

11Th Khwarizmi International Award

Feb 1998



Researcher: Harsh K. Gupta

Research Title: Investigation of artificial water reservoir induced earthquakes

Rank: Second

Field: Basic Sciences

Country: India



Abstract:

Under certain suitable geological conditions, anthropogenic activity can trigger or induce earthquakes. The triggered/induced earthquakes are known to have occurred due to gold and coal mining, petroleum production, filling of artificial water reservoirs, high-pressure liquid injection into ground, and natural gas production. The largest scientifically accepted triggered earthquake of magnitude 6.3 occurred on December 10, 1967 in the vicinity of Koyna Dam near the west coast of India. It is debated whether the M 7 Gazli earthquakes of May 1976 and March 19, 1984 were induced due to the production of large quantities of gas at the Gazli Oil Field in Uzbekistan.

Harsh Kumar Gupta born on 28 July 1942 is an Indian earth scientist and seismologist, known for his pioneering work on estimation of reservoir-induced earthquakes. He is a Raja Ramanna Fellow at the National Geophysical Research Institute (NGRI), Hyderabad.

He did his graduate studies BSc. at the Indian School of Mines, Dhanbad, from where he also secured his master's degree (MSc) in Applied Geophysics. Later, he obtained a doctoral degree (PhD) from the Indian Institute of Technology, Roorkee and pursued advanced studies in Seismology at the International Institute of Seismology and Earthquake Engineering, Tokyo, on a two-year UNESCO fellowship moving to the US, he joined the University of Texas at Dallas (UTD) as a research scientist in 1972, a post he held till 1977. In 1982, he became the director of the Centre for Earth Science Studies, Thiruvananthapuram and worked there till 1987. He was appointed as the vice chancellor of the Cochin University of Science and Technology (CUSAT) in 1987 and stayed at the post till he was offered the position of the Advisor of the Department of Science and Technology in 1990 for a two-year stint. In 1992, he took up the responsibility of the director of the National Geophysical Research Institute (NGRI), Hyderabad.