

# CLIMATE CHANGE AND TOURISM INDUSTRY IN BANGLADESH

## INFORMATION BRIEF



Photo: IUCN / Abdul Quayyum

### KEY POINTS

- Tourism in Bangladesh is mainly based around nature destinations. Whilst mainly domestic there are some foreign participants.
- As a result the potential impacts of climate change will be direct, through destruction of the nature in and around these destinations, and indirect, with the disruption to infrastructure and resulting migration to and from these places.
- As a developing sector adaptation is a larger consideration than mitigation. However it is important to keep mitigation in mind especially as Bangladesh attracts a large amount of 'eco' tourism for which mitigation is important.

## INTRODUCTION

Since the 1990s, tourism has been a small but rapidly growing sector of the economy in Bangladesh. Still, Bangladesh is one of the countries in the South Asian region with the least arrivals with the lowest revenue earned from the tourism industry. Due to the potential of fast expansion in the tourism sector, it was identified as the Thrust Sector by the government. The Lonely Planet Guide, world's leading publishing travel guide elected Bangladesh as one of the top ten interesting travel destinations of the world in 2009.

In Bangladesh, real GDP growth for travel & tourism economy is expected to be 1.7% in 2010 and to average 6.4% per annum over the coming 10 years. According to the World Travel and Tourism Council estimate, the GDP contribution is 3.9% (BDT 265.9bn) in 2010. Growth trend of tourism in current decade shows a sharp increase in both domestic and foreign tourists in spectacular natural reserves of Cox's Bazar, the Islands in Teknaf and St. Martin, the largest mangroves of the Sundarban, the Chittagong Hill Tracts, and wetlands of the Sylhet district. Besides these nature reserves, many cultural and heritage sites located across the country have been gradually attracting domestic and foreign tourists.

According to Bangladesh Parjatan Corporation, there are at least 43 tourist destinations in Bangladesh with natural, cultural and archeological interests. Most of these destinations contain outdoor recreations on its natural setting, attractive to both domestic and foreign tourists. According to WTTC, Bangladesh Travel & Tourism economy is ranked as:

- 82 in absolute size worldwide;
- 173 in relative contribution to national economies;
- 23 in long-term (10-year) growth.

Tourism in Bangladesh is primarily characterized by outdoor and nature tourism peaking during the winter months and short public holidays. In 2005-2006 periods, a total of 757,640 visitors travelled to different natural reserves and national parks. Peak period, recorded as November-March was 76% of total visitors

in 2006. This is primarily a weekend tourism market, with travelers coming by overnight bus from Dhaka on Thursday night and returning to Dhaka on Saturday night. An example of increase of tourism in St. Martin's Island indicates that 83,000 travelers visited in 2007 and 123,390 in 2008. Bengali nature lovers interested in these attractions represent roughly less than 1% of the visitors to Cox's Bazar and 5% of the visitors traveling to St. Martin's Island in 2008.<sup>1</sup> Thus, potential of revenues from tourism alone opens up a new impetus to the country's growing economy.

## IMPACTS OF CLIMATE CHANGE IN TOURIST DESTINATIONS

### Climate Events and Destination

It is important to determine impacts of climate change through weather-climate character changes in identified vulnerable areas of tourist destinations. The following provides a brief account for perturbations for climate events or pattern changes on important destinations in Bangladesh covering coastal and wetlands landscapes, islands, hilly areas and forests:

- **Heavy and erratic rainfall:** flooding of roads, railways, buildings, campgrounds, slips leading to road closures, damage to bridges, damage to walking tracks, river, lake and coastline (in unison with high tides etc.) flooding, flash floods, cancellation of commercial activities.
- **Strong wind, storminess:** road closures, danger from falling trees and debris, slips, high seas close coastal roads, disruption to water (ferry crossing, scenic boat trips) and air transport (scheduled and scenic flights), power outages, cancellation of commercial activities, danger for high vehicles.
- **Fog:** transport disruptions, commercial activity cancellations.
- **Drought and hot spells, long hot summer:** closure of recreation areas, damage to road and rail infrastructure, road closures, fire risks, algae bloom in rivers, lakes and at beaches, reduced air quality from dust and smoke, water shortages, low lake and river levels (less scenic, cancellation of activities),

