



## **Old man-induced mudflow in Vratza (NW Bulgaria)**

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In Bulgaria a heavy man-induced catastrophe took place in the town of Vratza and the village Zgurigrad on the First of May 1966. The town and the surrounding region had marked a rapid industrial development in the second half of the twenty's century. The population was very proud with its success. On First of May at a lunch-time a very strong thunder killed the holiday joy. Several minutes later great masses of the mudflow reached up to the center of Vratza town. The surprise, the panics of the people and the damages could not be described. What was happened? The wall of the tailing pond was broken. A mudflow from water and ore waste moved extremely rapidly from the mountain across the village Zgurigrad to the town of Vratza. The damages were impressive: 118 people were dead, including the colleague Dr. Yuli Stefanov, a very capable paleontologist of the Geological Institute; 156 houses in the town of Vratza and the village Zgurigrad were totally collapsed; 1015 people were homeless. 50% of the village Zgurigrad and the Vratza quarter Kembra disappeared.

The causes for the catastrophe were closely related to the man activities. The source of the Vratza mudflow was the tailing pond that served together the mine "Sedmochislentzi" and the flotation factory "Mir". The pond was reconstructed several times, because it had collected a lot of waste. Its wall was raised higher and higher in different periods. There were reports for the critical situation of the pond, also other ones with conclusions that the situation is normal. The deep analysis of the situation showed that the tailing pond was overloaded and there were several fractures on its wall. The opinion of the bigger part of the responsible persons was that the accident could not be supposed. However on the First of May the fractured wall of the tailing pond was broken. The mountain relief supports the extremely rapid movement of the mudflow

in direction to the town of Vratza.

The history of the 1966 Vratza mudflow showed that the bad decisions of the economic and political managers could cause terrible accidents. The managers had the responsibility to ensure a normal life of the population, to reduce man-induced catastrophes, but in the studied case they made serious omissions in their activities and they provoked the catastrophe.