



**Mediterranean
Network**

FORUM/22

Mediterranean Forest Research Agenda **2030**



WEBINAR #3

Conservation and management
of biodiversity and forest
genetic resources

Bruno Fady,
INRAE

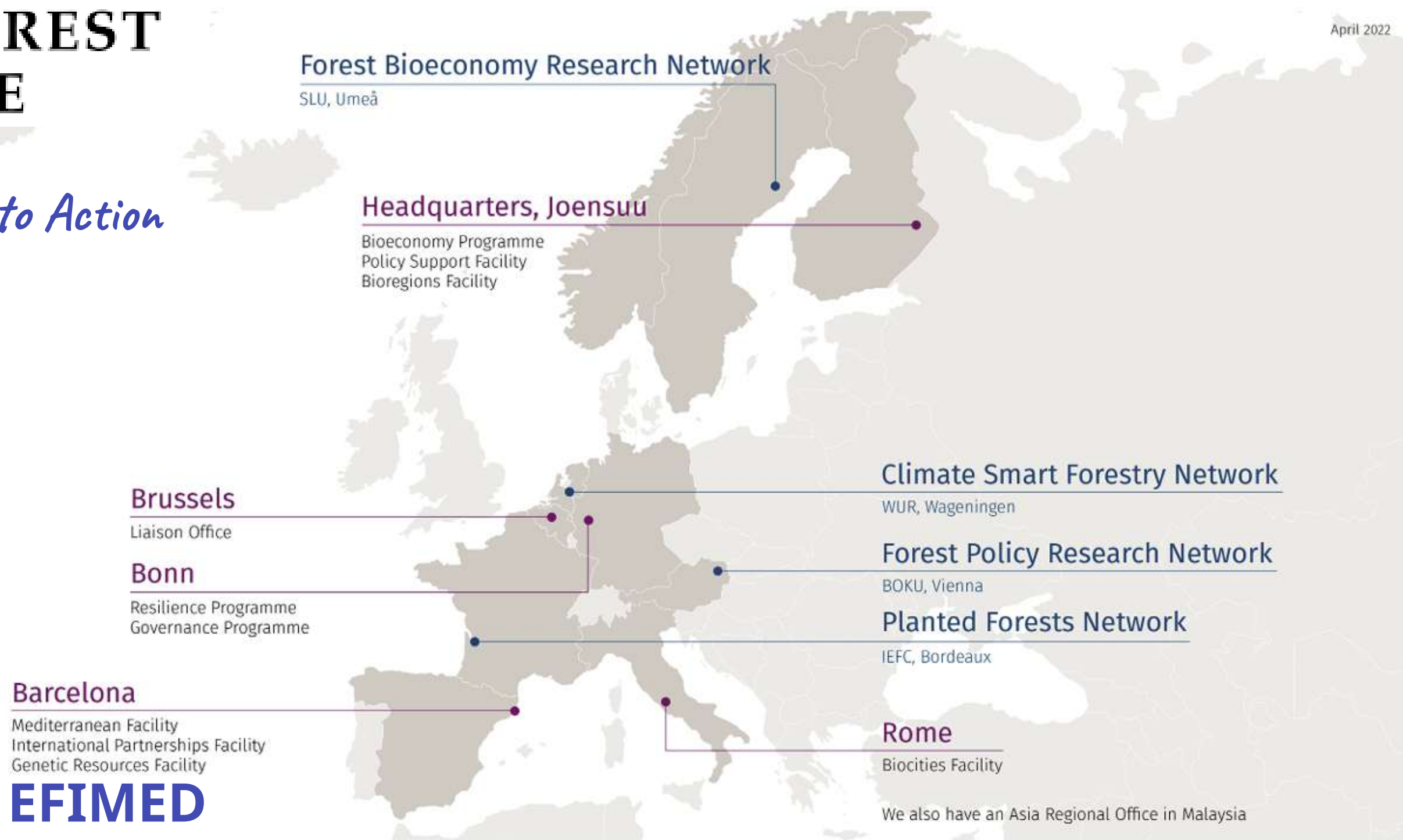
French National Institute for
Agriculture, Food, and Environment

