Climate Change Impacts on UNESCO Designated Sites: Some Examples from South Asia

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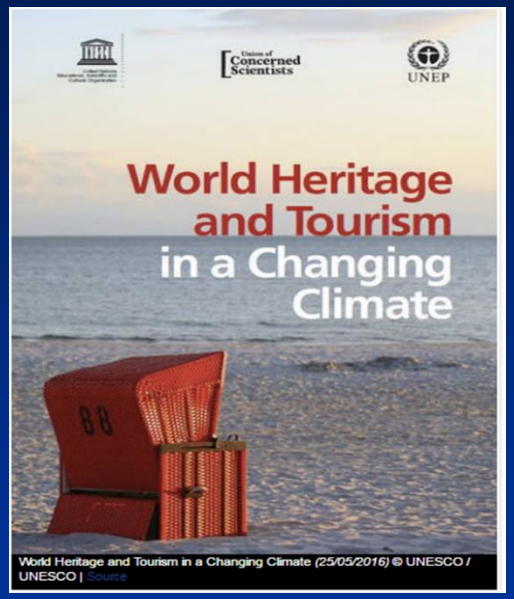
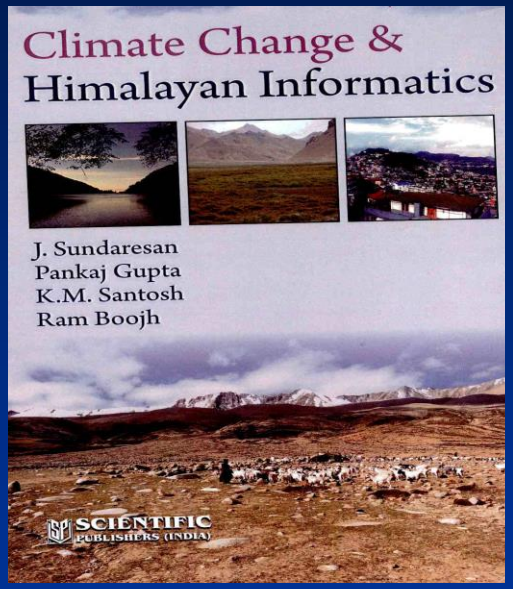
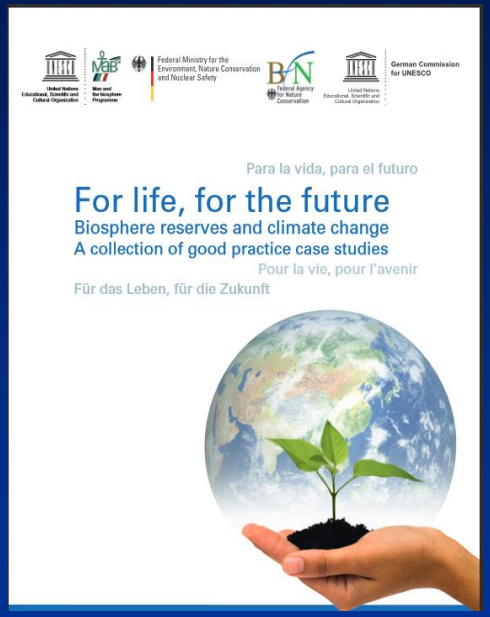
UNESCO Sites and Climate Change

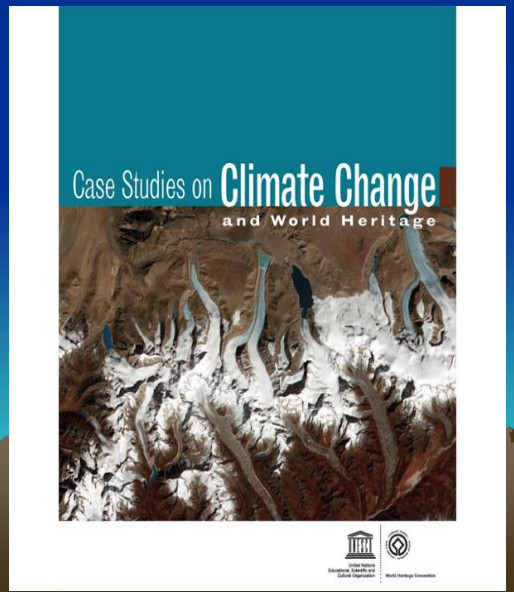
- UNESCO designated World Heritage Sites, Biosphere Reserves and Global Geoparks are globally significant places for a variety of actions related to climate change.
- Many countries are projecting these sites as an important part of their national climate change mitigation and adaptation strategies and of National Determined Contribution (NDCs) as part of Paris Climate Agreement.
- Climate Change was the focus of the 6th South and Central Asia MAB Network (SACAM) Meeting held in Islamabad, Pakistan during December 2014

