

## Preface

The ROPME Sea Area (RSA) is the area surrounded by eight Member States, namely, State of Bahrain, Islamic Republic of Iran, Republic of Iraq, State of Kuwait, Sultanate of Oman, State of Qatar, Kingdom of Saudi Arabia and the United Arab Emirates (U.A.E.). The discovery and large scale exploitation of oil and gas over the past six decades are largely responsible for the immense economic growth and the strategic importance of the ROPME Region. However, with such a growth came the increased rate of demand for natural resources in the area which coincided with the sudden and dramatic changes and boom in the Region.

Coastal habitats have been quickly converted to urban and industrial developments. Major ecological problems have arisen from loss/degradation of coastal habitats, caused by landfilling, dredging and sedimentation. Fisheries also came under significant pressure from over-exploitation of target species. Furthermore, the region is subjected to chronic release and more frequent oil spillages as tanker and ship traffic increased with time.

While Member States were learning how to cope with the environmental pressures of industrial and urban growth, war in the Region brought environmental degradation to catastrophic levels, first during the Iran-Iraq War (1980–1989) and then through the war over Kuwait (1990–1991). The last war was specially hard on the marine environment. About 10 million barrels of crude oil were released into the marine environment and 800 oil wells in the State of Kuwait remained burning for several months emitting huge quantities of pollutants to the atmosphere, while 60 millions of barrels of crude oil gushed from the burning wells creating oil lakes over a large area of desert.

In an attempt to assess the impacts of war and to improve knowledge on the large-scale dynamics of physical, chemical and biological processes in the RSA and their roles in the distribution, fate and flux of pollutants among different ecosystems, the open sea cruises were planned for the Region. The Mt. Mitchell cruise organized by ROPME with the assistance of the US National Oceanic and Atmospheric Administration (NOAA) and in association with the United Nations Intergovernmental Oceanographic Commission (IOC) and UNEP, as part of the international response to study the effects of the massive oil spills and oil fires. This cruise can be considered as the first major attempt to begin proper investigation of the marine condition in our Region with particular consideration for the Environmental catastrophe in the area due to premeditated assault on oil installations in Kuwait and spilling of millions of barrels of crude oil into the Sea Area.

This was followed by the three short cruises of the Tokyo University of Fisheries R/V Umitaka-Maru which were carried out in the inner part of the RSA

during 1993–94. These cruises were conducted under the umbrella ROPME/UNEP/IOC/JAPAN. The findings reflected a significant efforts in following up the changes in the status of the marine environment with time. The text available hitherto are the results of the cruises which were presented at the International Symposium on the Status of the Marine Environment in the ROPME Sea Area after the 1990-91 Environmental Crisis with special emphasis to the Umitaka-Maru Cruises, Tokyo - Japan, 4–7 December, 1995.

It gives me special pleasure to express ROPME's appreciation to the Tokyo University of Fisheries and their scientists, IOC, UNEP and to the institutes and scientists from the Region who contributed to this excellent work.

Dr. Abdul Rahman Al-Awadi  
Executive Secretary of ROPME