17 Nov. **2022**



EUROPEAN FOREST INSTITUTE

Connecting Knowledge to Action





Mediterranean Network FORUM/22

Barcelona

29 Nov. – 1 Dec.

2022

Mediterranean Forest Research Agenda 2030



WEBINAR SERIES

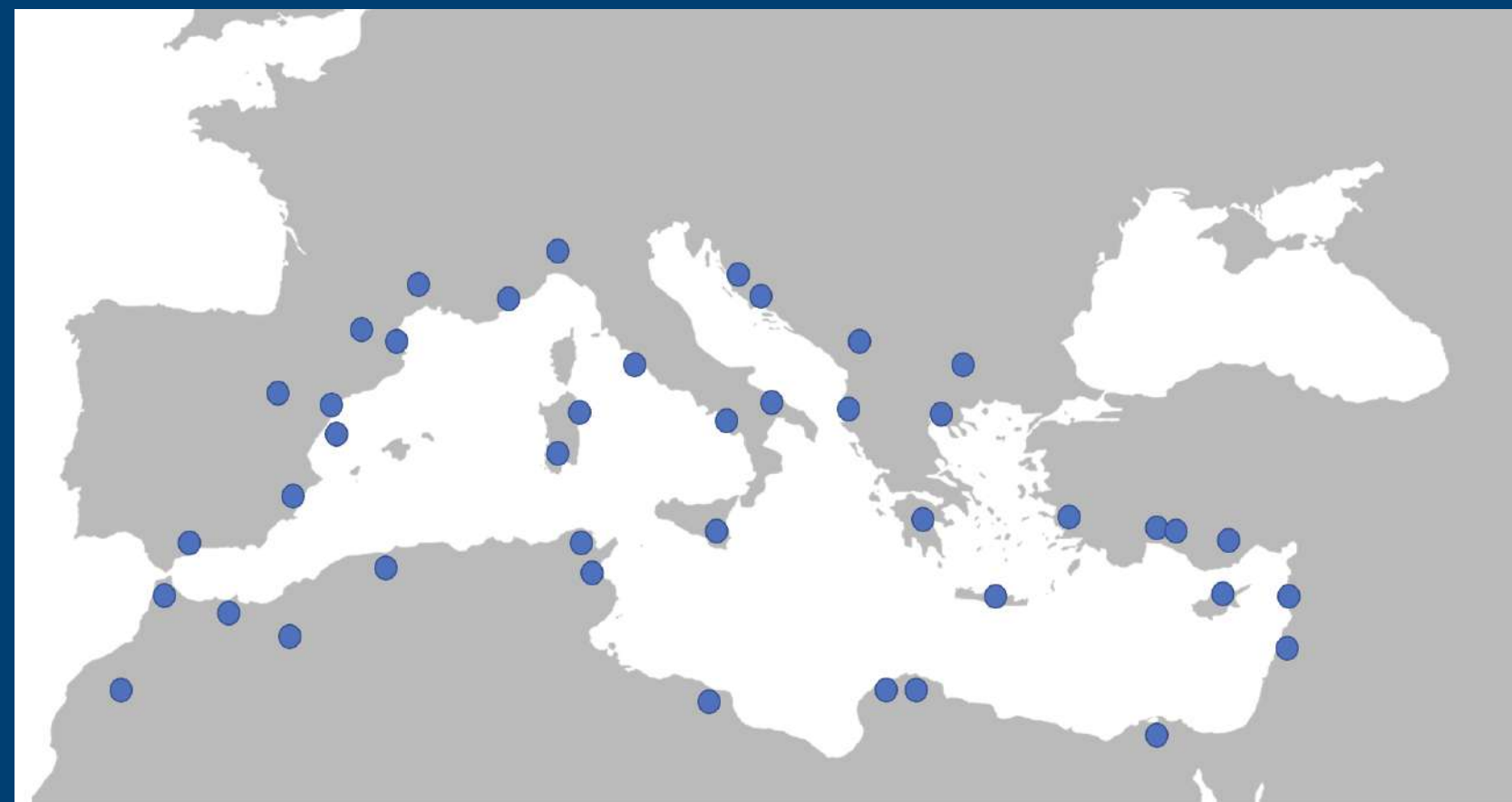


**Mediterranean
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Q2

4 commissioned papers





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Mediterranean Forest Research Agenda **2030**

▶ WEBINAR #1

Forest management addressing
trade-offs and synergies
between multiple ecosystem
services

Davide Travaglini,
University of Florence
3 Nov. **2022**



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▶ WEBINAR #2

Forest resilience in a context of
global change-related forest
disturbances

Joan Pino,
CREAF
Centre for Research on Ecology and
Forestry Applications
10 Nov. **2022**



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Bruno Fady,
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French National Institute for
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17 Nov. **2022**



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Mediterranean Forest Research Agenda **2030**

▶ WEBINAR #4

Social and business innovations
and policy instruments to
implement the Mediterranean
forest-based bioeconomy

Laura Secco,
University of Padova
23 Nov. **2022**



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WEBINAR #3

Conservation and management
of biodiversity and forest
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17 Nov. **2022**



European Forest Institute Mediterranean Facility



Michele Bozzano



Giuseppe Tripodi



Eduard Mauri



Sarah Adams



Magda Bou Dagher Kharrat



Gerard Fernández



Carola Chiusi



Siebe Briers



Anna Maria Farsakoglou



EFIGEN



Rhea Kahale



Mediterranean Youth Task ...



Leila Rossa Mouawad

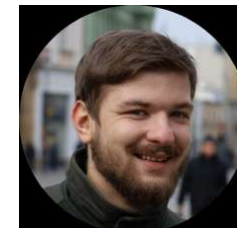
Mediterranean Youth Task ...



Hiba Mohammad



Mediterranean Youth Task ...



Simon Hrbek



Mediterranean Youth Task ...



Bruno FADY - INRAE Avignon

Current Forestry Reports (2022) 8:277–298
<https://doi.org/10.1007/s40725-022-00169-8>

TREE GENETICS (M MENCUCCINI, SECTION EDITOR)

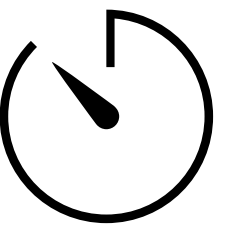


Forest Genetics Research in the Mediterranean Basin: Bibliometric Analysis, Knowledge Gaps, and Perspectives

