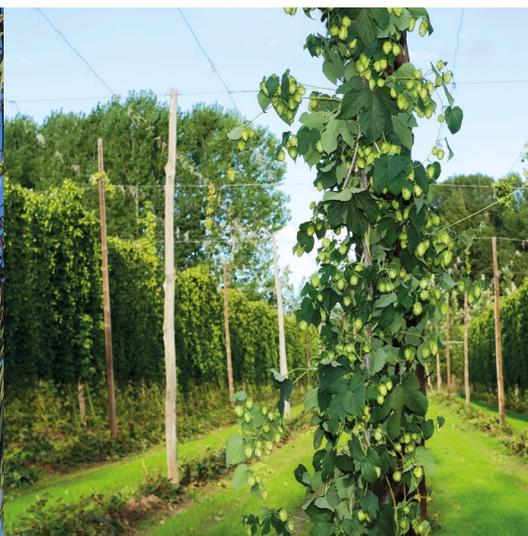


Keywords

#date_palm #hops #grapevine #biological_control_agents

#integrated_crop_management #crop_residues

#bio_fertilisers #bio_pesticides #small-scale_farms



Area tematica

Farming Systems



Azione e Topic

RIA - Up-scaling field practices based on agroecological practices to increase ecosystem services and biodiversity, to adapt the small farming systems to climate change and to increase farmers incomes



Budget

1.215.104 €



Durata

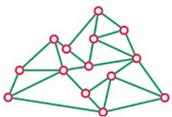
36 mesi



Paese ed Ente coordinatore

PORTOGALLO

**Laboratório Colaborativo
Montanhas de Investigação
(MORE)**



**montanhas
de investigação**

Coordinatore scientifico:
GONÇALVES, Alexandre

Paesi partecipanti/ 6



Unità di ricerca/ 9



Sezione 2

VALMEDALM

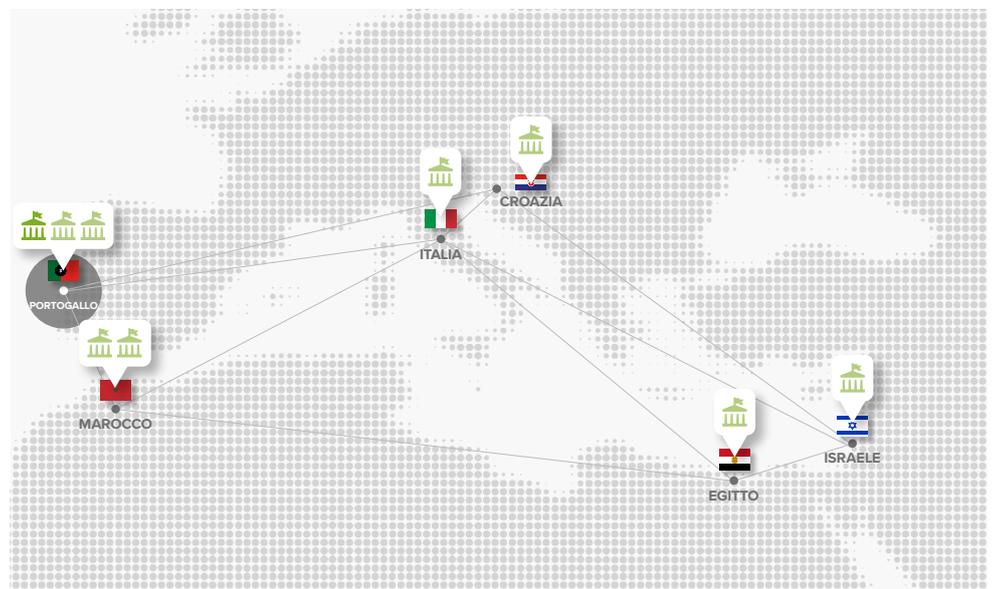
VALorization of MEDiterranean ALMond orchards through the use of intercropping integrated strategies

Contesto

The Mediterranean is a region of solid agricultural traditions associated with conventional agronomic practices losing efficiency due to climate change. Typical Mediterranean almond orchards are established on a mono-cropping system in a smallholding (i.e. < 5ha), implemented with long tree spacing for rainfed farming or intensively cultivated, the latter with increased cultivation costs but high yield expectations. Such agronomic strategies, coupled with the current climate change scenario, have decreased soil organic matter, soil erosion, water scarcity and biodiversity loss. Concerning the almond sector in the Mediterranean, in 2018, while Spain, Morocco and Turkey were the leading almond producers, Israel and Lebanon were reported as the ones with the best yields, while Israel and Greece presented the highest producer price values, which indicates that the Mediterranean countries could work in collaboration to improve almond production valorization for small-scale farmers. In this context, intercropping strategies can significantly enhance biodiversity and ecological stability, improve productivity, enhance biological control of insect pests, support pollinators, reduce fertilizer applications, and improve soil health. Altogether, intercropping can support farmer income; and improve sustainability by using natural resources more efficiently.

Obiettivi e contenuti

The VALMEDALM consortium aims to empower local almond production in the Mediterranean by implementing intercropping practices as an integrated strategy aligned with economic and social aspects and sustainable principles towards an adaptation to climate change. VALMEDALM will focus on identifying intercropping practices and promoting their implementation across six Mediterranean countries to evaluate the effect of such intercropping practices in pests and weed management, in the assessment of nutritional and functional properties of almonds and associated crops, in the identification of the economic, social, and environmental impacts of the tested methodologies, and by promoting knowledge transfer and training for local farmers and farmer associations.



Enti italiani partecipanti/ 1

Università degli Studi di Palermo,
Dipartimento Scienze Agrarie,
Alimentari e Forestali (UNIPA) - IT

Altri Enti partecipanti/ 7

Instituto Politécnico de Bragança
(IPB) - PT

Centro Nacional de Competências
dos Frutos Secos (CNCFS) - PT

University of Split (UNIST) - HR

National Research Centre (NRC) -
EG

Agricultural Research
Organization, Volcani Center
(ARO) - IL

Université Sultan Moulay Slimane
(USMS) - MO

Institut National de la Recherche
Agronomique (INRA) - MO

To achieve its purposes, VALMEDALM will develop a set of demo sites to evaluate various factors affecting the implementation and success of intercropping practices, will produce an inventory of practices associated with intercropping towards pest and weed management and will establish a range of interaction channels and network strategies promoting knowledge transfer and collaborative work among local farmers and associations. Finally, VALMEDALM pretends to achieve solutions towards increasing farmers' income and focusing on the engagement of young farmers and women.

Risultati e impatti attesi

The VALMEDALM project will develop innovation efforts aligning with the needs of Mediterranean local farmers and the challenges of different regions and implement a work plan composed of transversal activities to achieve local farmers' training and effective dissemination and communication, aligned with six significant expected impacts. Thus, VALMEDALM intends to improve the sustainability of almond production systems by developing a total of 15 innovations in farming systems, leading to increased farmer's income, including agricultural-linked income sources, and ensure transparency and fair pricing structure along the value chain. VALMEDALM aims to promote access to work for young farmers and women and enable farmers' access to new markets, ensuring local producers access to new distribution channels, thus providing the public with healthier and more sustainable products. Also, on the scope of sustainability, VALMEDALM expects to improve sustainable food production systems through efficient use of natural resources and with eco-friendly processes reducing GHG emissions and reducing food losses along production and supply chains, including post-harvest losses and potentially valorizing the waste left.

Nuovi prodotti e soluzioni

15

innovative solutions in farming
systems



Keywords

#almond

#intercropping_practices

#pest_weed_management

#young_farmers

#women

#post-harvest_losses



Area tematica

Farming Systems



Azione e Topic

RIA - Up-scaling field practices based on agroecological practices to increase ecosystem services and biodiversity, to adapt the small farming systems to climate change and to increase farmers incomes



Budget

760.722 €



Durata

36 mesi



Paese ed Ente coordinatore

PORTOGALLO

**Universidade do Porto,
Faculdade de Ciências (FCUP)**

U. PORTO

**FC FACULDADE DE CIÊNCIAS
UNIVERSIDADE DO PORTO**

Coordinatore scientifico:
CONCEIÇÃO, Santos

Paesi partecipanti/ 4



Unità di ricerca/ 7



Sezione 2

VINEPROTECT

Ecological survey for biological management and protection of Mediterranean vineyards facing climate changes

Contesto

Mediterranean vineyards are challenged by climate change that jeopardises grape and wine quality. Also, diseases like mildews are limiting factors for grapevine production. Industrial management leads to a decrease of the vineyard ecosystem biodiversity, (over)uses of fertilizers and pesticides and may also overuse irrigating water. Thus, it urges to implement sustainable local strategies towards increasing biodiversity, reducing agrochemicals and increasing the vineyard's resilience to climate change associated stressors like prolonged drought and joint diseases (e.g., mildews).

VINEPROTECT consortium has six partners from Portugal, Italy, Turkey and Morocco, in a synergic complementarity. VINEPROTECT will make use of technological processes (e.g., genomics and microbiology, grapevine-(eco)physio(patho)logy, bio-gels, vineyards ecology, agronomy and socio-economy). They will develop sustainable agroecological procedures considering the specificities of the Mediterranean vineyards and the challenges associated to climate change.

Obiettivi e contenuti

VINEPROTECT's primary goal is to implement an operational toolbox of sustainable agroecological practices oriented to local vineyards' specificities, to increase Mediterranean vineyards' resilience to climate change and diseases, while reducing the use of agrochemicals, and promoting local and circular agriculture/economy.

Specific objectives (SO) were established aiming at gaining knowledge on local endo/rhizosphere microorganisms (SO1) and local Trichoderma (SO2), establishing local collections of isolates; exploring those isolates (as formulations) to promote vines growth and resilience to severe drought or vine-pathogenic fungi (SO3); validate the efficiency of bio-nanohydrogels to increase the water retention by soils (SO4); validate these bio formulations in the field (SO5) and to evaluate the socio-economic impact (SO6) making accessible key results to stakeholders (SO7).

Achieving these SO will lead to constructing an operational toolbox considering local specificities. This operational toolbox integrates four sustainable bio-approaches:



Enti italiani partecipanti/ 1

Università degli Studi di Verona,
Dipartimento di Biotecnologie
(UNIVR) - IT

Altri Enti partecipanti/ 5

Universidade de Trás-os-Montes e
Alto Douro (UTAD) - PT

Université Cadi Ayyad (UCA) - MO

Muğla Sıtkı Koçman Üniversitesi
- TR

Mersin Üniversitesi (MEU) - TR

Manisa Viticulture Research
Institute, Ministry of Agriculture
and Forestry - TR

(i) isolation of vineyard-associated endo/rhizo-microorganisms with potential to promote plants' growth and/or resilience to drought, (ii) isolation of local vineyard-associated *Trichoderma* species, showing activity against vine pathogens (iii) use of bio-hydrogels to help to retain soil-water; iv) survey of local nitrogen-fixing plants (e.g., clover) and implementation of these landscape-covers to prevent erosion, excessive evaporation and soil-heating, work as natural fertilizers and attract pollinizers.

Risultati e impatti attesi

VINEPROTECT is fully aligned with the PRIMA topic 2.2.1. The new operational toolbox will promote functional biodiversity management in vineyards with local grapevine varieties in each country/terroir. Also, the project will reduce the use of fertilisers and pesticides by using local endo/rhizosphere Plant Growth Promoters (PGP) and Biological Control Agents (BCA). By promoting increased nutrition and hormonal supplementation, PGP help coping with drought/heat stress, thus helping vineyards cope with climate change challenges. Also, the use of bio-hydrogels (based on pruned-waste) will promote circular agronomy/economy, increase soil water retention and decrease soil erosion, thus complementing the protective role of the clover-covers tested at the vineyards' inter-rows. Also, a comprehensive validation of the solutions will be proposed in selected vineyards by monitoring the plants' performance, grapes/wine metabolome and quality, and the impact on farmers' income.