<sup>1</sup> Mukherjee, N., & Khan, M. F. (2009). *Factoring Climate Change Considerations in the Design of Padma Multipurpose Bridge*. Consultancy Report Prepared by the Center for Environmental and Geographic Information Services (CEGIS). Bangladesh Bridge Authority, Dhaka.

increases in wasps/mosquitoes, fire bans. Tourist potential may well decline as some wetlands disappear, with a loss of ecological diversity and game fish are replaced by other varieties. More generally, a decrease in lake water content, combined with higher temperatures, is likely to result in higher levels of near-shore pollution. Any persistent change to warmer, drier conditions with an increased risk of forest and heathland fires may result in large areas being closed to summer visitors.

- **Coastal flooding and erosion:** erosion may occur in the absence of climate change, however, there is mounting evidence pointing to the relationship between climate change effects, (including sea level rise, intense storms, or coral bleaching) and beach erosion. These changes pose an enormous threat to tourism at the coastal destinations. Shoreline tourist facilities and accommodation, beach sports and activities and access to beach will be hindered due to climate change impacts.
- **Rising sea levels:** likely to have profound effects for recreation along all marine shorelines. For a beach backed by a sea wall, as in many resort towns, the prediction is that increased erosion would lead to a lowering of the beach. Depending on the supply of sand, the beach facility could be totally lost with subsequent undermining of the stability of the sea wall. Other coastal habitats used for recreation such as sand dunes. Shingle banks and even soft earth hills would also be affected, as would build recreational facilities along the shore.
- **Unseasonal weather:** roads closures, trap outdoor recreationists, rescue attempts will be difficult. Often several of these weather events can occur in unison (e.g., heavy rain and wind) and severe weather events may be very localized. There are also isolated freak weather events that impact on tourists e.g. 'trampers struck by falling trees', tornado and lightning strikes, and so on. With a focus on short holiday or weekend tourists, particularly in coastal areas and islands of Bangladesh, tourists are quite vulnerable to weather conditions, while time constraints mean that many tourists have little scope to change their plans because of weather they encounter. For domestic tourists, forecast weather and longer term weather patterns may have more of an impact on their travel plans and holiday experience.
- **Exposure to natural disasters:** total damage to destination infrastructures and natural resources which take time to rebuild or grow back. Losses from high floods, mudslides, prolonged water-logging,

cyclones, and storms disrupt whole business operation, supplies of amenities and livelihoods of local population which impose emergency disaster management before service economy from tourism is given priority to rehabilitate at present in Bangladesh. Shock for visitors and difficulty of tour managers to ensure security in remote and communication absent areas can negatively affect current and future demand of tourists affecting directly on profitability.

It is clear that weather can impact on all aspects of the tourist experience, particularly when enjoyment of experiences and tourist safety for independent activities are hampered. Cancellation of activities can disrupt tourist flows in future in vulnerable areas. Certain aspects of tourism experiences impacted by climate change include the following:

### Brand Image vs. Reality of Dissonance

In Bangladesh, tourism is destination-based depending on scenic beauty, uniqueness and climate condition (e.g., monsoon rain, soothing winter etc.) in contrast to other South Asian countries where leisure culture are diverse (e.g., health resorts, shopping, tourist festivals etc.). Domestic tourist perception on tourist activities are built on nature watch, coastal walks, cruising amongst other socio-cultural interests. Thus, tour operators and authorities use scenic beauty as brand image which can be negatively affected because of climate change impacts and extreme events. In many instances, tour marketers use pristine and lush green scenes to promote destinations, such as in Cox's Bazar, St. Martin, Chittagong Hill Tracts and the Sundarban.

Apprehension of tour marketers to depict threats is that, tourism can increase overtime with essentialist view (tourists only need to know the destination for its popular notion or by history) and embed the assumption of tourists lacking access to destination-specific latest information from other sources. They fail to consider current and upcoming challenges to manage negative incidences in better ways with fear of representational dissonance (Lowenthal, 1985) deterring tourist flows. Thus, questions such as the following have largely remained unanswered: i) tourists' subjective experiences of these transformed landscapes; ii) Tourist's reaction to representational dissonance; iii) Perception of restoration/rehabilitation efforts within the vacation landscape; and iv) Ways in which changes influence meanings they award the landscape.

