



## **Natural disaster vulnerability and human-induced pressure assessment in small islands developing states: A case study in the Union of the Comoros**

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The Comoros Islands are part of the Small Island Developing States (SIDS) located in the Indian Ocean. SIDS are islands and low-lying coastal nations that face common barriers to sustainable development, including limited resources, poor economic resilience, and vulnerability to sea level rise and natural disasters. The Comoros Archipelago is made up of four islands but the present study was conducted on three islands, namely Mwali (Mohéli), Ngazidja (Grande Comore) and Dzwani (Anjouan) that are aligned in the Mozambique Channel and spread over a surface area of 1862 km<sup>2</sup>.

These islands are exposed to natural disaster coupled with human-induced pressure on natural resources. The major natural disaster vulnerability has been identified by the National Adaptation Programme of Action (NAPA, 2006) as climate change, whose likely adverse impacts on the Comoros Islands are: i) changes in rainfall patterns; ii) increases in temperature; iii) salinization of coastal aquifers as a result of salt water intrusion due to sea level rise; and iv) increased frequency of severe weather conditions (such as tropical cyclones, droughts, heavy rainfall and flooding).

In addition, existing practices related to natural resources management (primarily land, forest and water management) are very poor and this failure is increasingly threatening water and food security, resulting in a decline of economic growth and standards of living within the Comoros. Human-induced pressure combined with climate change impact is the inherent vulnerabilities of these islands.

The government of the Union of the Comoros is aware of the alarming nature of climate change impact and has put in place several projects aiming at implementing adaptation measures in order to help increase the resilience of the vulnerable population in the face of this threat. These projects involve strengthening institutions, policy and regulations so as to improve the management of natural resources, among other measures. The objective of this paper is to present the existing situation in these islands based on field surveys and comprehensive discussions with all the stakeholders and local population to implement adaptation measures in order to counter the effects of climate change.

**Keywords:** Comoros Islands, water resources, adaptation, vulnerability, resilience