Socio-economic impacts on the local vineyards' resilience and value-chain will be assessed at the project terminus. It is expected to validate the partners' local vineyards' proposed strategies to increase their biodiversity. VINEPROTECT will thus contribute to overcoming climatic change challenges and diseases and be available to the Mediterranean region.

Keywords

#vineyards

#toolkit

#biodiversity_management

#plant_growth_promoters

#biological_control_agents

#circular_agronomy_economy

#bio-hydrogels

#retain_soil-water

#pruned_waste

#nitrogen-fixing_plants

#Trichoderma



Area tematica

Agri-food Value Chain



Azione e Topic

IA - Increase adherence to the Mediterranean diet as a sustainable pattern including environmental, social and health aspects



Budget

2.606.875 €



Durata

36 mesi



Paese ed Ente coordinatore

SPAGNA

Grupo Edelvives

EDELVIVES

Coordinatore scientifico:
SALAMERO, Maria

Paesi partecipanti/ 5



Unità di ricerca/ 10



Sezione 1

DELICIOUS

UnDERstanding consumer food choices & promotion of healthy and sustainable Mediterranean diets and Lifestyles in Children through behavIOUral change actions

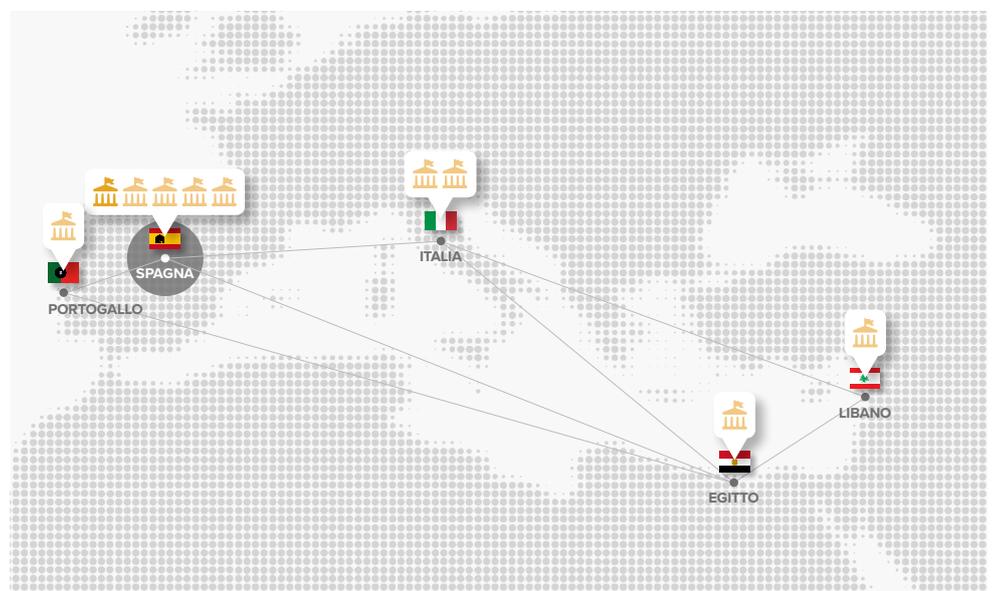
Contesto

Although the traditional Mediterranean (Med) lifestyle is considered one of the healthiest dietary patterns, the region is paradoxically one of the areas where overweight and obesity are most prevalent globally. Chronic diseases related to lifestyle are rising in Northern, Southern and Eastern Mediterranean areas. This is due to the decline in adherence to the Mediterranean Diet (MD) in the Med societies. DELICIOUS aims to reverse this decline by bringing its consumption back to Med societies starting from the demographic group who needs it the most: our children and adolescents. DELICIOUS will name and understand the socio-economic and cultural factors hindering MD adherence and supply innovative dietary shifts towards sustainable MD. Socio-cultural, technological, geopolitical, and educational factors play a vital role in MD adherence, which is the main scope of DELICIOUS.

Obiettivi e contenuti

DELICIOUS aims to boost the attractiveness of a sustainable and healthy Med lifestyle (MD + physical activity) in Med societies by raising awareness of their beneficial impact on human and planet health. The specific goals pursued are:

- Identify, qualify, and quantify the factors influencing a decline in MD adherence in children & adolescents in the Med region, including those related to consumer needs and preferences, and consider local food choices determinants.
- Assess the sustainability of different MD recipes considering three perspectives: environmental (via Life Cycle Assessment, LCA), economic (via Life Cycle Costing, LCC) and social (via Social Life Cycle Assessment, S-LCA).
- Design culture-adapted physical activity intervention programs to prevent and reduce obesity in Med children and adolescents and promote an active lifestyle.
- Develop, produce, and confirm new food products and reformulate recipes according to the MD, targeting children and adolescents.
- Develop a digital platform (web/app) that provides weekly diet plans based on Med recipes with a nutritional balance and transparency of sustainability data.



Enti italiani partecipanti/ 2

Provincia d'Italia dei Fratelli Maristi delle Scuole - IT

Università di Catania,
Dipartimento di Scienze
biomediche e Biotecnologiche
(UNICT-BIOMETEC) - IT

Altri Enti partecipanti/ 7

Asociación de investigación de la industria del juguete, conexas y afines (AIJUA) - ES

Basque Culinary Center - ES

Contactica SL - ES

LCIbérica SL - ES

Assiut University (AUN) - EG

Collège Mariste Notre Dame de Lourdes de Jbail-Amchit - LB

Província Portuguesa Da Congregação Dos Irmãos Maristas - PT

- Implement educational actions in schools to promote a dietary shift in Mediterranean children and adolescents, increasing MD adherence.

Risultati e impatti attesi

- Identification of socio-economic and cultural barriers (including the food behaviour change) aiming to increase adherence to the Mediterranean diet.
- Identification and comparative analysis of local determinants of food choices (such as education, socio-economic, hedonistic, market dynamics) of different Med populations through harmonised and validated methods.
- Foster new business models and marketing of new food products and promoting eating habits consistent with the MD, which meet consumers' preferences and acceptability.
- Assessment, checking and reporting of the adherence to the Mediterranean Diet through the development of methodologies that enable the acquisition of data and proper indicators.
- A shift towards consumer-driven new product development that corresponds to the appreciations, preferences, (health) needs, and affordability means consumers in the Med countries and tourists as ambassadors of the MD.
- Improved nutrition and health thanks to a better diet.
- Consumers' empowerment (food information/ awareness/ behavioural change).
- Promote a healthier and more sustainable lifestyle, incorporating exercise routines for a more active lifestyle and boosting healthier & more sustainable food shopping habits.
- Reach a broader public to attain SHD dietary patterns further to promote a change in governance and societal models.

Piattaforme/ Hub

1

Digital platform (web/app) that provides weekly diet plans



Keywords

#healthy_med_lifestyle

#Mediterranean_Diet

#children

#Life_Cycle_Assessment

#Life_Cycle_Costing

#Social_Life_Cycle_Assessment

#obesity

#education



Area tematica

Agri-food Value Chain



Azione e Topic

RIA - Increasing the resilience of small-scale farms to global challenges and COVID-like crisis by using adapted technologies, smart agri-food supply chain and crisis management tools



Budget

1.248.531 €



Durata

36 mesi



Paese ed Ente coordinatore

SPAGNA

Centro de Investigación y Tecnología Agroalimentaria de Aragón (CITA)

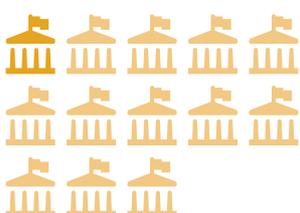


Coordinatore scientifico:
DE MAGISTRIS, Tiziana

Paesi partecipanti/ 8



Unità di ricerca/ 13



Sezione 2

TECHONEY

Development of a blockchain-based ecosystem that allows an improved positioning of small producers of honey on local and international markets

Contesto

The European beekeeping sector does not enjoy self-sufficiency, as it only provides 64% of the honey marketed in its territory, importing honey to cover its domestic consumption, mainly from China. Honey prices continue to fall, and there are no adequate tools, such as the absence of clear origin labelling and the problem of adulterated honey. A significant percentage of imported honey is adulterated, and the reduction of the price of honey in the Med's major producing countries has put beekeepers in a difficult position. Food fraud is rampant in honey production and has devastating consequences. The economic damage to beekeepers who produce authentic honey is approximately \$1 billion. Consumers often think they consume local honey when a proportion of it is a blend of national and foreign honey, often adulterated. In the Med. countries, especially in rural areas, there is a lack of quality labelling systems and traceability, which does not allow the small beekeepers to be identifiable by consumers along the food supply chain. About 20% of the honey is declared as blended EU honey or unblended honey with a geographical reference related to a member state suspected of containing added sugar.

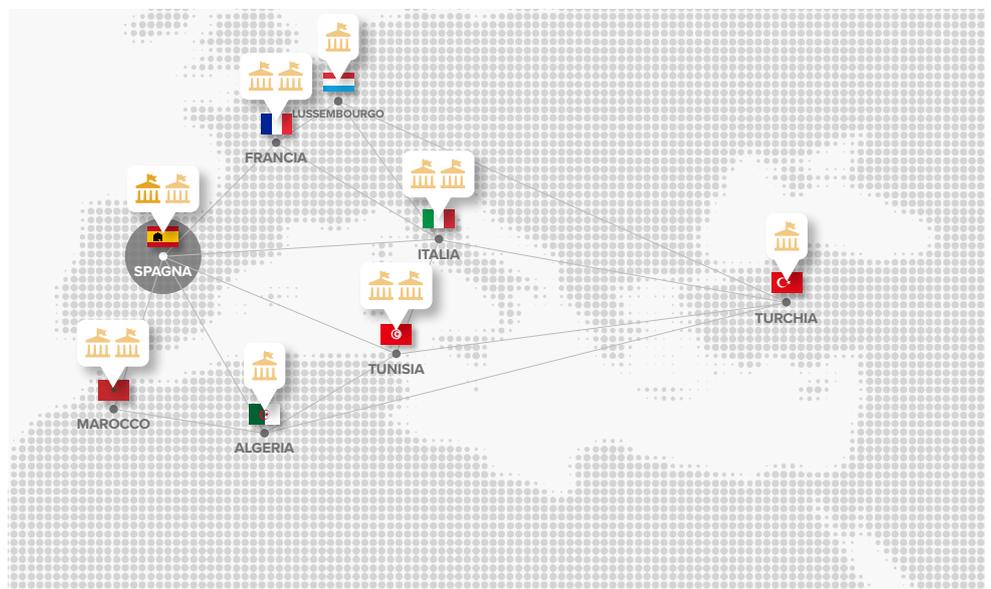
Obiettivi e contenuti

TECHONEY's main objective is to identify strategies and establish lines of resilience to the new challenges determined by the COVID-19 pandemic for beekeepers in the Med agricultural systems through the implementation, definition, enhancement and transfer of competitive, profitable, efficient and trustful honey supply-chain alternatives that address beekeepers' capacities and attractiveness to fulfil consumer needs on unexpected food market changes.