### Tourist Perception vs. Experience at Destination

Further to add on lack of understanding tourist's perception on any change in destination for climate events, their attitudes and experiences are not yet accounted for assessing climate change impacts on tourists (individual-independent to family or package tour visitors).

### Tourist Satisfaction in Changing Climate

Outdoor recreation and leisure are concentrated within the appropriate 'tourist seasons' and key weather thresholds or combinations which are required before most people are willing to participate in mainstream outdoor activities. Climate-specific or weather dependent activities are also designed based on human comfort and convenience. Climate change to tourist satisfaction will require re-defining tourist seasons where possible and necessitate alternative recreation options to continue raising or maintaining tourist satisfaction.

Whilst temperature is one of the main weather elements to consider, optimum conditions for many

activities depend on a much wider range of atmospheric conditions. Warmer winter and excessive summer heat may result health hazards (e.g. dehydration, heat strokes) to tourists requiring more frequent and costly closures of outdoor activities. As more recreation parks are being developed in remote areas, there will be a need for better climatic information and more local weather forecasting designed to warn of these dangers.

The resultant impacts of climate change on tourist satisfaction rely heavily upon activities adjustments or re-orientation in tourist spots. Wider impacts on infrastructure that tourism providers must pay for to consider tourist satisfaction will impact on the taxpayer for infrastructure repairs and rescues for which accommodation and food prices can rise. Moreover, activity providers sometimes need to provide more equipment for tourist safety and enjoyment.

### Climate Change Risks and Impacts on Bangladesh Major Tourist Spots

The following table gives a brief on climate change risks and direct and indirect impacts in some major tourist spots in Bangladesh:

**Table: Climate Change Risks and Impacts on Major Tourist Spots in Bangladesh**

Places	Risks	Direct impacts	Indirect impacts
<b>Cox's Bazar &amp; Teknaf Peninsula</b>	<p>Increased magnitude of costal natural disasters</p> <p>Long and short-term coastal inundation</p> <p>Loss of shorelines, land and increased salinity for SLR</p>	<p>Causality &amp; high mortality</p> <p>Visit restriction</p> <p>Loss of tourism infrastructures</p> <p>Damage to roads, coastlines</p> <p>Minimization of development activities</p> <p>High degree of safety and efficiency requirement</p>	<p>Loss of summer tourism</p> <p>Reduced local employments</p> <p>High investment requirement</p> <p>Shift of tourist destination/facilities</p>
<b>Sundarban</b>	<p>Increased frequency of cyclones, storms</p> <p>Loss of mangrove species</p> <p>Coastal squeeze for increased salinity</p> <p>Increasing natural coping period</p>	<p>Causality &amp; high mortality of species</p> <p>Lack of tourism facilities for expensive regular rehabilitation costs</p> <p>Increased travel costs inside Sundarban</p> <p>Loss of flagship species with loss of the most attractive tourism subject</p>	<p>Loss of government revenues</p> <p>No alternative to this destination</p>

Places	Risks	Direct impacts	Indirect impacts
<b>North-east wetlands, haors &amp; birdwatching spots</b>	<p>Increased flash floods</p> <p>Untimely and high volume of sediment loads and silt deposits changing drainage condition of waterbodies/flows</p> <p>Shift to terrestrial areas from wetlands</p>	<p>Loss of habitats for wetland species, fisheries</p> <p>Change in species composition, mainly aquatic</p>	<p>Most vulnerable are local livelihoods of poor wetland communities</p> <p>Competing interests for development between local population and tourist facility providers</p> <p>Loss of net benefits in co-managed wetlands</p>
<b>Mixed evergreen forests &amp; hills in CHT, Sylhet, North eastern hills</b>	<p>Increased mudslides, flash floods, sedimentation for non-navigable areas</p> <p>Reduced or extinction of biodiversity</p> <p>Change in landscape Droughts in north western hills, Madhupur</p>	<p>Causality &amp; high mortality of species</p> <p>Loss of international &amp; domestic visitors</p> <p>Migration of people and species</p> <p>Loss of indigenous cultures</p>	<p>Loss of conservation potentials</p> <p>Lack of investments</p> <p>Social unrests &amp; change in social security of climate migrants and indigenous communities</p> <p>Shift of tourist destination/facilities</p>
<b>Archeological sites</b>	<p>Physical damage &amp; disappearance of vulnerable structures from floods, erosion from high winds</p>	<p>Loss of tourists</p> <p>Loss of local income</p> <p>Accelerated deterioration of ancient sites</p> <p>High degree of safety and efficiency requirement</p>	<p>Less importance on highly damaged sites for renovation</p> <p>No alternative to this destination</p>
<b>Cities, towns, ports</b>	<p>Flooding and water-logging and storms</p>	<p>Causality &amp; high mortality</p> <p>Physical damage affecting all aspects of mobility and services</p> <p>High degree of safety and efficiency requirement</p>	<p>Losses reflecting on national income</p> <p>Restructuring and costly rehabilitation requirement</p>
<b>Islands, chars</b>	<p>Increasing disasters in short-term</p> <p>SLR threatening existence of islands</p> <p>Sandy chars affected by drought</p>	<p>Causality &amp; high mortality</p> <p>Land, habitat to livelihood distress</p> <p>High degree of safety and efficiency requirement</p>	<p>Poorer coastal communities</p> <p>Social unrest relating to floating population in tourist spots</p> <p>High investments to infrastructures</p> <p>Shift of tourist destination/facilities</p>

