



INTERNATIONAL ROUNDTABLE **EDUCATION TO LIVE WITH FIRE**

The concept of this roundtable was simple. It was a 3-step exercise that consisted in a previous questionnaire, an *in situ*, collaborative working session and, finally, a collaborative remote work to identify the main conclusions.

Before the roundtable, participants (speakers) were requested to prepare 3 main questions** to provide some initial (raw) information that would later be reorganized during the session through collaborative work.

- QUESTION 1 What are the main educational needs/gaps identified by the group you represent in order to contribute to a more resilient territory and population in areas prone to forest fires?
- QUESTION 2 Depending on the group you represent, how the educational/training strategy could be approached?
- QUESTION 3 What would you be willing to change/propose in your group to contribute to improving education/training?

These questions were initially presented by each speaker of the roundtable. Then, the group was divided in 3 different small groups that worked together (each group focused on one question) during 40 minutes to simplify and unify these answers into clear and summarized messages

***please note that some answers to the initial questions can be a little bit redundant since participants were initially asked to answer the same questions*

STEP 1 ANSWERING THE MAIN QUESTIONS

QUESTION 1 What are the main educational needs/gaps identified by the group you represent in order to contribute to a more resilient territory and population in areas prone to forest fires?

Limited knowledge of the public of forest fires and the factors influencing them

To properly understand the concept of forest fires

Fire perception. Social perception of wildfires. Accept fires as a natural phenomenon. Fire as natural entity

Limited future vision about the problem. After major disasters there is increased attention/will to learn and act, but only in the short-term

To prepare homes (training for emergency), prioritize the required actions in case of emergency

Promote the idea of vulnerability; promote self-protection measures

Shared language and concepts between professionals but not with the population

Lack of communication skills to reach people not directly involved

There is no clear communication about the why, when and what

The need for trained professionals

Disseminate knowledge. Disseminate knowledge about the risks and costs

Remove urban-rural barrier by sharing a common visión. Reconnect

Limited school education on the causes; Limited education on Protection/mitigation; Limited participatory activities (usually restricted to tree planting)
Inadequate strategies of communication, sometimes outdated regarding the current reality
Completely focusing on extinction while dismissing prevention
Misalignment knowledge and application
Few skilled professionals
Multiple interests over territory, lack of understanding among sectors
Limited society understanding of socio-ecological processes
Understand the resilience. Define it better because there are different definitions between domains, countries and ecosystems
Secondary school. Contents of the secondary school are limited. Student cannot integrate the knowledge. Teachers/educators are not adequately prepared
University. Limited knowledge. Increase the curriculum on forest fire topics
Professionals of the landscape often don't have enough knowledge of forest fires; often there are misconceptions
Soil conservation, usually neglected, the invisible damage
Limited knowledge on post fire management (actions, costs, duration)

QUESTION 2 depending on the group you represent, how the educational/training strategy could be approached?

Too much information, so reduce the number and improve the quality of the information
Difficult to evaluate the weight of the different hazards
Rise up awareness on the role of communication
Different age target in the society, so it has to be considered to deliver the message appropriately. Understand the necessities of different groups. The type of knowledge they have and what they need
Where to find the appropriate information????
Campaigns involving communities and local administrations; engage the population in implementing
Train and info for journalists and communicators about wildfires. Design dissemination programs for society using current and traditional tools
Highlight the advantages of prevention compared to suppression
Promote engagement of different sectors and knowledge transfer
Better coordination among actors operating the territory
Involving locals in the design of co-participative process of land management forest operations
Focus on the next generations as they will be the ones responsible in the future
Promoting cross-cutting courses at undergraduate level related to forest fires. Use new virtual platforms
Implementing collaboration programs at the university level and private and governmental agencies to forest fires
Training of future professionals to share innovative educational approaches
Reinforce the contents about wildfires, landscape management and bioeconomy and consider these as main topics
Update primary and secondary school contents. In terms of forest fires, explain the difference between spend and investment. Understand the consequences at the whole level, integrate the impacts in a holistic vision. Generate moral dilemmas since the very beginning of education
Formal training in POST FIRE MANAGEMENT (mainly across the Mediterranean basis)
Mixed approach, theoretical but increasing the field-based approaches. Increasing living labs
Impacts of wildfires need better assessment. New scientific strategy regarding fire impact on soil

c) What would you be willing to change/propose in your group to contribute to improving education/training?

Emphasis on communication

Availability of information

Search for opportunities, practically oriented projects

Maximize cooperation with forest service and state agencies

Facilitation the communication with different actors. Promote the collaborative environment

Wildfires as a bigger picture. Push for an integrated view of large fires. Connect it with big issues.

Socioeconomic, and climatic change

Implementation of different approaches. Think out of the box

Encourage members of the wildfire community in sending appropriate and accurate messages

Motivate the students to participate

Active participation

Try to convince them to pass the knowledge

Take care with private companies

Fit this topic of educating to live with fire as a transversal priority issue in restoration

Promote workshops on education

Contribute to young professional training by engaging the SER student group in the wildfires topic

Divulgate blogs (interviews to researchers, firefighters, policy makers)

Support S-L activities



STEP 2 MAIN SUMMARY OF THE INITIAL ANSWERS

During the debate session, working groups identified and grouped the main topics for each question. Based on the large number of proposals collected above, some major topics were identified

QUESTION 1 What are the main educational needs/gaps identified by the group you represent in order to contribute to a more resilient territory and population in areas prone to forest fires?