The project proposes developing a traceability system to guarantee the quality and safety of honey within the supply chain for more effective communication to consumers and to strengthen access to different markets (e-commerce, direct sales, etc.).

The specific objectives (SO) are the followings:

1. map the current added-value chains and complexity level for honey products in five case studies by honey innovation and learning living lab (HILE);



Enti italiani partecipanti/ 2

Università degli Studi di Napoli

Federico II, Dipartimento di
Scienze politiche (UNINA) - IT

Sapienza, Università di Roma,
Dipartimento Ingegneria Chimica
Materiali Ambiente - IT

Altri Enti partecipanti/ 10

Centro de Investigación
en Economía y Desarrollo
Agroalimentario (CREDA) - ES

Université Mouloud Mammeri de
Tizi-Ouzou (UMMTO) - DZ

Laboratoire d'Informatique
Gaspard-Monge - UMR 8049 CNRS
(LIGM) - FR

JASSP Sas - FR

Luxembourg Institute of Science
and Technology (LIST) - LU

École nationale d'agriculture de
Meknès (ENAM) - MO

Sultan Moulay Slimane University
Beni-Mellal (USMS) - MO

Faculté des Sciences de Tunis
(FST) - TN

Institut National Agronomique de
Tunisie (INAT) - TN

Ordu Üniversitesi (ODU) - TR

2. increase the competitiveness and power of the beekeeping supply chain by understanding consumers' and retailers' opinions and acceptance;
3. to promote the traceability to differentiate local honey produced in the Med by the characterisation of local honey;
4. development of a new "Multichannel distribution" e-commerce platform and unique traceability ecosystems and effective business models across different stakeholders;
5. maximise the exploitation and transference of the findings by creating a website ITC Tool;
6. Maximise outreach and beneficial influence of the project results and reach the target users (beekeepers, small-scale food manufacturers and local distributors, canteens and retailers, local public authorities) through an effectively established communication and dissemination plan, including innovative training capsules.

Risultati e impatti attesi

TECHONEY is structured in four main technological pillars:

1. creation of a consortium IoT blockchain platform that involves various actors in the honey supply chain;
2. develop ICT tools for honey supply chain participants and consumers;
3. characterisation of the quality of honey to guarantee its traceability within the blockchain directly by consumers;
4. creation of a transformative learning community to ensure a smart-short-resilient shared supply chain.

Expect impact: knowledge of the quality and safety of Med honey will make it possible to inform and raise consumer awareness of the health risks of adulterated honey, ensuring market prices that improve beekeepers' yields.

TECHONEY will build a specialised traceability service that will make it possible to trace any honey production within the supply chain and guarantee food quality and safety.

Consumers will have information on the characterisation, authentication, and functional properties of the honey to obtain a map of their characteristics and peculiarities. Open a direct sales channel (e-commerce platform) that provides information, quality, safety and consumer confidence.

Characterisation of the qualitative aspects of local honey through certified local laboratories. The use of e-commerce and quality labelling systems will increase the opportunity for beekeepers to be identified locally (local and regional shops) and allow them to access new markets directly through the e-commerce platform (foreign markets), allowing the creation of a specific direct sales channel to reach consumers without having to go through traditional distributors.

Facilitate beekeepers' access to the honey market, bringing transparency along the supply chain, reducing fraud, increasing food safety, and improving communication between retailers, beekeepers and consumers.

Demo sites/casi studio

4



Piattaforme/ Hub

1

IoT blockchain platform



Keywords

#beekeeping

#honey

#living_lab

#ICT_tools

#IoT

#e-commerce_platform

#traceability

#labelling

#blockchain



Area tematica

Nexus



Azione e Topic

IA - Leveraging knowledge on the Nexus management of Water-Energy-Food-Ecosystems resources in the Mediterranean region: from concepts to practical solutions



Budget

3.992.044 €



Durata

36 mesi



Paese ed Ente coordinatore

SPAGNA
BIOAZUL SL



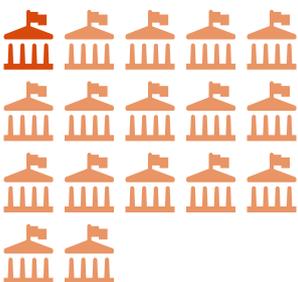
AGUA • ENERGÍA • MEDIO AMBIENTE

Coordinatore scientifico:
LORENZO LOPEZ, Antonia Maria

Paesi partecipanti/ 8



Unità di ricerca/ 17



Sezione 1

BONEX

Boosting Nexus Framework Implementation in the Mediterranean

Contesto

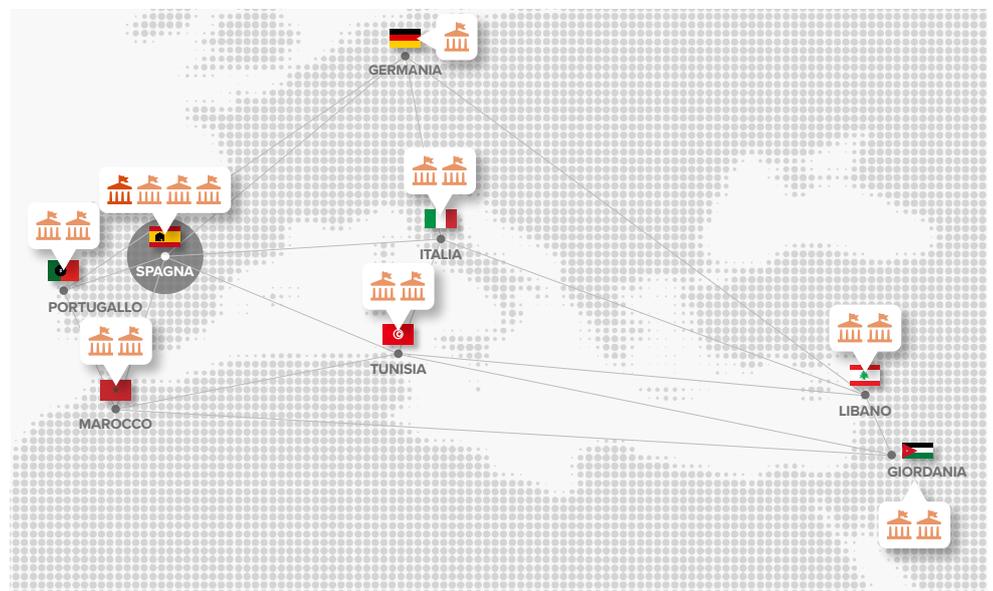
The Mediterranean Region faces growing challenges to ensure food and water supply as countries experience increasing demand and decreasing availability of natural resources. Interconnected impacts from climate change, population growth, urbanisation, and environmental deterioration further exacerbate the difficulty of meeting ecosystem and human needs. In this context, the nexus approach aims at managing and alleviating conflicts, trade-offs and leveraging synergies across sectors, moving towards an efficient, integrated use and management of the Water, Energy, Food and Ecosystems Nexus (WEFe Nexus) generating at the same time economical, environmental (including "GHG reduction"), and societal benefits.

Extensive literature focuses on the theoretical nexus concept, but tools to support its implementation in governance and practice are still in the early phases of development. BONEX objectives are to provide practical and adapted tools, examine concrete and context-adapted technological innovations, enhance policies and governance and facilitate WEFe Nexus practical implementation that balances the social, economic, and ecological trade-offs.

WEFe nexus assumes society is endorsing a paradigm change in food and energy production. According to the UN report on Water and Climate change (2020), the bulk of the GHG emissions related to water management originates in the energy used to power the systems and the processes involved in water and wastewater treatment. Therefore, increasing water use efficiency, reducing unnecessary water consumption and water loss, and using renewable energy sources as proposed by BONEX will translate into lower energy use and thus lower GHG emissions.

Obiettivi e contenuti

BONEX aims to produce a novel, robust, transdisciplinary, and diagnostic WEFe Bridging Framework (WEFeF) to serve the production of context-specific Nexus Bridging Plans (NBPs) tailored to different innovative technologies and its combination and socio-economic contexts across the MedRegion. The WEFeF combines methods in a context-specific manner, mobilising transdisciplinary collaboration to go beyond



Enti italiani partecipanti/ 2

Consorzio della Bonifica Renana - IT

Alma Mater Studiorum Università di Bologna, Dipartimento di Scienze e Tecnologie Agro-Alimentari (UNIBO-DISTAL) - IT

Altri Enti partecipanti/ 14

Universidad de Córdoba (UCO) - ES

FutureWater - ES

Universidad de Almeria (UAL) - ES

Universität Kassel (UKS) - DE

German Jordanian University (GJU) - JO

International Union for the Conservation of Nature, Regional Office for West Asia (IUCN- ROWA) - JO

NovaEnergia SAL - LB

American University of Beirut (AUB) - LB

Office Régional de Mise en Valeur Agricole du Souss Massa (ORMVA-SM) - MO

Institut Agronomique et Vétérinaire Hassan II (IAV) - MO

Natural Business Intelligence (NBI) - PT

Universidade Nova de Lisboa, NOVA School of Science and Technology (FCT NOVA) - PT

SMART LOGGER Sarl - TN

Institut National de la Recherche en Génie Rural, Eaux et Forêts (INRGREF) - TN

Demo sites/casi studio

7

Demonstration projects Nexus Bridging Plans



Piattaforme/ Hub

1

WEFe Bridging Framework



disciplinary silos and integrate the system, practice, and transformation knowledge. The framework and innovative WEFe Nexus solution approaches will be iteratively developed and tested in 7 carefully selected Demonstration Projects (DP). They cover diverse MedRegion contexts, challenges, and technologies – water reuse and water saving, desalination, Nature-based Solutions, agrovoltatics and solar irrigation- to ensure that results are truly replicable and that wide socio-ecological and cultural diversity of the MedRegion is considered. WEFeF and NBPs will be developed throughout multi-actor processes, with the close collaboration of all value chain relevant actors, such as researchers, farmers' organisations, businesses in the agri-food chain, public administration, technology providers, civil society organisations, and consumers. In addition, it will consider the creation of non-market values from the WEFE Nexus.

BONEX explores and develops specific solutions promoting the linking of governance with practice to overcome barriers to WEFe policies such as a) lack of coordination, cooperation and communication between sectors and levels; b) lack of a versatile methodology to quantify the interlinkages between WEFe Nexus elements; c) lack of versatile and proven methodology to avoid perverse effects.

Risultati e impatti attesi

BONEX approach will contribute to managing conflicts, trade-offs and leverage synergies across sectors, moving towards an efficient, integrated use and management of the Nexus between Water, Energy, Food and Ecosystems (WEFe), breaking disciplinary silos that prevent cross-sectoral planning and integrated water, energy, ecosystems, and food production management.

The results of the WEFeF and the seven technologies validated in the demonstration projects push their market introduction to transition to a sustainable, fair and just economy. They aim at providing methodologies and tools for introducing and operationalising the Nexus approach in governance systems. Moreover, the BONEX approach contributes to building background for policy interventions, investment and financing identification and prioritisation. It will also contribute to the co-design and implementation of seven pilots with replication potential at local, national and global levels. Furthermore, they will help generate, disseminate and capitalise on the knowledge.

The main project results are:

- The WEFe Bridging Framework (WEFeF) + BONEX online interactive decision-making tool to implement WEFeF;
- The Nexus Bridging Plans (NBPs) for seven demonstration projects (Tunisia, Spain, Italy, Lebanon, Jordan, Portugal and Morocco);
- Innovative technologies and services contributing to the WEFE Nexus;
- Creation of a Community of Practice as a global network including public and stakeholders from target beyond DP countries to all MedRegion.

