



Health of the seas and oceans and their role in the present and future of humanity



A meeting at the Pontifical Academy of Sciences in the Vatican, in collaboration with Stazione Zoologica Anton Dohrn, to discuss ideas and possible solutions for sustainability in the UN decade (2021-2030) dedicated to the Oceans for sustainable development and 8 years from the goals of the 2030 Agenda.

The United Nations Decade for Ocean Science for Sustainability began in 2021 and we have less than a decade to reach the sustainable development goals of the UN Agenda 2030, inspired by Pope Francis' encyclical *Laudato Si'* and defined by world's leaders during the historical agreements in Paris in 2015.

This is an unprecedented period in the history of humanity for the potential impacts on the quality of our lives. The sea is increasingly the resource of the future to make man's impact on the planet sustainable. By the end of this century, there will be around 11 billion people on the planet. In a finite system like the earth - where already today if all populations lived and consumed according to the habits of Europeans and North Americans we would need 2.5 planets earth to feed everyone and, at the same time, be able to mitigate the impacts of man - we must think that 70% of the earth's surface and 90% of its volume are composed of water and almost exclusively of seas and oceans. Their knowledge of the oceans will therefore be increasingly fundamental for our health, the nutrition of the planet, the production of renewable energy, mineral resources and the production of drugs.

How are our seas and oceans? What can they offer us in terms of fair and solidarity wellness for

humanity? Can we sustainably feed, heal and supply materials and energy to a growing human population, thanks to the oceans? How to protect this universal and limited common good? What are the proposals and solutions from science today to make seas and oceans healthy and prosperous for future generations? How can contribute Institutions, the Scientific Community and each of us to the knowledge of the factors that affect the balance of ecosystems and how to preserve them?

As Pope Francis says: "it is not possible to live healthy in a sick world". It is therefore necessary to work for sustainable growth also in the use of sea resources. Many young people and adults, public and private decision makers and citizens, all over the world, mistakenly think that human impacts on one coast will have no consequences elsewhere. Compared to the land, in the sea there are no barriers and the traces of the origin of the pollution are less easily identifiable. We can release toxic substances in the Gulf of Mexico that in a few weeks come to contaminate the Mediterranean Sea. The sea gives back what we give. There are many cases of marine pollution that affect human health. But the sea - its research and knowledge - can also provide many opportunities for our health, because marine organisms provide us with a real pharmacy of the sea, with their compounds and natural products. Let's think, for example, of compounds attracted by sea sponges to treat some cancers, of compounds to improve the quality of food. About one billion people depend solely on the resources of the sea for food and living. In this complex international shared scenario, there are industrialized countries with fleets of ships that can fish without rules outside their borders, in waters outside national legal borders, ecosystems, social life, economies and stealing food from the poorest and needy populations.

The sea confronts us with enormous planetary social opportunities and responsibilities, from which as citizens and as social political scientific communities we can no longer escape. The international scientific studies of the group of scientists of the United Nations Intergovernmental Panel on Climate Change - relaunched with the daily commitment of millions of young people and students around the world after the signing of the historical agreements of Paris in 2015 - clearly demonstrate that we are getting closer in the coming decades to a point of no return if we do not change our individual and collective way of consuming, living, working, fishing, producing energy, thinking and managing the most precious common goods of creation; like the air we breathe, the sea where we live, swim, fish, the land we cultivate and feeds us, the beauty of the nature that surrounds us.

For years, several world-renowned researchers and scientists - some of the most prestigious will participate in the International Conference at the Pontifical Academy of Sciences - have presented studies and appeals both at the level of individual nations and international institutions, including the United Nations, for greater and concrete international collaboration for the exploration, protection and enhancement of the oceans, as is done for space with the European Space Agency, to avoid leaving behind those nations not having resources and technologies to tackle studies in oceanic areas beyond national borders. It is sobering that the earth and the oceans -

essential ecosystems for the health of the planet and of human, animal, marine and plant species - have been in danger for years with investments in the world about 10 times lower than those for space research. 50% of the oceans are outside the legal boundaries of individual nations and should be managed as universal common goods of the planet.

We do not know if there will be the possibility of living on other planets while it has been scientifically documented for over 50 years that we are destroying terrestrial and marine habitats and that our children and grandchildren will pay a price - never so high - in terms of health and the environment, species protection and much more. It is a great cultural deception the adventure of searching life on other planets, while we are destroying the “only one” we live in, which will have unprecedented consequences in the history of humanity in particular on the weakest and most defenceless sections of the population and the poorest nations.

It should be a priority for everyone to try to understand, protect and learn more about the sea and oceans. The seas, with their average depth of 4 km, remain inscrutable to satellites and to reveal their secrets and opportunities we need advanced technologies and a sustainable use of resources, starting with renewable and clean energies such as offshore wind farms. Nations investing in marine research are gaining a great competitive advantage in knowledge and opportunities for economic and social development. Seas and oceans will be a key theme in the international politics and national agendas of the future and more cooperation among countries is needed for a higher and more universal noble purpose that will impact the lives of our children and grandchildren.