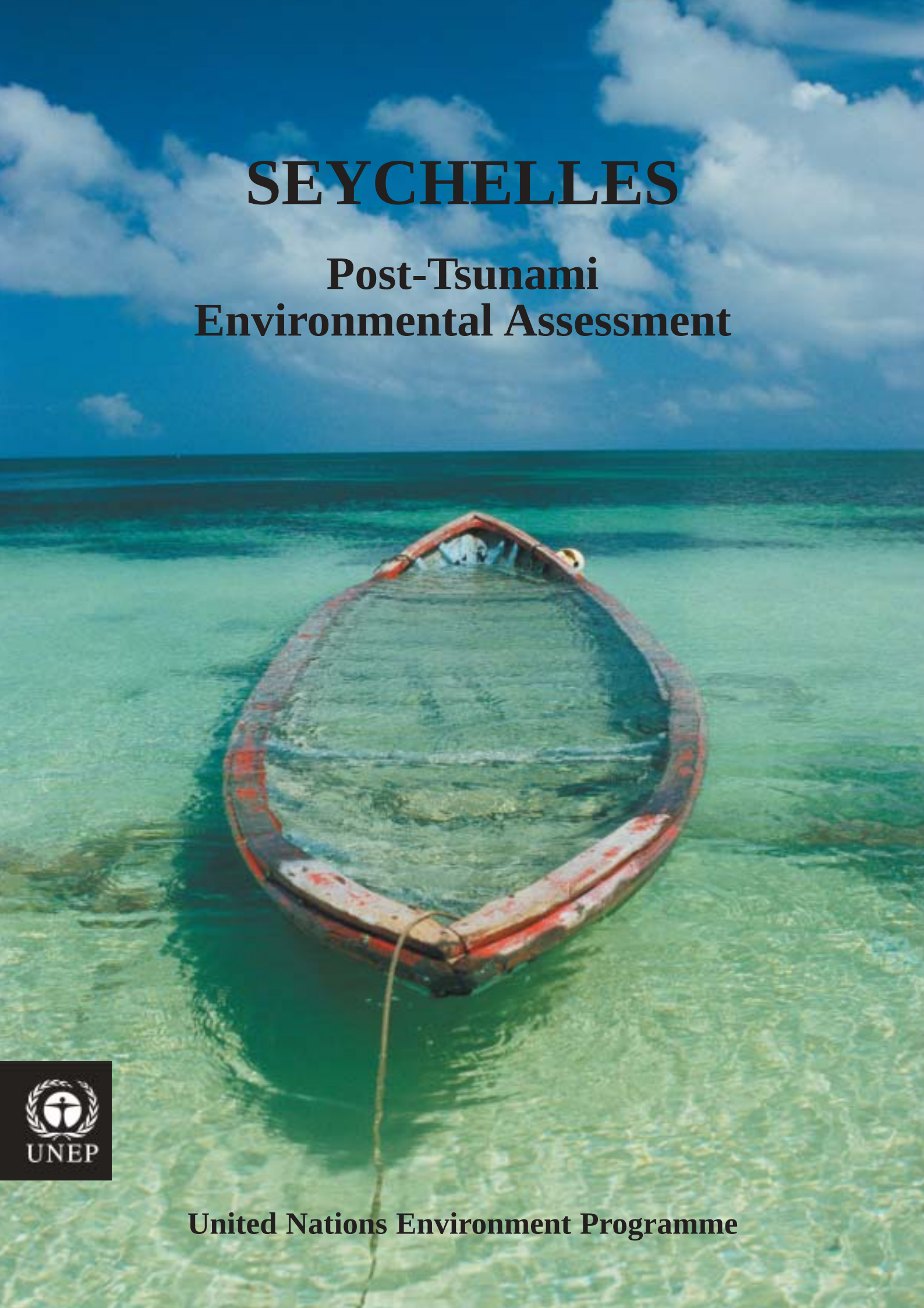
SEYCHELLES

Post-Tsunami Environmental Assessment



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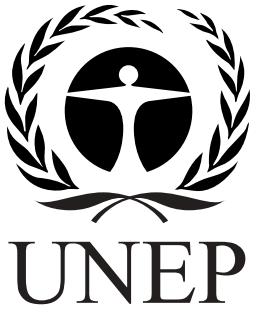
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Cover: (Front) Submerged fishing boat, Seychelles. Damage to boats, nets and other fishing gear was among the major impacts of the 26 December 2004 Indian Ocean tsunami (credit: B. Curtsinger/National Geographic Image Collection. (Back) Road swept away by the tsunami; the photograph was taken from the repaired section (credit: M. de Vries).



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Narrow beaches and vulnerable near-beach development of tourism facilities.
Credit: M. de Vries



EXECUTIVE SUMMARY



A house damaged by the impact of the tsunami surge.
Credit: M. Collins



The Seychelles island group was struck by a series of powerful tidal surges, resulting from the tsunami, generated by the earthquake off Indonesia on 26 December 2004. As a direct consequence of these tidal surges two people lost their lives, and hundreds of families suffered damage to their homes and livelihoods. The effects of the tsunami were compounded by exceptionally heavy rainfall on 29 December, causing flooding, landslides, and tree/rock falls.

The Seychelles are globally recognized for the richness of their marine and terrestrial ecosystems, which in turn support the islands' main economic activities; tourism and fishing. There was concern that in addition to its direct impacts on human communities, the tsunami may have caused damage to the islands' environmental values, thereby indirectly affecting livelihoods.

In response to a request from the Government of the Republic of Seychelles, the UNEP Asian Tsunami Disaster Task Force organized a Rapid Assessment Mission to Seychelles at the beginning of February 2005. The mission team conducted site visits and held meetings with key stakeholders, both governmental and non-governmental, with an interest in management of the islands' environment and natural resources.

The team concluded that the principal environmental impacts had largely been confined to the granitic inner islands, which include the main centres of population on Mahé, Praslin and La Digue, with the outer islands apparently escaping relatively lightly due to the physical shelter provided by the Seychelles bank.

The main categories of environmental impacts recorded were:

- severe damage to beaches, including west-facing coasts in some areas;
- severe damage – approaching 100% in places – to granitic island coral reefs on carbonate substrates exposed to the north and east, with less damage to reefs on a granitic substrate;
- serious damage to coastal vegetation, including many fallen and severely destabilized trees;
- some damage to sea-grass beds (due to smothering by sediment) and other marine and coastal ecosystems, including those such as wetlands that protect the coastline from erosion and flooding;
- discharge of sewage from a fractured pipeline into coastal wetlands on Mahé; and
- significant quantities of debris washed up along the shore.

Significantly, shoreline damage was focused where deep channels lead through or up to the fringing coral reefs, focusing and amplifying the wave energy at these points. Thus, two of the primary assets of the fringing reefs – shelter and access to the open ocean – have encouraged coastal development just above the high tide line, but the

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