Keywords

#context-specific

#governance

#community_of_practice

#policy

#Nature-Based_Solutions

#water_reuse

#water_saving

#desalination

#agrovoltatics

#solar_irrigation



Area tematica

Nexus



Azione e Topic

IA - Leveraging knowledge on the Nexus management of Water-Energy-Food-Ecosystems resources in the Mediterranean region: from concepts to practical solutions



Budget

3.891.543 €



Durata

36 mesi



Paese ed Ente coordinatore

SPAGNA

Universitat Politècnica de Catalunya (UPC)

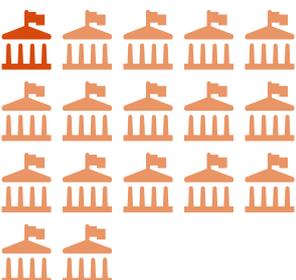


Coordinatore scientifico:
MORATÓ FARRERAS, Jordi

Paesi partecipanti / 8



Unità di ricerca / 17



Sezione 1

SURE_NEXUS

Ensure Fair NEXUS transition for climate change adaptation and sustainable development

Contesto

The project is embedded in the problem concerning the relatively low understanding of addressing the linkages involved in the NEXUS approach. This contrasts with the wide recognition of the systemic nature of water, energy and food security. The result is an urgent need for ways to take action. Meanwhile, there is still a lack of knowledge and resistance to changes that hinder the practical deployment of a cross-sectoral nexus approach.

This is the primary motivation for us to work on the topic. SureNexus will support transition initiatives by developing interconnected networks of grassroots community projects applying practices based on coupled nature-based systems and bioeconomy. Translates conceptual NEXUS into practical solutions, creating a set of alternative socio-ecological and technical methods (SETs) adapted to NEXUS conflicts on different key sectors for representative MED areas. The project is also based on NBS and bioeconomy practices as the main integrative tools for NEXUS implementation to maintain natural resources and production efficiency. For the broad deployment of the cross-sectorial NEXUS approach, SureNexus will encourage the co-design and co-creation of different SETs with all stakeholders since the start.

Obiettivi e contenuti

SureNexus is meant to produce healthy and sufficient food, with fewer resources (water, soil, energy and nutrients) through regenerative and precision agriculture, including permaculture practices and with minimal impact on the environment through the development of interconnected networks of grassroots community projects and foster MED knowledge transfer and best practices, coupled with intersectoral cooperation.

Specific Objectives:

1. To demonstrate, validate and quantify the performance of alternative bioeconomy practices for NEXUS implementation, including use and reuse of waste by-products from agriculture, obtention of nutrients from regenerated wastewater, recycling of agriculture plastic waste, among other solutions.



Enti italiani partecipanti/ 3

Università Politecnica delle Marche, Dipartimento di Scienze ed Ingegneria della Materia, dell'Ambiente ed Urbanistica (UNIVPM-SIMAU) - IT

Planet di Villa Alessandro & C. Sas - IT

REM TEC Srl - IT

Altri Enti partecipanti/ 13

Institut de Recerca i Tecnologia Agroalimentàries (IRTA) - ES

Centre de Recerca en Economia i Desenvolupament Agroalimentari (CREDA) - ES

Institut Català del Suro (ICSuro) - ES

Participatory Development Solutions (EIMahrousa PDS) - EG

UNESCO, Division of Water Sciences (SC/HYD) - FR

National Technical University of Athens (NTUA) - GR

Agricultural and Environmental Solutions (AGENSO) - GR

Tinos Eco Lodge - GR

Keren Kayemeth Lelsrael, Jewish National Fund (KKL-JNF) - IL

Institut national de la recherche agronomique (INRA) - MO

Centre Technique de Plasturgie et de Caoutchouc (CTPC) - MO

Office National de l'Electricité et de l'Eau Potable (ONEE) - MO

Société Agricole Innovante dans le Sud (INNOVAGRISUD) - TN

2. To demonstrate, validate and quantify the performance of alternative nature-based solutions (NbS) for NEXUS implementation.

3. To investigate, demonstrate and validate key enabling factors for NEXUS implementation through a co-creation approach.

4. To develop a planning and management framework to translate conceptual NEXUS knowledge into practical solutions and then into specific policy-making processes, testing and validating the performance of NEXUS implementation across 4 Living labs.

5. To strengthen cross-fertilization on the NEXUS implementation in the Mediterranean region and the context of climate emergency and water scarcity through knowledge brokerage and capacity building and networking.

6. To communicate, disseminate and exploit the project results and outcomes to relevant stakeholders at various levels.

Risultati e impatti attesi

Extensive use of AI and machine learning will improve the identification of best practices and lessons drawn from empirical NEXUS work consolidating a system mapping, including specific technical and policy solutions adapted to the Mediterranean.

Economic impacts will be addressed by analysing financial valuation and mechanisms, blended financial investments, understanding the costs of inaction, quantification of losses and damages, (re)insurance and quantification of co-benefits, mainly through the use of NbS and bioeconomy solutions/practices.

Test, validate and quantify the performance of NEXUS implementation and framework across four Living Labs. All activities will facilitate coherence, coordination and management of practices/solutions that increase water and energy use efficiency in the face of multiple climate hazards and risks/vulnerabilities, specific context and multi-sector dynamics, such as urban sprawl, environmental degradation and socio-economic challenges.

Strengthen capacity building and training for consortium partners, stakeholders and end-users within the project pilots, and stakeholders outside the consortium, fostering partnership with other PRIMA projects, national, international and EU networks, and facilitating joint activities. The European Green Deal is directly applied through the Farm to Fork strategy.

Cross-fertilisation of appropriate engineering solutions, bioeconomy practices and enabling factors among demo sites will increase replication potential, which will be further enhanced by the tailored, oriented outputs (knowledge base, methodologies, tools and policy guidelines).

Living Labs

4

for testing and validating the performance of NEXUS implementation



Keywords

#bioeconomy

#Nature-Based_Solutions

#machine_learning

#renewable_energy

#SETs

#sustainable_tourism





Altri Progetti

I Progetti sono in ordine per area tematica (Water Management; Farming Systems; Agri-food Value Chain; Nexus). Questi progetti partecipati da nessun ente italiano sono solo della Sezione 2.

Area tematica

Water Management



Azione e Topic

RIA - Alleviating Mediterranean water scarcity through adaptive water governance



Budget

1.000.909 €



Durata

36 mesi



Paese ed Ente coordinatore

GERMANIA

**Technische Universität Dresden
(TU Dresden)**

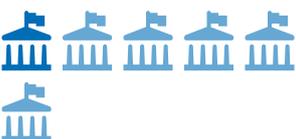


Coordinatore scientifico:
STEFAN, Catalin

Paesi partecipanti/ 5



Unità di ricerca/ 6



Sezione 2

AGREEMAR

Adaptive agreements on benefits sharing for managed aquifer recharge in the Mediterranean region

Contesto

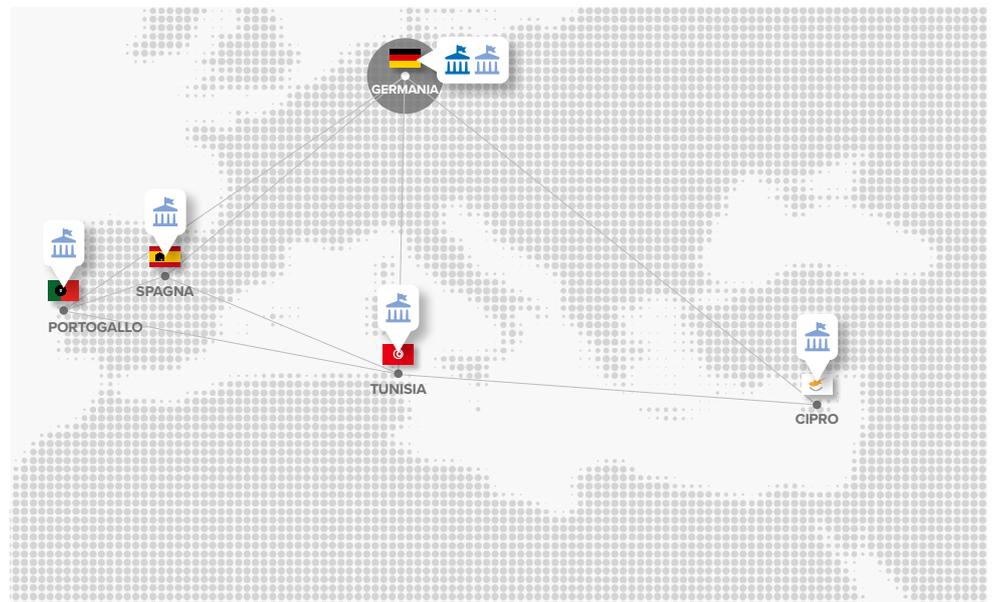
The countries in the Mediterranean basin have many features in common, including an arid and semi-arid climate, economic activities focusing on agriculture and tourism, and a solid financial and social value of water. Water resources availability is often characterised by uneven Spatio-temporal distribution heavily affected by agricultural intensification, necessary to sustain the rapid population growth and extensive and seasonal tourism in coastal areas. Aquifers play an essential role in providing several services to human activities, including storage and production of clean water (for drinking water supply, irrigation, etc.), flood mitigation, saltwater intrusion control and support to aquatic ecosystems. The Mediterranean region's low precipitation, high temperatures, and evaporation rates cause reduced surface water storage and quality (e.g., algae bloom and eutrophication) and thus increased pressure on aquifers for groundwater abstraction. In many places (especially in northern Mediterranean countries), aquifers are being over-exploited, i.e., the annual abstraction rate exceeds the recharge rate, in which case utilisation rate falls below the sustainability threshold. In coastal areas, this leads to seawater intrusion. Consequently, coastal communities increasingly suffer from insufficient supply of drinking water and decreasing quality of agricultural lands due to progressive salinisation of soils. This trend is expected to worsen due to climate change impacts.

Obiettivi e contenuti

AGREEMAR proposes an improved and integrated management of water resources centred on optimising water storage in the subsurface to increase water security in the Mediterranean region. The project will develop an integrated, participative and coordinated methodology to assess and map the feasibility of nature-based groundwater solutions such as Managed Aquifer Recharge (MAR) for climate change adaptation.

The project methodology includes several components:

1. development and demonstration of a combined mapping methodology that integrates the demand for aquifer-dependent services, conventional and non-conventional water sources, and intrinsic site suitability for MAR application;



Altri Enti partecipanti/ 5

Adelphi Research gemeinnützige GmbH - DE

Cyprus University of Technology (CUT), ERATOSTHENES Centre of Excellence - CY

Universitat Politècnica de Valencia (UPV) - ES

Laboratório Nacional de Engenharia Civil (LNEC) - PT

Institut National Agronomique de Tunisie (INAT) - TN

2. validation of the feasibility maps through numerical models at watershed and local scale to assess the improvements in reliability, vulnerability and resilience provided by the inclusion of MAR schemes in water management schemes;
3. development of a general participatory governance framework at the regional level and implementation of co-created location-specific agreements for MAR benefits sharing, supported by scientific evidence and endorsed by cross-sectoral stakeholder groups;
4. participative multi-actor approach for fostering the engagement of stakeholders from different societal sectors and actor groups in all stages of project development.

