GOVERNMENT OF INDIA
MINISTRY OF EDUCATION
DEPARTMENT OF HIGHER EDUCATION

## LOK SABHA
## UNSTARRED QUESTION NO. 1041
ANSWERED ON-29/07/2024

## R&D Projects in IIT Guwahati and Kharagpur

**1041   Shri Phani Bhusan Choudhury:**

Will the Minister of EDUCATION be pleased to state:

the details of Research and Development (R&D) projects that Indian Institutes of Technology (IIT) Guwahati and Indian Institutes of Technology (IIT) Kharagpur completed for the development of technology-based businesses using local resources for the development and prevention of disasters within 2000 km of their campuses?

## ANSWER

MINISTER OF STATE IN THE MINISTRY OF EDUCATION

(DR. SUKANTA MAJUMDAR)

IIT Guwahati and IIT Kharagpur are premier institutions of the country and are actively involved in various Research and Development (R&D) projects. Their broad spectrum of academic and research disciplines forms a comprehensive platform for addressing nationwide challenges including disaster management. Some of the projects undertaken by these institutions are mentioned hereinafter.

IIT Guwahati has addressed the problems related to flood & erosion by using nature-based solution utilizing native vegetation and indigenously developed technology. Concept of optimal Ecological Management Practices (EMPs) was developed to use judicious combination of native vegetations having economic value, rainwater harvesting etc. to bring down sediment and water yield from a degraded watershed to its natural status. Similarly, for controlling river bank erosion, a bioengineering method was conceptualized and implemented successfully with effective result by Brahmaputra Board with guidance of the institute in erosion effected reach of Majuli Island at Kardoiguri.

IIT Kharagpur has worked on the development of technologies for prevention and management of disasters which includes (i) identifying locations of relief facilities (hospitals, shelters etc.) around the disaster point and means of reaching there in the shortest time, (ii) designing of early warning system along with both pre-disaster and post-disaster planning through emergency communication to accelerate the evacuation before the disaster, and search, and rescue operations after the disaster, (iii) development of simulation system for predicting flash floods based on real-time rainfall data, (iv) extension of the technology in (iii) to the urban flood warning for the city, and (v) a pilot scale study on the seismic vulnerability assessment of different types of buildings in India.

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