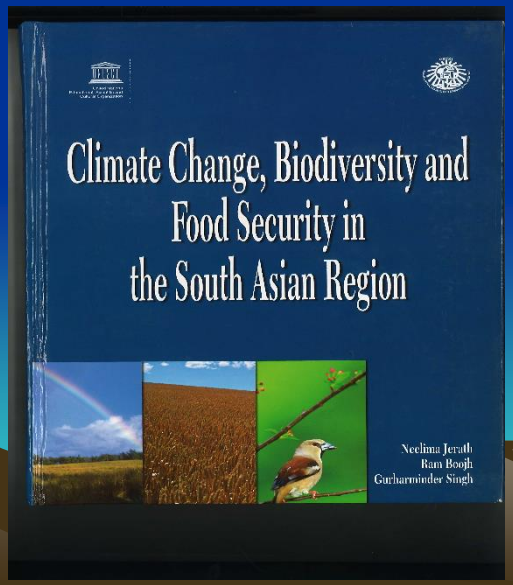
10 of the Great World Heritage Sites that could be destroyed by Climate Change, impacts could permanently alter these popular tourist destinations.
– Reynard Loki / AlterNet June 19, 2016

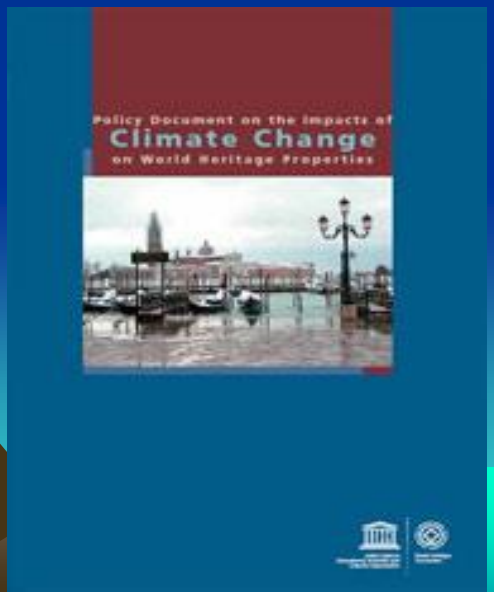












SUSTAINING CORAL COMMUNITIES:

Sustainable and climate resilient future through the first UNESCO Biosphere Reserve in Maldives

Government of the Maldives has pledged that the entire country and its Exclusive Economic Zone (EEZ) will become a UN Educational Scientific and Cultural Organization (UNESCO) Biosphere Reserve by 2017.

United Nations Educational, Scientific and Cultural Organization

Man and Biosphere Programme

2011-2020 United Nations Decade on Biodiversity

South & Central Asia Network

The pledge by the Republic of Maldives is in response to the Hyderabad Call for Biodiversity Champions, made at the eleventh meeting of the CBD Conference of the Parties (COP 11) in Hyderabad, India. The pledge also follows-up on the announcement made by the President of Maldives at the UN Conference on Sustainable Development (UNCSD, or Rio+20), to significantly ramp up efforts to protect the marine environment.
The implementation plan, Maldives as a Biosphere Reserve: An Implementation Plan 2013-2017, sets a roadmap for the period 2013-2017, to ensure that over half of the country's atolls are implementing the new approach by the end 2017. Maldives is the second country, after India, to pledge support to the Hyderabad Call for Biodiversity Champions. [CBD Notification] [IISD RS Story on the Biodiversity Champions] [The Hyderabad Call for Biodiversity Champions Website]

Sagarmatha National Park, Nepal

- “Top of the world”, 114,800 hectares national park houses Mt. Everest, scenic beauty of himalayan mountains and valleys. rare flora & fauna.
- Rich Sherpa culture - strong bond with nature successful management of the park by local communities.
- UNESCO report (2007, 16) highlights the impact of warming on the Sagarmatha world heritage site in Nepal.