Risultati e impatti attesi

The applicability of the AGREEMAR governance framework will be demonstrated at national (island), regional and local scale on four case study areas from Tunisia, Cyprus, Portugal, and Spain. The selected case studies will validate the proposed methodology and enable its integration into a larger context at the level of the entire Mediterranean basin. In the long term, a boost in MAR implementation will contribute to protecting and improving the services dependent on aquifers by maintaining or increasing the volume of water extracted for different uses, positive associated impact on other services and support to aquatic ecosystems. By developing, validating, and introducing an integrated MAR governance approach, AGREEMAR increases its acceptability and effectively implements MAR as a sustainable and integrated water resources management solution throughout the Mediterranean region. By selecting areas from EU and non-EU countries on both shores of the Mediterranean basin, AGREEMAR will foster intercultural and multidisciplinary collaboration and transfer between countries. The developed solutions are expected to close the gaps in the hydrological cycle and fulfil optimal water provisions for food security, domestic services and preservation of natural ecosystems in the Mediterranean region.

Demo sites/casi studio

4



Piattaforme/ Hubs

1

Managed Aquifer Recharge



Keywords

#aquifer_governance

#groundwater

#Managed_Aquifer_Recharge

#modelling

#stakeholders_engagement



Area tematica

Farming Systems



Azione e Topic

RIA - Up-scaling field practices based on agroecological practices to increase ecosystem services and biodiversity, to adapt the small farming systems to climate change and to increase farmers incomes



Budget

1.016.686 €



Durata

36 mesi



Paese ed Ente coordinatore

SPAGNA

Consejo Superior de Investigaciones Científicas, Centre for Soil and Applied Biology Segura (CEBAS-CSIC)



Coordinatore scientifico:
PEDRERO, Francisco

Paesi partecipanti/ 6



Unità di ricerca/ 8



Sezione 2

CICLICA

Smart agriCulture optimization to CLimate Change Adaptation

Contesto

The Mediterranean is among the most sensitive areas on the planet and constitutes one of the most exposed to drought risk. Climate change, and the disproportionate exploitation of natural resources, will cause an even more substantial decrease in the availability of water, energy, and food, as well as an imbalance of the ecosystem, thus affecting to a greater extent the resilience of food systems and, therefore in life quality of the population.

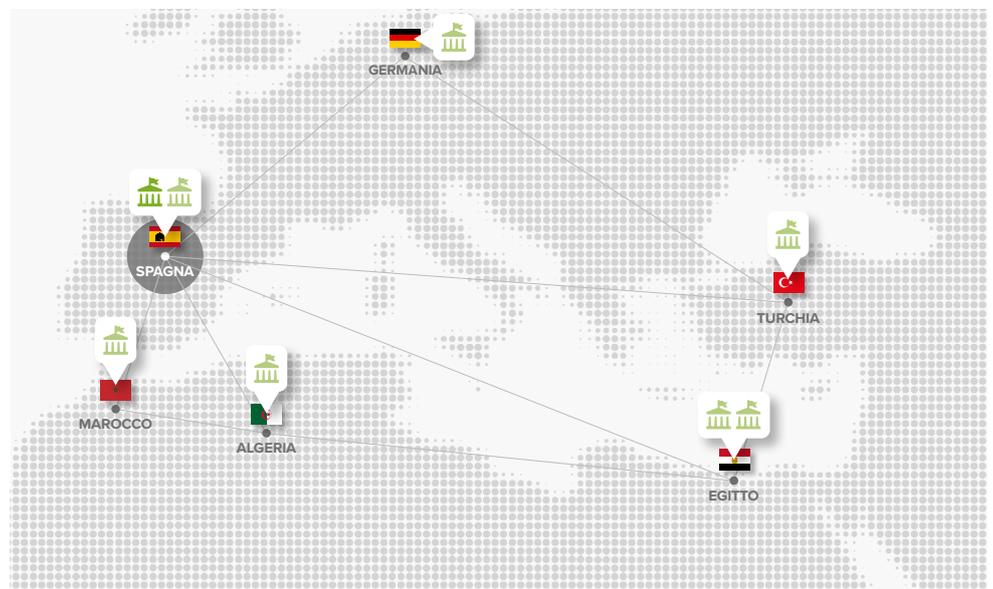
CICLICA is a Research and Innovation project which is focused on two tracks. First, the combination of advanced water-saving technologies that have already been validated in laboratories to provide a smart system for water management solutions. A second track where the implementation of different biotechnology and agro solution for irrigation/fertigation modelling improve agronomic management and genetic adapting of alternative crops.

Increasing crop tolerance to climate change and reducing water resources and high temperatures will present the challenge of the CICLICA project. These objectives will be achieved by mobilising all the actors concerned (decision-makers, farmers, NGOs, technology partners and researchers). They will successfully change agricultural practices towards modernising means of cultivation (humidity sensors), saving water for irrigation and improving soil quality by developing novel eco-friendly superabsorbent polymers (SAPs) and reusing-conventional water resources.

Obiettivi e contenuti

The project will focus on developing and investigating integrated on-farm practices to face two types of abiotic stresses, water, and salinity stresses, within applying those practices under two business models of farming systems; (i) the standard farming system, producing traditional Mediterranean crops such as olive, citrus, tomatoes, (ii) alternative crops farming systems, include the introduction of new crops to improve the capacity of the farming system to face abiotic stresses.

The goal of the project is to promote the farming systems in the Mediterranean region based on agrological principles, to face the growing pressures from natural resources



Altri Enti partecipanti/ 7

Sistema Azud SA - ES

Université Djilali Bounaama
Khemis Miliana (UDBKM) - DZ

Technische Universität München
(TUM) - DE

Agricultural Engineering Research
Institute (AENRI) - EG

Modern Machinery - EG

Université Cadi Ayyad (UCA) - MO

Akdeniz Üniversitesi - TR

degradation and climate change, through (1) introducing integrated on-farm practices aiming to mitigate the impacts of abiotic stresses overcrop health and productivity, (2) boost the sustainable balance between agricultural productivity and ecosystem services, considering the application of low-quality water for irrigation, managing water quantity and quality during irrigation using superabsorbent polymer, crop-water productivity, soil health, and environmental footprint.

Risultati e impatti attesi

CICLICA will impact various agricultural, ecological, social and economic sectors:

- leading to an improvement of innovative sustainable food production systems in saline environments;
- tackling the impacts of climate change and challenging soil issues (i.e. salinisation) through the optimisation in the use of non-conventional water resources;
- defining the actual irrigation requirements in the short and medium-term and adapting technology to more cost-effective small-farming systems.

The overall approach of this proposal is to increase biodiversity and ecosystem services by applying advanced farming practices and biotechnology techniques in alternative crops. The new perspective comes from the assumption that the new sustainable agro-ecosystems technologies will enhance technology development, societal engagement and transfer knowledge in a form that best fits the needs of end-users and the associated supply chain. The expected impacts will be easily monitored along with the cropping systems, using LCA methodology helping to improve environmental footprints and the economic and social resilience of Mediterranean smallholder farming, compared to traditional farming systems.

CICLICA proposes an alternative farming system where traditional add-value crops change from “wild” to “domestic”, with sustainable practices and technologies adopted. With the motto “back to the past with current knowledge”, CICLICA will develop an integrated farming system combining water-saving strategies, biotechnology techniques and genetic regulation.

Keywords

#olive

#citrus

#tomatoes

#alternative_crops

#agrological_principles

#integrated_on-farm_practices

#low-quality_water_for_irrigation

#LCA_methodology

#non-conventional_water_resources

#superabsorbent_polymer



Area tematica

Farming Systems



Azione e Topic

RIA - Up-scaling field practices based on agroecological practices to increase ecosystem services and biodiversity, to adapt the small farming systems to climate change and to increase farmers incomes



Budget

527.460 €



Durata

36 mesi



Paese ed Ente coordinatore

TURCHIA

Meta Meta Anatolia Ltd. Şti



Coordinatore scientifico:
ESIN, Sukru

Paesi partecipanti/ 4



Unità di ricerca/ 5



Sezione 2

MED4PEST

Novel Ecologically-Based ROdent management DEvelopment in Mediterranean countries

Contesto

Rodents cause substantial reductions to food production, water supplies, and the economy. They display a wide range of alimentary preferences, including grains, fruits and vegetables, thus making them major agricultural pests. Rodents may eat and spoil food quantities that could feed 280 million people per year globally. In the Mediterranean region, rats attack trees and other crops when they can't find water, e.g., Carob trees, for they are deep-rooted and 'pump' water from very deep.

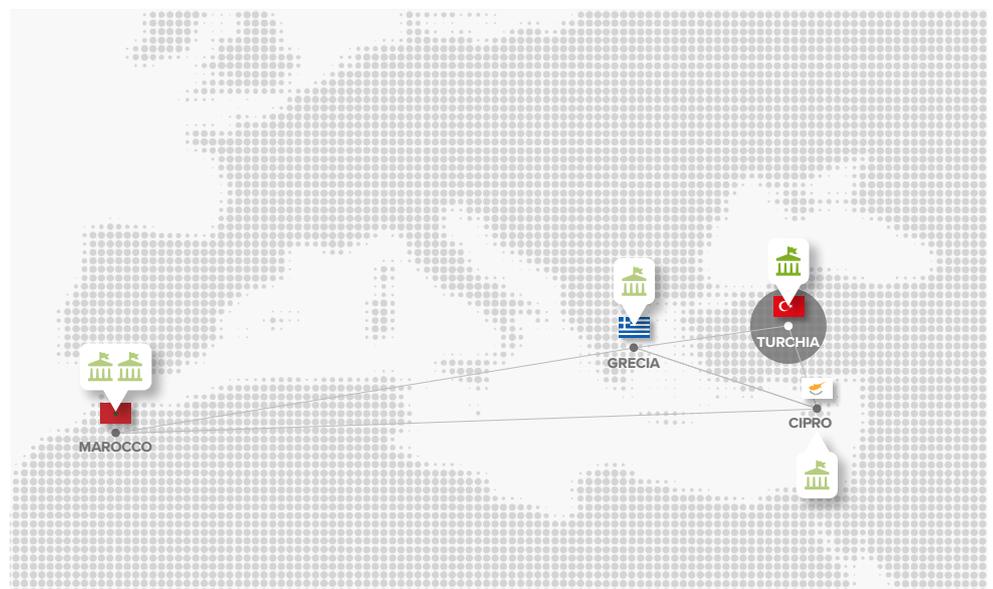
We tackle these challenges by introducing novel ecologically-based Rodent Management (EBRM). It stands out from conventional rodent control techniques, including synthetic rodenticides, biological and ecological. It relies on robust scientific knowledge about pest rodent eco-ethology and accordingly tailored modifications of the habitats to decrease rodent density to enduring levels and avoid re-infestations. It combines biological, ecological and physical methods through a Community of Practice (CoP) approach since the organisation is as important as the technology for effective rodent management.

Obiettivi e contenuti

The overall objective of this project is to develop proven, effective Ecologically Based Rodent Management (EBRM) methods and products, which are readily integrated into local pest /invasive rodent management systems in Mediterranean countries. We aim to contribute to the shift from synthetic pest control to biological and ecological pest management, ultimately leading to eco-sustainable farming systems, higher quality and quantity crop production and optimisation of input use for ecosystem health.

The specific objectives include:

- 1: Improve knowledge and understanding of rodent behaviour and the magnitude of damage caused in representative agroecological systems in the Mediterranean region.
- 2: Novel plant-based bio-rodenticide (BR) development and testing in lab and field.
- 3: Improved EBRM approach, methods and application in the Mediterranean region.



