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Oceans and UNEP

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Before the founding of UNEP, ocean pollution was already making headlines. The *Torrey Canyon* oil tanker sinking had fouled the English coast in 1967 and the Santa Barbara oil spill from offshore drilling in 1969 tarred tourist beaches in California, as I experienced personally as a budding marine scientist. The Group of Experts on the Scientific Aspects of Marine Pollution (later Environmental Protection - GESAMP) was created in 1969 in preparation for the Stockholm Conference. The oceans were also an issue where international cooperation was obvious, since the water connects multiple countries and includes high seas beyond national jurisdictions. It was natural that UNEP would give an early priority to the ocean, which covers 70% of the planet.

Civil society sounded the alarm on the oceans in 1972

As with so many issues, civil society raised the alarm first, and governments are often slow to respond, caught as they are between many conflicting responsibilities and vested interests. At the UN Conference on the Human Environment in Stockholm in 1972, there was a considerable civil society presence in the streets and in separate activities. But when I represented the Bahá'í International Community as one of the civil society organizations accredited for the first time to a UN meeting, the chair of one session refused to give us the floor, saying this was a meeting of governments and we had our own non-governmental events outside. Fortunately, later another chairperson allowed us to speak, and I called for the Stockholm Action Plan to include collaboration with non-governmental organizations, which we succeeded with the cooperation of the Swedish government in inserting into the text.

Another important role of civil society at that time was to sound the alarm on the larger challenges of the sustainability of human material civilization on this planet. The 1972 report to the Club of Rome on *The Limits to Growth* showed computer-generated scenarios of the evolution over two centuries of major parameters in the Earth system: population, food, industrial output, pollution and resources, with respect to the boundaries of the planet, with business as usual leading to overshooting those limits and predicting a possible collapse of civilization in the mid-21st century. I published a book review of this at the time and later collaborated with one of the scientists involved. While derided by economists, those projections have proven remarkably accurate, and the Club of Rome has again raised the alarm 50 years later (in 2022). The rapid decline in the oceans today is one symptom of what was projected then.

UNEP initiates programmes on oceans

UNEP was fortunate to recruit an excellent marine scientist, Dr. Stjepan Keckes, to launch its oceans programme. Since most ocean environmental problems at the time were due to the actions of coastal states, it made sense to start with a regional approach to each sea area through the Regional Seas Programme, building intergovernmental cooperation around each sea, starting with the Mediterranean in 1974. By emphasizing the ocean science of a sea area as a unifying factor where shared responsibility and action were essential, the regional approach provided the justification for intergovernmental cooperation. Stjepan managed to get all the Mediterranean states, even Greece and Turkey, Israel and Libya, to cooperate in a Mediterranean Action Plan (1975) and its legal underpinning the Barcelona Convention (1976) for the safeguarding of their shared marine environment. These provided a framework for legally-binding action, often including protocols on specific issues such as oil spills, land-based sources of pollution, hazardous wastes, and protected areas. The Mediterranean served as a model for what could be achieved in other regions.

From the beginning, UNEP action in this area reached beyond governments to include relevant elements of civil society, in particular the scientific and academic communities with the expertise necessary to research problems and define solutions. On certain ocean issues, more radical environmental organizations also played an important role, as with the Greenpeace campaign against whaling that begun in 1973, leading to UNEP's own Marine Mammal Action Plan and the International Whaling Commission agreement to a moratorium in 1982. There were also key partners such as the International Union for the Conservation of Nature (IUCN) with both governmental and non-governmental members.

The Regional Seas Programme – an early success

UNEP, as a small organization with limited resources, was able to leverage wider action in its catalytic and coordinating role in the UN system as defined in the 1972 Stockholm Action Plan.

It has since produced many technical assessments and reports, including its flagship *Global Environment Outlook*. On oceans, it worked closely with UNESCO and its Intergovernmental Oceanographic Commission (IOC), with the Food and Agriculture Organization (FAO) on fisheries, with the World Meteorological Organization (WMO) on climate, and the International Maritime Organization (IMO) on shipping, among others. There were regular interagency working parties to coordinate and collaborate on issues of common concern. This extended to the International Science Council and others in the scientific community.

