

**GOVERNMENT OF INDIA
AGRICULTURE
LOK SABHA**

UNSTARRED QUESTION NO:2416
ANSWERED ON:15.12.2008
IMPACT OF CLIMATE CHANGE
Adhalrao Patil Shri Shivaji

Will the Minister of AGRICULTURE be pleased to state:

- (a) whether the Government has conducted any study to assess the impact of climate change on rice cultivation;
- (b) if so, the details thereof;
- (c) whether the said study has indicated that a four degree increase in temperature can reduce the yield by 10 percent; and
- (d) if so, the details thereof and the steps taken by the Government in this regard?

Answer

MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE (SHRI KANTILAL BHURIA)

(a) & (b): Indian Agricultural Research Institute (IARI), New Delhi under Indian Council of Agricultural Research (ICAR) has conducted modeling study on the impact of climate change on the cultivation of rice and wheat. Field and green house studies conducted at Central Rice Research Institute (CRRRI), Cuttack indicate that higher temperature is not likely to affect rice productivity during the rainy season. However, in a study at Tamil Nadu Agriculture University (TNAU), Coimbatore, it was observed that rice production during the dry season may be reduced due to development of sterility as a consequence of high temperature during flowering and grain filling stages of the rice crop.

(c) & (d): The reports available from International Rice Research Institute, Phillipines, indicated that every degree increase in the ambient night temperature result in an increase in sterility by 10%. However, studies conducted at Central Rice Research Institute (CRRRI), Cuttack indicated that the sterility of rice plants and consequential decrease in yield is related to the high temperature during the reproductive stages including grain filling. Efforts are on the course for screening of rice germplasm with an aim to develop varieties which can withstand high temperature at reproductive stage.