Bruno Fady¹ · Edoardo Esposito² · Khaled Abulaila³ · Jelena M. Aleksic⁴ · Ricardo Alia⁵ · Paraskevi Alizoti⁶ · Ecaterina-Nicoleta Apostol⁷ · Phil Aravanopoulos⁶ · Dalibor Ballian^{8,9} · Magda Bou Dagher Kharrat¹⁰ · Isabel Carrasquinho^{11,12} · Marwan Cheikh Albassatneh^{13,14} · Alexandru-Lucian Curtu¹⁵ · Rakefet David-Schwartz¹⁶ · Giovanbattista de Dato¹⁷ · Bouchra Douaihy¹⁸ · Nicolas-George Homer Eliades¹⁹ · Louis Fresta²⁰ · Semir Bechir Suheil Gaouar²¹ · Malika Hachi Illoul²² · Vladan Ivetic²³ · Mladen Ivankovic²⁴ · Gaye Kandemir²⁵ · Abdelhamid Khaldi²⁶ · Mohamed Larbi Khouja²⁷ · Hojka Kraigher⁹ · François Lefèvre¹ · Ilène Mahfoud²⁸ · Maurizio Marchi²⁹ · Felipe Pérez Martín³⁰ · Nicolas Picard³¹ · Maurizio Sabatti³² · Hassan Sbay³³ · Caroline Scotti-Saintagne¹ · Darrin T Stevens³⁴ · Giovanni Giuseppe Vendramin³² · Barbara Vinceti³⁵ · Marjana Westergren⁹

<https://doi.org/10.1007/s40725-022-00169-8>

Discussion #1



15 min

Mediterranean marginal populations are at risk. Whether or not they will be able to contribute is in the air. From the data we have it seems the marginal populations have some adaptations that are not found in other populations. But it is not the same for all marginal populations. That's why we need to explore and test the marginal populations and see what specific adaptations they have. We need to put special effort into protecting them

What is your opinion on perspectives of using biotechnologies for conservation
It has not been explored in the Mediterranean, but for example breeding is one of the biotechnology tools. And natural selection is a super powerful method for increasing biodiversity

Speaking especially about the eastern mediterranean, talking about Jordan, the issue is the implementation of the law and lack of awareness. Talking about conservation efforts, the priority should be given to in situ conservation. You mentioned implementation of breeding, would that be sound when in contrast to natural regeneration
Breeding for conservation makes sense when the population has very low genetic diversity. Then it is a good idea to reintroduce some level of genetic diversity, although there are risks of course.

Land abandonment in Europe in the past was an opportunity for the species to occupy space again. I don't know if it is the same in other countries.
It is a hot topic, we will discuss it during the forum. There is no one solution fits-for-all. So this is an invitation to come to the forum and discuss it all together

Key research questions identified:

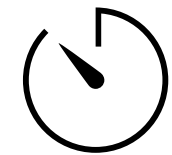
- 1- What is the potential of Mediterranean tree species to establish at **northern latitudes**?
- 2- How efficient is the **natural dispersal ability** of Mediterranean trees tracking their optimal conditions — with a focus on the total dispersal kernel for Mediterranean tree species and their associated community.
- 3- How can the **alteration of key interactions between species** lead to fragmenting the entire interaction web and hinder whole-community migration?
- 4- How should **landscape-level management strategies** (e.g., biodiversity corridors) be designed and implemented for lasting positive impacts on biodiversity at habitat, species and genetic levels?
- 5- What forest resource **management approaches** can be used to maintain and improve forest biodiversity and its resilience?
- 6- How can **knowledge** on forest biodiversity best be **catalogued and shared** for effective knowledge management?
- 7- What **legal and policy limitations** exist or need developing for effectively implementing and managing protected area networks across Mediterranean region?
- 8- How do **post-fire** community dynamics influence **adaptive potential and resilience** within different forest types, and under different wildfire frequencies and intensities?

Menti Results

Q#1 : Are the research questions relevant to your country?

Q#2 : Is there any missing research question?

