Chapter 2.

# Knowledge and emotions



Credit: OGS photographic archive

# What Italian citizens think

#### Maria Cristina Pedicchio and Maurizio Pessato



Maria Cristina Pedicchio is full professor of Algebra at the University of Trieste. She has great experience in managing public and private Research Institutions. She has been (2011-2019) President of the National Institute of Oceanography and Experimental Geophysics (OGS). She is a member of the European Board of experts for the Starfish 2030 Mission.

Maurizio Pessato is vice-president of SWG SpA. He has directed various research sectors on socio-economic organizations and on public opinion attitudes. He manages the Observatory on social and cultural values of Italian citizens

#### 1. Introduction

"Every European citizen must become a citizen of our ocean and waters". This is one of the objectives of the Starfish Mission: engaging, inspiring and motivating citizens to fully appreciate our ocean and waters as a common good and a natural capital to be preserved.

Protecting the ocean is a vital necessity for future generations, but we will not be able to carry out, by 2030, all the actions necessary to know, protect and restore maritime and land waters if this is not shared by all. A collective effort is the only key for success.

To be able to achieve this objective we must first understand better what citizens know or, think they know, about seas and water and ask them what they would propose if they had the power to decide on the national "blue" priorities.

To develop a strategy that is co-designed and co-implemented by citizens, as the European Commission is asking all Member States, we must listen to them.

For this reason, OGS and SWG developed a joint project to involve a large community of citizens and ask them how they value the ocean and waters. A questionnaire was prepared with the support of scientists and communication experts and it was submitted to 1,500 Italian people.

The project produced an extensive survey on the knowledge and assessments of Italians on the sea and the protection of the environment, by describing the level of closeness and sharing that exists between public opinion and these issues.

The work consists of six areas with 49 questions in total, framing the set of aspects related to the following main issues:

- the importance of the oceans
- threats to the health of the sea
- the defence of the sea
- the economy of the sea

- research on the sea (in Italy and in Europe)
- after Covid-19.

The overall analysis that emerges from the study indicates a widespread propensity to consider the validity of the protection of the sea, water and the environment in general. It also indicates a rather general interest for these topics from public opinion and an increased attention to the environment due to the Covid-19 general context.

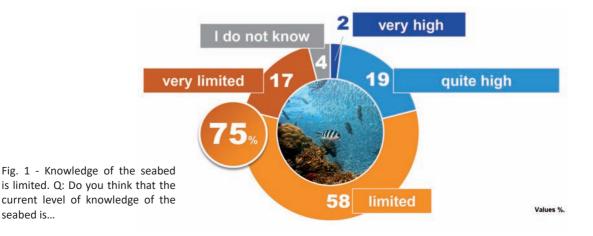
The sea is certainly a reality that is part of our life. Its knowledge does not concern everyone, but the consideration of its importance is vast and also includes those who do not live near the sea. It is recognized as a source of many resources and the need for its protection appears to be of great importance.

These are general premises. In the following, going into some of the answers that we consider of main interest, we report specific questions and resulting data as presented in the survey.

### 2. Some data

Public opinion recognizes the importance of the sea and reports that it is familiar with its fundamental elements. The answers given reveal that:

- about half of the population declares a good knowledge of the sea;
- the relationship between sea and land is correctly indicated by about 2/3 of the citizens;
- knowledge of the seabed is recognized as limited by 3/4 of the sample (the surface of Mars is better known than the seabed!) (Fig. 1);
- almost all citizens believe they can recognize a polluted sea. The proof that is shared by the majority is the absence of forms of life;
- the Marine Strategy Framework Directive is not known and neither is the division of the European seas into regions and sub-regions; a figure in line with what was expected, given the particular nature of the theme;
- as far as the quantities of oxygen and food produced by the sea are concerned, the answer is distributed on the middle range of the proposed scale;
- the knowledge that the sea is a source of various non-biological resources is very wide.



The importance of the sea and the need for its protection within the environment appears to be of great importance. The verification of threats to sea health is a basic element to anchor the relationship between public opinion and the sea.

- The vast majority of people believe that the health of the sea is already at risk (8 out of 10);
- attention to pollution is high (Fig. 2). The phenomena that have an impact on sea pollution are many: plastics and chemical compounds are the ones that most affect the public imagination. Less well known are the effects of alien species, viruses and bacteria, and the noise caused by humans;
  - high medium = I do not know Iow plastics, microplastics, and litter in general 81 13 33 chemical pollutants 78 ocean warming 64 climate change 60 biodiversity loss 55 new types of pollutants (pharmaceutical) 54 unregulated fishing 53 marine acidification (due to the increase of Co2) 50 lack of oxygen 50 high medium = low I do not know eutrophication (abnormal increase in algae growth) 42 37 oligotrophication (drastic decrease in algae growth) 41 36 the extraction of minerals from the seabed 36 42 41 alien species 31 presence of viruses and bacteria 38 noise in the marine environment caused by man
- the condition of rivers and lakes is seen by many as worse than that of the seas.

