



Country Profile

- 1,190 islands.
- 198 Inhabited Islands.
- Total land area 300 km²
- Islands range b/w 0.2 – 5 km²
- Population approx. 350,000
- Economy - Tourism and Fishing



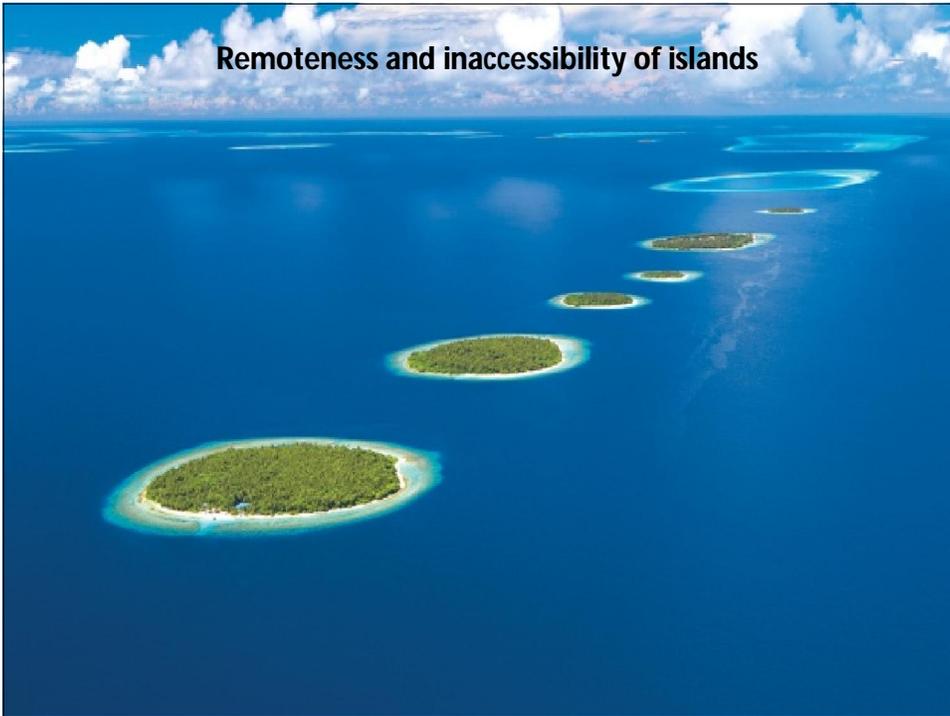
About one third of the total population is in the Capital Island Malé'.

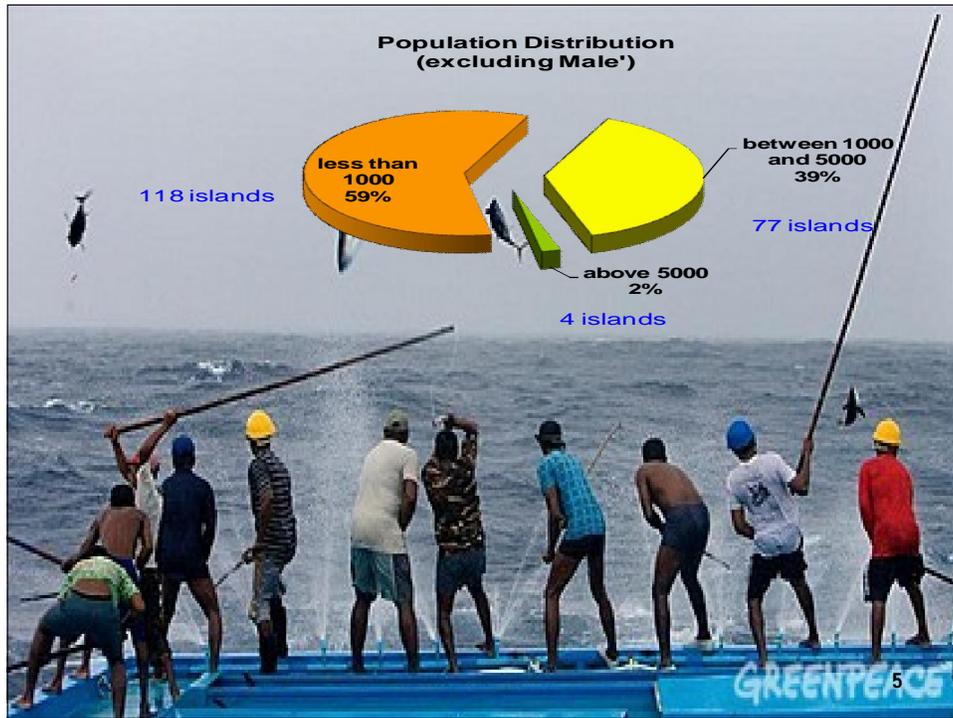
§Highest elevation **1.5m** above sea level



