

**GOVERNMENT OF INDIA  
MINISTRY OF EARTH SCIENCES  
LOK SABHA  
UNSTARRED QUESTION NO. 1441  
TO BE ANSWERED ON WEDNESDAY, 31<sup>ST</sup> JULY, 2024**

**NATIONAL SCALE MAPPING OF SOIL ERODIBILITY**

1441. Prof. Sougata Ray:

Will the Minister of EARTH SCIENCES be pleased to state:

- (a) whether the IIT-Delhi conducted National Scale Mapping of soil erodibility;
- (b) if so, the details thereof;
- (c) whether the National Scale Mapping (NSP) help to prevent soil erodibility;
- (d) if so, the details thereof;
- (e) whether the findings of the mapping will help to manage the risk of flood and drought situation in future, and
- (f) if so, the details thereof;

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

- (a) & (b) Yes. IIT-Delhi researchers have mapped soil erodibility over India and the results have been published.

In this study, soil erodibility factors have been estimated using RUSLE nomograph and EPIC model approaches at a resolution of 250 m, which is an important step towards developing a comprehensive understanding of surface soil nationally. The entire dataset and an interactive application has been released: <https://hydrosense.users.earthengine.app/view/soilloss>.

- (c) & (d) The study has been used to develop national soil loss estimates and an erosion-severity classification system for India. They can be helpful for planning and implementation of soil conservation strategies basin-wise as well as nationally.

Soil erodibility is the response of the soil profile to the erosivity induced by rainstorms and reflects the combined effect of rainfall, infiltration, and runoff on soil erosion. It is a composite property of wide range of parameters related to soil types. Availability of high-resolution and openly available datasets will be an asset for soil and erosion management planning by experts.

- (e) & (f) Understanding soil erodibility and Surface soil erosion can help in flood and drought management in the following areas: Runoff Prediction, Sediment Control, Infrastructure Design, Soil Moisture Retention, Water Conservation Strategies etc.

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