

“The Mediterranean sea is our home”: a video to summarize some of the research activities developed by ISMed CNR

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ABSTRACT

This paper summarizes the main dissemination activities carried out by the ISMed CNR research group of Palermo on the Mediterranean Sea. This young group is made by researchers and technicians with skills in economics, biology, natural sciences and it is strongly motivated by the love for the sea and biodiversity and by the desire to protect it. The dissemination activities of the team arise on the assumption that only knowledge can increase awareness of the importance of protecting the world’s resources and the environment. Scientific dissemination and training actions constantly follow the numerous activities conducted by this group, such as monitoring, sampling, analysis, research, writing articles, obtaining patents. The key to all of these activities, resulting from a continuous literature study, is environmental protection and sustainability with a view to ecological transition and sustainable development. This paper is complementary to the [video](#) *The Mediterranean sea is our home* presented by the authors at Blue Planet Economy (BPE) European Maritime Forum 2021.

KEYWORDS: dissemination, ecological transition, environmental sustainability.

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1. INTRODUCTION

The mission of the Institute for Mediterranean Studies is based on the dynamics and nature of the growth and development processes of the countries of the Mediterranean area. The regional focus hinges on the strategic centrality of the Mediterranean, both geo-economic and political. At the crossroads of three continents, this sea is the center of gravity for the exchange of goods, energy resources, people and technologies between North and South and between East and West, and among these the biological resources that support the economies of all populations.

Within the large thematic areas that characterize the scientific mission of the Institute of Mediterranean Studies, the Palermo Unit also follows an interdisciplinary approach, linking multiple complementary spatial and temporal scales to reconstruct the processes that support the economic, social, and environmental functioning of the Mediterranean. In fact, the collaboration of a heterogeneous community of researchers and the availability of scientific instrumentation provides the basis to support socio-political decisions, in order to promote sustainable and balanced economic growth, a continuous training and development of scientific competences, an optimal management and protection of the seas in terms of blue growth.

The Palermo Unit, founded in 2019, enriches the mission of ISMed with specific features that allow better translating scientific knowledge to support the implementation of important European Directives on environmental protection in Italy. It contributes to increase awareness of the factors and dynamics of global change from the Industrial Revolution to today, on a Mediterranean scale and on the biologic resources (Adger, 2009; Balzas et al., 2013). Therefore, the Palermo ISMed CNR Unit decided to develop a line of research on the Mediterranean Sea and strong dissemination and Citizen Science actions to favor the positive effect of research on environment and humanity.

A line on ecological dissemination and blue economy research has thus been developed as described: it aims to study the sea and biodiversity as a resource, with a view to the regeneration of coastal marine ecosystems and their sustainable use (Adams, 2012; Carr, 2004). Far from being a mere ethical and moral goal, the study of marine biodiversity has cultural, economic and social implications, and involves enhancing what can be broadly defined as “natural capital”. This, like any other productive factor, is a fundamental ingredient for an economic-social system not only to grow, but also to develop along a path of sustainability (McCormick, 2012). In this sense, the fully understanding of the interrelation between economic activities ascribable to marine resources and the study of biodiversity is an essential element for drawing up policy guidelines.

Scientific popularization is also and above all important in moments of crisis, moments in which humanity feels the need of understanding what happens in nature and what are the efforts that researchers make to study the phenomena (Carrera et al., 2019).

2. SCIENTIFIC DISSEMINATION ACTIVITIES DEVELOPED

Numerous scientific dissemination and training activities have been developed here summarized in Table 1.

Table 1. Scientific dissemination activities

Kind of activity	Nr of items	Nr of people involved	Products developed: nr and type
Open Seminars/Webinars	5	>200	video
School lessons	88	>300	Ppt presentations, interviews, videos, exhibitions, books
University lessons	160	>200	Ppt presentations
Scientific conferences	3	150	Ppt presentations
Specific stakeholders formation	11	105	Interviews, videos, questionnaires
Dissemination events	9	>1000	Ppt presentations, videos, exhibitions, science quizzes
Total	173	>1855	

Source: CNR-ISMed.

All the dissemination activities, carried out by this research group and reported in Table 1, belong to the two-year activity of the group. The first thing highlighted in Table 1 is the type of dissemination or training activities; among these we have identified: open seminars, school lessons, university lessons, scientific conferences, training for specific stakeholders, participation in national and international dissemination events. Table 1 also indicates the number of people involved (from 1 to 10, from 10 to 50, from 50 to 100, more than 100), pointing out whether there has been particular attention to inclusiveness with respect to the different abilities of the subjects included in the activities. Finally, the table reports the products developed, which were identified as follows: multimedia products (videos, video clips, commercials, online lessons, cartoons, and animations) and traditional ones (printed publications, presentations). Both the online activities, theoretical and practical, have a very strong educational value and have been calibrated to the different categories of users they were intended for (Wallerstein & Duran, 2010; Flórez-Aristizábal et al., 2018).

Among the products of dissemination, great priority was also given to artistic forms or to those that introduced artistic elements and forms of inclusive dissemination for the blind (Lesen et al., 2016, Setti et al., 2018).