Altri Enti partecipanti/ 4

CYENS Centre of Excellence Ltd - CY

Hellenic Mediterranean University (HMU) - GR

Université Mohammed V de Rabat (MVU) - MO

National Institute of Agricultural Research, Regional Center For Kenitra Agronomic Research - MO

Keywords

#plant-based_bio-rodenticide

#monitor_rodent_behaviour

#living labs **#zero-waste**

#youth **#women**



Nuovi prodotti e soluzioni

1

Ecologically Based Rodent Management (EBRM)



Piattaforme/ Hubs

1

Community of Practice platform



4: Open sharing of new fields of application for novel technologies, knowledge, products and services supporting eco-friendly rodent management.

To reach MED4PEST objectives, we will develop and adopt a thorough research design based on a trans-disciplinary effort by partners and stakeholders. The focus is on innovation and action research, establishing proven products and methods through lab and field-pilot testing.

Risultati e impatti attesi

Our methodology involves a feasibility study based on experimental design. We will do this through the following workstream: In WP2 we will gather new data and fill crucial data and knowledge gaps, through which new patterns may emerge and strategies can be substantiated based on impact monitoring with reference to baseline proxies. WP3 is at the core of the innovations where we deploy novel tech solutions to monitor rodent behaviour in the entire spectrum of project experiments and living labs. Transnational testing will result in much more robust results. WP4 and 5 focus on innovative product/method development and co-creating EBRM methods at scale in 'living labs' will tailor it to the local context based on social, economic and environmental factors. Furthermore, researching botanicals (and combinations) will lead to prototype substances and/or bio-rodenticides that can effectively manage pest species. This is coupled with market analyses and working with local youth and women entrepreneurs to provide local EBRM products and services. WP6 will develop a rich knowledge sharing approach with the Community of Practice, through a digital platform, that will emphasise 'popular' outputs, such as games, comics, and video-sharing, amongst others. This is also part of the upscaling strategy, where we involve local stakeholders from the agricultural, government and private sectors in shifting towards eco-friendly pest management solutions.

The expected impact are:

- 1: more sustainable agriculture and food production system with more efficient use of natural resources and better climate change resilience, adaptation and mitigation;
- 2: Decreasing the use of chemical inputs and developing alternative solutions (new bio-based products, new techniques and policies);
- 3: contribution to the zero-waste farming system;
- 4: increasing income of the farmers from biodiversity use, improved farming techniques and improved certification of products;
- 5: Improved economic and social resilience of Mediterranean smallholder farming systems to climate change; a.o. through engaged youth and empowered women;
- 6: Preventing the emergence of pest species through improved knowledge and monitoring systems;
- 7: Improved knowledge of and access to eco-friendly rodent management products, services, and technologies.



Area tematica

Farming Systems



Azione e Topic

RIA - Up-scaling field practices based on agroecological practices to increase ecosystem services and biodiversity, to adapt the small farming systems to climate change and to increase farmers incomes



Budget

1.747.173 €



Durata

36 mesi



Paese ed Ente coordinatore

GERMANIA

Universität Hohenheim



UNIVERSITY OF HOHENHEIM

Coordinatore scientifico:
SCHMOECKEL, Sandra

Paesi partecipanti/ 6



Unità di ricerca/ 9



Sezione 2

Quinoa4Med

Quinoa as a climate-smart crop diversification option for higher income generation from marginal lands in the Mediterranean

Contesto

Quinoa is a pseudo-cereal, initially cultivated in the Andean region. It has gained attention throughout the Mediterranean because it yields well even on marginal soils and is tolerant to drought, soil salinity and other abiotic stresses. Moreover, it is considered among the world's healthiest foods. Its grains contain a balanced composition of minerals, vitamins, dietary fibre, fats, and high-quality, gluten-free proteins with a balanced amino acid profile. Our vision considers the whole system by enabling successful and widespread agroecological quinoa farming and marketing its products.

Q4M brings together scientific partners and societal stakeholders from five Mediterranean countries (Tunisia, Algeria, Morocco, Spain and France) in collaboration with quinoa and breeding experts from Germany. Together, the consortium will advance climate-resilient quinoa germplasm and upscale quinoa cultivation and valorisation in an integrated approach. Guided by National priorities and reinforced by a multi-stakeholder network, we will demonstrate the power and benefits of agroecological quinoa farming at twelve distinct multi-agroecosystem demo sites. We will use various crop combinations under varying agronomic regimes facing diverse climate and soil conditions.

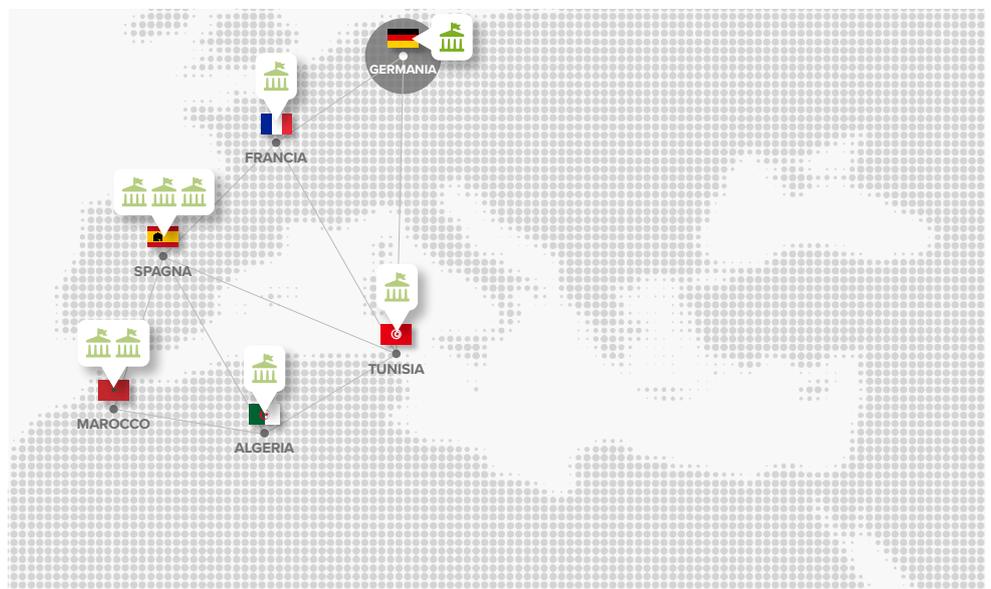
Obiettivi e contenuti

Main objectives:

1. Breed/establish multi-purpose quinoa varieties better adapted to saline, marginal Mediterranean soils, resilient to climate change, reducing post-harvest processing, and enriching crop diversity for sustainable agricultural management.
2. Establish zero-waste valorisation chains/nets for quinoa delivering affordable gluten-free food products and other non-foods.
3. Provide guidance, support and a networking platform for stakeholders.

Q4M's work program has its core Living Labs at 12 demo sites, which receive input and feedback to scientific Work Packages (WP).

WP1 will develop a climate-resilient quinoa crop with key traits for cultivation and processing (saponin content, nutritional composition). Selected quinoa accessions



Altri Enti partecipanti/ 8

Université Kasdi Merbah,
Département des Sciences
Biologiques, Laboratoire
Bioressources Sahariennes
(UKMO) - DZ

Universidad Politécnica de Madrid,
Centre for Plant Biotechnology
and Genomics (UPM) - ES

ALGOSUR - Algodonera del Sur
SA - ES

Moreno Ruiz Hermanos SL - ES
Savoirs, Environnement
et Sociétés, Centre de
coopération internationale en
recherche agronomique pour
le développement (UMR SENS -
CIRAD) - FR

Institut Agronomique et
Vétérinaire Hassan II (IAV), Dept.
of Production, Protection and
Biotechnology - MO

Université Mohammed Premier
Oujda (UMP), Faculté des Sciences
- MO

Centre de Biotechnologie de Borj
Cédria (CBBC) - TN

are tested in various agroecological farming settings. Carbon sequestration in the soil through crop rotations, intercropping, cover crops/green manure, biochar and compost use will be addressed (WP2). Key traits such as germination, nutritional characteristics, reduced saponins, and other desired traits will be assessed and resulting products developed in local value chains/nets (WP3). The adoption of the quinoa farming system is to benefit smallholder farmers, increase income and empower women and the youth, advancing social innovation (WP4). The success of Living Labs, sustainability and cost-benefit relation will be evaluated (WP5). WP6 will disseminate results using tailored communication and intensive networking.

Risultati e impatti attesi

Based on 'lessons learned from critical stakeholders and previous projects, and teaming up with complementary initiatives, we will select and stably integrate best-adapted multi-purpose quinoa lines in multiple farming environments and valorisation chains. Together with societal and company partners, we strive to invigorate local value chains/ nets and a stable market for quinoa producers.

Noteworthy for smallholders' food and income security, Q4M will introduce novel quinoa breeding lines to diversify current cropping systems to stabilise overall harvests, recover and/or enrich soils, and in general, improve year-round crop production. Q4M will also establish the groundwork and connect partners for subsequent projects, follow-up on adapting small farming systems to climate change and improve health and livelihoods. Moreover, Q4M takes up priorities of UN Agenda 2030 (SDGs), EU policies and National Strategies or Action Plans of Maghreb countries, and thus will have a positive impact on future agricultural policies.



Keywords

#quinoa

#zero-waste

#living_labs

#crop_rotations

#intercropping

#over_crops

#green_manure

#biochar

#empowerment

#women

#youth



Demo sites/living labs

12



Piattaforme/ Hubs

1

networking platform for
stakeholders



Area tematica

Farming Systems



Azione e Topic

RIA - Up-scaling field practices based on agroecological practices to increase ecosystem services and biodiversity, to adapt the small farming systems to climate change and to increase farmers incomes



Budget

606.804 €



Durata

36 mesi



Paese ed Ente coordinatore

GERMANIA

**Technische Universität
Hamburg (TUHH)**

TUHH

Technische Universität Hamburg-Harburg

Coordinatore scientifico:
KALTSCHMITT, Martin

Paesi partecipanti/ 4



Unità di ricerca/ 5



Sezione 2

ReMe-diation

Resilient Mediterranean with a holistic approach to sustainable agriculture: Addressing challenges of water, soil, energy and biodiversity

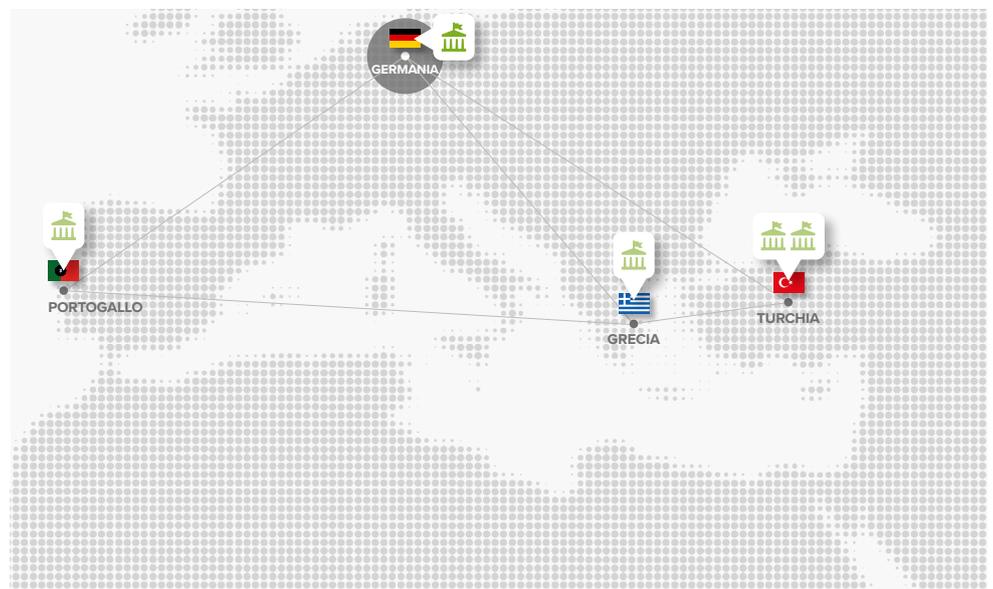
Contesto

Olive oil is the critical element of the Mediterranean diet whose health benefits are widely documented. The increased demand for olive oil and the desire to increase profitability has led to an intensification of olive cultivation.

