A Mechanism To Mitigate The Accidents Due To The Failures Of Railroad Earthen Embankments, During Heavy Rainfall

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Some of the Major railway accidents have occurred due to failures at approach embankments, due to heavy rainfall in the catchment area and excess runoff through the stream passing through culvert. The accidents have caused large devastations and loss of life. An analysis has been done to explore the causes of failure of such earthen embankments made at the approaches of culverts, due to rise in the water level of the stream, passing through the culvert. The analysis has taken into consideration the case study of a dual accident, due to wash out of approach embankments, on each side of the culvert. The need of a warning system has also been discussed. Such situations could be mitigated by the real time monitoring, which has also been devised. The real time data from all the sensors can be fed in a datalogger remotely located at a control room which will record all the data and give input to a computer program, developed for this purpose. This computer program, in case of an emergency will send the warning signal to traffic safety manager about any likely critical condition and also suggest the traffic controllers about the decision to be taken by them, much before the embankment failure, so as to mitigate any accident.