GOVERNMENT OF INDIA
EARTH SCIENCES
LOK SABHA

UNSTARRED QUESTION NO:322
ANSWERED ON:09.08.2012
RISE IN SEA LEVEL
Muttemwar Shri Vilas Baburao

Will the Minister of EARTH SCIENCES be pleased to state:

(a) whether the attention of the Government has been drawn towards the report of India's Second National Communication to the United Nations Framework Convention of Climate Change;

(b) if so, the details thereof; and

(c) the steps being taken by the Government to tackle the situation?

Answer

MINISTER OF STATE IN THE MINISTRY OF PLANNING, MINISTER OF STATE IN THE MINISTRY OF SCIENCE AND TECHNOLOGY AND MINISTER OF STATE IN THE MINISTRY OF EARTH SCIENCES (DR. ASHWANI KUMAR)

(a) Yes Madam.

(b) Sea level rise is a relatively slow phenomenon occurring in the background of more dramatic manifestations like storm surges and tidal variations, normal deltaic subsidence, coastal erosion and siltation of river channels along the coastline. The Indian coastline is facing coastal erosion. However, it has not been established that this erosion is only due to rise in sea level.

The study suggests that sea level reveals a high variability along the Indian coast line. The analysis of past tide gauge records for the Indian coastline regions gives an average sea level rise of 1.29 mm/year for the last 40-50 years. The local sea level rise at various places from the Indian Tide gauge data indicated the observed trends during the past century, details of which are given below:

i. Cochin (1939-1991) = 1.2 mm/year
ii. Vishakhapatnam (1937-1991) = 0.9 mm/year
iii. Mumbai (1870-1990) = 0.8 mm/year
iv. Sunderban (1985-2000) = 3.14 mm/year

All of the projected scenario analysis of coastal inundation carried out is on the assumption that sea level changes due to oceanic circulation changes caused by changing wind patterns due to the rise in the concentration of atmospheric green house gases that with increased intensity of tropical cyclones generating 1-2m higher amplitude storm surges with varied extent of inland inundation at selected locations viz. Nagapattinum, Kochi, Paradip.

(c) Government of India has established 26 tide gauges to continuously monitor the pattern of sea level changes all along the Indian coastline. All of these tide gauge stations are transmitting data in real time to the Indian National Centre for Ocean Information Services (INCOIS), Hyderabad under the Ministry of Earth Sciences (MoES). Appropriate protection measures arising out of the coastal erosion are addressed jointly by respective state governments and the Central Water Commission.

Multi-hazard approach that fully accounts for holistic coastal vulnerability arising from Earthquake, Cyclones, Flood, Storm Surge and Tsunami etc. is considered for developing hazard resistant design criteria for construction of on-shore infrastructure viz. houses, buildings, special economic zones (SEZs), ports, construction of bridges for evacuation of habitants in low lying zones like Sundarbans, Bay Islands etc., Industrial and Infrastructure Corridors.