Questions serie 1



Go to **menti.com**

The voting code

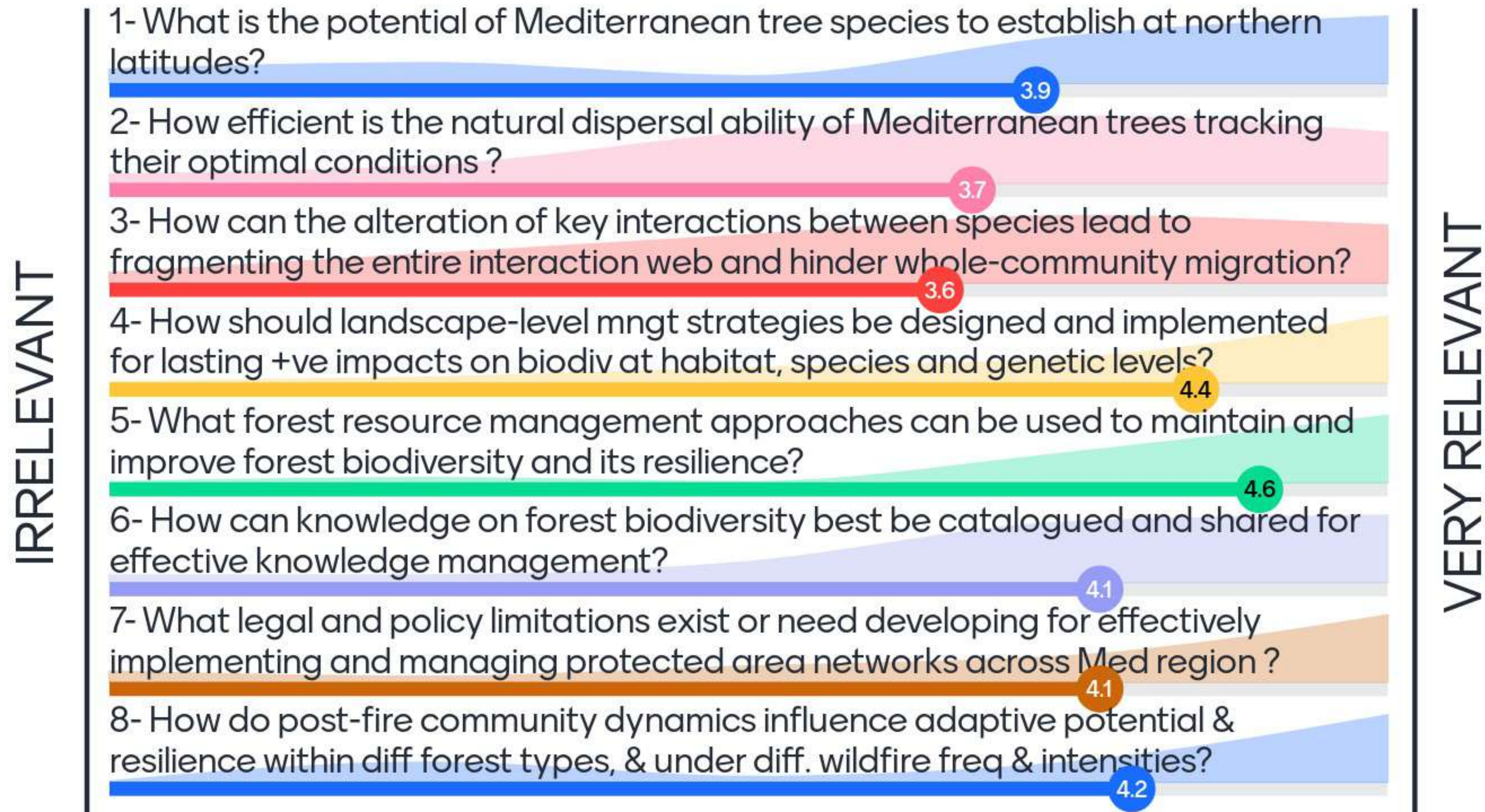
7174 4651



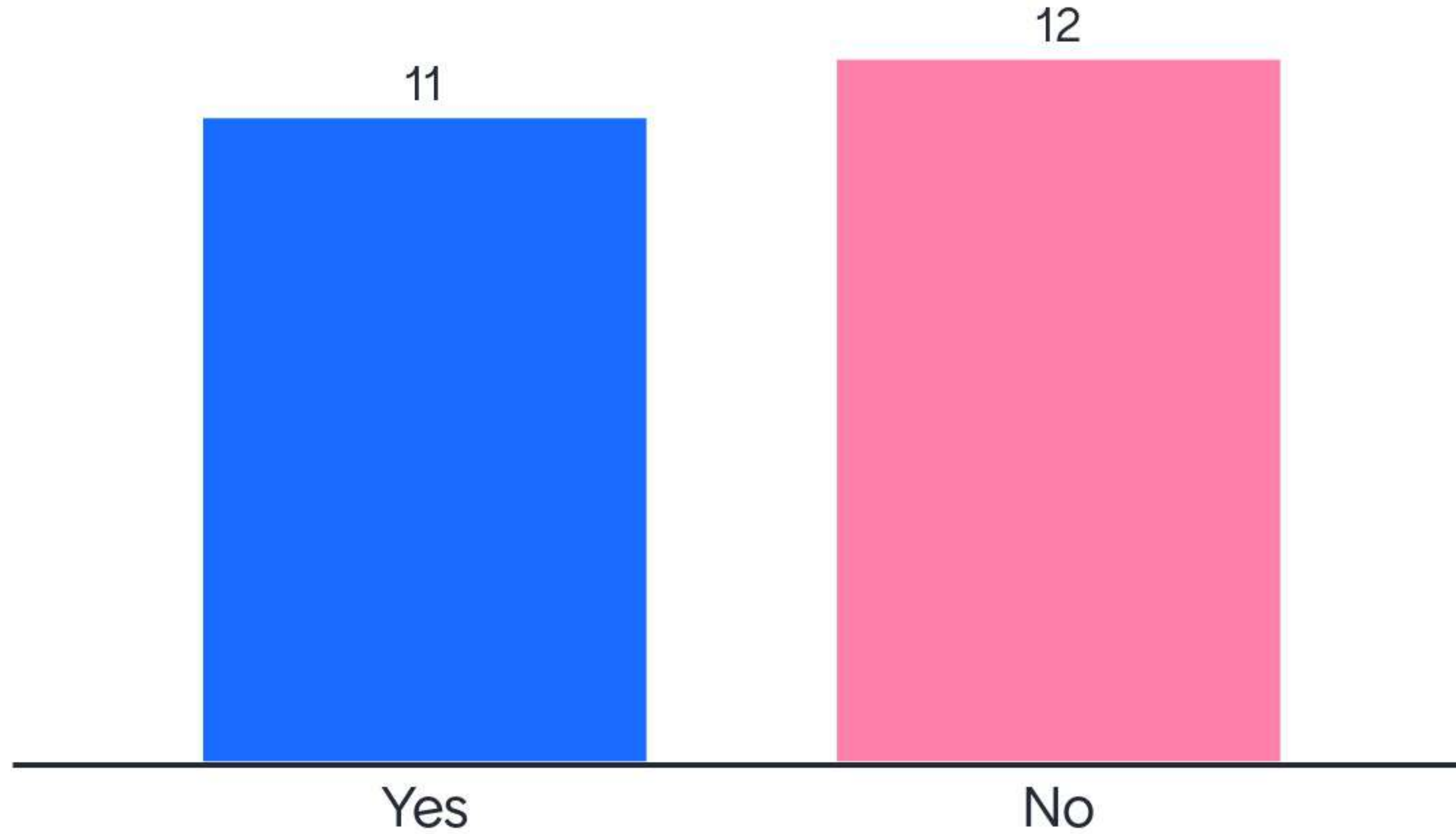
Q#1: Where are you from ? (Country)



Q#2 : Are the research questions relevant to your country?