Sagarmatha National Park, Nepal, 1979 (vii)

Encompassing the highest point on Earth – the peak of Mount Everest at 8 848 metres – Sagarmatha National Park is listed as a World Heritage site for the exceptional natural beauty of its landscapes of mountains, glaciers and deep valleys. Sagarmatha is home to a vibrant Sherpa culture that blends traditional agricultural practices with a deep reverence for nature. The park's diverse ecosystems provide sanctuary for the endangered snow leopard (Panthera uncia) and red panda (Ailurus fulgens), and draw tourists from across the globe for trekking and mountaineering. One third of the people on Earth depend on water that flows from the Himalayas, including from Sagarmatha. This water resource is now being jeopardized, however, as warming temperatures and changes in precipitation are causing Himalayan glaciers to retreat and altering patterns of water run-off. A loss of glaciers can also destabilize surrounding slopes, resulting in catastrophic landslides, and excessive meltwater can cause glacial lake outbreaks or flash floods and erosion. If snow and ice accumulation does not match accelerated glacial melting, water shortages will affect millions of people downstream in the future. (UNESCOd)

Sunderbans Biosphere Reserve and World Natural Heritage site in India and Bangladesh

- Sunderbans: A Climate hotspot.
- Largest delta, largest halophytic mangrove forest in the world, consists of 10,200 sq km of mangrove forest, spread over India (4200 sq km of reserved forest) and Bangladesh (6000 sq km of reserved forest).

Sunderbans

- Sea level rise measured from tidal records of Sagar Islands is 3.4mm per year, substantially higher than global average of 1-2 mm per year.
- Dependent communities, becoming the most vulnerable to climate impacts due to decline in fisheries, honey & fuelwood/timber
- Planting mangroves in vulnerable areas, conservation and development policies for enhancing local capacities of adaptation or reducing people's vulnerability to likely climate change scenarios

Sunderbans

RENFORUS INITIATIVE - RENEWABLE ENERGY FUTURES FOR UNESCO SITES

- To provide global climate change field observatory sites involving sustainable use of environmentally sound renewable energy sources in UNESCO Sites (Biosphere reserves and World Heritage Sites).
- To promote good practice case studies, namely projects that have demonstrated positive results in the fields of renewable energy and energy efficiency and have the potential to be replicated.

Sunderban

Women as solar power entrepreneurs

Sustainable Energy

More information URL BP Publication Video EN

WOMEN AS SOLAR POWER ENTREPRENEURS: PILOT PROJECT IN THE SUNDERBANS

- The project aims to create viable enterprises on the supply side targeting women entrepreneurs, created not only to provide SPV-based services in remote and interior villages, but also to provide repair and maintenance services to already existing products and systems.

- This pilot project, implemented by TERI in partnership with the RKM (Ramakrishna Mission) has created an organizational set up viz. MFEDO (Market Facilitating and Enterprise Development Organization) within the cluster organization Kalpataru of the RKM to incubate these enterprises.