Unsustainable agriculture practices in olive cultivation have amplified concerns about soil, groundwater contamination, water resource degradation and loss of biodiversity. Based on these grounds, the project's overarching goal is to introduce sustainable agriculture practices that could provide socio-economic (by presenting new products) and environmental benefits (by increasing biodiversity and conserving soil and water) through different methods of zero-pollution ambition and resource recover.

Obiettivi e contenuti

The specific goals are to implement an intercropping system in an olive grove by introducing local leguminous crops (that can adapt to climate change); produce bio-char from the residual biomass resulting from the maintenance of olive and cork trees to amend soil; test and apply the nature-based solution of constructed wetlands for treating the wastewater from cork and olive oil industry; recover/produce high value-added by-products from agricultural and industrial residues and the reed biomass grown in the constructed wetlands; produce renewable energy via anaerobic digestion of lignocellulosic agricultural/industrial residues and reed grown in the constructed wetlands; identify optimum energy conversion routes (electric power, heat, cooling) of the biogas production under Mediterranean Context in the countryside; analyse anaerobic digestion residues (from biogas) as biofertiliser and identify possible routes for the production of bio-based chemicals via valorisation of lignin in the anaerobic residues; evaluate the project results with regards to economic, ecological and social parameters.



Altri Enti partecipanti/ 4

Technical University of Crete (TUC)
- GR

Universidade da Beira Interior
(UBI) - PT

Akdeniz Üniversitesi (AKU) - TR

Ankara Üniversitesi - TR

Risultati e impatti attesi

The project will contribute to the following expected impacts:

- implementing an intercropping system with minimal tillage in an olive grove by introducing local leguminous crops will provide a more sustainable olive production with more efficient use of soil. This will improve soil properties, provide an additional income and protect farmers against financial losses due to climate change. The wastewater of the olive oil and cork industry will be utilised in constructed wetlands, which will provide clean water for legume production and increase the region's biodiversity;
- anaerobic fermentation of different organic waste streams will contribute to a sustainable provision of energy/electricity and improve waste management in the Mediterranean area. Hence, it will enhance the economic and social resilience in the region;
- biochar and bio fertilisers will provide a more sustainable agricultural practice by enhancing the soil quality, fertility, and crop production and reducing the waste in the farming systems. It will also decrease the need for chemicals and provide financial benefits to farmers.

Keywords

#intercropping_system

#bio-char

#olive_tree

#cork_tree

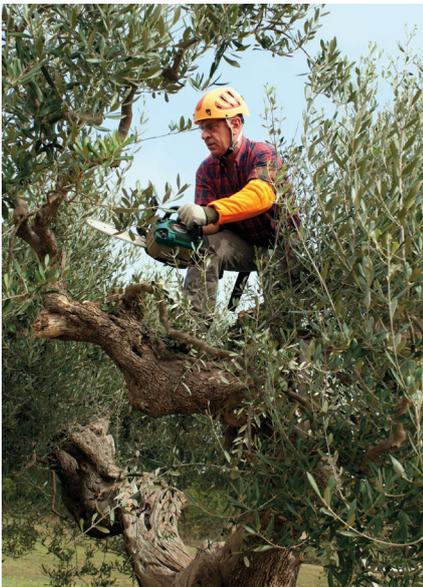
#by-products

#treating_wastewater

#agricultural_industrial_residue

#biogas

#biofertiliser



Area tematica

Agri-food Value Chain



Azione e Topic

RIA - Increasing the resilience of small-scale farms to global challenges and COVID-like crisis by using adapted technologies, smart agri-food supply chain and crisis management tools



Budget

674.100 €



Durata

36 mesi



Paese ed Ente coordinatore

PORTOGALLO

Instituto Politécnico de Viseu (IPV)



Coordinatore scientifico:
WESSEL, Dulcinea

Paesi partecipanti/ 5



Unità di ricerca/ 9



Sezione 2

InovFarmer.MED

Improving Mediterranean supply chain through innovative agro-food business to strengthen small-scale farmers competitiveness, using prickly pear and fig as case study

Contesto

Globalisation caused the agro-food value chains to become increasingly complex, significantly when market patterns and consumer preferences are constantly changing, opening new challenges and opportunities for the valorisation of fresh, high-quality and healthy food products prickly pear and figs.

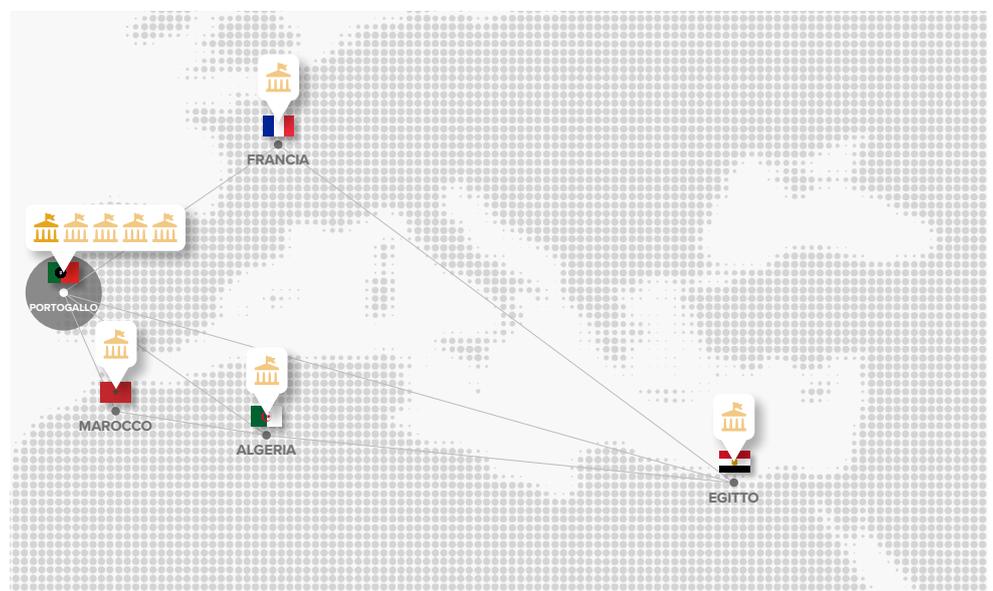
These traditional agro-products may show unique bio-properties yet often lack control over their physicochemical characteristics, harming the reliability of the product's end quality and decreasing its market value. While the demand for environmentally friendly production systems is increasing, the need to assure homogeneity and quality of end-products remains. It implies control over the entire value-chain to certify the end products, increasing their attractiveness, traceability and authenticity in regulated markets such as the EU (EU regulatory policies).

InovFarmer.MED is built around the concept of supporting small-scale farmers with more innovative, more efficient and sustainable practices, as well as better monitoring closer cooperation between farmers, processors, retail and consumers. These will stimulate food quality and safety, biodiversity and a better valorisation of endogenous resources, helping to increase the resilience of Mediterranean small-scale farmers.

Obiettivi e contenuti

Objectives and the approach to achieve them are:

- to analyse current and traditional production methods applied by small scale-farmers and needs to be addressed in co-creative and multi-actor processes to increase food production and avoid food loss;
- to monitor fruit ripening, productivity, sales prices, stocks management, and improve end-product quality in the production of fig and prickly pear, using smart technologies and adopting best practices to increase fruit profitability in new marketing channels;
- to establish eco-friendly scientific methodologies for processing fresh fruits or edible parts of the plant with the direct flow to dedicated transformers, preserving the nutritional and bioactive properties in the new products obtained;



Altri Enti partecipanti/ 8

Universidade de Aveiro (UA) - PT

Chatron Lda - PT

Food4Sustainability - Associação Para A Inovação no Alimento Sustentável - PT

Pais Da Costa & Esteves Pereira - Consultoria, Lda - PT

Ecole Nationale Supérieure Vétérinaire d'Alger (ENSV) - DZ

Academy Company for Information and Communication Technology (ACICT) - EG

Institut National de Recherche pour l'Agriculture, l'Alimentation et l'Environnement (INRAE) - FR

Université Ibn Zohr (UIZ) - MO

- to develop and implement training with and for small-scale farmers by the preparation of a toolkit for sustainable production, transformation and commercialisation, based on the knowledge gathered from the farmers and relevant actors of the supply chain, scientific community and strategies to build resilient business models encompassing user-centric digital services that support smallholders access to the market;
- to design innovative business models that will improve the interconnection between farmers, smallholder's organisations, transformers, retailers and consumers, using different digital technologies and platforms, such as mobile apps and e-commerce, to serve the various stages of the value chain of the targeted agro-products, increasing the income of small-scale farmers from the Mediterranean basin communities.

Risultati e impatti attesi

InovFarmer.MED will improve the Mediterranean supply chain by promoting the adoption of innovative and sustainable business models and partnerships on the agro-food systems, providing strategies and digital technologies to cope with any crisis. InovFarmer.MED is expected to improve the two study case agri-food value chain products, valorising Fig and Prickly Pear. It will enable the adoption of adapted Digital technologies that pave the way for an intelligent agri-food supply chain linking farmers/producers to food processing and retail in four piloting sites - Portugal, Algeria, Egypt, Morocco.

The innovative business model ecosystem will strengthen the position of smallholders and rural business positions, potentiating jobs creation and withholding as much added value as possible in rural regions. This project will facilitate the diversification of quality products, including processed ones, guarantee a more stable income and, therefore, increase resilience, leveraged. It will grant better access to the marketing and labour channels available through innovative agri-food supply chains that stimulate economic growth more balanced territorial development.