The Regional Seas Programme gradually expanded to cover most of the ocean areas of the world, with now 18 Regional Seas Conventions and Action Plans involving 146 countries. Seven are directly administered by UNEP: Caribbean, East Asian Seas, Eastern Africa, Mediterranean, North-West Pacific, Western Africa and Caspian Sea. Others are under the responsibility of other regional intergovernmental bodies: Black Sea, North-East Pacific, Red Sea and Gulf of Aden, ROPME Sea Area (Persian/Arabian Gulf), South Asia, South-East Pacific, and Pacific. Four other programmes were not established by UNEP but collaborate: Arctic, Antarctic, Baltic Sea and North-East Atlantic regions. Some have advanced and been quite effective; others where governments have different priorities have struggled to have the necessary impact. With so many partners involved and with limited means of its own, UNEP does not always get the credit it deserves for initiating and encouraging these efforts to protect the world's oceans.

UNEP unites Small Island States

My own experience illustrates the catalytic role that UNEP played in building these programmes. In 1974 I joined a regional intergovernmental organization, the South Pacific Commission (now the Pacific Community) to become the Regional Ecological Adviser to 22 island countries and territories in the Pacific Ocean. I established contact immediately with UNEP, and its Executive Director Maurice Strong visited me in New Caledonia in December 1974 to discuss cooperation. He then issued a call at the Pacific Science Congress in 1975 for environmental collaboration in the Pacific. IUCN and UNEP supported my efforts to build what became the Secretariat for the Pacific Regional Environment Programme (SPREP). It was subsequently accepted by UNEP as a Regional Seas Programme, although it covered both marine and terrestrial environments as was reasonable on small islands. The SPREP Action Plan was adopted at the 1982 Rarotonga Conference on the Human Environment in the South Pacific, and given a legal basis in the 1986 Noumea Convention and the 1993 SPREP Treaty. This regional collaboration across many island countries was also the embryo of what became the Small Island Developing States (SIDS) movement where island countries around the world recognized their uniqueness and special challenges.

On small islands in particular, it is not easy to make a distinction between governments and civil society. You draw on whatever experience is available, from the indigenous knowledge of local fishermen and tribal leaders through community groups, academic institutions, research centres and government agencies. The more you can build a common understanding across all the components of society, drawing on both the science and what is socially and culturally relevant, the greater the success in resolving environmental problems and achieving sustainability.

Agenda 21 in 1992 continues with Oceans

When UNEP moved the Regional Seas Programme from Geneva to Nairobi, Stjepan Keckes asked me to come help him rebuild what was then called the Oceans and Coastal Areas Programme Activity Centre (OCA/PAC). I eventually became his Deputy. With preparations under way for the UN Conference on Environment and Development, the Earth Summit, in Rio de Janeiro in 1992, Maurice Strong as its Secretary-General asked for my secondment from UNEP to his secretariat to bring in island expertise, and I ended up working on the final drafting of Chapter 17 of Agenda 21 on Oceans, Coastal Areas and Small Islands. This acknowledged the distinct reality of SIDS and called for a conference of SIDS at the global level. This led to the Barbados, Mauritius and Samoa conferences of SIDS. In preparation for Rio, we had a series of oceans working parties to prepare content, including government experts, scientists and representatives of civil society. It is easier to make progress in these more informal groupings bringing together many different perspectives than in formal intergovernmental negotiations where consensus is the rule and national interests often win out.

After Rio, UNEP named me as Coordinator of the UN System-Wide Earthwatch, to implement Chapter 40 of Agenda 21 on Information for Decision-making. This meant collaborating with 50 different parts of the UN system on data collection, scientific assessments, and such outputs as indicators of sustainable development. On indicators, we had extensive collaboration with civil society as well as government experts. We worked closely with the world's space agencies to coordinate satellite missions for Earth observations, obviously including the ocean environment. As part of a series of integrated global observing strategies, I led a report on coral reef observations as part of a larger

strategy on observations of the coastal zone at the complex interface between ocean data collection and land observations. This resulted in the creation of the intergovernmental Group on Earth Observations (GEO) between UNEP and WMO. My last function in UNEP as a coral reef scientist was to create a Coral Reef Unit to address the challenges facing this most endangered marine ecosystem.