United Nations
Educational, Scientific and
Cultural Organization

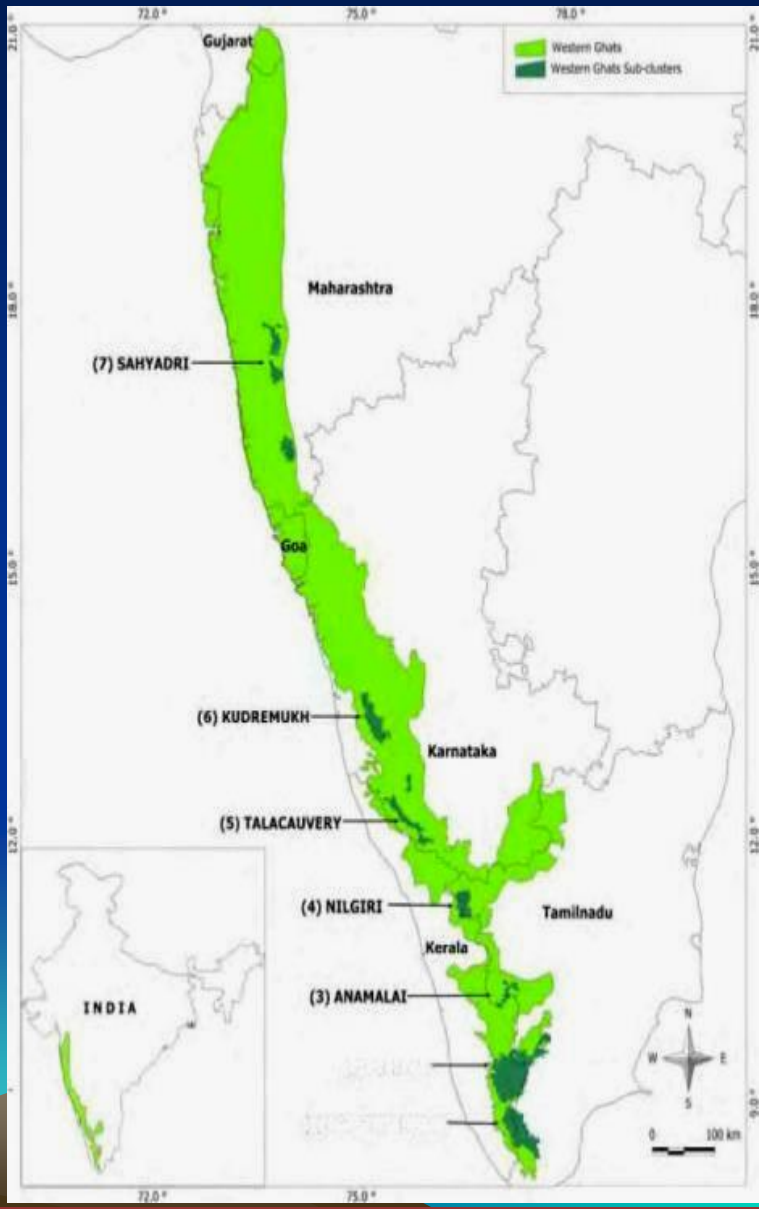
Nandadevi and Valley of Flowers, India

Nandadevi Biosphere Reserve and World Natural Heritage Site

- It is predicted that the habitat of many endemic species particularly in upland and montane cooler regions will decrease because of the warming.
- Agriculture- in buffer zone, Negative impact diseases, insects, pests and decline in area and production
- Disruption in ecosystem services -increase vulnerability to invasion by feral animals, weeds and pathogens.
- Loss of biodiversity and NTFPs severally affect the sustainable livelihoods of local communities.

Western Ghats, India

- The Western Ghats WHS with 39 sites Biodiversity hotspot values
- The chain of mountains covers an area of 140,000 km^2 in the State of Kerala, Tamil Nadu, Karnataka, Goa, Maharashtra and Gujarat
- The **Nilgiri, India's first Biosphere Reserve** (nationa designation 1986 UNESCO 2001) is a sub cluster of Western Ghats (6,000$^+$ km^2)



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Climate change in Western Ghats to hit water supply

- SANDRP (South Asia Network on Dams, Rivers & People) Study reports that **yields of tea, coffee and cardamom from high altitude plantations in the Western Ghats are decreasing because of the changing regional climate.**

- The region is likely to experience a 1.7-1.8 degrees C rise in temperature by 2030, **rainfall may increase in most parts but the number of rainy days will decrease and** sediment yield will increase due to higher intensity of rainfall.

- The **Western Ghats Ecology Experts Panel** (WGEEP) has recommended constructing small local reservoirs and protecting the existing water bodies.

OBJETIVES

IN ACTION

Western Ghats, India

Nilgiri

Promoting renewable energy through Bio-gas units

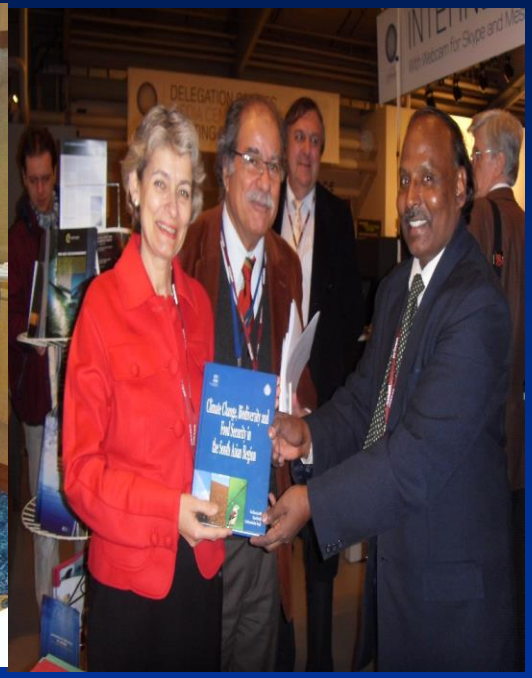
Sustainable Energy

Rural energy - biogas

More information URL BP Publication Video EN

500km
300mi

THANK YOU



By building green societies …a change in mind-set is underway and nothing can stop it.
-Irina Bokova, UNESCO Director General