Fig. 2 - Pollution of the sea. Q: In your opinion, what impact do the following phenomena have on sea pollution?

We can conclude that there is a full awareness among public opinion that the gravity of the situation results from a multiplicity of factors. This is because all the waters are in precarious conditions.

This sensitivity also reflects the intensification, in recent years, of the promotion of international actions to protect the environment, the oceans and seas through scientific research, institutional initiatives and personal behaviour.

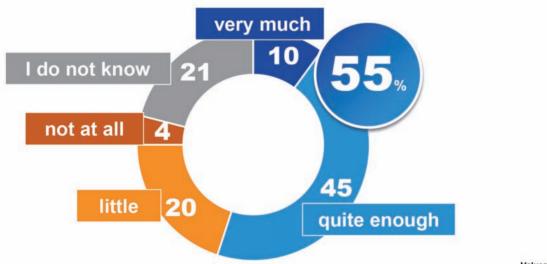
The reactions of citizens to these new scenarios are the following:

 the vast majority thinks that there is an urgent need to act for the protection of the sea; in particular, it is acknowledged that sea protection is a fundamental component for the equilibrium of the planet;

- in relation to the use and protection of the sea there is a broad consensus for decisions taken by international organizations;
- as far as the coastal sea is concerned, however, there is a preference for national and regional institutions;
- aquaculture is seen more as a resource than a threat;
- there is a high consensus on the extension of actual marine protected areas.

Concerning the economic aspects, the theme of blue economy and development are considered to be strategic, in particular, for the repercussions they can have on the labour market in this difficult moment. It is interesting to observe what citizens say:

- expectations are good for the potential of the sea economy, also in terms of blue jobs (Fig. 3). The sectors that are mainly identified are tourism and fishing. They are the ones that are most striking as they are more generally highlighted;
- there is a broad consensus on support for economic development linked to the sea (Fig. 3), but with some stringent conditions like clear rules for the protection of the environment and biodiversity and for the sustainability of the approach;
- from an institutional point of view there is support from over half of public opinion for the creation of a Ministry of the Sea (Fig. 4);
- the launch of a European Ocean Agency is favourably viewed (Fig. 5). Probably the theme of coordination, already noted above with the role of international bodies, is seen positively.



Values %.

Fig. 3 - The sea could create a significant economic and employment impact. Q: Some say that the economy linked to the sea is growing rapidly and could create many new jobs. Do you agree with this statement?

The combination that citizens make between support for economic development linked to the sea, and the constraints they pose for its implementation appears to be of particular importance. It is an indication that stems from the growth in environmental sensitivity that has occurred in recent years.

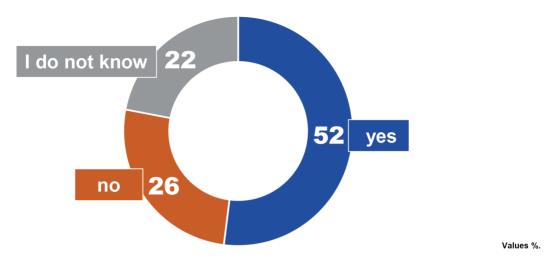


Fig. 4 - Institutions of the sea. Q: In your opinion, could the establishment of a Ministry of the Sea be useful?

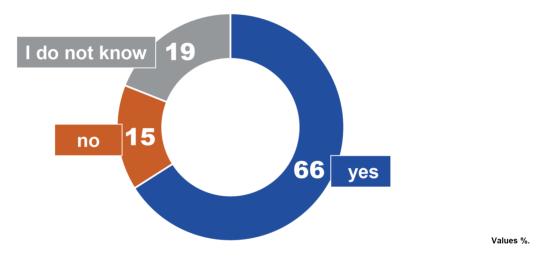


Fig. 5 - Institutions of the sea. Q: In your opinion, could the establishment of a European Ocean Agency be useful?

Moving to the research context, the following opinions express how much is known and what evaluations are given for research work in the field of seas:

- there is little information on the number of people involved in marine research and on the existing marine research infrastructures;
- the answer to the comparison of investments clearly indicates lower Italian investments in marine research than in other European countries. Generally, public opinion tends to believe that Italy is less competitive than the others;
- as regards the skills necessary for research, there is a clear tendency towards multidisciplinarity;
- protection of ecosystems, combatting pollution and mitigation of climate change are indicated as the main sectors that should be studied;

- it seems necessary to try to make available more information on marine research;

- education is considered essential (Fig. 6).

Knowledge of the work carried out by the European Union in the field of marine research is also limited. It is certainly necessary to identify new strategies for a more effective communication.