The Coral Reefs – a possible global casualty

UNEP has collaborated with the global scientific community in the International Coral Reef Initiative and a Global Coral Reef Monitoring Network to follow what is happening to this vulnerable ecosystem that provides services to over 1 billion people. Their most recent report in 2020 on *The Status of Coral Reefs of the World* showed that between 2009 and 2018 there was a progressive loss of about 14 per cent of the coral from the world's coral reefs primarily caused by recurring, large-scale bleaching events, amounting to about 11,700 square kilometres of hard coral, and continuing forty years of decline. Climate change not only heats the oceans to temperatures above what corals can support, but carbon dioxide dissolving in the oceans becomes carbonic acid, increasing ocean acidity and making it harder for corals and other marine organisms to form their carbonate skeletons. On present trends, most coral reefs of the world will be degraded by mid-century.

One other significant ocean challenge from climate change is due to a law of physics that says that liquids expand in volume as they warm. The rising temperature of the planet inevitably means that sea levels will also rise, and because of time lags in the system, much of this is now inevitable. Present estimates suggest a 1 to 2 metre rise in this century and continuing, with even more if tipping points destabilize the Greenland ice sheet and Antarctica. Coastlines will become more dynamic with storms and flooding, atoll states will disappear, over a hundred coastal cities of more than a million inhabitants will be drowned, and hundreds of millions of people living less than 1 meter above sea level will be displaced, creating enormous migration pressures. While there is little that UNEP or other mechanisms of global governance can do now to prevent this, managing these challenges will be an inevitable responsibility that should already be anticipated and planned for.

UNEP and UNEA in 2022 – a possible end to plastic pollution

Marine pollution, of course, affects all the oceans. Since 80% of marine pollution comes from the land, UNEP led the adoption in 1995 of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA) covering sewage, persistent organic pollutants, radioactive substances, heavy metals, hydrocarbons, nutrients, sediment, litter and destruction of habitat, with priority now to marine litter (plastics), excess nutrients and wastewater.

A recent oceans priority of UNEP is dealing with plastic pollution, much of which ends up in the oceans where it persists for years, slowly breaking down into smaller and smaller particles that enter the food chain and contaminate most organisms. Larger plastic items can be eaten and block digestive tracts. A floating plastic bag looks very much like a jellyfish to a hungry turtle. Discarded plastic fishing nets can continue to catch and kill many fish. Ocean currents with giant eddies concentrate plastic pollution into continent-sized masses. Remote islands find large quantities of plastic washed up on their beaches, with no way to get rid of such resistant materials. The UN Environment Assembly decided in March 2022 to end plastic pollution and to negotiate a legally-binding international treaty on plastic pollution by 2024. It will address the full life cycle of plastic from production at

source to the sea. This will at least be a start in addressing this significant ocean challenge, although there will also be an important role for civil society in public education and changing consumer behaviour about single use plastics.

Externalising the environment and implementation disappears

UNEP has always been challenged by ambitious mandates and limited human and financial resources. It has been instrumental in the preparation and adoption of many multilateral environmental agreements (MEAs), of which there are more than a thousand today. Some suspect that this fragmentation of international environmental law was intentional on the part of governments and other vested interests to prevent environmental issues from interfering with the economy. Even the concept of the environment as something outside us may have been conceived as a way to define environmental issues as externalities to be easily ignored. In most indigenous world views, people and nature are inseparable and totally interdependent.

The challenge has always been implementation, and that depends more on governments and on non-state actors like businesses rather than UN agencies. Looking ahead, with the urgency of a total transformation of our material civilization to avoid a climate catastrophe, biodiversity collapse, and spreading ocean dead zones, we need mechanisms to adopt binding global legislation to protect planetary boundaries and common resources like the oceans. Such legislation should apply not only to states but to multinational corporations and even individuals, who are now often wealthier and more powerful than governments. That function could be given to an empowered UN Environment Assembly, with UNEP assigned an orchestrating role to bring coherence to the many actors involved in the transition to sustainability. Only then can we hope for a better future for the oceans and all those who depend on them in both present and future generations.