Q#3 : Is there any missing research question? If yes, go to the next slide



Q#4 : What research question is missing ?

17 questions
29 upvotes


Questions

☐ Only show unanswered questions


Sort by Upvotes 

- Asked on: Q#4 : What research question is missing ?


Conservation efforts may be dependant on local resources, how to integrate this issue in our science?

8 
- Asked on: Q#4 : What research question is missing ?


Genetic background of disease/pathogen resilience

3 
- Asked on: Q#4 : What research question is missing ?


Research on the level of adaptive capacity of Mediterranean trees in light of climate change

3 
- Asked on: Q#4 : What research question is missing ?


Genetic diversity is very important in Forest Genetic Research but how to translate this knowledge to the forest sector?

2 
- Asked on: Q#4 : What research question is missing ?


How important is the interspecific hybridization for resilience in the Mediterranean?








2 
- Asked on: Q#4 : What research question is missing ?

What is the adaptive potential of marginal populations and restricted species

2 
- Asked on: Q#4 : What research question is missing ?

Q1 Ex situ conservation protocols Q2 Research on soil microbiota like fungi and bacteria and their effect on resilience and adaptation

2 

Asked on: Q#4 : What research question is missing ?	2 
conservation of old growth forests and determining ecological refugia to conserve genetic diversity pools for future rewilding.	
Asked on: Q#4 : What research question is missing ?	1 
What is contribution of FGR in Med region in ecosystem restoration?	
Asked on: Q#4 : What research question is missing ?	1 
Do we need an analysis of policies that are antagonistic / synergetic for conservation and sustainable management	
Asked on: Q#4 : What research question is missing ?	1 
Effect of parasitic plants and plant pathogens	
Asked on: Q#4 : What research question is missing ?	1 
How much research on QTLs in Mediterranean species contributing to innovation of SFM?	
Asked on: Q#4 : What research question is missing ?	1 
Species by species interactions (pests anda diseases, namely)	
Asked on: Q#4 : What research question is missing ?	0 
Remote sensing and GIS in the field of Environment	

Asked on: Q#4 : What research question is missing ?

0 

What is the knowledge accumulation in the field of adaptive genetics of forest trees in the Med?

Asked on: Q#4 : What research question is missing ?

0 

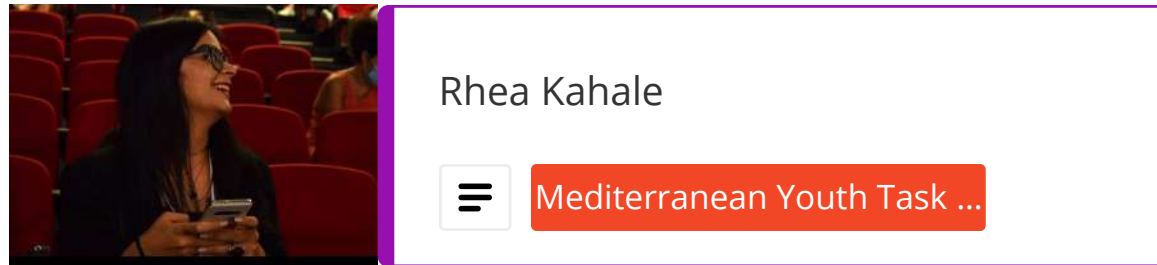
we need many Research areas in Syria because of the war last decade

Asked on: Q#4 : What research question is missing ?

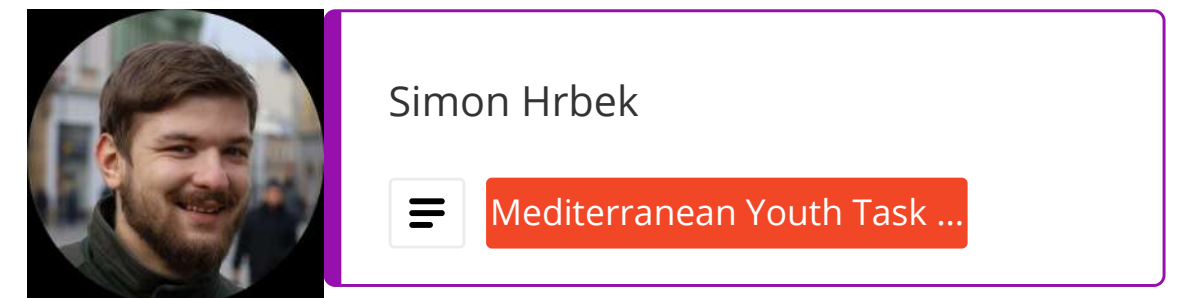
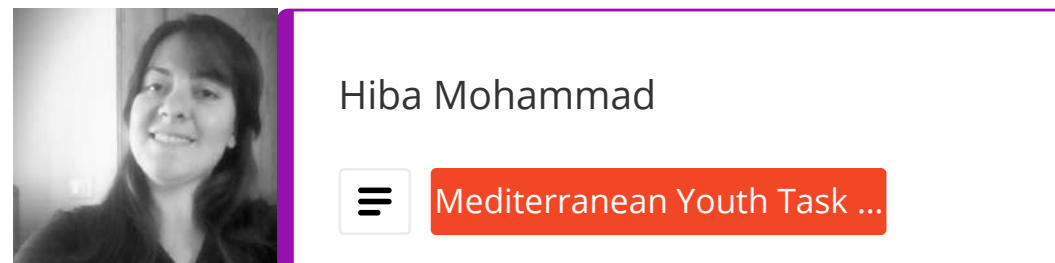
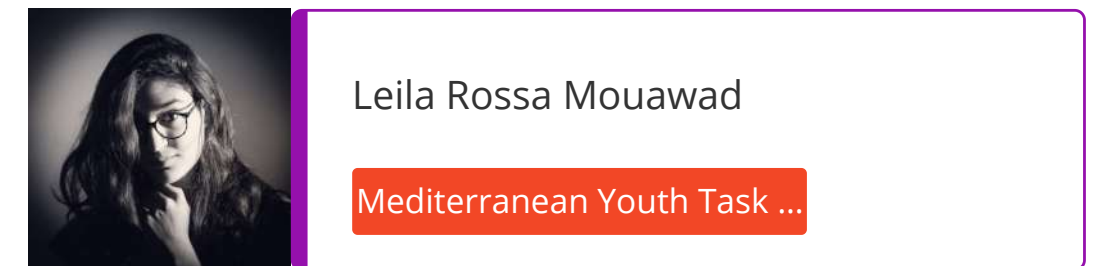
0 

