

## **Marine pollution and protection in the Mediterranean towards sustainable development in Gaza coastal areas**

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**Abstract:** The Gaza coastal and marine environment is facing diverse and severe developmental pressures. Gaza strip, already approaching about 1.8 million persons, suffers from limited water and land resources, where physical isolation of the area and unsustainable environmental management have caused various serious problems. These problems pertain to increased pollution and rapid urbanization, unsustainable wastewater management, causing degradation of natural resources and marine ecosystem and reducing fish populations. This paper presents the major environmental challenges along the Gaza coastal areas and outlines a range of practical suggestions for managing the current situation to ensure a sustainable path. For this purpose, an extensive review of published literature, previous environmental initiatives, strategies and technical reports has been performed.

Aiming at advancing a sustainable environmental development in the Palestinian communities, the Environmental Quality Authority (EQA) has the mandate for environmental protection (water, soil, air, natural resources, nature and biodiversity) and public health risks reduction associated with environmental deterioration. As core strategic themes, the Palestinian Environmental Strategy entails the coastal and marine deterioration with a series of urgent actions including wastewater and solid waste management; marine ecological protection; institutional strengthening and a coastal and marine environmental information system. In cooperation with donor agencies, EQA made efforts in the field of wastewater and solid waste management. However, urgent actions are needed in the field of sand exploitation and erosion management, marine ecological management, institutional strengthening and information management.

Considering the importance of Gaza coastal areas from marine ecological, land resources, fishery, transport, as well as recreation and tourist perspectives. Therefore, reversing the deterioration of the coastal zone environment calls for the establishment of a Coastal and Marine Environmental Protection Committee (MEPC). The MEPC warrants urgent establishment in order to deal with local as well as transnational, environmental coordination; formulation of a sand exploitation and erosion protection plan; a coastal and marine ecological protection plan and the establishment of a coastal and marine environmental information system. The Israeli military intrusions in Gaza strip caused additional damage and increased the pressure on environmental facilities and institutions. Years of over-exploitation of natural resources and increased discharge of raw and partially treated wastewater threaten the sustainability of the Gaza strip unless urgent actions are introduced. These include aquifer remediation, effective rehabilitation, mitigation and adaptation strategies, improved sanitation and affordable desalination facilities are established. An integrated coastal zone management with sustainable indicators is crucial to monitor, control and report on Gaza marine ecosystem status. This can facilitate the development of sustainable and resilient coastal communities, ensure a healthy and productive marine environment and promote awareness about coastal and marine environment.

*Keywords:* Marine pollution, Gaza, Coastal areas, wastewater, sustainable development