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Innovative
Approaches for
Building Coastal
Resilience

The Maldives Experience

UN COP28 | 9 December 2023 | ADB Pavilion, Dubai, UAE

Outline of the presentation

- Climate change vulnerabilities
- Innovative approaches to coastal resilience building – legal and regulatory framework
- Innovative Approaches to Coastal Resilience Building –Soft Adaptation Measures
- Innovative Approaches to Coastal Resilience Building – Hard Engineering Measures
- In Focus: Maldives Floating City



Maldives is famous for world-class luxury beach resorts but with more **than 80% of land area within 1 meter above mean sea level**, it is one of the most vulnerable countries to climate change impacts.





Climate change vulnerabilities



Small and low-lying islands



Coastal and marine resources



Low-lying, near shore critical infrastructure



Tourism – beach erosion



Fisheries



Human health



Exposed freshwater

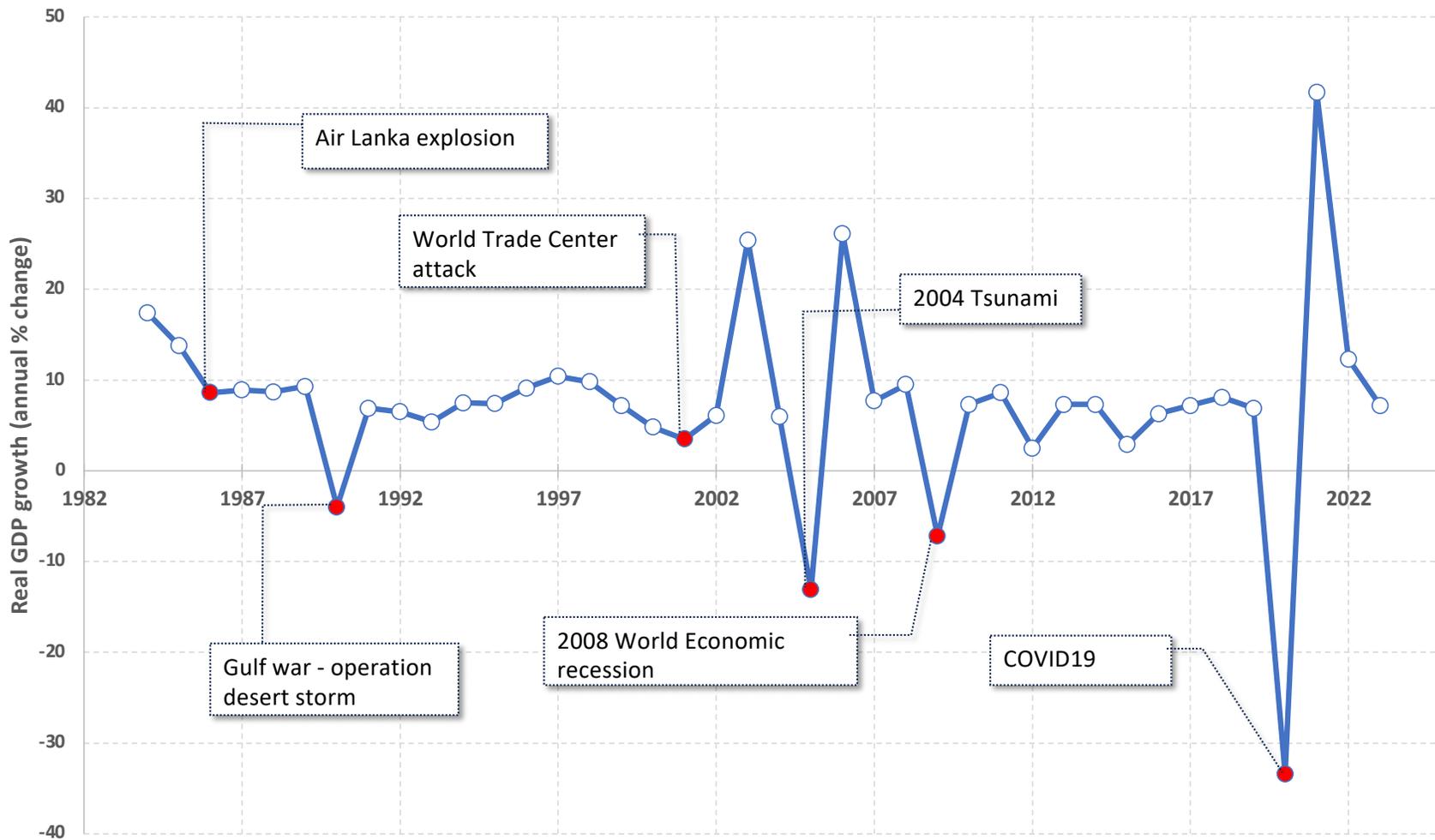


Agriculture and food security



Economic impact of climate change

Sources: Ministry of Environment and Energy. 2015. *Maldives Climate Change Policy Framework*. Male'; ADB. 2014. *Assessing the Costs of Climate Change and Adaptation in South Asia*. Manila; ADB. 2009. *The Economics of Climate Change in Southeast Asia: A Regional Review*. Manila; and ADB. 2014. *Economics of Climate Change in East Asia*. Manila.



The approach of the Maldives government to climate change is **holistic** and goes beyond engineering solutions only



Innovative Approaches to Coastal Resilience Building: Legal and Regulatory Framework

Key Policies / Strategies / Plans / Acts

Strategic Action Plan 2019–2023 (2019)

Updated Nationally Determined Contribution to Paris Climate Agreement (2020)

National Communications to the UNFCCC (latest 2016)

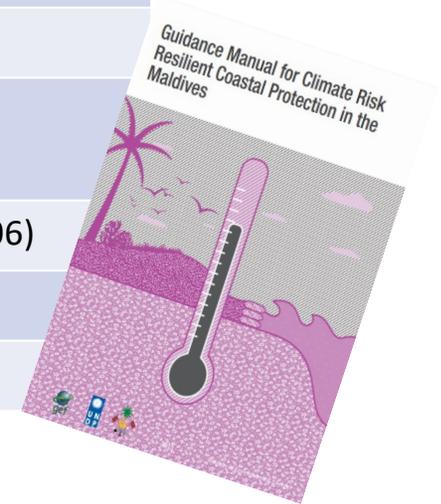
Maldives Climate Change Policy Framework (2015)

National Community Based Disaster Risk Reduction Framework (2014)

National Adaptation Program of Action (NAPA) (2006)

Disaster Management Act (2007)

Climate Emergency Act (2021)





Innovative Approaches to Coastal Resilience Building – Soft Adaptation Measures

- Beach replenishment
- Construction of temporary sea walls or groynes using sandbags
- Ad hoc seawall and ridges built from construction debris
- Coastal vegetation retention
- Construction of coastal structures on stilts
- Creation of artificial reefs
- Preservation of natural areas such as seagrass beds and mangroves to prevent coastal erosion

Source: Ministry of Tourism and USAID. Maldives Tourism Climate Action Plan. Strategic Pathways to Climate Resiliency in Tourism. Male'

Innovative Approaches to Coastal Resilience Building – Hard Engineering Measures

- Construction of concrete seawalls – tetra pods, armor rock, and geo tubes.
- Land reclamation and costal protection
- Floating structure





In focus

Maldives Floating City

Source: <https://maldivesfloatingcity.com/>



Shukuriyaa!
(Thank you)