## MANAGING CLIMATIC HAZARDS

### Mitigation

Tourism in Bangladesh is concentrated more on adaptation than mitigating through achieving carbon neutrality (carbon offset). The current low demand of air travel and emission, when increased in future by high tourist flows, will require attention to develop its own carbon offset mechanism. Although many foreign tourists these days consider carbon offsetting before they travel to countries like Bangladesh, such mechanism is yet to be adopted in the country.

On the other hand, mitigation through increasing energy efficiency and reducing use of material-intensive products are beneficial and an embedded principle of sustainable tourism- a strategy to develop socially and environmentally friendly tourism base with increasing profitability within the sector. Mitigation also serves as future savings and conservation of local resource for the local population and tour managers by maintain good quality environment and reducing waste of resources.

### Adaptation

Adaptation options to tourism encompass wide range of cross-sectoral adaptation strategies as it is related to country's social, environmental and economic sustainability. This imposes greater challenges to the tourism sector and adaptation strategies to develop in continuously depending on the need. Particularly for the tourism industry the following measures have become urgent:

- **Destination-based adaptation:** This relates to direct impacts of climate change which primarily affect characteristics of the tourist sites, its natural resources and physical structures. Damages from extreme events and consecutive adaptation entail rehabilitation and resilient design of physical structures such as accommodation, transport, water and energy supply along. Moreover, precautionary steps must be taken in planning and designing of existing and future destinations matching types of disaster. Losses in natural landscapes and long-term changes will be crucial to determine future orientation of the site and also impose a huge challenge to determine exact changes to destination characteristics. For coastal landscape, adaptation measures related to tourism goes beyond the industry as it would require hydrological and ecological management.

- **Tourist operators:** In many areas, tour operators are working to develop eco-tourism and nature-based tourism along with the local communities. The planning and design of these areas include sustainable management and preservation of natural resources and natural heritages. Therefore, short and long-term impacts of climate change may be easier to adopt than areas where no precaution have been taken. However, most tour operators are not informed about climate change impacts except for accruing losses from natural disasters in disaster prone areas. Managing tours in disaster seasons and emergency responses will provide learning ground to internalize damages and build adaptive mechanisms.
- **Tourist population:** Adaptation option for tourist is limited to choices and preferences. Nevertheless, their behaviour and attitude largely affect the sector. Opportunities of developing alternative destinations and increasing diversity in tourism activities in less vulnerable areas are important for tourism authority and managers. Tourist adaptation, thus, would mean changing or being open to inbound travel diversity and other activities when seasonal or weather events change original plan.
- **Local government:** The role of local government is vital in managing disasters and in adapting to climate change by creating necessary provisions and adjustments as well as in assisting tour operators. Existing disaster management guidelines and enforcement of land use policies will be imperative in addition to expanding existing marketing strategies.

