GOVERNMENT OF INDIA
WATER RESOURCES
LOK SABHA

UNSTARRED QUESTION NO:5478
ANSWERED ON:28.04.2010
IMPACT OF CLIMATE CHANGE ON WATER BODIES
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Will the Minister of WATER RESOURCES be pleased to state:

(a) whether the Government has conducted any study on the impact of climate change on water resources in the country:

(b) if so, the details thereof;

(c) the action taken by the Government to mitigate the impact of climate change on water resources;

(d) whether the Government has established research and data management centres in this regard; and

(e) if so, the details thereof?

Answer

MINISTER OF THE STATE IN THE MINISTRY OF WATER RESOURCES (SHRI VINCENT H. PALA)

(a) to (e) Studies have been undertaken from time to time by the Government to assess the impact of climate change on water resources. Findings of a study have been summarized in "India's Initial National Communication to United Nations Framework Convention on Climate Change" which states that the hydrological cycle, a fundamental component of climate, is likely to be altered due to climate change and that preliminary assessments have revealed that the severity of droughts and intensity of floods in various parts of India is likely to increase. The report further states that the projected climate change resulting in warming, sea level rise and melting of glaciers will adversely affect the water balance in different parts of India and quality of ground water along the coastal plains. Climate change is likely to affect ground water due to changes in precipitation and evapo-transpiration. Rising sea levels may lead to increased saline intrusion into coastal and island aquifers, while increased frequency and severity of floods may affect ground water quality in alluvial aquifers. Increased rainfall intensity may lead to higher runoff and possibly reduced recharge". Research studies have also been taken up by the Ministry of Water Resources through National Institute of Hydrology (NIH), Roorkee and Indian Institute of Sciences (IISc), Bangalore. The studies by NIH indicate recessional trend for glaciers and decrease in their areal extent. It has also been observed that during ablation period, snowmelt runoff increases with increases in temperature. The IISc has observed that a large number of uncertainties exist in climate change impact assessment. In view of importance and urgent need, in-depth studies based on observed data have been initiated to assess the impact of climate change on water resources by Central Water Commission, Central Ground Water Board, Brahmaputra Board and National Institute of Hydrology. Reputed academic institutions have been actively associated with the studies.

The National Action Plan on Climate Change envisages institutionalization of eight national missions which inter-alia includes "National Water Mission". Ministry of Water Resources has prepared the draft Mission Document through consultative process with active participation of States, concerned central Ministries, professionals, experts, academic institutions and non-governmental organizations. The draft Mission Document has identified various measures for addressing the issues related to impact of climate change on water resources including adaptation measures. The main objective of National Water Mission are conservation of water, minimizing wastage and ensuring its more equitable distribution both across and within States through integrated water resources management. The five goals of National Water Mission identified in the draft Mission Document are: (a) Comprehensive water data base in public domain and assessment of the impact of climate change on water resources; (b) Promotion of citizen and state actions for water conservation, augmentation and preservation; (c) Focused attention to over-exploited areas; (d) Increasing water use efficiency by 20%; and (e) Promotion of basin level integrated water resources management.

Climate change cells have been established in Central Water Commission, Central Ground Water Board, Brahmaputra Board and National Institute of Hydrology for carrying out and coordinating research and studies on the impact of climate change on water resources.