3. PROJECTS

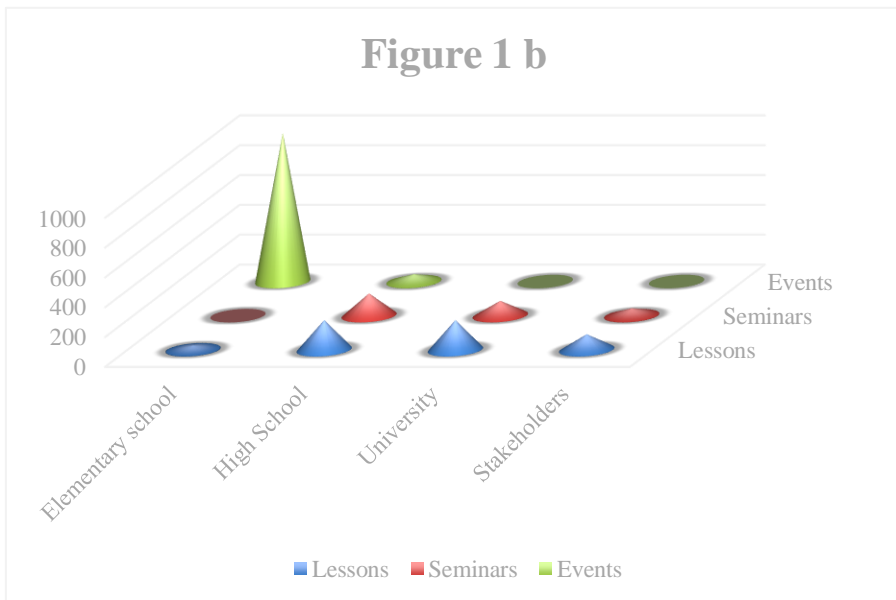
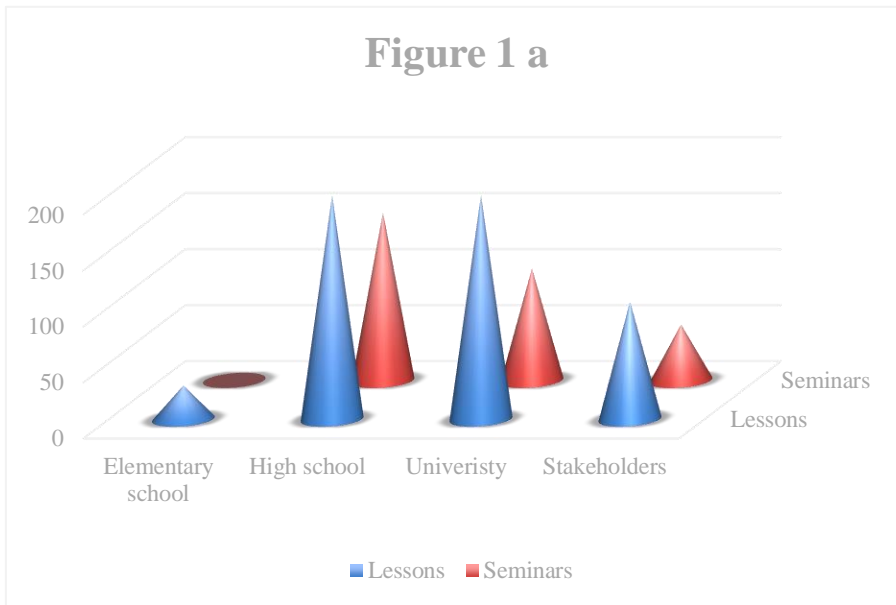
Upstream of all the dissemination and training activities, an intense project activity was carried out. In Table 2 the list and type of these projects.

Table 2. Project supporting the dissemination activities

Year	Financing	Institution	Type	Title
2019	Ministry of school	Marco Polo	Higher technical institute	La biodiversità la nostra risorsa
2019	Ministry of school	Danilo Dolci	High school	Sperimentare la biodiversità
2019	EU	CNRS Lebanon	Research Institute	DIAMETER
2020	EU	Several research institutions	Research Institute	CELAVIE
2020	EU	Various and numerous schools	High school	European Biotech week
2020	MIUR	Various and numerous schools	Many schools	FuturoRemoto
2020	EU	Various and numerous schools	Many schools	Maker Fair
2020	MIUR	Various and numerous schools	Many schools	Esperienza Insegna
2020	EU	Various and numerous schools	Many schools	Roma Videogame Lab
2020	EU	Various and numerous schools	Many schools	Time4child
2020	EU	Different stakeholders	Technicians	Pescaplastica
2020	EU	Various and numerous schools	High schools	PCTO
2021	MIUR	Various and numerous schools	Many schools	FuturoRemoto
2021	EU	Various and numerous schools	Many schools	Leaf2021
2021	EU	Various and numerous schools	Many schools	Meetmetonight 2021

4. IMPACT GENERATED ON KNOWLEDGE OF THE ISSUE OF ENVIRONMENTAL SUSTAINABILITY

The impact generated by the intense dissemination activity promoted is measured in terms of the number of people involved, identified by age and school level.



Figures 1a, 1b. Numerical impact of dissemination activities with and without public events.

If we examine the data on participation in events without considering the typically playful ones, we obtain that our effort has been concentrated on high-grade schools (Figure1a). If we consider the playful events, we see how the dissemination activities have been very effective on lower schoolchildren (Figure 1b).

5. CONCLUSIONS

An informative video has been realized to summarize the research activities developed by ISMed CNR group, from its foundation until today. In this sense, the project and associated dissemination activities and their impact on different stakeholders are presented. We can notice that in 2019 the research team made three projects match with dissemination activities, in 2020, nine projects, and in 2021, three projects.

We can notice that, in 2019, projects involved only the high-level school and one European project; both of these activities are time consuming also because of the lectures and presentations to be prepared. In 2020, most of the activities were addressed to dissemination events or lessons in primary school; both of these activities are not much time consuming and it has allowed us to produce various media for communication, such as videos and games. In 2021, the research group was more involved in scientific action and training.

These activities, addressed to specific stakeholders, claimed a lot of effort and have produced a plethora of different products aimed at different categories of people and schools, and have allowed an intense and effective dissemination action over time.

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