EL NINO EFFECT ON MONSOON AND RAINFALL

2650. SMT. ANITA SUBHADARSHINI:

Will the Minister of EARTH SCIENCES be pleased to state:

(a)   whether India Meteorological Department (IMD) has undertaken any study of EL Nino effect on Monsoon and rainfall pattern in the country in recent years;
(b)   if so, the details thereof; and
(c)   the details of impact of La Nino effect on the Indian monsoon pattern and its cyclical occurrence in Indian peninsula?

ANSWER
THE MINISTER OF STATE (INDEPENDENT CHARGE) FOR
MINISTRY OF SCIENCE AND TECHNOLOGY
AND EARTH SCIENCES
(DR. JITENDRA SINGH)

(a)   Yes.

(b)   The ministry has been conducting regular studies on monsoons and associated rainfall patterns in the country, including those during the El Niño period. In general, during the El Nino event, the Indian summer monsoon is weaker than normal, and the intensity of the event also decides the amount of impact on the monsoon.Since 1950, there have been 16 El Niño years, out of which 7 years had impacted Indian monsoon rainfall when rainfall was below normal. However, there is a stronger inverse relationship between El Niño and rainfall during the later half of the monsoon season (particularly with September rainfall).

(c)   La Niña, a climate phenomenon characterized by notably cooler sea surface temperatures (SST) in the central and eastern Pacific Ocean (opposite to El Nino), can significantly impact the Indian monsoon. In general, during a La Niña event, normal to above-normal rainfall is received over India during the southwest monsoon season. Most parts of the country receive above-normal rainfall during the La Nina years, except extreme north India and some areas over Northeast India, where rainfall below normal is likely during the La Nina years. Also, below-normal temperatures are generally observed during the winter season during the La Nina years.

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