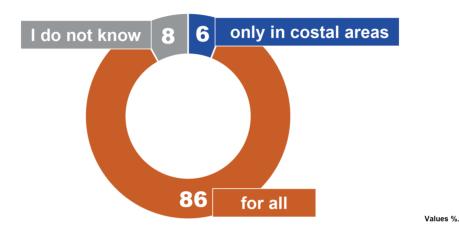


Fig. 6 - Environmental education for all citizens. Q: Do you believe that correct environmental education on sea issues is only useful in coastal areas (seaside cities, islands, coastal countries) or for all citizens?



Fig. 7 - The transition to environmental sustainability. Q: Do you believe that the transition to environmental sustainability is primarily a cost or an opportunity for the purpose of economic recovery?

One aspect to evaluate, in the current period, is the presence, evolution and effects of Covid-19 (Fig. 8). The significance of this pandemic has been enormous, and continues to be. It can be noted that public opinion believes that:

- Covid-19, beyond the known consequences on the economic level, should not be separated from the protection of the sea;

- attention to the environmental conditions of the planet, including the seas, must be increased; sustainability must become a priority;
- a very close and mutual link is recognized between the health of the sea and that of human beings;
- some scepticism still remains about the future improvement of citizens' attention to the sea.

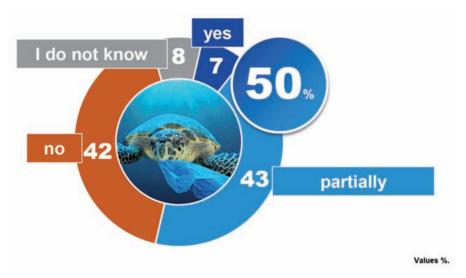


Fig. 8 - After Covid-19 and the protection of the sea. Q: After the Covid-19 emergency, do you think citizens will have a different awareness and greater attention to the protection of the sea?

#### 3. Socio demographic aspects

In the study, we also analysed the responses by looking at the socio-demographic segments of the sample: we can say, as a general remark, that the differences within the population are not high. The theme of the sea, in Italy, is evidently little influenced by the variety of living conditions; these data confirm a rather general knowledge of the sea.

Some traits, however, emerge:

- the basic knowledge of the sea is more developed in the South and in the Islands, in the coastal areas and in couples with children. On the other hand, it appears less present in the North and among young people;
- the comparative assessment of the state of lakes and rivers is more developed among young people and in hilly and mountainous areas;
- the economic opportunities created by the sea economy attract young people, the South and the Islands and the coastal areas. They convince less the inland areas and the North;
- in reply to the question of how to stimulate people to face the challenges related to the sea, young people tend to consider the need of active involvement of citizens; people with children support more the use of social networks;

 the Covid-19 experience leaves a greater awareness of the need to protect the sea, mainly among people over 55 years of age, the South and the Islands, the coastal areas and people with children. Young people, the hilly-mountainous areas and the North and the Centre appear more sceptical.

To summarize: the South and the Islands show more favourable expectations, as do the coastal areas, in relation to the opportunities for development of the marine economy; the North is less confident. The position of young people appears less predictable, open to protection and to the opportunities given by the sea and to involvement, but with less knowledge on the subject and they are more mistrusting of the positivity of prospects. The analysis also shows that, generally, couples with children are closer to the theme of the sea.

## 4. Conclusion

Following the Italian OGS and SWG project, other countries developed surveys and questionnaires for the general public.

In particular, we can mention France with an important initiative involving citizens, media and policy makers. 6,600 persons answered a national questionnaire on their perception of ocean and waters, the threats to them and possible solutions.

Regarding the threats highlighted by the French participants, pollution and overexploitation are the two greatest concerns. And it is plastic that comes first in terms of pollution in the responses. Another result that stands out is that education is acclaimed as the first effective measure for the protection of marine ecosystems.

It is also worthwhile to mention a joint project of Denmark, Estonia, Finland, Norway, Poland and Sweden that produced a digital survey with 1,000 participants and a very successful Irish Citizen Engagement process.

In all these cases, as in Italy, the role of research Institutions was fundamental for success.

To conclude, the recent health emergency has made us understand how the alteration of ecosystems and the removal of natural habitats from wild species is dangerous and can also favour the spread of previously unknown pathogens.

The health of mankind and that of the sea are closely connected, indeed the health of the sea is crucial for human health. All in a circular logic of inter-relationships between ocean health, human health and human activities.

We have deluded ourselves that "we can stay healthy in a sick world," as Pope Francis has said. It is necessary now to rethink the priorities to be addressed and redesign, with appropriate laws and political choices, a healthier and more sustainable production and consumption system. The paradigms of the past have failed, we need to design others.

Missions have enormous potential for the EU to deliver on these key targets, but they need citizens to participate in the implementation of solutions that have meaning for their lives. The invitation to all citizens is therefore to reflect on the sea and the oceans, on our behaviour, on our responsibility and, above all, to act personally, now.