

ABSTRACT

The Impact of climate change on the resources and migration Patterns: Case Study of Sundarban Biosphere Reserve

Module E

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The Sundarbans, the largest mangrove forest in the world is a delta formed at the confluence of the rivers Ganges and Brahmaputra with the Bay of Bengal in India and Bangladesh. 9630 sq. kilometres of the Sunderbans fall under the political boundary of India. ⁱ

This area has been subject to continuous natural disasters and according to various studies done here more than a million people will need to relocate from the Sunderbans by 2050. ⁱⁱ Loss of islands is now an unfortunate reality which is causing large scale displacement. 'Sea surface temperature (SST) in Indian Sundarbans is increasing at 0.5 degrees C per decade; globally observed SST warming rate is 0.06 degrees C per decade' ⁱⁱⁱ. Involuntary migration is followed by several effects which are detrimental both in the context of socio-economic impacts as well as the ecological impacts. 'Every time there is a major breach in embankment, human pressure on the ecosystem intensifies; about 52 percent (48 out of 93) of the affected households turned to water-based livelihood activities and became directly dependent on the riparian commons.' ^{iv}

Loss of land due to erosion along with salinity of remaining agricultural land is a reality in this area. Villagers resort to fishing and collection of prawn seeds from the forest even when they face threat from perpetual tiger and crocodile attacks. During the months of April May, some people also enter the Reserved Forests though with legal permits, for collection of honey which eventually is purchased back by West Bengal Forest Development Corporation Limited. ^v The villagers complain that although they pay the forest authorities they are not provided security in any form. People of the Sundarbans who have been traditionally involved in the forest resource collection though with legal permits from the forest department, are now suffering in various ways. Not only has their once easy access to forest resources has been changed for the worse, moreover their very lives and livelihoods are now under threat due to climate change.

The situation is very complex in this world heritage site. The life and livelihood of the people are mired in layers of threat and trouble be it from climate change, lack of proper planning by the government, poverty or life threatening attacks from tiger or crocodiles. In other words the villagers are living here in extreme vulnerable situation. Climate change is a macro issue and hence it is impossible to combat it at the grass root level. However issues of security and livelihood can be tackled with proper planning by the government and other authorities involved.

ⁱ<http://projecttiger.nic.in/sundarbans.htm>, accessed on 13 October, 2013.

ⁱⁱ“One million people will need to relocate from Sunderbans by 2050”, The Hindu , 24 May , 2012 ,<http://www.thehindu.com/todays-paper/tp-national/tp-otherstates/one-million-people-will-need-to-relocate-from-sunderbans-by-2050/article3450935.ece>, accessed on 13 October, 2013.

ⁱⁱⁱSyed AzizulHaq, “Impact of climate change on “Sundarbans”, the largest mangrove forest: ways forward”
<http://www.cfc2010.org/papers/session7/Haq-s7.pdf>, accessed on 13October, 2013.

^{iv}AnamitraAnuragDanda , “SURVIVING IN THE SUNDARBANS: THREATS AND RESPONSES”
http://doc.utwente.nl/68915/1/thesis_A_Danda.pdf, accessed on 13 October , 2013 .

^v<http://www.sadepartmentwb.org/Livelihood.htm>, accessed on 13October , 2013.