

Landslide Investigation in Mahad Taluka: A Case Study of Taliya Village

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Abstract: The rapid landslide occurrences at the hillside development areas play an important role to modify the landslide. To understand their technical aspects we undertake an investigation in the village of Taliye, Mahad Tahasil Raigad. In recent time the hazards due to natural and manmade. In our project will be collect the rock and soil sample. we have selected the stream in Taliye origin of this stream. Stream is passing through the Taliye village. In our project the stream can be divided in 30m distance and each point we taken the GPS reading means latitude, longitude and elevation of that point and also shown the geological and geomorphologic characteristics of rock and soil. The all stream is studied up to it can be meet to the backwater of Niradeoghar dam. The first stage of project is the survey of stream and next stage is the collection of sample of each point and testing the soil and rock sample and their results can be compare to ASTM

Keywords: Hillside landslides, slopes, building on slopes.

I. INTRODUCTION

In the recent time the hazards due to natural and manmade activity in India and all around the globe is increasing rapidly .one such example of the natural hazard is landslide. Which have the effects in socio-economic way on the society. The downward and outward movements of the onsolidated and unconsolidated soils and rock matter from any geomorphic features due to natural or manmade causes are termed as the landslide. Such movements or displacement occur under the influence of gravitational force presence of water greatly aids this phenomena as it makes the rocks and soil more weak and mobile. India is one of the most fastest developing country in the world. The rate of development in India is very rapid. A land slide occurs when the part of natural slope is unable to support its own weight due to natural or anthropogenic reasons. for example, soil strata on a slippery surface below it or toe of the slope cut by man-made activity, can become heavy with prolonged heavy rain fall and may slide down due to the increasing weight of the soil strata. A landslide is a downward or outward movement of soil mass which includes soil, rock and vegetation under the influence of the gravity. This movement can occur in many types e.g. fall, topple, slide etc. The speed of the landslide depends on the slope of the hill cliff. The mass of the moving material can destroy the property along its path of movement and cause death to people and livestock. Generally landslide occurs in the steep slope area but they can occur in the low slope gradient ground too. Due to increasing demand of the infrastructure and cheap residence has caused the development on the hill too. The main reasons behind the occurrence of the landside are cutting of hills, road construction, farming, and housing etc. has caused hill slope unstable. The natural ecosystem of the mountainous region like Himalaya,western Ghats is often characterizes by the unfavorable geological, topographical and seismic condition. The study area which we selected comes under the western ghat region.During our visit the landslide incidents was present in area in complex manner.The geological survey of the India carried out the study of landslide hazard which is divided into two types:

1. Pre Disaster Studies
2. Post Disaster Studies

II. STUDY AREA

The study area is part of Western Ghats. The latitude and longitude of study area is N19029.935'00'' and E 73049.11'00' respectively, elevation is 513m.This village is located at the toe of Janani Mata Mandir. The lithology is the compact basalt,vesicular compact basalt. The population of the village is 250.The village is located at the plain platu. The north side of village stream is present which we have studied. In the village primary school first to fifth standard. The grampanchayet of the village is in Taliye

III. METHODOLOGY

The field work survey identify and notify the landslide activities such as scars ,remedial measures and vulnerable zone has been conducted in study area. the location are denoted using standard GPS instrument for the latitude and longitude. study area map has been generated through elsewhere software . Location visited are planned from previous studies as important . the surveys are used to classify to differentiate the mitigation level of action and interpret further. the sample can be collected to specific stream and test can be performed related to rock and soil sample and result can be compare to ASTM, decided the area is prone to landslide or not.

IV. REMEDIAL ACTIONS

Rocky assemblage side walls along the road sectors where the landslide is prone. provided the closed conduit trenches,bunds ,vegetation etc.in the settlement areas the cement side wall has been constructed to simulate the landslide activities.

V. CONCLUSION

The work has defined that the importance of the, monitoring studies in the Taliye village, anthropogenic and natural phenomena are reason for the landslide especially economic advantages of socio economic environment shows the ignorance of people .people aware about the particular phenomena but they finally lacking in the awareness knowledge for such land other resource of the life needs.

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