

**GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
RAJYA SABHA
STARRED QUESTION No. *276
TO BE ANSWERED ON THURSDAY, AUGUST 11, 2016**

**IMPACT OF GLOBAL WARMING AND CLIMATE CHANGE ON RAINFALL
PATTERN**

***276. SHRI R. VAITHILINGAM:**

Will the Minister of EARTH SCIENCES be pleased to state:

- (a) whether Government has undertaken any study to analyse the impact of global warming and climate change on rainfall pattern in India, if so, the details thereof; and**
- (b) whether there has been a decline in average seasonal rainfall in India over the last five decades, if so, the reasons therefor?**

**ANSWER
MINISTER FOR MINISTRY OF SCIENCE AND TECHNOLOGY AND
MINISTRY OF EARTH SCIENCES
(DR. HARSH VARDHAN)**

(a)- (b) A statement is laid on the Table of the House.

**STATEMENT LAID ON THE TABLE OF THE LOK SABHA IN REPLY (a) to (b) TO
STARRED QUESTION NO. *276 REGARDING "IMPACT OF GLOBAL WARMING
AND CLIMATE CHANGE ON RAINFALL PATTERN" TO BE ANSWERED ON
THURSDAY, AUGUST 11, 2016**

- (a) Yes Sir. Government has undertaken many research studies to analyze the impact of global warming and climate change on rainfall pattern in India.**

Analysis of observed temperature data suggests that during the past 115 years, global mean surface air temperature has increased by 0.7°C. There are many consequences due to the global warming, like rising sea level, melting of sea ice and snow cover and increasing frequency of extreme weather events like heavy rainfall events and heat waves.

Scientists in MoES institutions and researchers in academic institutions in India and abroad addressed this important issue of whether global warming and climate change has any impact on rainfall pattern in India. The analyses were made using observed rainfall data from more than 3000 rain-gauge stations spread over the country for 115 years (1901-2015). The major inferences from these studies based on the 115 years of rainfall data are as follows:

- I. Frequency of heavy rainfall events (rainfall exceeding 15 cm in 24 hours) has increased over central parts of India at the rate of 6% per decade. There is a growing evidence that this increase in heavy rainfall events over India is caused by global warming.**
- II. The climate change assessment made by the Intergovernmental Panel on Climate Change (IPCC) suggests that in future, frequency of heavy rainfall over India is expected to further increase due to global warming.**
- III. However, there are NO other long term changes/trends in rainfall over India which can be attributed to global warming. The Indian Monsoon is found to be a stable system.**

- (b) No Sir, there is no statistically significant decline in the average seasonal rainfall over India during the last five decades.**