Demo sites

4



Nuovi prodotti e soluzioni

2

Fig and Prickly Pear



Piattaforme/ Hubs

1

user-centric digital services that support smallholders access to the market



Keywords

#fig

#prickly_pear

#fresh_fruits

#smallholder

#smallfarmer

#storage

#food_loss

#innovative_business_models

#training

#toolkit

#digital_services



Area tematica

Agri-food Value Chain



Azione e Topic

RIA - Increasing the resilience of small-scale farms to global challenges and COVID-like crisis by using adapted technologies, smart agri-food supply chain and crisis management tools



Budget

766.966 €



Durata

48 mesi



Paese ed Ente coordinatore

FRANCIA

Laboratoire Informatique de l'Université de Pau et des Pays de l'Adour (LIUPPA)



Coordinatore scientifico:
PHAM, Congduc

Paesi partecipanti/ 4



Unità di ricerca/ 7



Sezione 2

RESILINK

Increasing Resilience of Smallholders with Multi-Platforms Linking Localized Resource Sharing

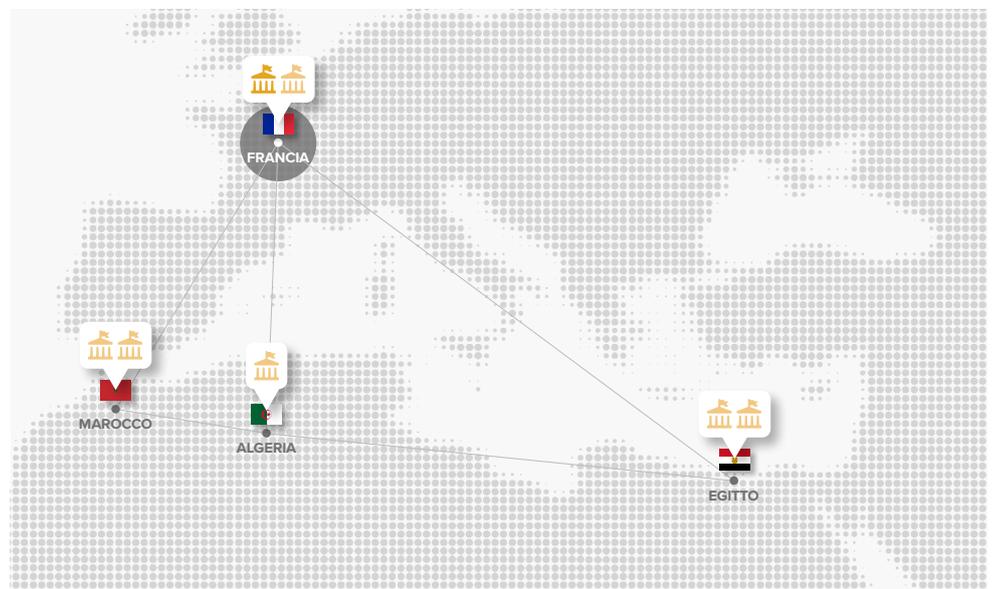
Contesto

Agriculture is an important sector for income generation, employment and food security in North Africa. Increasing the resilience of smallholders to face unexpected crises is a multidimensional challenge that requires a multifaceted policy. However, common to most crisis situations, the restrictions on movements has many impacts on the availability of distant resources such as agricultural supplies, equipment, services, labours and access to markets to name a few. Therefore, RESILINK will increase smallholder's resilience by providing continuity of access to both resources and markets in crisis situations. It will empower the local agri-food value chain model by optimizing usage of local resources, promoting and generalizing local resource sharing approach and facilitating territorial markets. This local agri-food value chain model will also be integrated with the local e-commerce, supply & distribution channels. The concept of localized and short agri-food value chain will also impact on the agro ecological system by minimizing the food losses and contributing to the climate & environment changes with shorter food supply chains and logistics. As a result, new and local innovative services can be identified and created, enhancing further the smallholders' agri-food chain.

Obiettivi e contenuti

The objectives of the project are to improve the agri-food value chain by optimizing usage of local resources, generalizing local resource sharing approach and facilitating territorial markets. It will develop distributed digital resource management platform for real-time exchange of information on territorial resources and supplies & demands; connecting smallholders to new supply, sharing opportunities and distribution channels.

RESILINK will use cutting-edge digital technologies to connect fields and farms resources, automatize and add intelligence in the agri-food value chain to provide simple application interfaces adapted to smallholders. In addition, RESILINK will implement an incremental piloting & evaluation program to maximize smallholders' acceptability, large-scale adoption and sustainable usage (even in non-crisis situations).



Altri Enti partecipanti/ 6

Orange Labs, France Telecom-
Orange Group - FR

Université Mohammed-Chérif
Messaadia Souk-Ahras (UMCM) -
DZ

Agricultural Research Center
Egypt (ARC) - EG

Academy Company for Information
and Communication Technology
(ACICT) - EG

Université Sultan Moulay Slimane
(USMS) - MO

Institut National de la Recherche
Agronomique (INRA) - MO

Finally, RESILINK will address local innovation capacity and facilitate technology appropriation by developing the digital intelligent resource management platform in open-source with an extensive public API to maximize re-utilisation and facilitate the integration of new platforms.

Risultati e impatti attesi

RESILINK has the clear ambition to make digital smart technologies attractive & accessible to smallholders. The proposed solutions will be simple to use on a daily basis so that its usage will become natural, even in non-crisis situations. Then, by proposing a highly innovative generalized local resource sharing approach for smallholder's agro-food chain, RESILINK will contribute to higher quality of products and services by maintaining continuity of access to resources. Therefore, RESILINK will definitely have an important impact on sustainability and competitiveness by promoting digital smart technologies to improve efficiency and by creating new business opportunities towards the smallholder communities. An important additional impact is on improving efficiency of small-scale farming system as generalized usage of local resources will definitely have a positive impact on the efficiency of these small-scale farming systems by reducing both delays and cost of access to resources. Finally, while RESILINK focuses on a generalized resource sharing platform for smallholders, the technology building blocks developed by RESILINK can easily be adapted to a larger variety of application domains. The large networks of actors built during the project will create synergies, increasing the likelihood of innovative third-party applications by local entrepreneurs for instance.

Piattaforme/ Hubs

1

Management platform
in open-source



Keywords

#smallholder

#crisis

#resilience

#local_resource

#shortage_of_workforce

#traceability

#blockchain

#storage

#e-commerce

#multi-capital_sustainability_indicators





PRIMA WEFE Nexus Award

HYDROUSA

Demonstration of water loops with innovative regenerative business models for the Mediterranean region

Award

10.000 €



Paese ed Ente coordinatore

GRECIA

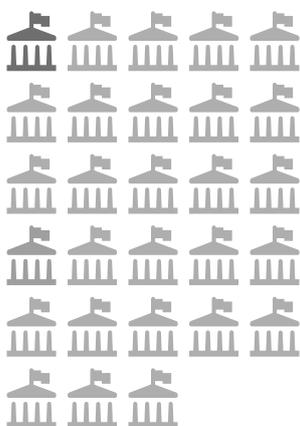
National Technical University of Athens (NTUA)

Coordinatore scientifico:
MALAMIS, Simos

Paesi partecipanti/ 10



Unità di ricerca/ 28



Contesto

Effectively addressing complex resource challenges requires moving from sectoral silos into a holistic Nexus systems approach. Interventions must leverage cross-sectoral, trans-disciplinary synergies and be contextualised to accommodate regional and local boundaries. Our Nexus journey began with the WEF Nexus Tool developed to address Qatar's national food self-sufficiency policy objective.

Obiettivi e contenuti

The project's main objectives are to identify policy changes and the possible detrimental links to other sectors and resources. An updated Tool 2.0 was used in a 3-year inter-disciplinary investigation into resource challenges facing San Antonio, Texas, at Texas A&M University's Water-Energy-Food Nexus Initiative. Lessons learned and transferable outcomes were disseminated and used to inform other initiatives. Lebanon also faces resource limits that are interlinked with social, political, and economic crises and dictate the need for resource security. The challenge lies in assessing alternative water and energy resources and allocating land to achieve a food security level that provides locally produced nutritious food at a lower cost.

Risultati e impatti attesi

The studies developed during this journey helped inform decision-makers. Multiple iterations of the WEF Nexus Tool 2.0 were adapted and scaled to address these. The developed Nexus frameworks and tools include provisions for alternative water and energy, crops, acreage, links with the environment, and other factors. The definition and quantification of the linkages between resources within these frameworks allow for scalability and adaptability, as demonstrated by Qatar, Texas, Morocco, Turkey, and Lebanon studies. The WEF Nexus Tool 2.0, now part of the SDG Acceleration Tool Kit, is accessible online and can be used to assess water-energy scenarios for crops and land areas globally. In Morocco, the phosphate industry adapted the tool to assess trade-offs between the economics of the water footprint of phosphate production versus that of agriculture.

Altri Enti partecipanti/ 27

Municipality of Mykonos - GR

Agricultural and Environmental Solutions-
AGENSO - GR

Eco Lodge Tinos Parochi Ypiresion
Oikologikon Toyristikon Epiplomenon
Katoikion Tinos EU - GR

Impact Hub Labs - GR

NTELAROS OE - GR

Minarva Techniki Kataskey Astiki Kaiergoliptki
Anonimi Etairia - GR

Municipality of Western Lesvos - GR

Municipality of Tinos - GR

University of Aegan - GR

Water Utility of Lesvos- GR

RADTKE Manfred - DE

Alchemia- Nova GMBH - AT

Plenum Gesellschaft fuer Ganzheitlich
Nachhaltige Entwicklung GMBH - AT

Water Europe - BE

Memira Gensis LTD - CY

Heliopolis University - EG

Isis for food industries LTD - EG

Fundacio Institut Catala de Recerca
de l'Aigua - SP

Asociacion catalana para la innovacion y
la internacionalizacion del sector del Agua,
Catalan Water Partnership (CWP) - SP

AERIS Tecnologias Ambientales SL. - SP

Unite technique du Semide GEIE - FR

Universita Politecnica delle Marche - IT

IRIDRA SRL - IT

Planet di villa Ale SSandro and C SAS - IT

A.S.A. Azienda Servizi Ambientalispa - IT

Brunel University London - GB-NIR

SATISTICA Limited - GB-NIR

Award

10.000 €



Paese ed Ente coordinatore

LIBANO

American University of Beirut (AUB)

Coordinatore scientifico:
MOHTAR, Rabi

Paesi partecipanti/ 1



Unità di ricerca/ 1



Contesto

We want to solve the water supply issue, the wastewater problem, the biodiversity and nutrient loss, the availability of jobs (mainly in the high touristic season), and the flush of difficulties that infrastructure has to deal with at the peak of the touristic season, resulting in the unsustainable water demand. The existing utilisation of non-conventional water resources at ELT and the upgrades through HYDROUSA, like rainwater for low purity water demand (toilet flushing, irrigation, washing machine, etc.), cistern storage in winter to reduce stress on aquifer during the touristic season, the low water consumption devices (e.g. ultralow flush toilets, air injected tabs or localised irrigation), address the provision site thoroughly.

Obiettivi e contenuti

The main objective of HYDROUSA is to offer a set of solutions for these problems that are easily adaptable and replicable to other possible circumstances around the world. This overall aim will be achieved by accomplishing the following project-specific objectives:

1. demonstrate that circular nature-based technologies work for supplying freshwater from non-conventional water sources and for wastewater treatment and nutrient recovery, creating further environmental and societal benefits.
3. show that the applied technologies are feasible within existing (legal) constraints and create the economic return, creating jobs and boosting the economy.
4. make sure that the community and stakeholders are engaged in all parts of the value chain from the very beginning.
5. prove that skilled workmanship combined with modern ICT solutions creates resilient, attractive, long-lasting systems.
6. establish the water-energy-food-employment nexus and work with accurate cost accounting for circular economy assessment.
7. replicate this concept to as many other places as possible with additional funding and spread the good news.

Risultati e impatti attesi

1. Significant reduction of water and energy consumption at regional scale by closing the cycles of material, water, energy, using alternative water sources and supporting transition towards smart water services.
2. Interconnectivity between the water system and other economic and social sectors. Increased public involvement in water management. Increased citizen satisfaction with water services.
3. Replication of new business models in other areas and replicating models for synergies between appropriate funding instruments at regional, national or European levels.
4. Closing the infrastructure and investment gap in the water service sector.
5. Creation of new markets in the short and medium term.
6. Providing evidence-based knowledge regarding the enabling framework conditions that facilitate a broader transition to a circular economy in the EU.
7. Implementing Sustainable Development Goals, particularly 12 'Ensure sustainable consumption and production patterns and ensure availability and sustainable management of water and sanitation for all.

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www.pulselli.it

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