Highlight the fires as a natural element

Produce practical information and safety information for the general public

The necessity of adapting the message to different targets

Promote the research on forest fires, including fire ecology.

QUESTION 2 depending on the group you represent, how the educational/training strategy could be approached?

From two main points of view

1. Journalism and communication

Responsibility, not isolated trend, Avoiding spectacle

Understanding the natural phenomenon and, in some cases, as the consequence of human actions, not isolated events

2. Education

Caring paradigm. Caring of the landscape, which requires a proper understanding

The nature of fires, understand that there is not a single type of fire

Participatory, different social actors

Preparation of different profiles of scientists. Do all of us have to teach everyone? Maybe not, but we have to select our target appropriately

QUESTION 3 What would you be willing to change/propose in your group to contribute to improving education/training?

To know the tools and strategies to create educational agendas

Journalism. As part of academia we need formal training on how to communicate the messages

As a part of the process we (researchers/teachers) should have recognition for this work, for the educational work

Foster the work outside academia. e.g. S-L

Common fire culture. Including understanding the fire as a natural ecological process (e.g. reinforce the ecological training of society)

Testing ideas into living labs to extrapolate to other areas

STEP 3 CONCLUSIONS FROM THE INTERNATIONAL ROUNDTABLE

Title: Building Fire Resilience: Addressing Educational Needs and Strategies for Fire-Prone Areas

During our recent discussions on contributing to a more resilient territory and population in fire-prone areas (specially focusing on Mediterranean areas), several educational needs and gaps were identified within our working group. We believe that addressing these issues will play a crucial role in promoting fire resilience as wildfires are highly dependent on their socio-ecological context. Here are the key points highlighted:

a) Recognizing fires as a natural element

We must emphasize the importance of understanding fires as a natural element of ecosystems. This knowledge will help dispel misconceptions and fear surrounding fires, fostering a more informed and adaptive response to fire management. State the difference between the negative and positive impacts of wildfires over ecosystem functions including effects on soils, water, animals, plants...

b) Understand the actual primary and secondary causes of wildfires in these countries

Within all these causes we can include the necessity of knowing landscape needs, rural abandonment, changes in land soil uses, the increasing wildland urban interface (WUI), environmental conditions. It is also important to recognize that suppression is not enough and therefore, it is necessary to develop a better prevention response at all levels (landscape management, self-protection measures public information/education...) to complement the current suppression response.

c) Generating practical and safety information

One of our primary educational goals is to produce practical information and safety guidelines related to fire prevention, preparedness, and response. Disseminating this information effectively can empower communities to take proactive measures in fire risk reduction. Arsonism and negligence related to wildfires must be reduced with better education highlighting the vulnerability of ecosystems and thus the vulnerability of populations to wildfires and the responsibility and consequences of their actions.

d) Adapting the message for different targets

We acknowledge the necessity of tailoring our educational messages to different audiences. By adopting versatile communication strategies, we can effectively engage various stakeholders, including the general public, policymakers, and land managers.

e) Promoting research on fire ecology

To enhance fire resilience, we must promote research on fire ecology and its role in shaping ecosystems. Encouraging scientific inquiry into fire behavior, fire-adaptive strategies, and the ecological role of fire will contribute to evidence-based fire management.

f) Developing an educational/training strategy from two main points of view:

Journalism and communication

Through responsible reporting and education, we can avoid sensationalism and isolate trends while highlighting fires' consequences resulting from human actions. By incorporating a caring paradigm, we can deepen the public's understanding of the different nature of fires and the need for participation from various social actors.

Education

We aim to prepare different profiles of scientists and educators to effectively communicate fire-related knowledge to specific target groups. Our approach will focus on participatory methods, engaging communities and stakeholders in the educational process.

To improve education/training, we propose the following changes within our group:

1. Developing Educational Agendas

Acquiring tools and strategies to create comprehensive educational agendas will ensure a structured approach to our teaching and outreach efforts.

2. Training in Effective Communication

Formal training in communication, particularly in journalism, will provide our academic members with the tools needed to effectively convey complex fire-related information to the public.

3. Recognizing Educational Work

Acknowledging and rewarding the educational efforts of researchers and teachers within academia (but also those from outside the academia as in primary education) will incentivize more focus on educational endeavors.

4. Expanding Beyond Academia

We encourage fostering collaborations outside academia, such as community service-learning (S-L) projects, to engage with society and promote a common fire culture.

5. Testing Ideas and Collaboration

Creating living labs and conducting practical experiments will help refine our educational strategies and facilitate knowledge transfer to different regions and communities.

By implementing these proposed changes and building a strong educational foundation, we can collectively contribute to a more informed, resilient, and fire-adaptive society.