There are some basic barriers challenging adaptation measures which include the following:

- Limited understanding about climate risks and vulnerabilities;
- Lack of supportive policies, standards, regulations, guidance and design;
- Existing regulatory restrictions and enforceability gaps;
- Lack of availability or restricted access to appropriate technologies;
- Costs of identified adaptation options in limited budget;
- Lack of tourism land use zoning and management;

- Lack of availability of resources such as in-house expertise;
- Social/cultural/financial rigidity and conflicts;
- Short-term nature of planning horizons, necessity of realising return on investment;
- Level of uncertainty.

## FINANCING ADAPTATION IN THE TOURISM SECTOR

By Decision 1/COP13, the Bali Action Plan in 2007 had set out four components of which finance constitute a fundamental element. In current climate change negotiations on-going activities on finance include – mechanism of channelling funds and fund flows, institutional arrangement and responsibility identification, cluster identification for fund allocation, actors in financing, developing knowledge on possible financing instruments and policy reform needs, implementation of environmental policy instruments and voluntary contribution as mitigation strategies by the developed countries. Most of the international funds to reduce climate change risks and impacts are focused on tourism-based threatened nations such as the Small Island States, tourism-service based diverse nations and nature-tourism based middle income nations. For Bangladesh, although the loss is high in terms of resources and local population, priority to allocate funds to aid to tourism losses is less priority in comparison to those countries.

## POLICY AND INSTITUTIONAL ARRANGEMENTS

### The National Tourism Policy (1992)

The National Tourism Policy of Bangladesh (1992) examines the importance of tourism as a means to attract foreign exchange; increase opportunity for budget tourism for Bangladeshis; preserving and maintaining the tourism resources of the country; alleviate poverty, create a more favourable image of the country; open opportunity for investment; more recreation, and fostering cultural heritage and traditions of the country. It emphasizes on establishments of hospitality in a way that would

self-generate revenue enough for operation and maintenance of the tour operations. The Bangladesh Parjatan Corporation (BPC), established in 1973 operates low-cost tourism establishments throughout the country which depend on operations limited to government management of tourism infrastructure.

### Ministry of Tourism Policies (2009) and Strategic Master Plan

Master plans are under preparation for development of Cox's Bazar up to Teknaf, St. Martins Island and also for Kuakata area. Formation of Cox's Bazar Development Authority and declaring Kuakata as a municipality are under process for implementation and supervision of planned development. A time bound plan up to the year 2014 and another up to 2021 are also prepared.

Another bill is drafted to form a national tourism board on the concept of public-private sector partnership. The function of the board would be to formulate, coordinate, supervise and implement activities relating to overall development of tourism.

Revision of national Tourism Policy 1996 has become essential given the current dynamics of the sector, its current rate of growth and new challenges. Since young nature of the industry lays out many market opportunities including building resilient structures, creation of access points to safe tourist activities and re-defining institutional collaborative support along with public-private partnerships. The Master Plans under preparation need to address climate change adaptation and mitigation.

### Institutional Arrangement for Tackling Climatic Change

Managing climate change and its hazards in Bangladesh is a collective effort comprising public, private sectors. Ministry of Civil Aviation and Tourism, and BPC require cooperation to understand and assess climate change impacts for which Ministry of Environment and Forests is entrusted with. In BCCSAP 2009, monitoring impacts of various issues related to management of tourism in Bangladesh and implementation of priority action plan has been included as a programme under its Research and knowledge management theme.

## CONCLUSION AND RECOMMENDATIONS

There is little doubt that climate change and climate variability can cause devastating consequences around the world, particularly, in the Least Developing Countries (LDCs) such as in Bangladesh. With existing socio-economic vulnerability and poverty of the country in an economically unstable global market, Bangladesh has significant task in front to manage existing and upcoming challenges like climate change.

Global literature and reports from relevant bodies on climate change have collectively asserted the need to urgently understand and assess the impacts on tourism industry by case and nation. At present, for Bangladesh,

ardent actions on assessing, understanding and monitoring climate change impacts on service sector having high national income potential are required. Bangladesh has already adopted the principle of sustainable tourism. The United Nations World Tourism Organization defines sustainable tourism – “tourism that meets the needs of present tourists and host regions while protecting and enhancing opportunity for the future.” With given problems emerging across tourism sector, climate change must be placed within the sustainable tourism development context. This can lay foundation to support adaptation and mitigation measures within the scope of sustainable tourism operations in Bangladesh.



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