STABILITY ANALYSIS OF ROCK SLOPES IN AIZAWL TO LUNGLEI ROAD SECTION, DISTRICT AIZAWL, MIZORAM, INDIA- A CASE STUDY

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Abstract

Aizawl city situated in Mizoram, India, have seen several landslide events in last many decades. Road from Lengpui airport to Aizawl city passes through highly mountainous area and threat of severe landslide hazards always exists. The abrupt failure of slopes results in considerable loss of public properties, human life and affects various services such as road transport and communication system. The road cut slopes are prone to failure due to unsafe excavation work for construction of road or widening of existing road at the base of natural rock slopes.The rock mass exposed due to excavation are highly jointed and highly weathered at some locations.An attempt has been made to assess the stability of such road cut slopes along the Aizawl to Lunglei Road section between Kulikawn and Saikhamakawn.

In the present studytwo locations have been identified on the road from Aizawl to Lunglei Road section between Kulikawn and Saikhamakawn and investigated subsequently. Different types of rock mass rating frequently are used for the assessment of strength and deformation characteristics of rock mass, stability of rock slopes and tunneling and underground mining operations. Kinematic analysis has been done to identify the mode of failure and its direction for the study locations .

Results obtained through kinematic analysis shows that one location is critical for both flexural topple failure and topple failure whereas second location is under risk of only toppling failure.