How much ethics and good governance are shaping working environment of forest geneticists in Med?

Breakout rooms



Possibility to speak in french



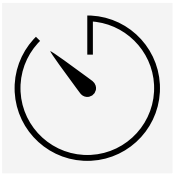
BREAKOUT rooms



15 min

What are the main challenges in your country
to implement the research proposed ?

BREAKOUT rooms



15 min

Q1: Where are you from ? (Country name)

Q2: You are ...

Q 3: The main challenges in my country to implement the research proposed are ?

Go to **menti.com**

The voting code

3587 8798



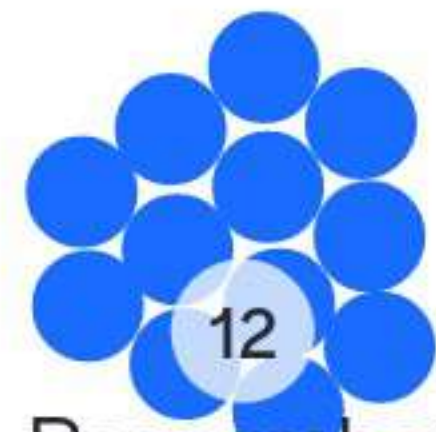
Q 2: You are ...



NGO representative

0

Policy maker



Researcher



Student



Forest manager

0

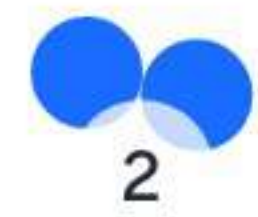
Forest owner

0

Government representative

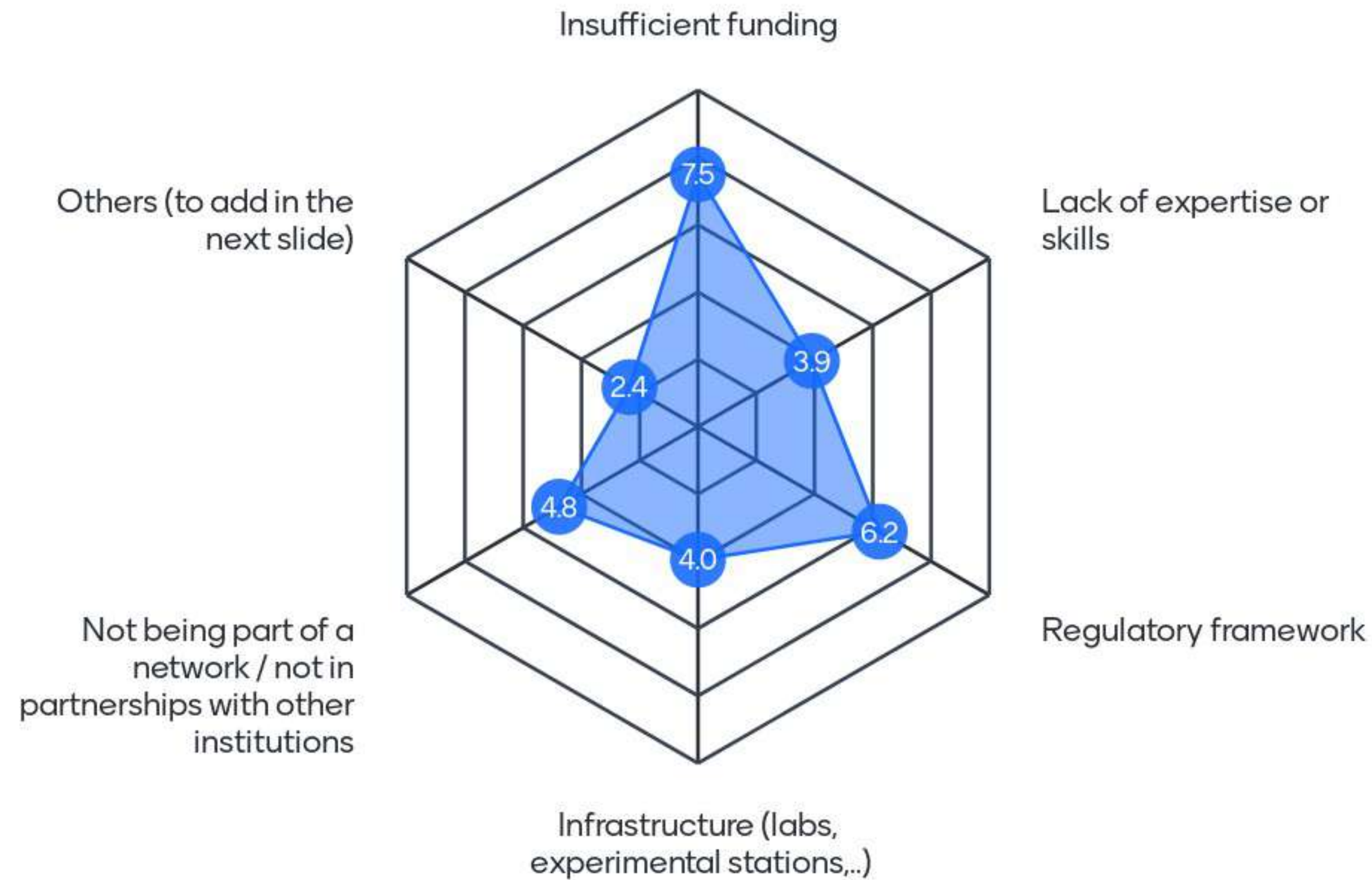


United Nations Agency representative



Other

Q 3: The main challenges in your country to implement the research proposed are :



Q 4: What are the additional challenges to implement this work?

14 questions
50 upvotes

Questions



Only show unanswered questions

Sort by

Upvotes



Asked on: Q 4: What are the additional challenges to implement this work?

9

Bridge the knowledge and transfer gap between research, management and policy

Asked on: Q 4: What are the additional challenges to implement this work?

8

Problem in the transition between theory and practice

Asked on: Q 4: What are the additional challenges to implement this work?

5

Effective involment of key stakeholders into multi-actor research along the "research value chain" (knowledge cascading)

Asked on: Q 4: What are the additional challenges to implement this work?

5

transfer and implementation of knowledge to the practice

Asked on: Q 4: What are the additional challenges to implement this work?

5

policy implementation and the willingness to change traditional habits from forestry professionals

Asked on: Q 4: What are the additional challenges to implement this work?

4

Increase the connection with the private landowners

Asked on: Q 4: What are the additional challenges to implement this work?

3

Integrated and inclusive Management Plans that include a FGR and bring into interest the multi stakeholder approach

Asked on: Q 4: What are the additional challenges to implement this work?

3 

Translate genetic research in current language in order to raise awareness to this issue, even among politic decisors

Asked on: Q 4: What are the additional challenges to implement this work?

2 

Public funding for conservation of biodiversity (including genetic diversity)

Asked on: Q 4: What are the additional challenges to implement this work?

2 


How to bring efficiently managers to the discussion with scientists

Asked on: Q 4: What are the additional challenges to implement this work?

1 

missing transfer of scientific knowledge to policy and decision makers

Asked on: Q 4: What are the additional challenges to implement this work?

1 

Less incorporation of local livelihoods

Asked on: Q 4: What are the additional challenges to implement this work?

1 

Efficiently eradicate corruption in decision making sector.

Asked on: Q 4: What are the additional challenges to implement this work?

1 

Legal frameworks implemented

[1:19 PM] Sven Mutke (CSIC.es) (Invitado)
Main challenges in Spain: high percentage of forest are not or low-managed, for not being profitable for the owner - so WHO would implement anything??

[1:21 PM] Sven Mutke (CSIC.es) (Invitado)
