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Marine Pollution and Its Impacts on the Blue Economy

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Abstract

Marine pollution, which is the introduction of deleterious substances into the marine environment, constitutes a major threat to the ecosystem and the actualization of the blue economy's full potential. This book chapter explores both the direct and indirect impacts of marine pollution on the blue economy and recommends sustainable mitigation strategies. The impacts are primarily on the depletion of aquatic resources, habitat destruction, ecosystem imbalance, rising shipping costs, disruption of maritime tourism, decline in coastal infrastructure and property values, and obstacles to renewable energy initiatives. Beyond these, marine pollution also poses a tremendous impact on global livelihood, food security, public health, and a series of long-term consequences for vulnerable communities. To combat these issues, this chapter advocates for the strengthening of existing coastal laws and strict international collaboration in the enforcement of legislatures, deployments of technology such as emerging artificial intelligence to monitor pollution, and aggressive sensitization of the public, especially the locals. Since the world has been recognized as a global village, the chapter gives prominence to the urgent need to harmonize global efforts to reduce pollution and restore the ecosystem. This will ultimately secure the sustainable growth of the highly cherished concept of the blue economy.