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GOVERNMENT OF INDIA
MINISTRY OF AGRICULTURE AND FARMERS WELFARE
DEPARTMENT OF AGRICULTURAL RESEARCH & EDUCATION

**LOK SABHA**
**UNSTARRED QUESTION NO. 2687**
TO BE ANSWERED ON 16TH DECEMBER, 2025

**SCIENTIFIC STUDY ON THE PROBLEM OF SEM IN RAJASTHAN**

2687. SHRI KULDEEP INDORA:

Will the Minister of AGRICULTURE AND FARMERS WELFARE कृषि और किसान कल्याण मंत्री be pleased to state:

(a) whether the Government has conducted any scientific study or survey to find the source and extent of Sem problem in the State of Rajasthan, if so, the details and key findings thereof;

(b) whether the Government is aware that the problem of Sem is continuously increasing in Sri Ganganagar and Hanumangarh districts of Rajasthan rendering thousands of hectares of fertile land swampy and barren and the livelihood of farmers is being affected;

(c) if so, the details thereof;

(d) the short-term and long-term measures taken/being taken so far by the Government to address this issue and preserve agricultural land; and

(e) the details of the schemes proposed to be implemented by the Government in future?

**ANSWER**

THE MINISTER OF STATE FOR AGRICULTURE AND FARMERS WELFARE
कृषि और किसान कल्याण राज्य मंत्री (SHRI BHAGIRATH CHOUDHARY)

(a): Yes. The Indian Council of Agricultural Research (ICAR)-Central Soil Salinity Research Institute (CSSRI) has carried out a comprehensive assessment of soil salinization in the state. The study revealed that approximately 1,95,571 hectares in Rajasthan are affected by soil salinity (Sem problem). The key findings indicate that the occurrence of Sem is primarily due to impeded drainage, excessive irrigation, and the consequent rise in groundwater table, which leads to the upward movement and accumulation of salts on the soil surface.

(b) & (c): Yes, the Government is aware that the problem of Sem in the Sri Ganganagar and Hunamangarh districts of Rajasthan. This resulted in the swamping and degradation of productive agricultural land, thereby impacting the livelihood of farmers in these districts. The assessment by ICAR indicated that nearly 5,397 hectares in Sri Ganganagar and Hanumangarh districts are affected by Sem.

(d) & (e): ICAR suggests short-term and long-term measures to address this issue and preserve agricultural land.

The short-term measures include assessing soil conditions to locate waterlogged and salt-affected areas, improving drainage to remove excess water, managing irrigation efficiently to reduce salinity buildup, using mixed water sources to limit crop stress, and promoting salt-tolerant crop varieties to sustain agricultural productivity and farmer livelihoods.

The long-term suggested technologies include installing subsurface drainage systems for long-term reclamation, using bio-drainage through deep-rooted and high-transpiration tree species to naturally lower groundwater levels, and adopting agroforestry models with salt-tolerant tree species to rehabilitate soils, enhance ecosystem services, and provide diversified income.

ICAR promotes these measures/technologies through trainings, demonstrations, campaign etc. Soil Health & Fertility Scheme is being implemented since 2014-15 to provide Soil Health Cards (SHCs) for all farm holdings for improving productivity & soil fertility including Sem affected areas.

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