That is: gap from academia to "real life" forestry (practical implementation)

Lacking a lot of
research
capacity/resources
Serbia

The financial flow from
the government to
forestry, so it is very
challenging to get the
financial resources.
Iran

The legal framework to
implement the research is very
important. And the financial
resources to support long-term
research (since ecosystem
restoration has to be). And lack
of experts in the field is another
issue, we need to share
knowledge and focus on capacity
building
Jordan

The research in this field is well
developed, and the financial
aspect is not an issue either. So
the main challenge would be the
long-term plans and that most of
the forests are state-owned, so
all the plans are made by one
entity, and the
development/changes are slow
for the future adoption
Croatia

Problem in the transition
between theory and practice
This problem is due to a Lack of
cooperation between the
stakeholders from one side and
on a lack of geneticists or
experts that focus on a global
approach rather than mono
species studies
Lebanon

The coordinated research
on genetic diversity is on
path in Syria. Pinus brutia
the main species for which
the research is aimed,
lacking for other species (?).
Lack of multi-stakeholder
perspective.
Syria

Main challenges in Spain: high
percentage of forest are not or
low-managed, for not being
profitable for the owner - so
WHO would implement
anything??

That is: gap from academia to
"real life" forestry (practical
implementation)
Spain

Breakout rooms Results

A lot of research on non-wood forest products. Besides funding and cooperation, the lack is in integration of private landowners into the dialogue as most of the Portuguese forests are privately owned. The lack of knowledge transfer into the management is an issue
Portugal

Genetics is a big part of biodiversity and this must be translated in ER and other conservation approaches especially since genetics encompasses evolutionary adaptation and resilience. This is very important to decide the population sources samples and species to plant

Importance of translating genetic knowledge into measurable actions.
In addition formal and informal education have to provide tools to implement genetics into all conservation approaches. Genetics not only revolves around molecular biology but rather all forestry related fields

In the Mediterranean region, forest fires are among the key drivers of loss of forest genetic diversity. What might be the reason behind the lack of connection of research on genetic diversity with the forest fires.
Syria

To sum up some of the questions and suggestions mentioned earlier, perhaps the term itself "genetics" might scare people off from the topic. Many times we have an agriculture approach when talking about genetics. So the wording itself might be one of the challenges too. Although it's a strong side of biodiversity
Bruno Fady

The only time I saw a change in practice was when we went to the directive and there was an obligation to implement some monitoring or any issue. Only then the plans opened up for implementation of the new issues. More the top-down approach rather than bottom-up
Croatia

We need to learn from the lessons happening in our but also neighboring countries. There were many attempts to restore the area with good will, but they failed because they were not scientifically based. We need to share knowledge.

