

# Indigenous and Local Communities and Adaptation within Small Island Developing States and Coastal Zones

## Small Island Developing States are Unique and Uniquely Vulnerable

Small island developing States are found in many oceans and regions of the world including the Caribbean, Indian Ocean, Mediterranean, Pacific and South China Sea. They range from small isolated atolls to continental islands supporting a broad range of ecosystems.

Small island developing States share many common features including: relatively isolated territories, weak institutional capacity, fragility of land and marine ecosystems, and remoteness. These common features of small island developing States makes them extremely vulnerable to the impacts of climate change.



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## Indigenous and Local Communities within Small Island Developing States are Highly Vulnerable to Climate Change

The negative impacts of climate change, including increased extreme weather events, sea-level rise, reef loss, loss of fresh water sources, oceanic acidification and elevated sea surface temperatures, are of particular concern to indigenous and local communities inhabiting small island developing States since the majority of such communities are located in low-lying coastal areas and are dependent upon biodiversity-based livelihoods.

### Changing Coastal Ecosystems

Rising sea levels threaten coastal ecosystems and communities. Negative impacts include flooding, increased exposure to storm surges, saltwater intrusion in coastal wetlands and groundwater, loss of reefs and changes in the physical structure of coastlines. These negative impacts will threaten traditional livelihoods based on coastal biodiversity including fisheries, handicrafts and the collection of shells and shellfish.

### Coral Bleaching

Coral reefs are important breeding grounds for a wide variety of fish, turtles, birds and other associated wildlife. Ocean acidification and increases in ocean temperatures are causing widespread coral bleaching. This will adversely affect many indigenous and local communities as coral reefs generate important income from visits, tours and sale of handicrafts. Furthermore, loss of coral reefs has adverse consequences for many communities' fisheries and shoreline protection.

### Loss of Mangroves

Climate change impacts, including sea level rise and more frequent and intense extreme weather events are expected to result in a loss of over half the mangroves in 16 Pacific island states by the end of the century. It is projected that the worst-affected areas include American Samoa, Fiji and Tuvalu. Mangroves are important bird and fish habitats, sources of timber and construction materials for island communities and provide filter for coastal pollution and a barrier against tsunami and tidal and storm surges. Dyes from mangroves are also traditionally harvested in some communities to treat textiles, nets and fish traps.



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## Programmes of Work of the Convention on Biological Diversity Supporting Adaptation in Indigenous and Local Communities within Small Island Developing States

### Island Biodiversity

The programme of work on island biodiversity, addresses climate change through the following activities:

- Integrate climate change adaptation measures into networks of protected areas
- Develop monitoring techniques on the impacts of climate change on key species
- Develop models to understand vulnerability to climate change
- Monitor and exchange information on the impacts of climate change
- Strengthen national capacity to address climate change issues
- Identify species that are resilient to climate change in order to use those species for restoration
- Reduce chemical and physical degradation of coral reefs to facilitate recovery from climate-induced bleaching
- Identify and protect sites that favour the maintenance and recovery of species and ecosystems under changed climate and sea level

### Marine and Coastal Biodiversity

The programme of work on marine and coastal biodiversity addresses the impact of global warming on coral reefs through the following activities:

- Develop and implement management actions and strategies to support reef resilience, rehabilitation and recovery
- Build capacity to implement the work plan and enhance policy development and implementation
- Develop methods for adapting marine and coastal protected areas management to the expected impacts of climate change

### Protected Areas

The programme of work addresses mechanisms for the equitable sharing of costs and benefits arising from the establishment and management of protected areas, and aims to enhance involvement of indigenous and local communities.

### Article 8(j) Indigenous and Local Knowledge

Under this programme, research has been conducted into highly vulnerable indigenous and local communities, with a focus on causes and solutions and will be the basis for ongoing work on this issue.

### Cross-cutting Issue on Biodiversity and Climate Change

The work programme on impacts, vulnerability and adaptation to climate change could facilitate communication and cooperation between relevant organizations and calls on Parties, to involve indigenous and local communities.



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	Potential Negative Impacts of Adaptation Activities	Methods and Tools to Minimize Negative Impacts
<b>Relocation of Coastal Communities</b>		
Rising sea levels have already forced the relocation of some indigenous and local communities. In the Lateu settlement in Vanuatu, for example, more than 100 residents were forced to abandon their settlement for higher ground	<ul style="list-style-type: none"> <li>• Loss of social, spiritual, cultural and economic life of the affected communities</li> <li>• Additional financial burdens</li> </ul>	<ul style="list-style-type: none"> <li>• Upstream stakeholder consultations</li> <li>• Explore alternatives such as the construction of buildings on stilts</li> <li>• Include socio-economic considerations in strategic environmental assessments</li> </ul>
<b>Construction of Coastal Protective Installations</b>		
The construction of protective installations, including seawalls and breakwaters, can provide protection to coastal communities against sea-level rise, storm surge and flood risks	<ul style="list-style-type: none"> <li>• Loss of habitat for coastal biodiversity on which indigenous and local communities depend (particularly when considering concrete installations)</li> <li>• Seawalls can become self-perpetuating – i.e. more walls will be needed as sand builds up on the leeward side of installations</li> </ul>	<ul style="list-style-type: none"> <li>• Replanting and restoration for natural coastal protection</li> <li>• Use of packed-earth / mud dykes in place of concrete</li> <li>• Include biodiversity considerations in environmental impact assessments</li> <li>• Avoid development on non-permanent coastal areas.</li> </ul>
<b>Development of Aquaculture</b>		
Since many indigenous and local communities in small island States are heavily dependent on fisheries for their own subsistence, aquaculture as an adaptation activity may be a high priority for many communities	<ul style="list-style-type: none"> <li>• Loss of traditional livelihoods</li> <li>• Potential negative impacts on wild fish species may occur if chemicals, invasive alien species or genetically modified fish are used</li> </ul>	<ul style="list-style-type: none"> <li>• Monitor for impacts of aquaculture on biodiversity</li> <li>• Explore options for integrated fisheries management including the rehabilitation and restoration of critical habitat</li> </ul>
<b>Establishment of Marine and Coastal Protected Areas</b>		
Protected areas can reduce other stresses on marine and coastal biodiversity so as to increase their resilience and resistance to the impacts of climate change	<ul style="list-style-type: none"> <li>• Loss of traditional livelihoods and access to natural resources</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure that sustainable use is integrated within protected areas planning</li> <li>• Upstream stakeholder consultation</li> </ul>