Male' International Airport

Remoteness and inaccessibility of islands





GIS in Maldives ???

- GIS is not used for DRM in the Country
- In an event of major Disasters Digital Meteorological Data Dissemination (DMDD) system is currently used to receive satellite images from Kalpana-1 and Insat-3A to monitor the weather in the country
- Maldives is in the process of establishing a GIS system, including Institutional and structural arrangements. Currently the Spatial planning Unit exists in Maldives Land Survey Authority under Ministry of Housing and Infrastructure.
- In 2009 a Lessons Learned Review was done with the help of a Consultant, by the Spatial planning Unit , on Reviewing existing GIS assets and Resources and provide strategic advice on Spatial Referencing System.

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- § The findings of the report are: In Effect there are no operational, in the country document GIS system except for an old system operated by National Coast Guard and Department of National Planning
- § There are number of sector specific databases to name a few Ministry of Fisheries, on Bait Fishery, and National Statistical department on Census, but none of them are in any way geospatial and useful in analysis within a GIS.
- § The Census and statistical Information appears to be of consistently high standard and could be useful in the GIS
- § Based on the key findings a five year National Strategic GIS Framework, Implementation Plan was formulated and a new Geo spatial Data policy has been developed, and proposed.

Capacity Development Need for Geo-DRM

- It would benefit at large, if those who do higher education in planning, environmental studies, biology and the like to take a course in image interpretation/ remote sensing and ideally GIS.
- We need people trained to establish an effective system to integrate data for all facets of disaster planning and management, including photographs, and measurements, maps and descriptions of major island features (e.g. environmentally risk prone areas) for Hazard mapping, preparedness planning /evacuation planning and risk analysis.
- Natural disasters such floods, earthquakes, tsunami, volcanic eruption can be monitored through GIS and remote sensing and analyzed through satellite images and policies, measurements can be identified in order to limit damage or promptly intervene.

Developing a Disaster Risk Profile for Maldives

- A risk profile for selected Islands has been done under Maldives Disaster Risk Management Programme initiated by UNDP Maldives in the year 2007
 - Ø The programme was developed to support for providing incentives for voluntary migration to larger islands in 2002 with the long term objectives of ultimately reducing the number of inhabited islands and consolidating the population
 - Ø Population consolidation approach to incorporate the aspect of extreme vulnerability and develop measures to mitigate disasters
- The findings could be used in enhancing the Safe Island Development Programme and to better understand the hazard exposure in other islands of Maldives.

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- Objectives of the Study
 - Ø To generate an elaborate disaster risk analysis of 10 islands, selected based on location and population, designated as potential “Safe Islands”
 - Ø Develop a detailed hazard risks analysis and vulnerability
 - Ø Present a list of disaster risks, identify changing patterns of risk and vulnerability associated with coastal erosion trends and recommend specific mitigation measures to make the islands safer

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- Main Findings
 - Ø There are no safe islands in Maldives. Each island has a maximum threshold level, especially for flood events, above which an event could flood the entire island regardless of its existing geophysical characteristics.
 - Ø All islands are generally exposed to natural hazards, but some islands are comparatively less exposed due to geophysical setup of the island.
 - Ø It may be possible to control the impact of hazards for existing events using engineering solutions. However, suitability of adopted solutions to slow onset hazards such as climate change is questionable especially in the coral island environment.
 - Ø Safe Islands cannot be developed based on a standard set of designs such as a constant ridge height and artificial topography. If engineering options are to be adapted, it should be designed to withstand a predicted severe intensity event, if not a maximum predicted event specific to the island under consideration.

Key Findings of the Risk Profile

- Tsunami hazard largely from the east
- Northern atolls are at greater cyclonic hazard

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