RESOURCES - Featured scientific papers

SP1 #1

[Forest Genetics Research in the Mediterranean Basin: Bibliometric Analysis, Knowledge Gaps, and Perspectives](#)

SP #2

[Biodiversity, climate change, and adaptation in the Mediterranean](#)

SP #3

Pollination and seed dispersal are the most threatened processes of plant regeneration

SP #4

[Low growth resilience to drought is related to future mortality risk in trees](#)

SP #5

[Challenges and Perspectives in the Epigenetics of Climate Change-Induced Forests Decline](#)

SP #6

[The disruption of a keystone interaction erodes pollination and seed dispersal networks](#)

SP #7

[*The Impact of Land Abandonment on Species Richness and Abundance in the Mediterranean Basin: A Meta-Analysis*](#)

RESOURCES - Projects

RESONATE : <https://resonateforest.org/>



TREEADS: <https://treeads-project.eu>

RESOURCES - Videos

Genetic Resources GENRESBRIDGE https://youtu.be/2JWWa1_SyOo

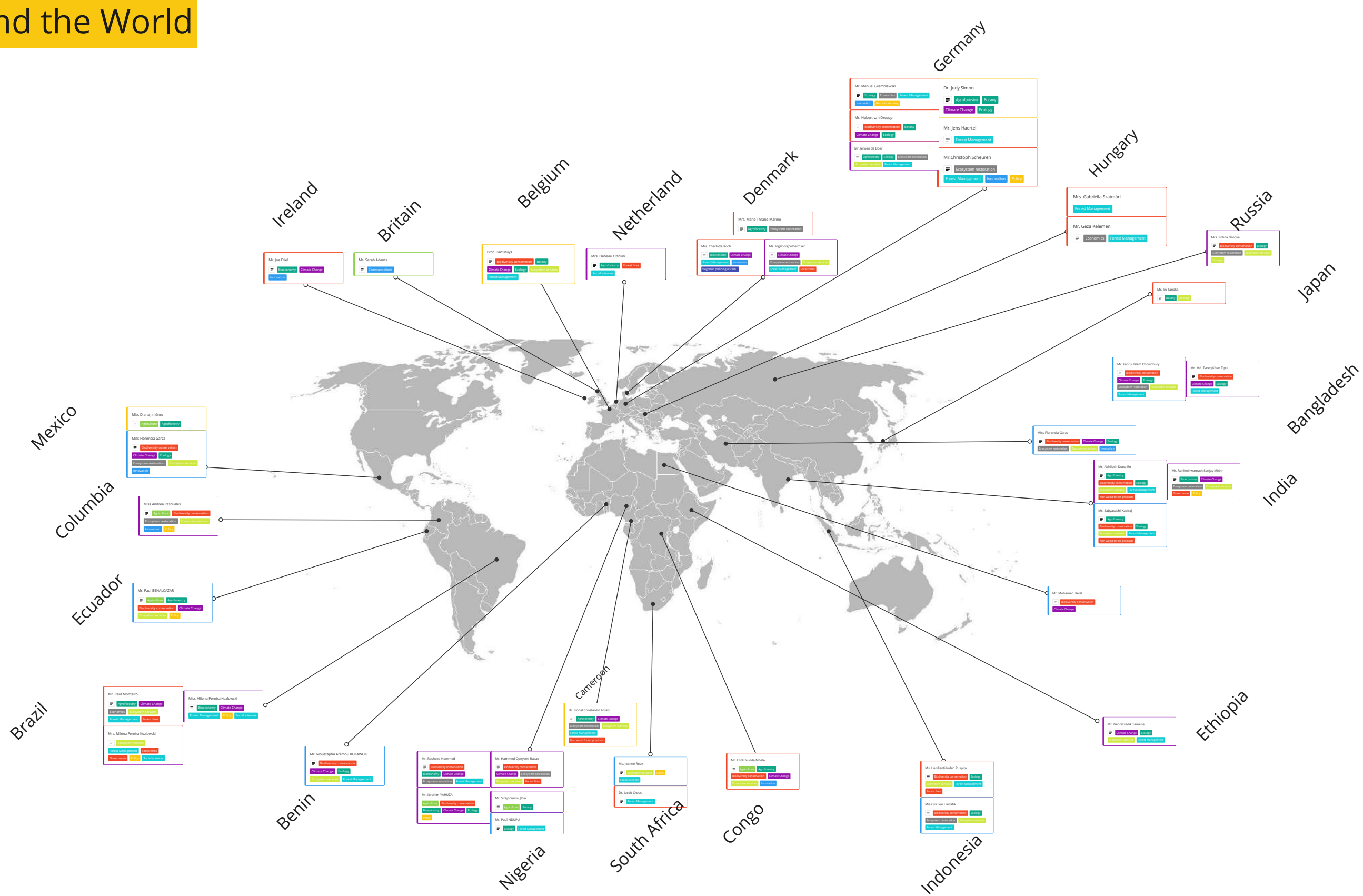
www.euforgen.org



EUFORGEN

European Forest Genetic Resources Programme is an international cooperation programme that promotes the conservation and sustainable use of forest genetic resources in Europe as an integral part of sustainable forest management.

Participants from around the World



Participants from around the Mediterranean

